



An **AEP** Company

BOUNDLESS ENERGY™

**INTEGRATED RESOURCE PLANNING REPORT**  
**TO THE**  
**KENTUCKY PUBLIC SERVICE COMMISSION**

**Case No. 2023-00092**

**VOLUME A – PUBLIC VERSION**

**March 20, 2023**

## Table of Contents

<b>TABLE OF CONTENTS</b> .....	<b>I</b>
<b>LIST OF FIGURES</b> .....	<b>VI</b>
<b>LIST OF TABLES</b> .....	<b>X</b>
<b>EXECUTIVE SUMMARY</b> .....	<b>ES-1</b>
<b>1.0 INTRODUCTION</b> .....	<b>1</b>
<b>1.1 Overview</b> .....	<b>1</b>
<b>1.2 Integrated Resource Plan (IRP) Process</b> .....	<b>1</b>
<b>1.3 Introduction to Kentucky Power</b> .....	<b>3</b>
<b>1.4 Power Coordination Agreement (PCA)</b> .....	<b>4</b>
<b>1.5 Significant Changes from the 2019 IRP</b> .....	<b>4</b>
<b>2.0 LOAD FORECAST AND FORECASTING METHODOLOGY</b> .....	<b>7</b>
<b>2.1 Summary of Kentucky Power Load Forecast</b> .....	<b>7</b>
<b>2.2 Forecast Assumptions</b> .....	<b>7</b>
2.2.1 Economic Assumptions .....	7
2.2.2 Price Assumptions .....	8
2.2.3 Specific Large Customer Assumptions.....	8
2.2.4 Weather Assumptions .....	8
2.2.5 Demand Side Management (DSM) Assumptions.....	8
<b>2.3 Overview of Forecast Methodology</b> .....	<b>8</b>
<b>2.4 Detailed Explanation of Load Forecast</b> .....	<b>10</b>
2.4.1 General.....	10
2.4.2 Customer Forecast Models .....	11
2.4.3 Short-term Forecasting Models.....	11
2.4.4 Long-term Forecasting Models.....	12
2.4.5 Internal Energy Forecast.....	16
2.4.6 Forecast Methodology for Seasonal Peak Internal Demand.....	17
<b>2.5 Load Forecast Results and Issues</b> .....	<b>18</b>
2.5.1 Load Forecast.....	18
2.5.2 Peak Demand and Load Factor .....	18
2.5.3 Weather Normalization.....	19
<b>2.6 Load Forecast Trends &amp; Issues</b> .....	<b>19</b>
2.6.1 Changing Usage Patterns .....	19

2.6.2	Demand-Side Management (DSM) Impacts on the Load Forecast .....	21
2.6.3	Interruptible Load .....	22
2.6.4	Blended Load Forecast .....	22
2.6.5	Large Customer Changes .....	23
2.6.6	Wholesale Customer Contracts .....	23
<b>2.7</b>	<b>Load Forecast Scenarios .....</b>	<b>23</b>
<b>2.8</b>	<b>Energy-Price Relationships .....</b>	<b>25</b>
<b>2.9</b>	<b>Significant Changes from Previous Forecast .....</b>	<b>27</b>
2.9.1	Energy Forecast .....	27
2.9.2	Peak Internal Demand Forecast .....	28
2.9.3	Forecasting Methodology .....	28
<b>2.10</b>	<b>Additional Load Information .....</b>	<b>28</b>
<b>2.11</b>	<b>Data-Base Sources .....</b>	<b>29</b>
<b>2.12</b>	<b>Other Topics .....</b>	<b>29</b>
2.12.1	Residential Energy Sales Forecast Performance .....	29
2.12.2	Commercial Energy Sales Forecast Performance .....	29
2.12.3	Industrial Energy Sales Forecast Performance .....	30
2.12.4	Peak Demand Forecast Performance .....	30
2.12.5	Forecast Data and Model Results .....	30
2.12.6	Forecast Updates .....	30
<b>2.13</b>	<b>KPSC Staff Recommendations Addressed .....</b>	<b>31</b>
<b>3.0</b>	<b>EXISTING RESOURCE EVALUATION .....</b>	<b>34</b>
<b>3.1</b>	<b>Current Supply-Side Resources .....</b>	<b>34</b>
<b>3.2</b>	<b>Existing Kentucky Power Generating Resources .....</b>	<b>34</b>
<b>3.3</b>	<b>Environmental Issues and Implications .....</b>	<b>36</b>
3.3.1	Clean Air Act (CAA) Requirements .....	36
3.3.2	National Ambient Air Quality Standards (NAAQS) .....	37
3.3.3	Cross-State Air Pollution Rule (CSAPR) .....	37
3.3.4	Climate Change, CO <sub>2</sub> Regulation, and Energy Policy .....	38
3.3.5	Coal Combustion Residual (CCR) Rule .....	39
3.3.6	Clean Water Act Regulations .....	40
<b>3.4</b>	<b>Current Demand-Side Programs .....</b>	<b>41</b>
3.4.1	Existing Levels of Active Demand Response (DR) .....	42
3.4.2	Existing Levels of Distributed Generation (DG) .....	43
3.4.3	Cogeneration / Combined Heat and Power (CHP) .....	43
<b>3.5</b>	<b>KPSC Staff DSM Recommendations Addressed .....</b>	<b>44</b>

<b>3.6</b>	<b>AEP-PJM &amp; Kentucky Power Transmission .....</b>	<b>45</b>
3.6.1	General Description .....	45
3.6.2	Transmission Planning Process.....	47
3.6.3	System-Wide Reliability Measure .....	50
3.6.4	Evaluation of Adequacy for Load Growth.....	50
3.6.5	Evaluation of Other Factors .....	50
3.6.6	Transmission Expansion Plans .....	51
3.6.7	FERC Form 715 Information.....	51
3.6.8	Kentucky Transmission Projects.....	53
<b>3.7</b>	<b>Distribution .....</b>	<b>61</b>
<b>4.0</b>	<b>DEMAND-SIDE RESOURCE OPTIONS.....</b>	<b>62</b>
<b>4.1</b>	<b>Energy Efficiency Benchmarking .....</b>	<b>62</b>
4.1.1	Savings.....	62
4.1.2	Costs.....	63
<b>4.2</b>	<b>Energy Efficiency Bundles.....</b>	<b>63</b>
4.2.1	Determination of Bundles.....	63
4.2.2	Bundle Adjustments.....	64
<b>5.0</b>	<b>SUPPLY-SIDE RESOURCE OPTIONS .....</b>	<b>66</b>
<b>5.1</b>	<b>Introduction .....</b>	<b>66</b>
<b>5.2</b>	<b>Base / Intermediate Alternatives.....</b>	<b>66</b>
5.2.1	Natural Gas Combined Cycle (NGCC).....	67
<b>5.3</b>	<b>Peaking Alternatives .....</b>	<b>68</b>
5.3.1	Simple Cycle Combustion Turbines (NGCT).....	69
5.3.2	Aeroderivatives (AD).....	70
5.3.3	Reciprocating Engines (RE) .....	71
5.3.4	Lithium-Ion Battery (Li-ion).....	72
<b>5.4</b>	<b>Renewable Alternatives .....</b>	<b>73</b>
5.4.1	Wind.....	74
5.4.2	Solar .....	75
<b>5.5</b>	<b>Advanced Generation Alternatives.....</b>	<b>77</b>
5.5.1	SMR .....	77
5.5.2	Carbon Capture and Storage Technologies (CCS) .....	79
5.5.3	Hydrogen (H <sub>2</sub> ).....	82
<b>5.6</b>	<b>Long Duration Storage Alternatives.....</b>	<b>85</b>
5.6.1	Pumped Thermal Energy Storage (PTES) .....	86
5.6.2	Vanadium Flow Battery Storage (VFB) .....	87
5.6.3	Compressed Air Energy Storage (CAES).....	89



5.7	Short-Term Market Purchase (STMP)	90
5.8	Optimization of Supply-Side Resources	91
5.9	KPSC Staff Supply-Side Modeling Recommendations Addressed	91
6.0	PLANNING SCENARIOS AND UNCERTAINTIES	95
6.1	Introduction	95
6.2	The Fundamental Market Forecast	96
6.3	Reference Scenario Market Drivers and Assumptions	97
6.3.1	Reference Scenario Load	97
6.3.2	Reference Scenario Fuel & CO <sub>2</sub> Prices	97
6.3.3	Reference Scenario Reserve Requirements	100
6.3.4	Reference Scenario Technology Assumptions	102
6.4	IRP Scenario Inputs	103
6.4.1	Scenario Load	105
6.4.2	Scenario Fuel & CO <sub>2</sub> Prices	106
6.4.3	Scenario Technology Cost Assumptions	108
6.5	Market Scenario Results	110
6.5.1	Capacity Expansion Results	110
6.5.2	Effective Load Carrying Capability (ELCC) Results	113
6.5.3	Market Price Results	115
6.6	IRP Stochastics Inputs Development	117
6.6.1	Gas and Power Prices Stochastics	118
6.6.2	Renewable Energy Output Stochastics	120
7.0	PORTFOLIO ANALYSIS	123
7.1	Introduction	123
7.2	Scorecard Metrics	124
7.2.1	Objective 1: Customer Affordability	125
7.2.2	Objective 2: Rate Stability	127
7.2.3	Objective 3: Maintaining Reliability	129
7.2.4	Objective 4: Local Impacts & Sustainability	131
7.3	Portfolios Considered	135
7.3.1	Resource Additions by Portfolio	135
7.3.2	Winter Sensitivity	140
7.4	Scorecard Results	141
7.4.1	Customer Affordability	141
7.4.2	Rate Stability	142



---

7.4.3	Maintaining Reliability .....	146
7.4.4	Local Impacts & Sustainability.....	148
7.4.5	Evaluating the 2022 IRP Scorecard .....	151
<b>7.5</b>	<b>Preferred Plan.....</b>	<b>153</b>
7.5.1	Details of the Preferred Plan.....	153
7.5.2	The Preferred Plan Best Achieves Kentucky Power’s IRP Objectives .....	156
7.5.3	Estimated Bill Impacts of the Preferred Plan.....	159
7.5.4	Rate Impacts of the Preferred Plan .....	160
<b>8.0</b>	<b>CONCLUSION .....</b>	<b>162</b>
<b>8.1</b>	<b>Plan Summary .....</b>	<b>162</b>
<b>8.2</b>	<b>Three-Year Action Plan.....</b>	<b>163</b>
	<b>APPENDIX.....</b>	<b>164</b>
	<b>EXHIBIT A – CROSS REFERENCE TABLE OF STAFF COMMENTS FROM 2019 FINAL IRP REPORT</b>	
	<b>EXHIBIT B – CROSS REFERENCE TABLE OF RULE 807 KAR 5:058</b>	
	<b>EXHIBIT C – LOAD FORECAST TABLES</b>	
	<b>EXHIBIT D – NEW GENERATION TECHNOLOGIES</b>	
	<b>EXHIBIT E1 – CASE AND SCENARIO RESULTS – RESOURCE CAPACITY ADDITIONS</b>	
	<b>EXHIBIT E2 – CASE AND SCENARIO RESULTS – COSTS &amp; ENERGY POSITIONS</b>	
	<b>EXHIBIT F – TRANSMISSION MAPS</b>	
	<b>EXHIBIT G – SUPPLEMENTAL DATA AND DETAILS</b>	
	<b>EXHIBIT H – LOAD FORECAST MODEL DETAILS AND INPUT DATA</b>	
	<b>EXHIBIT I – LOAD FORECAST MODEL DETAILS AND INPUT DATA</b>	
	<b>EXHIBIT J – PJM CAPACITY MARKET ANALYSIS</b>	
	<b>EXHIBIT K – ORGANIZATION OF THE 2022 KENTUCKY POWER IRP</b>	

## List of Figures

Figure ES - 1. Kentucky Power "Going-In" Capacity Position throughout Planning Period (MW-UCAP).....	ES-2
Figure ES - 2. Kentucky Power Preferred Plan Summer Capacity Position (MW-UCAP). ..	ES-3
Figure 1. Kentucky Power Service Territory .....	3
Figure 2. Kentucky Power Internal Energy Requirements and Peak Demand Forecasting Method .....	10
Figure 3. Eastern Kentucky Coal Production (Millions of Tons) 2000-2021 .....	14
Figure 4. Kentucky Power GWh Sales (Weather Normalized History & Forecast).....	18
Figure 5. Kentucky Power Peak Demand Forecast.....	19
Figure 6. Kentucky Power Normalized Use per Customer (kWh) .....	20
Figure 7. Projected Changes in Cooling Appliance Efficiencies, 2010-2040.....	20
Figure 8. Residential Usage and Customer Growth, 2002-2037 .....	21
Figure 9. Distributed Generation Capacity Growth .....	21
Figure 10. Load Forecast Blending Illustration .....	23
Figure 11. Load Forecast Scenarios – Energy Requirement (GWh) .....	24
Figure 12. Kentucky Power "Going-In" Capacity Position throughout Planning Period (MW-UCAP).....	35
Figure 13. EE IRP Bundles – MWh Savings Potential .....	65
Figure 14. Capital Cost Assumptions for NGCC.....	68
Figure 15. Capital Cost Assumptions for NGCT.....	69
Figure 16. Capital Cost Assumptions for AD .....	70
Figure 17. Capital Cost Assumptions for RE.....	71
Figure 18. Capital Cost Assumptions for Li-Ion.....	73
Figure 19. FOM Assumptions for Li-Ion.....	73
Figure 20. Capital Cost Assumptions for Onshore Wind .....	75
Figure 21. FOM Assumptions for Onshore Wind.....	75
Figure 22. Capital Cost Assumptions for Utility-Scale Solar PV .....	76
Figure 23. FOM Assumptions for Utility-Scale Solar PV .....	77

Figure 24. Capital Cost Assumptions for SMR .....	78
Figure 25. Capital Cost Assumptions for New Build CCS.....	80
Figure 26. Capital Cost Assumptions for PEM Electrolyzer and H2 CT Components .....	83
Figure 27. FOM Assumptions for PEM Electrolyzer .....	84
Figure 28. Efficiency Assumptions for PEM Electrolyzer .....	84
Figure 29. Capital Cost Assumptions for 20-hour duration PTES .....	87
Figure 30. FOM Assumptions for 20-hour duration PTES.....	87
Figure 31. Capital Cost Assumptions for 20-hour duration VFB .....	88
Figure 32. FOM Assumptions for 20-hour duration VFB .....	88
Figure 33. Capital Cost Assumptions for CAES.....	90
Figure 34. FOM Assumptions for CAES.....	90
Figure 35. PJM Capacity Price Outlook .....	91
Figure 36. 2022 IRP Modeling Framework.....	96
Figure 37. Reference Case PJM Energy and Seasonal Peak Demand Growth Rates (2023-2037).....	97
Figure 38. TCO Pool Natural Gas Prices (real \$ / MMBtu) .....	98
Figure 39. CAPP Coal Prices (real \$ / short ton, FOB origin).....	99
Figure 40. Moderate CO2 Price Forecast (\$2021 / Short Ton).....	99
Figure 41. ELCC Assumptions for Solar Resources by Year.....	101
Figure 42. ELCC Assumptions for Wind Resources by Year .....	101
Figure 43. ELCC Assumptions for Storage Resources by Year .....	101
Figure 44. Federal Tax Credit Assumptions Used in the 2022 IRP (2024-2037).....	103
Figure 45. 2022 IRP Scenario Assumption Matrix .....	104
Figure 46. PJM Load Growth 20-Year CAGR and Comparison with Reference Scenario...	105
Figure 47. High and Low TCO Pool Natural Gas Price Forecasts (real \$ / MMBtu).....	107
Figure 48. High and Zero CO2 Price Forecasts (\$2021 / Short Ton).....	108
Figure 49. Comparison of Capital Costs Under Advanced and Medium Outlooks for Wind Technologies (2023-2037   Nominal \$/kW) .....	109
Figure 50. Comparison of Capital Costs Under Advanced and Medium Outlooks for Solar Technologies (2023-2037   Nominal \$/kW) .....	109

Figure 51. Comparison of Capital Costs Under Advanced and Medium Outlooks for Lithium Ion Technologies (2023-2037 | Nominal \$/kW)..... 109

Figure 52. Comparison of 2022 and 2037 Nameplate Capacity by Technology in PJM..... 111

Figure 53. Comparison of 2022 and 2037 Generation by Technology in PJM ..... 111

Figure 54. Comparison of Summer Peak Solar Credits by Scenario ..... 114

Figure 55. Comparison of Summer Peak Battery Storage Credits by Scenario ..... 114

Figure 56. Comparison of Summer Peak Onshore Wind Credits by Scenario ..... 114

Figure 57. Comparison of Summer Peak Offshore Wind Credits by Scenario ..... 115

Figure 58. Annual On-Peak PJM AEP Hub Electricity Price (\$2021 / MWh)..... 115

Figure 59. Annual Off-Peak PJM AEP Hub Electricity Price (\$2021 / MWh) ..... 116

Figure 60. Sample Iteration of Daily Natural Gas Price Simulation for 2037 ..... 119

Figure 61. Sample Iteration of Daily Power Price Simulation for 2037 ..... 119

Figure 62. Range of Variable Inputs for Stochastic Analysis – Electric Prices..... 120

Figure 63. Range of Variable Inputs for Stochastic Analysis – Natural Gas Prices..... 120

Figure 64. Simulated Hourly Wind and Solar Capacity Factor for July ..... 121

Figure 65. Daily Average Wind Capacity Factor and Power Price, under Deterministic Reference Scenario vs. 250 Stochastic Iterations ..... 122

Figure 66. 2022 IRP Modeling Framework ..... 124

Figure 67. Elements of the 2022 Kentucky Power IRP Scorecard ..... 125

Figure 68. 2022 IRP Scorecard ..... 134

Figure 69. Annual Resource Additions in the Reference Portfolio ..... 136

Figure 70. Annual Resource Additions in the Reference High Cost Portfolio ..... 136

Figure 71. Annual Resource Additions in the CETA Portfolio ..... 137

Figure 72. Annual Resource Additions in the ECR Portfolio ..... 137

Figure 73. Annual Resource Additions in the NCR Portfolio ..... 138

Figure 74. Annual Resource Additions in the CC Portfolio ..... 139

Figure 75. Annual Resource Additions in the No Wind Portfolio..... 140

Figure 76. Annual Resource Additions in the Winter Sensitivity..... 140

Figure 77. Distribution of Revenue Requirements Based on Stochastic Analysis (2037) .... 144

Figure 78. 2037 Generation Mix by Technology and Portfolio (MWh)..... 148

Figure 79. 2022 IRP Scorecard Portfolio Results ..... 152  
Figure 80. Annual Capacity Additions in the 2022 IRP Preferred Plan ..... 154  
Figure 81. Kentucky Power Annual Energy Position (GWh) under Preferred Plan..... 154  
Figure 82. 2022 IRP Scorecard Preferred Plan Results ..... 156  
Figure 83. Bill Impacts (\$/Month) of Preferred Plan Compared to Reference Portfolio..... 160  
Figure 84. Kentucky Power Annual PJM Capacity Position under Preferred Plan (MW-UCAP)  
..... 162  
Figure 85. Kentucky Power Annual Energy Position under Preferred Plan (GWh)..... 163

**List of Tables**

Table 1. PJM Energy and Capacity Prices in 2019 IRP and 2022 IRP, in 2021 \$.....	5
Table 2. Natural Gas and Coal Prices in 2019 IRP and 2022 IRP, in 2021 \$.....	5
Table 3. Kentucky Power Existing Supply-Side Resources .....	35
Table 4. Energy Efficiency Savings Inputs for the IRP.....	62
Table 5. Operating and Heat Rate Assumptions for NGCC .....	68
Table 6. Operating and Heat Rate Assumptions for NGCT.....	70
Table 7. Operating and Heat Rate Assumptions for AD.....	71
Table 8. Operating and Heat Rate Assumptions for RE .....	72
Table 9. Operating and Heat Rate Assumptions for SMR.....	78
Table 10. Operating and Heat Rate Assumptions for New Build CCS .....	80
Table 11. Operating and Heat Rate Differentials for Retrofit CCS .....	81
Table 12. EPA Performance and Unit Cost Assumptions for CC Retrofits on Coal Plants ....	81
Table 13. Carbon Transport and Storage Schedule (\$2021 / tCO <sub>2</sub> ) .....	82
Table 14. Operating and Heat Rate Assumptions for PEM Electrolyzer and H <sub>2</sub> CT .....	84
Table 15. Portfolio Performance under Customer Affordability Metrics .....	141
Table 16. The 15-Year CPW of the Portfolio Across Market Scenarios (\$Million) .....	143
Table 17. Cost Risk - 50 <sup>th</sup> to 95 <sup>th</sup> Percentile Distribution Range (\$million).....	144
Table 18. Average Net Energy Sales (Purchases) as % of Portfolio Load Across All Scenarios .....	145
Table 19. Planning Reserves Between 2023 and 2037 by Portfolio .....	146
Table 20. The Amount of Dispatchable Capacity in 2027 and 2037 by Portfolio.....	147
Table 21. Local Impacts Metrics by Portfolio .....	149
Table 22. CO <sub>2</sub> Emission Reductions by Portfolio.....	150
Table 23. Approximate Rate Impacts of Preferred Plan .....	161

## **Executive Summary**

This Integrated Resource Plan (“IRP” or “Report”) is submitted by Kentucky Power Company (“Kentucky Power” or “Company”) based upon the best information available at the time of preparation. However, changes that affect this Plan can occur without notice. Therefore, this Plan is not a commitment to specific resource additions or other courses of action, as the future is highly uncertain. This IRP strives to maintain optionality in meeting Kentucky Power’s resource obligations in order for the Company to take advantage of market opportunities and technological advancements. Accordingly, this IRP and the action items described herein are subject to change as new information becomes available or as circumstances warrant.

The Kentucky Public Service Commission approved the acquisition of Kentucky Power by Liberty Utilities Company on May 4, 2022. On October 12, 2022, Kentucky Power filed a letter requesting to extend the date for filing its 2022 Integrated Resource Plan from December 20, 2022, to March 20, 2023, to accommodate a delay in the closing date for Liberty’s acquisition of Kentucky Power. The Commission approved this request with an expectation that it would allow Liberty to take an active role in the IRP planning. Subsequent to this approval, Kentucky Power collaborated with Liberty, similarly as with the external stakeholders, on modeling results to better understand their specific feedback.

An IRP explains how a utility company plans to meet the projected capacity (i.e., peak demand) and energy requirements of its customers. This IRP has been developed using long-term assumptions for:

- customer load requirements – peak demand and energy;
- commodity prices – coal, natural gas, on-peak and off-peak power prices, capacity and emission prices;
- supply-side alternative costs – including fossil fuel, renewable resources, and advanced generation alternatives; and
- demand-side management program costs and impacts.

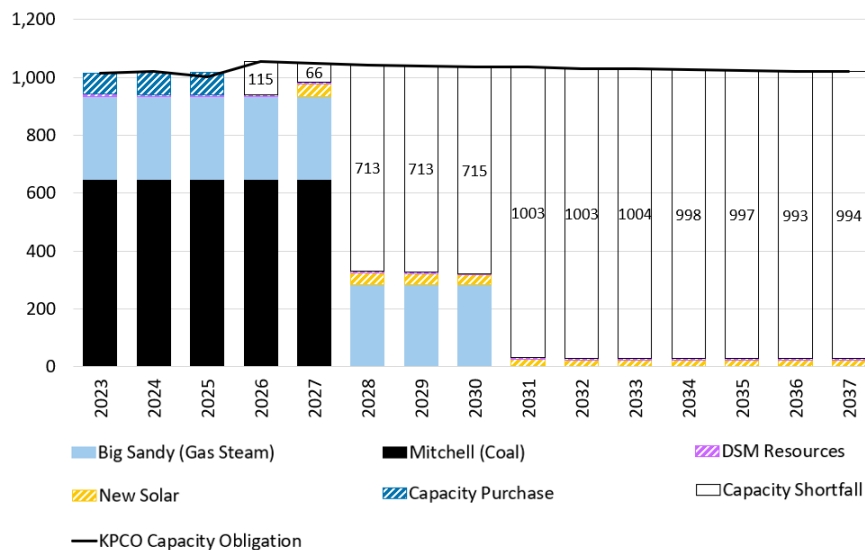


This IRP also considers the potential cost associated with some form of future regulation of carbon emissions, during the planning period, even though there is considerable uncertainty as to the timing and form future carbon regulation may take.

Kentucky Power defined four objectives for the 2022 IRP that align to customer and corporate priorities, these are: customer affordability, rate stability, maintaining reliability, and sustainability. Kentucky Power evaluated resource portfolios against these four objectives using the IRP Scorecard and considered trade-offs to identify the Preferred Plan. This report sets out how the Company is planning to meet the four objectives over the 15-year planning period for the benefit of its customers.

### Reliable and Affordable Power

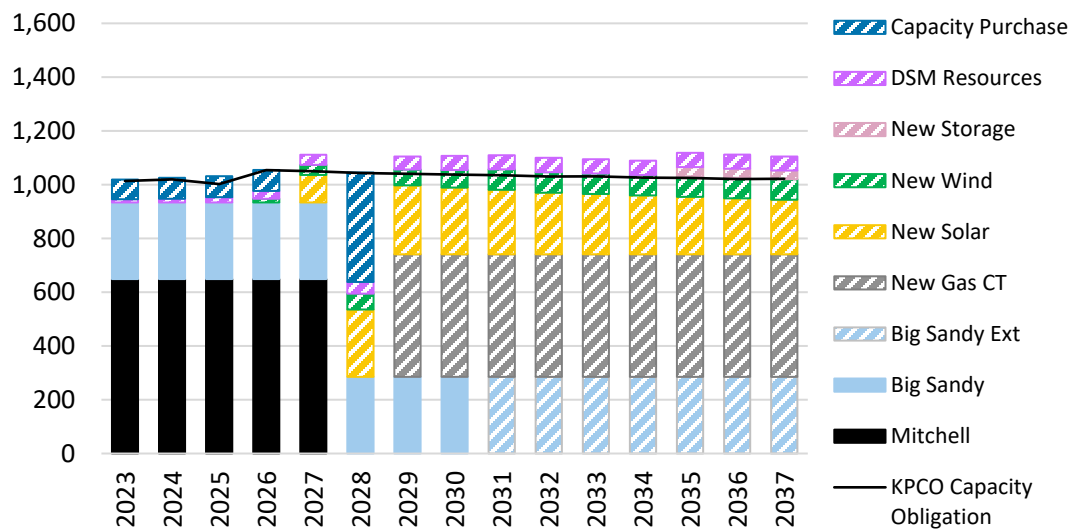
The Company’s customers have come to expect reliable and affordable power and this IRP outlines how the Company intends to deliver on customers’ needs. In this IRP, Kentucky Power started from evaluating a known “going-in” capacity position that shows current expectations about existing owned resources and contracts. Figure ES - 2 summarizes the “going-in” position.



**Figure ES - 1. Kentucky Power "Going-In" Capacity Position throughout Planning Period (MW-UCAP)**

This going-in position reveals a need for new capacity in 2028, reflecting the divestiture of Kentucky Power’s stake in Mitchell coal plant. The gap widens in 2031 with potential end of operations at Kentucky Power’s Big Sandy gas steam unit. Kentucky Power used the AURORA model to select a set of resources that provided the lowest expected costs to customers subject to certain constraints and balanced against the non-cost factors of the scorecard. The list of candidate resources considered in the 2022 IRP includes Energy Efficiency (“EE”) options that can be selected alongside, or as an alternative to, new utility-scale resources when meeting customer needs. The candidate resources reflect the priorities and objectives defined by Kentucky Power and are aligned to customer needs.

Kentucky Power determined that the Preferred Plan provides the best combination of supply-side and demand-side resources to meet Kentucky Power’s future customer needs. The plan maintains affordable and stable rates for Kentucky Power customers, is expected to maintain reliability, and creates opportunities for local development all while reducing greenhouse gas emissions. Figure ES - 2 summarizes the additions to the Kentucky Power portfolio over the 2023-2037 time period under the Preferred Plan.



**Figure ES - 2. Kentucky Power Preferred Plan Summer Capacity Position (MW-UCAP)**

Under the Preferred Plan, the Big Sandy steam gas unit operates for an additional 10 years through mid-2041. On the demand side, Kentucky Power proposes approximately 48 MW of demand-side resources between 2023 and 2037, which serve to offset approximately 52 MW of supply-side resources by 2037.

In addition to demand-side programs, Kentucky Power proposes to add 800 MW of new solar and 700 MW of new wind by 2037. The majority of these new renewable additions are made by 2028 and all by 2031. The Preferred Plan also proposes to add 480 MW of new gas CT units in 2029 following the removal of Kentucky Power's interest in the Mitchell coal plant. The Preferred Plan assumes that between 70-80 MW of short-term capacity purchases are made through 2026 and 407 MW in 2028 to bridge between the retirement of Mitchell and the addition of gas CT units. Finally, 50 MW of 4-hour lithium-ion battery storage is added in 2035 to bolster the Kentucky Power portfolio in later years.

### **Responsive to Changing Customers' Needs**

Kentucky Power's customers consist of both retail and sales-for-resale (wholesale) customers located in the Commonwealth of Kentucky. Currently, Kentucky Power serves approximately 163,000 retail customers in eastern Kentucky. The peak load requirement of Kentucky Power's total retail and wholesale customers is seasonal in nature, with distinctive peaks occurring in the summer and winter seasons. Kentucky Power's all-time highest recorded peak demand was 1,685 MW, which occurred in January 2005; and the highest recorded summer peak was 1,358 MW, which occurred in July 2005. The most recent (summer 2022 and winter 2022/2023) actual Kentucky Power summer and winter peak demands were 996 MW and 1,359 MW, occurring on June 16, 2022, and December 23, 2022, respectively.

Kentucky Power considered how customer's needs could change under five different market scenarios that consider different outcomes of fundamental factors that drive the demand for electricity, including changes in customer preferences and end-use technologies that affect Kentucky Power customer load patterns. Kentucky Power developed forecasts of customer load

that were used as inputs into the portfolio model. The result is a set of load assumptions that describe a base, high, and low outlook of the energy and capacity requirements to serve Kentucky Power's customers over the 15-year IRP forecast period.

Over the next 15-year period (2023-2037), Kentucky Power's service territory is expected to experience population decline at 0.6% per year and non-farm employment to decline 0.4% per year. Kentucky Power is projected to see customer count decline at a similar rate of 0.6% per year. Over the same forecast period, Kentucky Power's retail sales are projected at 0.2% growth per year with growth expected from the commercial class (+2.0% per year) while the residential and industrial classes experience decline of 0.7% and 0.2% per year, respectively, over the forecast horizon. It should be noted that growth for the commercial class is fueled by a large customer addition. Finally, Kentucky Power's internal energy is projected to show little growth and peak demand is expected to decline at an average rate of 0.3% through 2037.

Kentucky Power considered advanced and innovative supply options alongside demand-side resources to evaluate the best way to meet future customer needs. Kentucky Power considered emerging supply-side technologies such as hydrogen and small modular nuclear reactors, as well as long-duration storage technologies as solutions to meet customer requirements under different market conditions, including emission-constrained scenarios.

### **Empowering Customers with Choices**

In this IRP, Kentucky Power explored the potential to implement demand-side programs to the benefit of its customers and meet future capacity needs. This includes energy efficiency measures that can be selected alongside new utility-scale generation. These options empower customers with choices over how and when they interact with the energy system.

Under the Preferred Plan, Kentucky Power proposes to implement approximately 48 MW of additional demand-side resources between 2023 and 2037.

## **Planning for Uncertain Futures**

Kentucky Power knows the importance of reliability to its customers and set an objective for the Preferred Plan, to the extent practicable, to consider risks from high costs during unexpected or adverse market conditions. This IRP includes two methods for evaluating cost risks, the results of which inform the development of the Preferred Plan:

- The first approach is a scenario analysis where Kentucky Power tested portfolios over a set of five market scenarios that test plausible but materially different long-term views of fundamental external market conditions such as commodity prices, customer load and preferences, policy requirements, resource costs, and transmission availability.
- The second approach is a stochastic analysis where Kentucky Power subjected the portfolios to a large number of randomly drawn market simulations that combined volatility in power prices and natural gas prices with volatility in generator output to observe how each portfolio performed.

The Preferred Plan contains a diverse mixture of demand-side and supply-side resources. The Preferred Plan performs well across all customer objectives and mitigates risk while providing optionality for Kentucky Power.

## **Powering a Greener Future for All**

Under the Preferred Plan, Kentucky Power proposes to add 800 MW of new solar, 700 MW of new wind, and 50 MW of new stand-alone storage by 2037. In total, the Kentucky Power portfolio is expected to reduce emissions by 90% by 2037 relative to the 2005 baseline.

## **Consulting Stakeholders**

The stakeholder process is designed to allow key IRP stakeholders an opportunity to gain an understanding and comment on Kentucky Power's IRP process and the key assumptions to the 2022 IRP.

Kentucky Power held two in-person stakeholder meetings during this IRP. The first stakeholder meeting was held July 14, 2022, during which the Company discussed the IRP process, key inputs, and the market scenarios that would be evaluated. The second meeting was held on

January 25, 2023, during which modeling results were reviewed with the stakeholders. The stakeholders provided feedback addressing key issues and concerns which Kentucky Power considered in respect to this IRP.

This IRP also addresses the Commission Staff's 2019 IRP recommendations. A table showing the location of Kentucky Power's responses to the Staff's recommendations is included at the end of the Executive Summary and in Exhibit A of the appendix to this report.

### **Three-Year Action Plan**

Steps to be taken by Kentucky Power in the near future as part of its Three-Year Action Plan include:

- Pursue economic development opportunities to increase and diversify its industrial and commercial load.
- Initiate an All-Source Request for Proposal (RFP) to secure cost-effective market capacity purchases and firm resources.
- Further examine opportunities to increase cost effective levels of EE in alignment with the Preferred Plan.
- Seek to refine cost estimates and develop plans for a Big Sandy life extension
- Monitor this action plan and future IRPs to address changing circumstances.

The Preferred Plan is informed by an optimized analysis to meet the PJM minimum reserve margins given assumptions about resource availability and constraints on portfolio energy sales. However, this plan is based on an uncertain future regarding events that can impact the Company's capacity position, including uncertainty around load growth, new environmental and tax policy, reserve margins, contribution of intermittent resources, and existing unit performance. Consequently, the Company will continue to evaluate its capacity position relative to these risks and may consider adding additional resources in the future to ensure a capacity position in compliance with PJM's capacity reserve requirement.

**Cross Reference Table of Staff Comments from 2019 Final IRP Report**

<b>Topic</b>	<b>Staff Comment</b>	<b>Reference</b>
Load Forecast	Provide a more detailed description and explanation of the county level historical, and forecast data obtained from Moody’s Analytics (or any other source) and the process employed to tailor data to specific counties and to Kentucky Power’s service territory. The explanation should also include a description of any alternative forecast scenarios provided by Moody’s Analytics, such as optimistic and pessimistic growth scenarios reflecting different economic and demographic assumptions, which may influence the ultimate forecast data used by Kentucky Power.	Section 2.13
	Provide a more detailed description of the different load forecast scenarios including how the base case assumptions were changed, how they differ from the base case, and a table depicting the all the various results.	Section 2.13
	Continue to provide an update on Kentucky Power’s economic development efforts including the impact on its load and employment in its service territory.	Section 2.13
	Provide a comparison of the annual and seasonal peak forecasts of the residential, commercial, and large commercial and industrial sales classes with actual results for the period following the 2019 IRP.	Sections 2.12.1, 2.12.2, 2.12.3, 2.12.4
	Include discussion and analysis of the potential for and any increases in distributed energy resources on the load forecasts. This should include behind the meter generation at residential, commercial and industrial customer locations. These should be evaluated separately and cumulatively including discussion of drivers encouraging and discouraging such development.	Section 2.13
DSM/EE	As required by the IRP regulation, 807 KAR 5:058, Kentucky Power should continue to define and improve procedures to evaluate, measure, and verify both actual costs and benefits of energy savings based on the actual dollar savings and energy savings. With the expiration of the Rockport UPA, the potential impact of new DSM programs will be much greater in the next IRP.	Section 4.0
	Continue to scrutinize the results of each existing DSM program measure's cost-effectiveness test and provide those results in future DSM cases, along with detailed support for future DSM program expansions and additions after the Rockport UPA capacity is no longer available.	Section 4.0

	Evaluate the marginal benefits and costs, including opportunity costs of VVO and DR programs.	Section 3.4 Section 3.5
	Examine additional low-income programs that allow for more participants and easier access to EE alternatives.	Section 4.0 Section 3.5
	Continue to monitor the DG additions.	Section 2.6.1 Section 2.13
Supply-Side Modeling	Provide a detailed cost benefit study demonstrating why it should continue to participate in PJM as an FRR versus RPM, and discussing the advantages of remaining an FRR company.	Section 5.9
	If not already included in the prior study, conduct a separate FRR versus RPM cost benefit study similar to the first, except that the analyses should explicitly assume the Mitchell station will continue generating beyond 2028 and then assume the Mitchell station will retire in 2028.	Section 5.9
	Explicitly discuss how and demonstrate that its winter capacity requirements are being satisfied over the forecast horizon. The discussion should include the role the PCA plays in the satisfaction of Kentucky Power’s seasonal capacity and energy requirements.	Sections 3.2, 5.9, 7.2.2, 7.2.3, 7.3.2, 7.5.1
	Explicitly describe its evaluation of the inclusion of Kentucky base generation merchant plants and how those costs compare to other alternate supply-side resources.	Section 5.9
	Explain the costs and benefits of acquiring renewables through purchased power contracts or through the construction of the facility itself generally and specifically in support of any renewable capacity additions.	Section 5.9
	Explain the costs associated with upgrading the transmission system so to accommodate any renewable generation capacity.	Sections 3.6.1, 3.6.2, 3.6.5, 5.9
	Model the impact to the Mitchell Plant due to the publication of the final ELG rule along with any impacts to Kentucky Power’s preferred supply side plan to meet its PJM reserve margin requirements and its anticipated winter capacity and demand requirements.	N/A
	Model scenarios of differing renewable constraints and no constraints on the size or addition.	Section 5.9
	If Kentucky Power has not pursued any of the preferred plan options or has pursued another option by the next IRP, provide a detailed explanation of why and a detailed explanation and modeling of any alternate course taken.	Section 5.9



## **1.0 Introduction**

### **1.1 Overview**

This Report presents the 2022 Integrated Resource Plan (IRP, Plan, or Report) for Kentucky Power Company (Kentucky Power or Company) including descriptions of assumptions, study parameters, models, and methodologies. The results integrate supply-side and demand-side resources.

The goal of this IRP process is to develop a plan identifying the amount, timing, and type of resources required to supply capacity and energy as part of the Company's obligation to ensure a reliable and economical power supply to its Kentucky Power customers.

In addition to developing a long-term plan for achieving reliability/reserve margin requirements as set forth by PJM, resource planning is critical to Kentucky Power due to its impact on such things as determining capital expenditure requirements, regulatory planning, environmental compliance, and other planning processes.

For this IRP, Kentucky Power engaged Charles River Associates ("CRA") to assist in the development and analyses. CRA is a leading global consulting firm that offers economic, financial, and business management consulting expertise and applies advanced analytic techniques and in-depth industry knowledge to complex engagements for a broad range of clients. The energy practice of CRA has staff located in Washington DC, Boston, London, and Toronto. CRA advises a range of clients on issues including resources planning, asset valuation, auction design and implementation, policy development, and procurement and planning strategies. Recently CRA has supported numerous investor- and publicly-owned utilities to develop long-term generation, transmission, and distribution plans that meet the evolving needs of customers, regulators, and other stakeholders.

### **1.2 Integrated Resource Plan (IRP) Process**

The Company defined a set of performance objectives and metrics and arranged them into a scorecard to provide a structured approach to compare the tradeoffs between different resource portfolios relative to the objectives defined by Kentucky Power.

These objectives and performance indicators were not just used to develop the scorecard. They also informed the assumptions and steps taken in the IRP analysis to create and evaluate portfolios.

This IRP is developed to align with Kentucky Power’s objectives as follows:

- **Customer affordability** by considering a broad range of resource options including renewables to take advantage of tax credits for the Company’s customers, and considering a demand-side energy efficiency resources;
- **Rate stability** by considering renewable resources to reduce uncertainties around future fuel prices and carbon policies, and using comprehensive scenario and stochastic analyses to inform portfolio choices to minimize rate risks to customers;
- **Maintaining reliability** by considering Kentucky Power’s portfolio performance against seasonal reserve margins and adverse system events and;
- **Local impact & sustainability** through inclusion of renewable and advanced generation technologies as resource options to enable a greener future for all as well as responding to customers’ other needs including demand for clean energy, electrification, and customer-sited generation.

The details of the 2022 IRP portfolio analysis framework and the scorecard elements are discussed below in Section 7.0.

This Report covers the processes and assumptions used to develop the IRP for the Company. This IRP is based upon the best available information at the time of preparation, but changes that may affect its results can, and do, occur without notice. Therefore, this IRP is not a commitment to a specific course of action and all the resource plans are subject to change.

The IRP process for Kentucky Power includes the following components/steps:

- Describes the Company, the resource planning process in general, and the implications of current issues as they relate to resource planning;
- Describe future customer needs and evaluate how those needs were likely to change over the 15-year period forecast in the 2022 IRP (see Section 2.0);
- Assess the adequacy of current resources, both demand- and supply-side, in meeting future customers’ needs, taking into account near term changes in the portfolio and the potential impact of future regulation on resource performance (see Section 3.0);
- Identify a list of candidate resources that could be selected by the portfolio model to meet future customer needs. Candidate resources include both demand-side (see Section 4.0) and supply-side options (see Section 5.0) including energy efficiency measures, renewables technologies, and advanced generation technologies;
- Assess sources of future risks and uncertainties and devise market scenarios and stochastic analysis to represent those risks as part of portfolio optimization (see Section 6.0);
- Define the objectives or targets that the preferred resource plan should achieve, and evaluate all resource options to identify portfolio options (see Section 7.0); and
- Reflect stakeholder feedback in formulating the preferred resource plan and the associated three-year action plan (See Section 8.0)

In addition, the IRP addresses the requirements of 807 KAR 5:058 and Kentucky Public Service Commission (KPSC or Commission) Staff recommendations provided in the Staff Report on Kentucky Power’s 2019 Integrated Resource Plan in Case No. 2019-00443. Cross-reference tables of where the Company addresses the requirements of Staff’s recommendations from the 2019 IRP report and 807 KAR 5:058 can be found in Exhibit A and Exhibit B of the Appendix.

### 1.3 Introduction to Kentucky Power

Kentucky Power’s customers consist of both retail and sales-for-resale (wholesale) customers located in the Commonwealth of Kentucky (see Figure 1). Currently, Kentucky Power serves approximately 163,000 retail customers. The peak load requirement of Kentucky Power’s total retail and wholesale customers is seasonal in nature with distinctive peaks occurring in the summer and winter seasons. Kentucky Power’s all-time highest recorded peak demand was 1,685 MW, which occurred in January 2005; and the highest recorded summer peak was 1,358 MW, which occurred in July 2005. The most recent actual Kentucky Power summer and winter (summer 2022 and winter 2021/22) peak demands were 996 MW and 1,187 MW, occurring on June 16, 2022, and January 27, 2022, respectively. Kentucky Power’s annual peak demand for 2022 occurred on December 23, 2022, with a value of 1,359 MW. The Company’s peak demand for winter 2022/23 has not been finalized. However, the December 2022 event will likely be the seasonal peak demand for winter 2022/23.



**Figure 1. Kentucky Power Service Territory**

## **1.4 Power Coordination Agreement (PCA)**

Since January 1, 2014, Kentucky Power has been responsible for maintaining an adequate level of power supply resources to meet its own load requirements for capacity, including any required reserve margin. Kentucky Power is also a party to the Power Coordination Agreement (PCA).<sup>1</sup> The most recent change to the PCA was the addition of Wheeling Power Company (Wheeling Power) effective June 1, 2015. This addition was the result of Wheeling Power acquiring a 50% undivided interest in the Mitchell Plant. This change had no impact on Kentucky Power's obligations under the PCA. No further changes to the PCA are under consideration at this time. Pending an assumed completion of a transfer of Kentucky Power from AEP to Liberty Power, the Company will participate as a member of the Power Coordination Bridge Agreement (PCBA) through the 2023/2024 PJM Planning Year. The Company will then look to source bilateral capacity agreements as needed to support any capacity needs not fulfilled by its own firm resources.

## **1.5 Significant Changes from the 2019 IRP**

Kentucky Power generally updates its load forecast and commodity price forecasts on an annual basis. Kentucky Power also monitors the cost of supply- and demand-side resources and incorporates the latest forecasts and trends into its analysis when preparing its IRP. The changes to the load forecast since the 2019 IRP filing are described in Section 2.9 of this report. Pricing and performance expectations for resource options are discussed in Section 5.0.

Energy pricing has increased in the earlier part of the planning horizon, due primarily to higher fuel prices. Natural gas prices have seen a run-up due to weak gas production growth and strong exports to international markets. The capacity price outlook has increased in the longer-term due primarily to an acceleration of coal retirements in the region and expected continuation of this trend. Table 1 and Table 2 below show, in constant 2021 dollars, the difference in the reference commodity price forecast for energy, capacity, and fuels.

<sup>1</sup> The Power Coordination Agreement currently provides Appalachian Power Company (APCo), Indiana Michigan Power (I&M), Kentucky Power and Wheeling Power Company (Wheeling Power) the opportunity to participate collectively (a) under a common Fixed Resource Requirement ("FRR") capacity plan in PJM, and (b) in specified collective off-system sales and purchase activities. Under the Power Coordination Agreement, generation is not planned on a single-system basis as it was under the previous Pool Agreement. Rather, APCo, I&M, Kentucky Power and Wheeling Power individually are required to own or contract for sufficient generation to meet their respective load and reserve obligations. Additional information regarding the PCA as it pertains to Kentucky Power can be found in FERC Docket No. ER13-234.

**Table 1. PJM Energy and Capacity Prices in 2019 IRP and 2022 IRP, in 2021 \$**

	On-Peak Energy Prices (\$/MWh)		Off-Peak Energy Prices(\$/MWh)		Capacity Prices (\$/MW-day)	
	2019 IRP	2022 IRP	2019 IRP	2022 IRP	2019 IRP	2022 IRP
2022	32.05	77.46	26.62	63.36	86.88	46.73
2023	32.75	62.83	27.24	49.30	79.78	30.23
2024	33.50	54.73	27.94	41.97	73.55	42.80
2025	33.95	46.05	28.29	34.44	68.22	94.01
2026	34.30	40.49	28.61	31.36	63.76	102.23
2027	34.97	37.00	29.17	28.88	60.20	119.76
2028	42.18	36.55	36.39	29.09	57.51	117.54
2029	41.62	37.43	35.76	30.05	55.70	127.22
2030	41.74	42.59	35.78	34.50	54.80	113.02
2031	41.67	42.39	35.51	34.80	54.76	144.08
2032	42.21	41.47	35.52	34.71	55.62	144.39
2033	42.33	41.08	35.47	34.89	57.35	134.60
2034	42.53	40.58	35.84	34.85	59.98	152.38
2035	42.53	40.59	35.84	34.93	59.98	154.70
2036	42.53	40.82	35.84	35.14	59.98	167.96
2037	42.53	40.36	35.84	35.76	59.98	205.54

**Table 2. Natural Gas and Coal Prices in 2019 IRP and 2022 IRP, in 2021 \$**

	Natural Gas TCO Pool (\$/MMBtu)		Illinois Basin Coal (\$/ton)	
	2019 IRP	2022 IRP	2019 IRP	2022 IRP
2022	3.52	5.05	41.86	153.00
2023	3.65	3.69	41.93	91.50
2024	3.72	3.03	42.51	30.00
2025	3.84	2.54	42.92	29.50
2026	3.93	2.36	43.76	29.00
2027	3.99	2.45	44.35	28.50
2028	4.17	2.62	44.18	28.00
2029	4.19	2.71	43.28	27.50
2030	4.22	2.76	42.33	27.00
2031	4.33	2.83	40.11	26.80
2032	4.32	2.85	39.10	26.60
2033	4.36	2.96	38.77	26.40
2034	4.45	2.98	36.75	26.20
2035	4.45	2.97	36.75	26.00
2036	4.45	2.95	36.75	26.00
2037	4.45	2.96	36.75	26.00

A carbon proxy remains in the forecast, for the moderate view, beginning in 2030 at \$13.6/short ton of CO<sub>2</sub> emissions, escalating at 3.5% per annum on a nominal basis. The 2019 forecast assumed costs associated with CO<sub>2</sub> emissions would begin in 2028 at \$13.6/short ton, escalating at a rate of 3.5% per annum. For the high view, the carbon proxy begins in 2029 at \$36.3/short ton of CO<sub>2</sub> emissions, escalating at 5% per annum on a nominal basis.

The Inflation Reduction Act of 2022 (“IRA”) has a material impact on the economics of new low emissions resources. The previous policy provided federal tax incentives for wind via the production tax credit (“PTC”) at a rate of \$15/MWh (60% of \$25/MWh real \$2021 level) with eligibility through 2021 for start of service, and for solar via the investment tax credit (“ITC”) at a rate of 10% of upfront capital cost for start of service after 2025 (phasing down from 30%, 26%, and 22% ITC for projects commencing construction through 2019, 2022, and 2023, respectively,

and in service through 2025). The IRA extends eligibility for the PTC until start of service in 2032 at a rate of \$25/MWh (real \$2021), expands PTC to include solar, makes storage eligible for ITC until start of service in 2032 at a rate of 30% of upfront capital cost, and provides provisions for other low emissions technologies including hydrogen and CCS.<sup>2</sup> Kentucky Power modeled the IRA as part of the 2022 IRP. Section 6.3.4.1 provides more details about implementation.

Changes in the load forecast, commodity price forecast, and resource pricing assumptions have resulted in a resource plan recommendation that is different than the one proposed in 2019. A key assumption in the 2019 Preferred Plan that is not included in the current IRP was the continued stake in the Mitchell coal plant (780 MW), which is now divested in 2028.

<sup>2</sup> PTC and ITC rates from IRA assume meeting wage and apprenticeship requirements for full tax benefits.

## **2.0 Load Forecast and Forecasting Methodology**

### **2.1 Summary of Kentucky Power Load Forecast**

The Kentucky Power load forecast was developed by the American Electric Power Service Corporation (AEPSC) Economic Forecasting organization and completed in June 2022.<sup>3</sup> The final load forecast is the culmination of a series of underlying forecasts that build upon each other. In other words, the economic forecast provided by Moody's Analytics is used to develop the customer forecast, which is then used to develop the sales forecast, which is ultimately used to develop the peak load and internal energy requirements forecast.

Over the next 15-year period (2023-2037),<sup>4</sup> Kentucky Power's service territory is expected to see population decline at 0.6% per year and non-farm employment to decline 0.4% per year. Kentucky Power is projected to see customer count decline at a similar rate of 0.6% per year. Over the same forecast period, Kentucky Power's retail sales are projected to grow 0.2% per year with growth expected from the commercial class (+2.0% per year) while the residential and industrial classes experiences decline of 0.7% and 0.2% per year, respectively, over the forecast horizon. It should be noted that CAGR for the commercial class is fueled by a large customer addition. Finally, Kentucky Power's internal energy is projected to show little growth and peak demand is expected to decline at an average rate of 0.3% through 2037.

### **2.2 Forecast Assumptions**

#### **2.2.1 Economic Assumptions**

The load forecasts for Kentucky Power and the other operating companies in the AEP System incorporate a forecast of U.S. and regional economic growth provided by Moody's Analytics. The load forecasts utilized Moody's Analytics economic forecast issued in December 2021. Moody's Analytics projects moderate growth in the U.S. economy during the 2023-2037 forecast period, characterized by a 2.1% annual rise in real Gross Domestic Product (GDP), and moderate inflation, with the implicit GDP price deflator expected to rise by 1.9% per year.

<sup>3</sup> The load forecasts (as well as the historical loads) presented in this Report reflect the traditional concept of internal load, *i.e.*, the load that is directly connected to the utility's transmission and distribution system and that is provided with bundled generation and transmission service by the utility. Such load serves as the starting point for the load forecasts used for generation planning. Internal load is a subset of *connected load*, which also includes directly connected load for which the utility serves only as a transmission provider. Connected load serves as the starting point for the load forecasts used for transmission planning.

<sup>4</sup> Fifteen year forecast period begins with the first full forecast year of 2023.

Industrial output, as measured by the Federal Reserve Board's (FRB) index of industrial production, is expected to grow at 1.6% per year during the same period. Moody's projects employment growth to be flat during the forecast period and real regional income per-capita annual growth of 1.9% for the Kentucky Power service area.

### **2.2.2 Price Assumptions**

The Company utilizes an internally developed service area electricity price forecast. This forecast incorporates information from the Company's financial plan for the near term and the U.S. Department of Energy (DOE) Energy Information Administration (EIA) outlook for the East North Central Census Region for the longer term. These price forecasts are incorporated into the Company's energy sales models, where appropriate.

### **2.2.3 Specific Large Customer Assumptions**

Kentucky Power's customer service engineers are in frequent communication with industrial and commercial customers about their needs and activities. From these discussions, expected load additions or reductions are relayed to the Company.

### **2.2.4 Weather Assumptions**

Where appropriate, the Company includes weather as an explanatory variable in its energy sales models. These models reflect historical weather for the model estimation period and normal weather for the forecast period.

### **2.2.5 Demand Side Management (DSM) Assumptions**

The Company's long term load forecast models account for trends in EE both in the historical data as well as the forecasted trends in appliance saturations as the result of various legislated appliance efficiency standards (Energy Policy Act of 2005 [EPAAct], Energy Independence and Security Act [EISA] of 2007, etc.) modeled by the EIA. The Company was directed by the Commission to suspend DSM activities until such time that the Company is either experiencing load growth or the Company has a capacity deficiency. The load forecast reflects no approved DSM program activity and no adjustments have been made to the load forecast.

## **2.3 Overview of Forecast Methodology**

Kentucky Power's load forecasts are based mostly on econometric, Statistically Adjusted End-use (SAE), and analyses of time-series data. This is helpful when analyzing future scenarios



and developing confidence bands in addition to objective model verification by using standard statistical criteria.

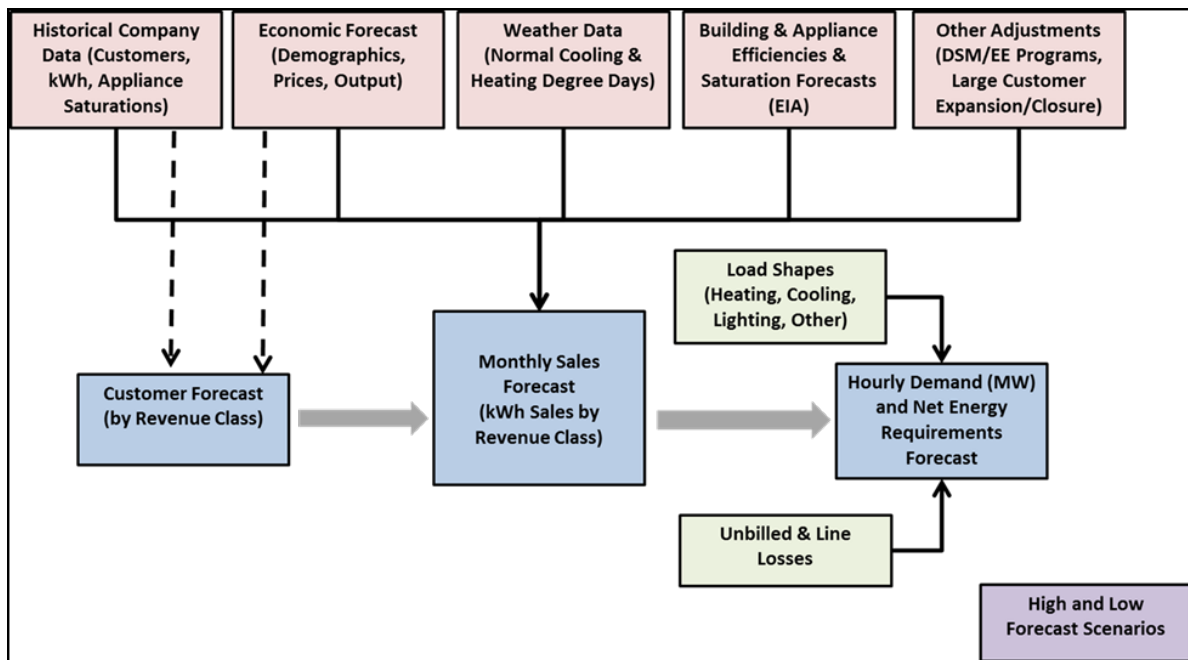
Kentucky Power utilizes two sets of econometric models: 1) a set of monthly short-term models, which extends for approximately 24 months and 2) a set of monthly long-term models, which extends for approximately 30 years. The forecast methodology leverages the relative analytical strengths of both the short- and long-term methods to produce a reasonable and reliable forecast that is used for various planning purposes.

For the first full year of the forecast, the short-term models generally govern the forecast values. The short-term models are regression models with time series errors, which analyze the latest sales and weather data to better capture the monthly variation in energy sales for short-term applications like capital budgeting and resource allocation. While these models produce extremely accurate forecasts in the short run, without logical ties to economic factors, they are less capable of capturing structural trends in electricity consumption that are more important for longer-term resource planning applications.

The long-term models are econometric, and SAE models, which are specifically equipped to account for structural changes in the economy as well as changes in customer consumption due to increased energy efficiency. The long-term forecast models incorporate regional economic forecast data for income, employment, households, output, and population.

The short-term and long-term forecasts are then blended to ensure a smooth transition from the short-term to the long-term forecast horizon for each major revenue class. There are some instances when the short-term and long-term forecasts diverge, especially when the long-term models are incorporating a structural shift in the underlying economy that is expected to occur within the first 24 months of the forecast horizon. In these instances, professional judgment is used to ensure that the final forecast that will be used in the peak models is reasonable. The class level sales are then summed and adjusted for losses to produce monthly net internal energy sales for the system. The demand forecast model utilizes a series of algorithms to allocate the monthly net internal energy to hourly demand. The inputs into forecasting hourly demand are internal energy, weather, 24-hour load profiles, and calendar information.

A flow chart depicting the sequence of models used in projecting Kentucky Power's electric load requirements, as well as the major inputs and assumptions that are used in the development of the load forecast, is shown in Figure 2, below.



**Figure 2. Kentucky Power Internal Energy Requirements and Peak Demand Forecasting Method**

## 2.4 Detailed Explanation of Load Forecast

### 2.4.1 General

This section provides a more detailed description of the short-term and long-term models employed in producing the forecasts of Kentucky Power’s energy consumption, by customer class. Conceptually, the difference between short- and long-term energy consumption relates to changes in the stock of electricity-using equipment and economic influences, rather than the passage of time. In the short term, electric energy consumption is considered as a function of an essentially fixed stock of equipment. For residential and commercial customers, the most significant factor influencing the short term is weather. For industrial customers, economic forces that determine inventory levels and factory orders also influence short-term utilization rates. The short-term models recognize these relationships and use weather and recent load growth trends as the primary variables in forecasting monthly energy sales.

Over time, demographic and economic factors such as population, employment, income, and technology influence the nature of the stock of electricity-using equipment, both in size and composition. Long-term forecasting models recognize the importance of these variables and include all or most of them in the formulation of long-term energy forecasts.

Relative energy prices also have an impact on electricity consumption. One important difference between the short-term and long-term forecasting models is their treatment of energy

prices, which are only included in long-term forecasts. This approach makes sense because although consumers may suffer sticker shock from energy price fluctuations, there is little they can do to affect them in the short-term. They already own a refrigerator, furnace or industrial equipment that may not be the most energy-efficient model available. In the long term, however, these constraints are lessened as durable equipment is replaced and as price expectations come to fully reflect price changes.

#### **2.4.2 Customer Forecast Models**

The Company also utilizes both short-term and long-term models to develop the final customer count forecast. The short-term customer forecast models are time series models with intervention (when needed) using Autoregressive Integrated Moving Average (ARIMA) methods of estimation. These models typically extend for 24 months into the forecast horizon.

The long-term residential customer forecasting models are also monthly but extend for 30 years. The explanatory jurisdictional economic and demographic variables include employment, population, housing stock, real personal income, employment and households are used in various combinations. In addition to the economic explanatory variables, the long-term customer models may employ a lagged dependent variable to capture the adjustment of customer growth to changes in the economy. There are also binary variables to capture monthly variations in customers, unusual data points, and special occurrences.

The short-term and long-term customer forecasts are blended, as was described earlier, to arrive at the final customer forecast that will be used as a primary input into both short-term and long-term usage forecast models.

#### **2.4.3 Short-term Forecasting Models**

The goal of Kentucky Power's short-term forecasting models is to produce an accurate load forecast for the first full year into the future. To that end, the short-term forecasting models generally employ a combination of monthly and seasonal binaries, time trends, and monthly heating/cooling degree-days in their formulation. The heating and cooling degree-days are measured at weather stations in the Company's service area. The forecasts relied on ARIMA models.

The estimation period for the short-term models was January 2012 through January 2022. There are models for residential, commercial, industrial, other retail, and wholesale sectors. The industrial models are comprised of 10 large industrial models and models for the remainder of the

industrial sector. The wholesale forecast is developed using models for the cities of Vanceburg and Olive Hill.

Off-system sales and/or sales of opportunity are not relevant to the net energy requirements forecast as they are not requirements load or relevant to determining capacity and energy requirements in the IRP process.

#### **2.4.4 Long-term Forecasting Models**

The goal of the long-term forecasting models is to produce a reasonable load outlook for up to 30 years in the future. Given that goal, the long-term forecasting models employ a full range of structural economic and demographic variables, electricity and natural gas prices, weather as measured by annual heating and cooling degree-days, and binary variables to produce load forecasts conditioned on the outlook for the U.S. economy, for the Kentucky Power service-area economy, and for relative energy prices.

Most of the explanatory variables enter the long-term forecasting models in a straightforward, untransformed manner. In the case of energy prices, however, it is assumed, consistent with economic theory, that the consumption of electricity responds to changes in the price of electricity or substitute fuels with a lag, rather than instantaneously. This lag occurs for reasons having to do with the technical feasibility of quickly changing the level of electricity use even after its relative price has changed, or with the widely accepted belief that consumers make their consumption decisions based on expected prices, which may be perceived as functions of both past and current prices.

There are several techniques, including the use of lagged price or a moving average of price that can be used to introduce the concept of lagged response to price change into an econometric model. Each of these techniques incorporates price information from previous periods to estimate demand in the current period.

The general estimation period for the long-term load forecasting models was 1995-2021. The long-term energy sales forecast is developed by blending of the short-term forecast with the long-term forecast. The energy sales forecast is developed by making a billed/unbilled adjustment to derive billed and accrued values, which are consistent with monthly generation.

### **2.4.4.1 Supporting Models**

In order to produce forecasts of certain independent variables used in the internal energy requirements forecasting models, several supporting models are used, including natural gas price and coal production models for Kentucky Power's service areas. These models are discussed below.

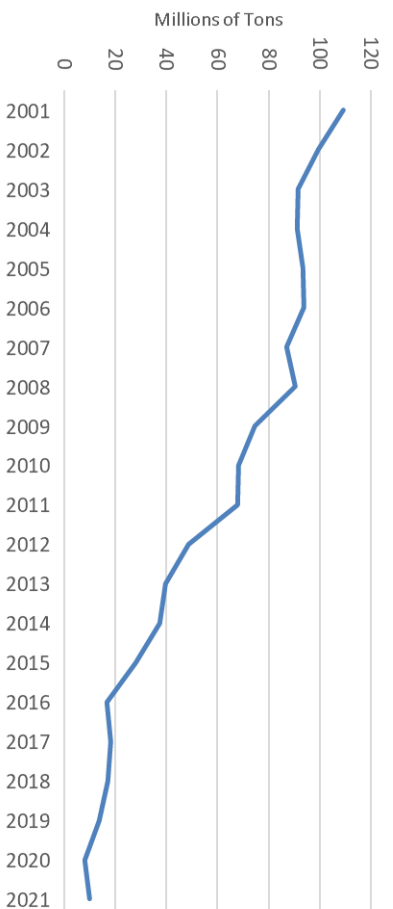
#### **2.4.4.1.1 Consumed Natural Gas Pricing Model**

The forecast price of natural gas used in the Company's energy models comes from a model of natural gas prices for the state's three primary consuming sectors: residential, commercial, and industrial. In the state natural gas price models sectoral prices are related to East North Central Census region's sectoral prices, with the forecast being obtained from EIA's "2022 Annual Energy Outlook." The natural gas price model is based upon 1980-2021 historical data.

#### **2.4.4.1.2 Regional Coal Production Model**

A regional coal production forecast is used as an input in the mine power energy sales model. In the coal model, regional production depends on mainly Appalachian coal production, as well as on binary variables that reflect the impacts of special occurrences, such as strikes. In the development of the regional coal production forecast, projections of Central Appalachian and U.S. coal exports were obtained from EIA's "2022 Annual Energy Outlook." The estimation period for the model was 1998-2021.

Coal mining activity plays a significant role in the local economy of Kentucky Power's service territory. Figure 3 below provides coal production in Eastern Kentucky between 2000 and 2021. During this period coal production dropped from nearly 105 million tons to approximately 10.1 million tons or a decline of approximately 90%. The forecast is for production to hover around the 10 million tons level, benefitting in part from the coal export market.



**Figure 3. Eastern Kentucky Coal Production (Millions of Tons) 2000-2021**

**Source: The Energy Information Administration**

#### **2.4.4.2 Residential Energy Sales**

Residential energy sales for Kentucky Power are forecasted using two models, the first of which projects the number of residential customers, and the second of which projects kWh usage per customer. The residential energy sales forecast is calculated as the product of the corresponding customer and usage forecasts.

The residential usage model is estimated using an SAE model, which was developed by Itron, a consulting firm with expertise in energy modeling. This model assumes that use will fall into one of three categories: heat, cool, and other. The SAE model constructs variables to be used in an econometric equation where residential usage is a function of Xheat, Xcool, and Xother variables.

The Xheat variable is derived by multiplying a heating index variable by a heating use variable. The heating index incorporates information about heating equipment saturation; heating equipment efficiency standards and trends; and thermal integrity and size of homes. The heating use variable is derived from information related to billing days, heating degree-days, household size, personal income, gas prices, and electricity prices.

The Xcool variable is derived by multiplying a cooling index variable by a cooling use variable. The cooling index incorporates information about cooling equipment saturation; cooling equipment efficiency standards and trends; and thermal integrity and size of homes. The cooling use variable is derived from information related to billing days, cooling degree-days, household size, personal income, gas prices and electricity prices.

The Xother variable estimates the non-weather sensitive sales and is similar to the Xheat and Xcool variables. This variable incorporates information on appliance and equipment saturation

levels; average number of days in the billing cycle each month; average household size; real personal income; gas prices and electricity prices.

The appliance saturations are based on historical trends from Kentucky Power’s residential customer survey. The saturation forecasts are based on EIA forecasts and analysis by Itron. The efficiency trends are based on DOE forecasts and Itron analysis. The thermal integrity and size of homes are for the East North Central Census Region and are based on DOE and Itron data.

The number of billing days is from internal data. Economic and demographic forecasts are from Moody’s Analytics and the electricity price forecast is developed internally.

The SAE residential models are estimated using linear regression models. These monthly models are typically for the period January 1995 through January 2022. It is important to note, as will be discussed later, that this modeling *has* incorporated the reductive effects of the EPAct, EISA, American Recovery and Reinvestment Act of 2009 (ARRA) and Energy Improvement and Extension Act of 2008 (EIEA 2008) on the residential (and commercial) energy usage based on analysis by the EIA regarding appliance efficiency trends.

The long-term residential energy sales forecast is derived by multiplying the “blended” customer forecast by the usage forecast from the SAE model.

#### **2.4.4.3 Commercial Energy Sales**

Long-term commercial energy sales are forecast using SAE models. These models are similar to the residential SAE models. These models utilize efficiencies, square footage and equipment saturations for the East North Central Region, along with electric prices, economic drivers from Moody’s Analytics, heating and cooling degree-days, and billing cycle days. As with the residential models, there are Xheat, Xcool, and Xother variables derived within the model framework. The commercial SAE models are estimated similarly to the residential SAE models. Commercial sales were boosted to reflect the expected addition of a significant large customer.

#### **2.4.4.4 Industrial Energy Sales**

Based on the size and importance of the Mine Power sector to the overall Kentucky Power Industrial base as well as the unique outlook for the mining sector in the long-run, the Company models Mine Power sales separately from the rest of the Industrial manufacturing sales in the long-term forecast models.

#### **2.4.4.4.1 Manufacturing Energy Sales**

The Company uses some combination of the following economic and pricing explanatory variables: service area manufacturing employment, petroleum industrial production index, Kentucky industrial gas prices, and service area industrial electricity prices. In addition, binary variables for months are special occurrences and are incorporated into the models. Based on information from customer service engineers there may be load added or subtracted from the model results to reflect plant openings, closures or load adjustments. The last actual data point for the manufacturing energy sales models is January 2022.

#### **2.4.4.4.2 Mine Power Energy Sales**

For its mine power energy sales models, the Company uses some combination of the following economic and pricing explanatory variables: regional coal production, and service area mine power electricity prices. In addition, binary variables for months are special occurrences and are incorporated into the models. Based on information from customer service engineers there may be load added or subtracted from the model results to reflect mine openings, closures or load adjustments. The last actual data point for the mine power energy sales models is January 2022.

#### **2.4.4.5 All Other Energy Sales**

The forecast of public-street and highway lighting relates energy sales to service area employment and binary variables.

Wholesale energy sales are modeled relating energy sales to economic variables such as service area employment, service area population, heating and cooling degree-days, and binary variables. The wholesale customers contract expires beginning June 2025. These entities have solicited proposals to serve them after the end of the current contract. Therefore, these entities are not included in the load forecast beyond June 2025.

### **2.4.5 Internal Energy Forecast**

#### **2.4.5.1 Blending Short and Long-Term Sales**

Forecast values for 2022 and 2023 are taken from the short-term process. Forecast values for 2024 are obtained by blending the results from the short-term and long-term models. The blending process combines the results of the short-term and long-term models by assigning weights to each result and systematically changing the weights so that by July 2024 the entire forecast is



from the long-term models. The goal of the blending process is to leverage the relative strengths of the short-term and long-term models to produce the most reliable forecast possible. However, at times the short-term models may not capture structural changes in the economy as well as the long-term models, which may result in the long-term forecast being used for the entire forecast horizon.

#### **2.4.5.2 Losses and Unaccounted-For Energy**

Energy is lost in the transmission and distribution of the product. This loss of energy from the source of production to consumption at the premise is measured as the average ratio of all Federal Energy Regulatory Commission (FERC) revenue class energy sales measured at the premise meter to the net internal energy requirements metered at the source. In modeling, Company loss study results are applied to the final blended sales forecast by revenue class and summed to arrive at the final internal energy requirements forecast.

#### **2.4.6 Forecast Methodology for Seasonal Peak Internal Demand**

The demand forecast model is a series of algorithms for allocating the monthly internal energy sales forecast to hourly demands. The inputs into forecasting hourly demand are blended revenue class sales, energy loss multipliers, weather, 24-hour load profiles and calendar information.

The weather profiles are developed from representative weather stations in the service area. Twelve monthly profiles of average daily temperature that best represent the cooling and heating degree-days of the specific geography are taken from the last 30 years of historical values. The consistency of these profiles ensures the appropriate diversity of the Company loads.

The 24-hour load profiles are developed from historical hourly Company or jurisdictional load and end-use or revenue class hourly load profiles. The load profiles were developed from segregating, indexing, and averaging hourly profiles by season, day types (weekend, midweek and Monday/Friday), and average daily temperature ranges.

In the end, the profiles are benchmarked to the aggregate energy and seasonal peaks through adjustments to the hourly load duration curves of the annual 8,760 hourly values. These 8,760 hourly values per year are the forecast load of Kentucky Power and the individual companies of American Electric Power (AEP) that can be aggregated by hour to represent load across the spectrum from end-use or revenue classes to total AEP-East, AEP-West, or total AEP System. Net internal energy requirements are the sum of these hourly values to a total company energy need

basis. Company peak demand is the maximum of the hourly values from a stated period (month, season, or year).

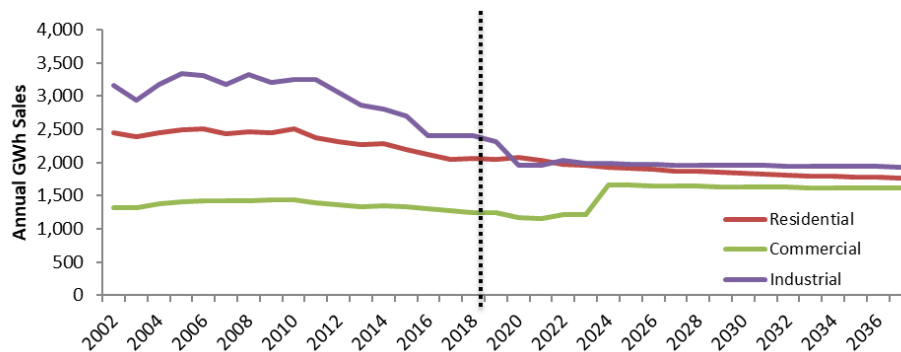
## 2.5 Load Forecast Results and Issues

All tables referenced in this section can be found in Exhibit C of the appendix to this report.

### 2.5.1 Load Forecast

Exhibit C-1 presents Kentucky Power's annual internal energy requirements, disaggregated by major category (residential, commercial, industrial, other internal sales and losses) on an actual basis for the years 2017-2022 and on a forecast basis for the years 2023-2037. Data for 2022 are six months actual and six months forecast. The exhibit also shows annual growth rates for both the historical and forecast periods. A further breakdown of forecast by sector and losses is provided in Exhibits C-2A and C-2B. Monthly forecasts of Kentucky Power energy by sector and demand for 2023 and 2024 are provided on Exhibits C-3 and C-4, respectively.

Figure 4 below provides a graphical depiction of weather normal and forecast Company residential, commercial, and industrial sales for 2002 through 2037.

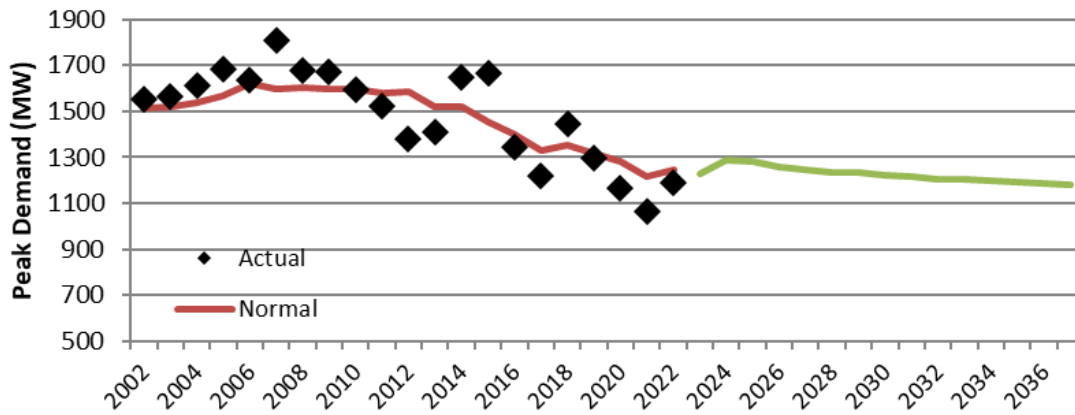


**Figure 4. Kentucky Power GWh Sales (Weather Normalized History & Forecast)**

### 2.5.2 Peak Demand and Load Factor

Exhibit C-5 provides Kentucky Power's seasonal peak demands, annual peak demand, internal energy requirements and annual load factor on an actual basis for the years 2017-2021 and on a forecast basis for the years 2023-2037. Data for 2022 are six months actual and six months forecast. The table also shows annual growth rates for both the historical and forecast periods.

Figure 5 presents actual, weather normal and forecast Kentucky Power annual peak demand for the period 2002 through 2037.



**Figure 5. Kentucky Power Peak Demand Forecast**

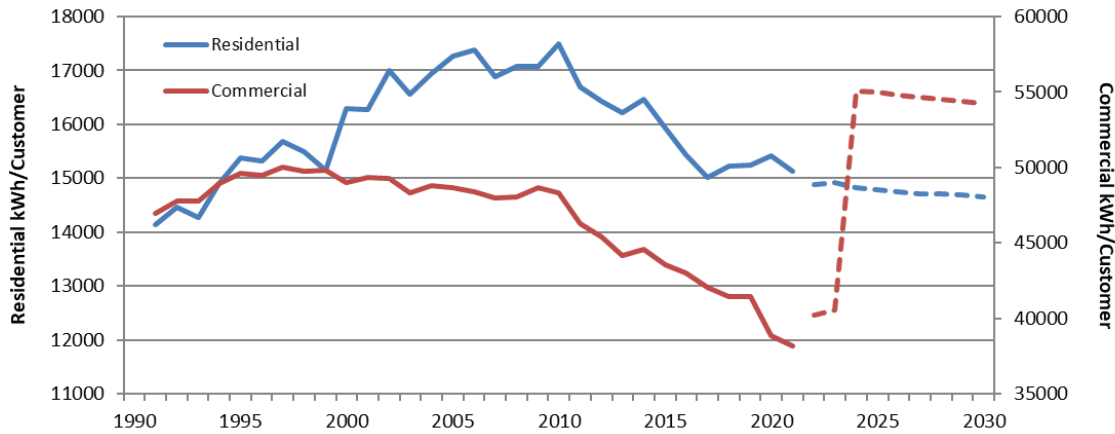
### 2.5.3 Weather Normalization

The load forecast presented in this Report assumes normal weather. To the extent that weather is included as an explanatory variable in various short- and long-term models, the weather drivers are assumed to be normal for the forecast period.

## 2.6 Load Forecast Trends & Issues

### 2.6.1 Changing Usage Patterns

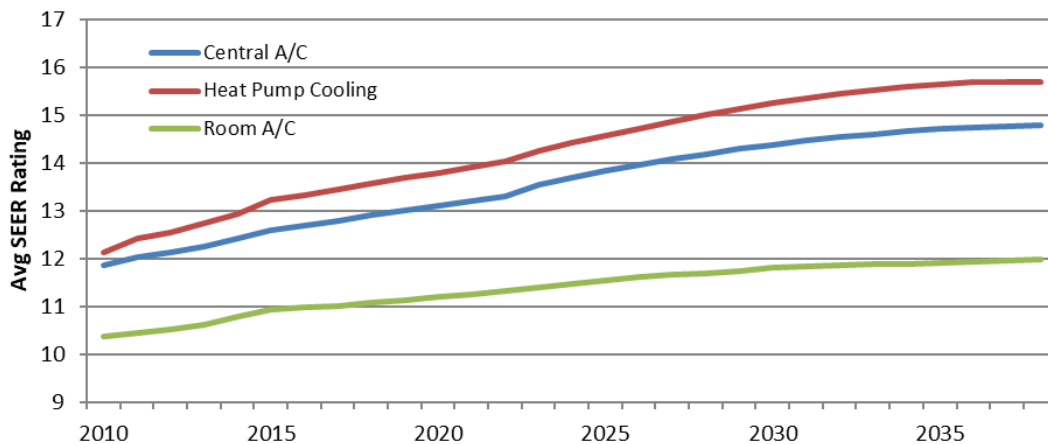
Over the past decade, there has been a significant change in the trend for electricity usage from prior decades. Figure 6, below, presents Kentucky Power’s historical and forecasted residential and commercial usage per customer between 1991 and 2030. During the first decade shown (1991-2000), residential usage per customer grew at an average rate of 1.4% per year, while the commercial usage grew by 0.2% per year. Over the next decade (2001-2010), growth in residential usage was at 0.8% per year while the commercial class usage decreased by 0.2% per year. In the last decade shown (2011-2020) residential usage declined at a rate of 0.9% per year while the commercial usage decreases by an average of 1.9% per year. It is worth noting that residential usage increased by 1.1% in the 2020 pandemic year. Meanwhile, commercial usage decreased by 7.3% with many businesses strongly affected by pandemic mandates. This residential decline is expected to moderate for the last ten years shown (2021-2030), declining at a rate of 0.4% per year. Commercial usage is buoyed by large customer additions in the near term and sees average annual growth of 4.0% over the 2021-2030. Over the last six years (2025-2030) shown on the graph, commercial usage declines by 0.3% year as efficiency gains become more prominent without additional large customer additions.



**Figure 6. Kentucky Power Normalized Use per Customer (kWh)**

The SAE models are designed to account for changes in the saturations and efficiencies of the various end-use appliances. Every 3-4 years, the Company conducts a Residential Appliance Saturation Survey to monitor the saturation and age of the various appliances in the residential home. This information is then matched up with the saturation and efficiency projections from the EIA, which includes the projected impacts from various enacted federal policies mentioned earlier.

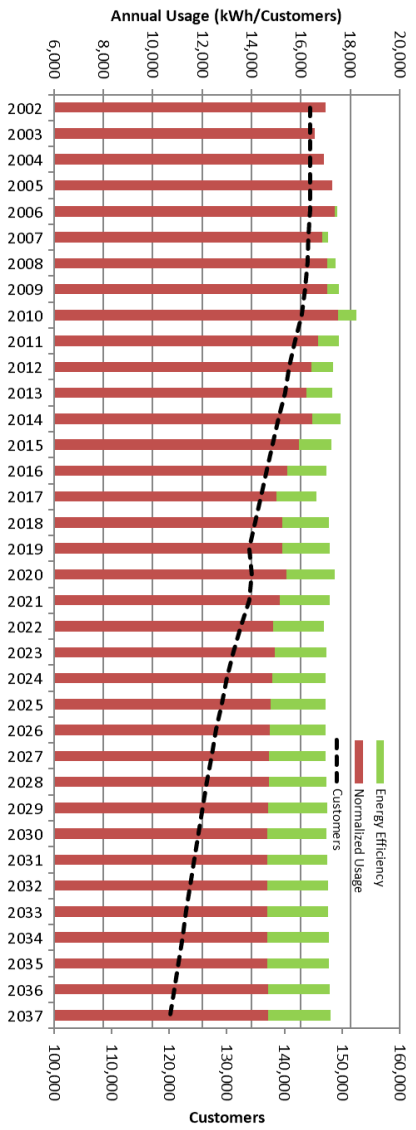
The result of this is a base load forecast that already includes some significant reductions in usage as a result of projected EE. For example, Figure 7 below shows the assumed cooling efficiencies embedded in the SAE models for cooling loads. It shows that the average Seasonal Energy Efficiency Ratio (SEER) for central air conditioning is projected to increase from 11.9 in 2010 to 14.4 by 2030. The chart shows a similar trend in projected cooling efficiencies for heat pump cooling as well as room air conditioning units.



**Figure 7. Projected Changes in Cooling Appliance Efficiencies, 2010-2040**

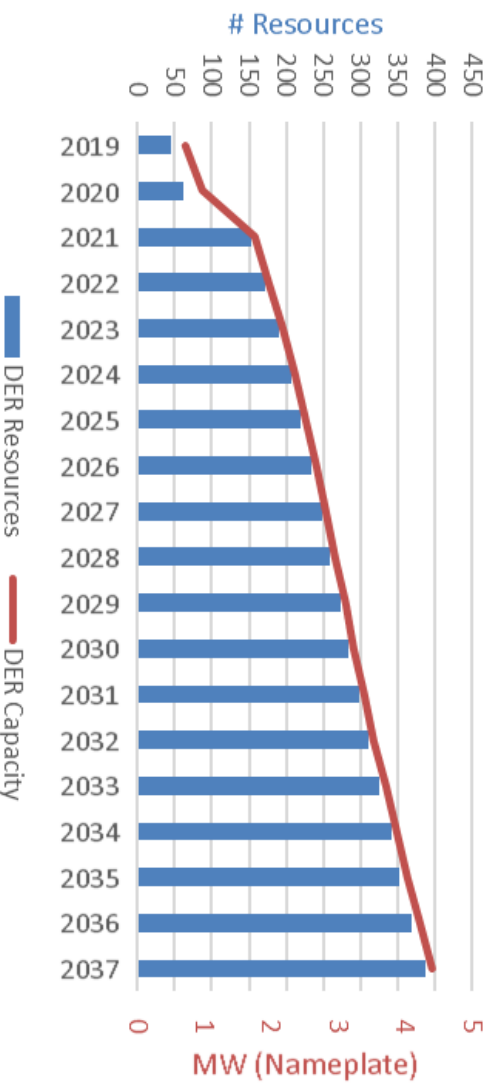
Figure 8 below shows the impact of appliance, equipment and lighting efficiencies on the Company’s weather normalized residential usage per customer. This graph provides weather

normalized residential energy per customer and an estimate of the effects of efficiencies on usage. In addition, historical and forecast Kentucky Power residential customers are provided.



**Figure 8. Residential Usage and Customer Growth, 2002-2037**

Additionally, distributed generation in the form of rooftop solar is driven by customer decisions and continues to grow. The Company has developed a forecast of the number of units and capacity shown in Figure 9, estimating an annual growth rate of approximately 5% from 2020-2040. While the net impact to the load forecast is not explicitly quantified, to the extent that it affects consumption trends, it is implicitly captured in the load forecast.



**Figure 9. Distributed Generation Capacity Growth**

### 2.6.2 Demand-Side Management (DSM) Impacts on the Load Forecast

The end-use load forecasting models account for changing trends and saturations of energy efficient technologies throughout the forecast horizon. Historically, DSM and EE programs have further accelerated the adoption of energy efficiency technology. DSM and EE programs have

been paused in the past years while the Company load was not growing, and the Company was not capacity deficient.

For the near-term horizon (through 2023), the load forecast uses assumptions from the Commission's directive regarding DSM programs. The Company's load forecast does not reflect any on-going adjustments for DSM.

Exhibit C-6 provides the DSM/EE impacts incorporated in Kentucky Power's load forecast provided in this Report. For this load forecast, there was no DSM/EE included. Annual energy and seasonal peak demand impacts are provided for the Company.

### **2.6.3 Interruptible Load**

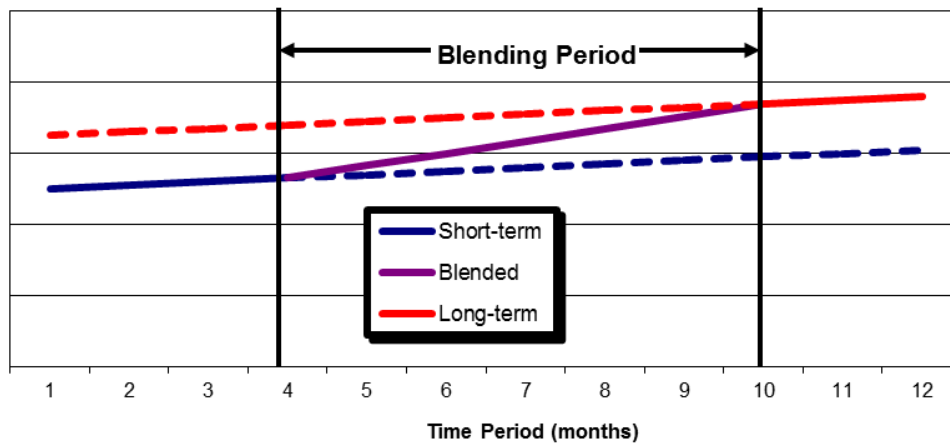
The Company has three customers with approximately 6.0 MW available for interruption in emergency situations in Demand Response (DR) agreements. The load forecast does not reflect any load reductions for these customers. Rather, the interruptible load is seen as a resource when the Company's load is peaking. As such, estimates for DR impacts are reflected by Kentucky Power in determination of PJM-required resource adequacy (*i.e.*, Kentucky Power's projected capacity position). Further discussion of the determination of DR is included in Section 3.4.1.

### **2.6.4 Blended Load Forecast**

As noted above, at times the short-term models may not capture structural changes in the economy as well as the long-term models, which may result in the long-term forecast being used for the entire forecast horizon. Exhibit C-7 provides an indication of which retail energy and customer models are blended and which strictly use the long-term model results. In addition, all of the wholesale forecasts utilize the long-term model results.

In general, forecast values for the year 2022 were typically taken from the short-term process. Forecast values for 2023 are obtained by blending the results from the short-term and long-term models. The blending process combines the results of the short-term and long-term models by assigning weights to each result and systematically changing the weights so that by July of 2024 the entire forecast is from the long-term models. This blending allows for a smooth transition between the two separate processes, minimizing the impact of any differences in the results. Figure 10 illustrates a hypothetical example of the blending process (details of this illustration are shown in Exhibit C-8). However, in the final review of the blended forecast, there may be instances where the short-term and long-term forecasts diverge especially when the long-

term forecast incorporates a structural shift in the economy that is not included in the short-term models. In these instances, professional judgment is used to develop the most reasonable forecast.



**Figure 10. Load Forecast Blending Illustration**

### 2.6.5 Large Customer Changes

The Company’s customer service engineers are in continual contact with the Company’s large commercial and industrial customers about their needs for electric service. These customers will relay information about load additions and reductions. This information will be compared with the load forecast to determine if the industrial or commercial models are adequately reflecting these changes. If the changes are different from the model results, then additional factors may be used to reflect those large changes that differ from the forecast models’ output.

### 2.6.6 Wholesale Customer Contracts

Company representatives are in continual contact with wholesale customer representatives about their contractual needs. The customers have provided a request for proposals to provide their energy requirements when their contracts expire at the end of May 2025. These customers loads are excluded from the load forecast beginning June 2025.

## 2.7 Load Forecast Scenarios

The base case load forecast is the expected path for load growth that the Company uses for planning. There are a number of known and unknown potentials that could drive load growth different from the base case. While potential scenarios could be quantified at varying levels of assumptions and preciseness, the Company has chosen to frame the possible outcomes around the base case as a reasonable balance of likely outcomes. The Company recognizes the potential desire

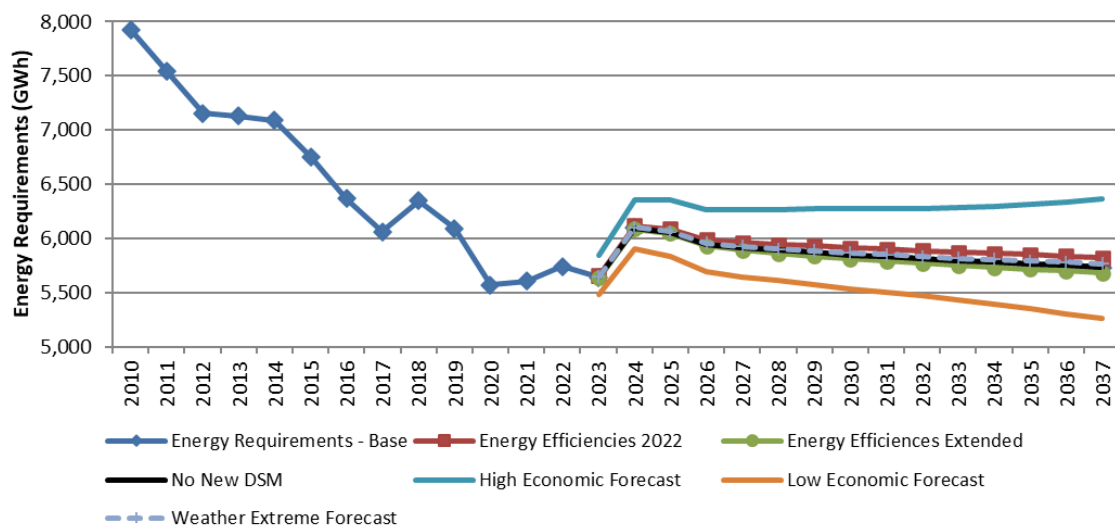
for a more exact quantification of certain outcomes, but the reality is if all possible outcomes were known with a degree of certainty, then they would become part of the base case.

Forecast sensitivity scenarios have been established which are tied to respective high and low economic growth cases. The high and low economic growth scenarios are consistent with scenarios laid out in the EIA’s 2020 Annual Outlook. While other factors may affect load growth, this analysis only considered high and low economic growth. The economy is seen as a crucial factor affecting future load growth.

The low-case, base-case and high-case forecasts of summer and winter peak demands and total internal energy requirements for Kentucky Power are tabulated in Exhibit C-9.

For Kentucky Power, the low-case and high-case energy and peak demand forecasts for the last forecast year, 2035, represent deviations of about 8.2% below and 11.0% above, respectively, the base-case forecast.

During the load forecasting process, the Company developed various other scenarios. Figure 11 provides a graphical depiction of the scenarios developed in conjunction with the load provided in this report.



**Figure 11. Load Forecast Scenarios – Energy Requirement (GWh)**

The no new DSM scenario is the same as the base load forecast as no new DSM was reflected in the load forecast. The energy efficiencies 2022 scenario keeps energy efficiencies at 2022 levels for the residential and commercial equipment. The energy efficiencies scenarios result in a load forecast greater than the base forecast.



The energy efficiencies extended scenario has energy efficiencies developing at a faster pace than is represented in the base forecast. This scenario is based on analysis developed by the Energy Information Administration. This forecast is lower than the base forecast due to enhanced energy efficiency for residential and commercial equipment.

The weather extreme forecast assumes increased average daily temperatures for both the winter and summer seasons, which results in diminished heating degree-days in the winter and increased cooling degree-days in the summer. This analysis is based on a potential impact of climate change developed by Purdue University<sup>5</sup>. This scenario results in increased load in the summer and diminished load in the winter, with the net result being a higher energy requirements forecast. Exhibit C-10 provides graphical displays of the range of forecasts of summer and winter peak demand for Kentucky Power along with the impacts of the weather scenario for each season.

All of these alternative scenarios fall within the boundary of the Company's high and low economic scenario forecasts. The Company's expectations are that any reasonable scenario developed will fall within this range of forecasts.

## **2.8 Energy-Price Relationships**

In every load forecast, Kentucky Power Company takes electricity price and the effects of its changes into consideration. This is true for the forecast included in this IRP. The following provides a discussion of the impacts of prices on electricity sales and how price is accounted for in the load forecast.

An understanding of the relationship between energy prices and energy consumption is fundamental to developing a forecast of electricity consumption. In theory, the effect of a change in the price of a good on the consumption of that good can be disaggregated into two effects, the "income" effect and the "substitution" effect. The income effect refers to the change in consumption of a good attributable to the change in real income incident to the change in the price of that good. For most goods, a decline in real income would induce a decline in consumption. The substitution effect refers to the change in the consumption of a good associated with the change in the price of that good relative to the prices of all other goods. The substitution effect is assumed to be negative in all cases; that is, a rise in the price of a good relative to other substitute goods would induce a decline in consumption of the original good. Thus, if the price of electricity were to rise,

<sup>5</sup> <https://docs.lib.purdue.edu/cgi/viewcontent.cgi?article=1000&context=climatetr>

the consumption of electricity would fall, all other things being equal. Part of the decline would be attributable to the income effect; consumers must make decisions on how to allocate their budget to purchase electricity services and other goods and services after the price of electricity rises. Part would be attributable to the substitution effect; consumers would substitute relatively cheaper fuels for electricity once its price had risen.

The magnitude of the effect of price changes on consumption differs over different time horizons. In the short-term, the effect of a rise in the price of electricity is severely constrained by the ability of consumers to substitute other fuels or to incorporate more electricity-efficient technology. The fact that the Company's short-term energy consumption models do not include price as an explanatory variable is a reflection of the belief that this constraint is severe.

In the long-term, however, the constraints on substitution are lessened for a number of reasons. First, durable equipment stocks begin to reflect changes in relative energy prices by favoring the equipment using the fuel that was expected to be cheaper. Second, heightened consumer interest in saving electricity, backed by willingness to pay for more efficiency, spurs development of conservation technology. Third, existing technology, too expensive to implement commercially at previous levels of energy prices, becomes feasible at the new, higher energy prices; and fourth, normal turnover of electricity-using equipment contributes to a higher average level of energy efficiency.

For these reasons, energy price changes are expected to have an effect on long-term energy consumption levels. As a reflection of this belief, most of the Company's long-term forecasting models, including the residential, commercial, manufacturing and mine power energy sales models, incorporate the price of electricity as an explanatory variable. The residential SAE Model uses price in development of explanatory variables. There are a variety of short- and long-run elasticities utilized in this analysis. In addition to electricity prices, the residential SAE model utilizes the price of natural gas as associated cross-price elasticities. Likewise, the commercial SAE model incorporates electricity price and an associated price elasticity to develop explanatory variables. Manufacturing and mine power have price as an explanatory variable. In these cases, the coefficient of the price variable provides a quantitative measure of the sensitivity of the forecast value to a change in price.

## **2.9 Significant Changes from Previous Forecast**

### **2.9.1 Energy Forecast**

During the three years since the last filing with the Commission, Kentucky Power's service area economy continues to be sluggish and therefore the load forecast for Kentucky Power reflects a modest outlook.

Exhibit C-11 provides a tabular comparison of the 2019 and 2022 forecasts of total internal energy requirements for the forecast horizon provided in the 2019 IRP. Exhibit C-12 shows the comparison for Kentucky Power in graphical form. As these exhibits indicate, Kentucky Power's 2022 energy forecast is lower than the 2019 forecast in terms of magnitude (304 GWh, or 5.0%, lower for year 2034) and long-term average annual growth rate is higher in 2022 IRP (0.2% vs. -0.2%).

An examination of the sectoral changes in the Kentucky Power forecast may provide a better understanding of the changes in the aggregate forecast. The forecasted levels of the sectoral components for the year 2034 did not change uniformly with the 5.0% decrease in the forecast of total energy requirements. Specifically, the residential, industrial and other internal energy sales forecasts were decreased by 1.6%, 25.5%, and 90.3%, respectively. Meanwhile, commercial energy sales and losses forecasts were increased by 38.7% and 5.5%, respectively.

While the residential energy sales forecast change is relatively small, factors contributing to the decrease include impacts of a sluggish economy and deteriorating residential customer base. The sharp increase in commercial energy sales is associated with the addition a large industrial customer with significant energy requirements. In the longer term the sector will still have downward pressure on sales attributed to efficiency gains in lighting and equipment.

For the industrial sector, the decrease reflects plant closures and the continued erosion of the coal mining industry. Both the manufacturing and coal mining sectors experienced a significant downturn in the 2020 pandemic year and neither sector reflected much rebound in 2021. This along with known plant closures contributed to the lowering of the industrial forecast provided in 2019.

The big change in other internal sales forecast is the omission of the wholesale customer when their contracts expire in 2025. In the 2019 forecast, these customers' loads were assumed to be part of internal going forward.

## 2.9.2 Peak Internal Demand Forecast

Exhibit C-13 provides a tabular comparison of the 2019 and 2022 forecasts of the winter and summer peak internal demand for both. This exhibit indicates that for the winter of 2034/35, Kentucky Power's 2022 peak demand forecast is 5.5% lower than the 2019 forecast. Likewise, the Company's 2022 peak demand forecast for summer 2034 is 3.3% lower than 2019 forecast. These decreases reflect the change in the forecast for total energy requirements and an evaluation of the weather normal peak experience.

## 2.9.3 Forecasting Methodology

Opportunities to enhance forecasting methods are explored by Kentucky Power on a continuing basis. The Company evaluates each sector for changing growth patterns and determines the factors that may be the underlying causes for such changes. For example, the Company continues to evaluate the erosion of the customer base for residential and commercial customers and the effects of equipment and lighting efficiencies on consumption.

## 2.10 Additional Load Information

Additional information provided for the purposes of this report includes the following:

**Exhibit C-14:** Kentucky Power, Average Annual Number of Customers by Class, 2017-2021.

**Exhibits C-15 and C-16:** Kentucky Power, Annual Internal Load by Class (GWh), 2017-2021.

**Exhibits C-17 and C-18:** Kentucky Power Recorded and Weather-Normalized Peak Internal Load (MW) and Energy Requirements (GWh), 2017-2021. In addition, Normalized Annual Internal Sales by Class (GWh), 2017-2021 are provided.

**Exhibit C-19:** Kentucky Power, Profiles of Monthly Peak Internal Demands, 2016, 2021 (Actual), 2031 and 2036.

The historical profiles presented in Exhibit C-19 have not been adjusted to reflect normal weather patterns and, therefore, may vary to some degree from the forecast patterns projected for 2031 and 2036. These patterns also reflect the expectation that Kentucky Power will continue to experience its annual peak demand in the winter season.

Currently, the Company has three customers with interruptible provisions in their contracts.

The Company conducted its most recent residential customer survey in the fall of 2021. The results of the survey were utilized in the development of the Company's residential forecast. As in the past, this survey provides information on appliance saturations, along with other useful information to better understand the residential load.

## **2.11 Data-Base Sources**

Sources from within the Company that were used in developing the Company's load forecasts are as follows:

1. Sales for Resale Reports (Form ST-18);
2. daily, monthly, and annual System Operation Department reports;
3. monthly financial reports;
4. monthly kWh and revenue SIC reports; and
5. residential tariff schedules and fuel clause summaries for all operating companies.

The data sources from outside the Company are varied and include state and federal agencies, as well as Moody's Analytics. Exhibit C-20 identifies the data series and associated sources, along with notes on adjustments made to the data before incorporation into the load forecasting models.

## **2.12 Other Topics**

### **2.12.1 Residential Energy Sales Forecast Performance**

Exhibit C-21 provides a comparison of actual vs. the 2019 forecast of Kentucky Power's residential energy sales for the years 2019-2021. The gap between actual and forecast residential energy sales varied from year-to-year over the three-year period. It should be noted that 2019 data in the 2019 IRP were nine months actual and three months forecast. During this period the number of residential customers declined. Another factor affecting sales is the impact of more stringent efficiency standards being mandated by Congress. Both of these factors will continue to have major influences on residential energy sales over the forecast period. Sales were positively influenced by COVID-19 pandemic that resulted in people working remotely and/or staying at home more. There was a carry-over of this effect in 2021.

### **2.12.2 Commercial Energy Sales Forecast Performance**

Exhibit C-22 provides a comparison of actual vs. the 2019 forecast of Kentucky Power's commercial energy sales for the years 2019-2021. The gap between actual and forecast commercial energy sales was dramatically different in 2020 and 2021 due to the impacts of COVID-19

pandemic on the local economy. Sales were sharply off in 2022 and no recovery was experienced in 2021. The sector is expected to be affected by continued efficiency gains.

### **2.12.3 Industrial Energy Sales Forecast Performance**

Exhibit C-23 provides a comparison of actual vs. 2019 forecast of Kentucky Power's industrial energy sales for the years 2019-2021. As with the commercial energy sales forecast, the industrial energy sales forecast was significantly greater than the actual sales due to the impacts of the COVID-19 pandemic. The Company experienced some manufacturing plant closures and the coal mining sector further deteriorated in 2020.

### **2.12.4 Peak Demand Forecast Performance**

Exhibit C-24 provides a comparison of actual vs. the 2019 forecast of Kentucky Power's seasonal internal peak demands for 2019-2021. The exhibit also compares the calculated weather-normalized demands with the forecast values, thus indicating the extent to which weather affected actual demands.

There have been many changes in the local service territory over the three years since the 2019 forecast was filed. For, example the residential customer base has eroded, there have been additional energy legislation enacted and the commercial and industrial sectors experienced load decreases between 2019 and 2021. Items, such as these, have contributed to a diminished outlook for peak demand growth. In addition, recent trends in normalized demand growth are evaluated when developing the forecast. As with the energy sales, peak demand was adversely affected by the impacts of the COVID-19 pandemic.

### **2.12.5 Forecast Data and Model Results**

Exhibits G, H and I of the appendix provide input data, model statistics and model results for the short- and long-term energy and peak demand models for the Company.

### **2.12.6 Forecast Updates**

Each year the Company provides updates to the load forecast in response to requests related to Administrative Case 387.

## 2.13 KPSC Staff Recommendations Addressed

On February 15, 2021, the Staff issued its Report on Kentucky Power's 2019 Integrated Resource Plan and recommended that the Company address certain items in its next IRP report (this report). The following items pertaining to load forecasting are restated from the Staff report and addressed below:

- 1. Kentucky Power should provide a more detailed description and explanation of the county level historical, and forecast data obtained from Moody's Analytics (or any other source) and the process employed to tailor data to specific counties and to the Kentucky Power's service territory. The explanation should also include a description of any alternative forecast scenarios provided by Moody's Analytics, such as optimistic and pessimistic growth scenarios reflecting different economic and demographic assumptions, which may influence the ultimate forecast data used by Kentucky Power.**

The counties used by the Company for service area economic and demographic drivers are provided in Exhibit C-25. The Company sums the data from the counties shown in that exhibit to get service area level drivers for modeling purposes. These counties were selected as the Company serves at least the majority of each county. Moody's Analytics does not develop scenarios at the county level. Also, the Company does not subscribe to Moody's Analytics scenarios for national level data.

- 2. Kentucky Power should provide a more detailed description of the different load forecast scenarios including how the base case assumptions were changed, how they differ from the base case, and a table depicting the various results.**

The Company developed six scenarios with the load forecast. The efficiencies 2022 scenario keeps the efficiencies in the residential and commercial SAE models at the 2022 levels throughout the forecast. The extended efficiencies scenario reflects the potential for additional efficiency standards beyond what has currently been enacted. This scenario relied on an EIA estimate for that potential change, it affects the residential and commercial SAE model analysis. The no DSM scenario excludes any new DSM. For this IRP, it is the same as the base forecast. The Company developed a mini model of total load to gauge the impact of high and low economic growth. The Company relied on national level economic growth scenarios provided by EIA and assumed similar bounds for high and low economic growth for the Company's service area. The weather scenario relied on potential

changes to heating and cooling degree days similar to the Purdue University study. The scenario affected those entities that have heating and cooling degree days as drivers. Exhibit C-26 provides the internal energy requirements under each of these scenarios.

**3. Kentucky Power should continue to update on Kentucky Power's economic development efforts including the impact on its load and employment in its service area.**

It is well documented that the Company's service area faces many negative economic pressures. The sluggish economy and significant coal mining activity reduction have contributed to the Kentucky Power service area seeing a 10% reduction in population since 2000. In comparison, the Commonwealth of Kentucky, which has a much stronger economy, experienced a 10% population increase over the same period. A more vibrant economy in the Company's service area will help stem the tide of declining population and its associated negative impacts. Company-sponsored economic development activities will contribute to strengthening the local economy. These impacts will not only be the effect of the direct employment of workers by these new activities, but it will also include the effects of items purchased from local suppliers and income to the workers in these industries.

The IMPLAN input-output model provides a method to estimate the direct, indirect and induced impacts as the result of a new project in the service area. The direct impacts represent the impacts associated with a firm for either an expansion or a new facility. The indirect impacts are representative of purchases from local suppliers as a result of the new activity. The induced impacts estimate the impacts of spending activities of the employees of direct and indirect firms. Since 2016, the Company's economic development team has identified 22 projects that could play a significant role in either a new firm entering the local economy or an existing firm expanding its operations. When these projects become operational, they are expected to create or support 1,291 new direct jobs. After evaluating these projects with the IMPLAN model, the Company estimates that these jobs will create or support nearly 2,500 jobs, which reflects the direct, indirect and induced effects.

These 22 projects will also increase load needs from the Company. If these projects develop as anticipated, they are projected to need 45 MW of demand and 258 GWh of energy, when fully operational.



- 4. Kentucky Power should provide a comparison of the annual and seasonal peak forecasts of the residential, commercial, and large commercial and industrial sales classes with actual results for the period following the 2019 IRP.**

See sections 2.12.1, 2.12.2, 2.12.3 and 2.12.4.

- 5. Kentucky Power should include discussions and analysis for the potential for and any increases in distributed energy resources on the load forecasts. This should include behind the meter generation at residential, commercial, and industrial customer locations. These should be evaluated separately and cumulatively including discussion of drivers encouraging and discouraging such development.**

The Company has seen two items that have potential for affecting energy sales but are not significant enough to have impacts on load forecast. Exhibit C-27 provides the Company's scenarios for electric vehicle adoption in Kentucky Power. While adoption growth is expected, it is not forecast to significantly affect energy sales. The Company also monitors distributed energy resources in the service area. Figure 9 and Exhibit C-28 provides the number of these items and kW capacity associated with them. As with electric vehicles, distributed energy resources are expected to grow but still do not have a significant impact on the load forecast.

### 3.0 Existing Resource Evaluation

#### 3.1 Current Supply-Side Resources

An initial step in the IRP process is the demonstration of the capacity resource requirements. This “needs” assessment must consider projections of:

- Existing capacity resources—current levels and anticipated changes;
- anticipated changes in capability due to efficiency and/or environmental considerations;
- changes resulting from decisions surrounding unit disposition evaluations;
- regional and sub-regional capacity and transmission constraints/limitations;
- load and peak demand;
- current DR/EE; and
- PJM capacity reserve margin and reliability criteria.

#### 3.2 Existing Kentucky Power Generating Resources

The underlying minimum reserve margin criterion to be utilized in the determination of Kentucky Power’s capacity needs is based on the current PJM Installed Reserve Margin (IRM) of 14.7% for the 2024/2025 PJM Planning Year. The IRM continues at this level for the remainder of the planning period which ends with the 2037/2038 Planning Year.<sup>6</sup> The ultimate reserve margin is determined from the PJM Forecast Pool Requirement (FPR), which considers the IRM and PJM’s Pool-Wide Average Equivalent Demand Forced Outage Rate (EFOR<sub>D</sub>).<sup>7</sup> The PJM FPR is 8.9% for the 2024/2025 PJM Planning Year and continues at this level for the remainder of the planning period. Currently, Kentucky Power is an FRR entity within PJM. This allows the Company to plan to the lower IRM and be compensated for resources above the required reserve margin. For the recently completed DY 24/25, the PJM RPM reserve margin was calculated as 21.7%.

Table 3 below, displays key parameters for the supply-side generation resources currently utilized by Kentucky Power.

<sup>6</sup> Per Section 2.1.1 of PJM Manual 18: PJM Capacity Market (Effective: September 21, 2022). PJM Planning Parameters are updated each year prior to the upcoming Base Residual Auction. These values can be obtained from <http://pjm.com/markets-and-operations/rpm.aspx>. This IRP uses the PJM Planning Parameters published on December 2, 2022, which reflect PJM’s Capacity Performance proposal as currently interpreted by Kentucky Power.

<sup>7</sup> Per Section 2.1.4 of PJM Manual 18: PJM Capacity Market (Effective: September 21, 2022).

$FPR = (1 + IRM) * (1 - EFOR_D)$ . Reserve Margin = FPR – 1.

**Table 3. Kentucky Power Existing Supply-Side Resources**

Plant	Unit	Location	Fuel	In-Service Year	PJM ICAP Rating <sup>A</sup>	PJM UCAP Rating <sup>B</sup>
Big Sandy	1	Louisa, KY	Natural Gas	1963	295 <sup>C</sup>	285
Mitchell	1	Moundsville, WV	Coal	1971	385 <sup>D</sup>	292 <sup>D</sup>
	2				395 <sup>D</sup>	357 <sup>D</sup>

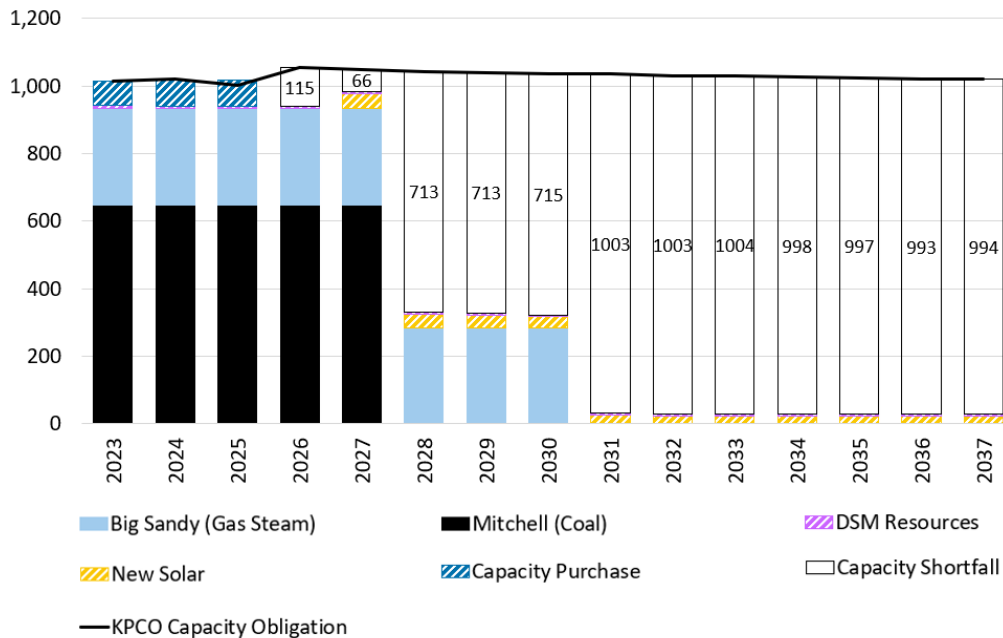
<sup>A</sup> ICAP = Installed Capacity

<sup>B</sup> UCAP = Unforced Capacity

<sup>C</sup> Big Sandy Unit 1 was converted from coal to natural gas in 2016

<sup>D</sup> Represents Kentucky Power’s 50% Ownership Stake in Mitchell Units 1 and 2

Figure 12 below illustrates Kentucky Power’s “Going-In” capacity position with respect to the Company’s obligation. The “Going-In” position represents how Kentucky Power’s existing and planned capacity resources compare with the capacity requirements absent any incremental changes. Kentucky Power’s capacity obligation is determined using the PJM capacity obligation attributed to Kentucky Power’s zone in PJM up through 2025. After 2025, PJM does not offer a projection of capacity requirements for the Regional Transmission Organization (RTO). Beginning in 2026, Kentucky Power’s capacity obligation is based upon the Company’s own internal forecast of demand at the projected time of PJM’s annual peak.



**Figure 12. Kentucky Power "Going-In" Capacity Position throughout Planning Period (MW-UCAP)**

Currently, Kentucky Power’s supply-side resources consist of fossil-fuel fired generation from the Mitchell Plant and the Big Sandy Plant. Capacity from the Rockport Plant UPA for 393 MW expired on December 8, 2022. The capacity associated with Kentucky Power’s share of the Mitchell Plant will cease after the 2027/2028 PJM Planning Year. Furthermore, the “Going-In” assumption is for the Big Sandy Plant to be retired at the end of 2030/2031 PJM Planning Year.

The Big Sandy Plant was, however, included as a resource option to extend its operations for 10 years in the IRP modeling.

For the purposes of this IRP and in line with agreements assuming a successful transfer to Liberty, Kentucky Power will work with other AEP operating companies in the PCBA to meet its obligations through the end of May 2024. For the PJM Planning Year beginning June 1, 2024, Kentucky Power will arrange to meet its capacity obligations through a combination of existing resources, the addition of new resources and the bilateral market or other means yet to be determined. Kentucky Power is currently working toward the addition of 100 MW of solar generation. Currently, this resource is planned to be on-line in 2027 and its impact is reflected in all portfolios in this IRP and is included in Figure 12.

Details on potential additional demand-side and supply-side future resources included in the AURORA model are discussed in Section 4.0 and Section 5.0.

### **3.3 Environmental Issues and Implications**

It should be noted that the following discussion of environmental regulations is based on the requirements currently in effect and those compliance options viewed as most likely to be implemented by the Company and incorporated into its analysis within this IRP. Activity including but not limited to Presidential Executive Orders, litigation, petitions for review, and Federal Environmental Protection Agency (EPA) proposals may delay the implementation of these rules, or alter the requirements set forth by these regulations. While such activities have the potential to materially change the compliance options available to the Company in the future, all potential outcomes cannot be reasonably foreseen or estimated, and the assumptions made within the IRP represent the Company's best estimation of outcomes as of the filing date. The Company is committed to closely following developments related to environmental regulations and will update its analysis of compliance options and timelines when sufficient information becomes available to make such judgments.

#### **3.3.1 Clean Air Act (CAA) Requirements**

The Clean Air Act (CAA) establishes a comprehensive program to protect and improve the nation's air quality and control sources of air emissions. The states implement and administer many of these programs and could impose additional or more stringent requirements. The primary regulatory programs that continue to drive investments in AEP's existing generating units include: (a) periodic revisions to National Ambient Air Quality Standards (NAAQS) and the development

of State Implementation Plans (SIPs) to achieve any more stringent standards, (b) implementation of the regional haze program by the states and the Federal EPA, (c) regulation of hazardous air pollutant emissions under the Mercury and Air Toxics Standard (MATS) rule, (d) implementation and review of Cross-State Air Pollution Rule (CSAPR), a Federal Implementation Plan (FIP) designed to eliminate significant contributions from sources in upwind states to non-attainment or maintenance areas in downwind states and (e) the Federal EPA's regulation of greenhouse gas emissions from fossil fueled electric generating units under Section 111 of the CAA.

Notable developments in significant CAA regulatory requirements affecting the Company's operations are discussed in the following sections.

### **3.3.2 National Ambient Air Quality Standards (NAAQS)**

The CAA requires the EPA to establish and periodically review NAAQS designed to protect public health and welfare. Revisions tend to increase the stringency of the standards, which in turn may require the Company to make investments in pollution control equipment at existing generating units, or, since most units are already well controlled, to make changes in how units are dispatched and operated. In January 2023, the EPA announced its proposed decision to strengthen the primary (health-based) annual PM<sub>2.5</sub> standard. The Biden administration has previously indicated that it is likely to revisit the NAAQS for ozone, which were left unchanged by the prior administration following its review. Management cannot currently predict if any changes to either standard are likely to be finalized or what such changes may be and will continue to monitor this issue and any future rulemakings.

The EPA has also issued information to assist the states in developing plans that address their obligations under the interstate transport provisions of the CAA. On November 7, 2018, EPA issued a final rule to provide state and local air management agencies with rules and guidance on planning to meet the 2015 ozone standard and setting SIP submittal deadlines for various elements of the 2015 standard. The earliest SIP revision was due within two years of the effective date of the non-attainment designation, during year 2020. In June of 2021, EPA announced that it was reconsidering the 2020 decision to leave the NAAQS standards unchanged.

### **3.3.3 Cross-State Air Pollution Rule (CSAPR)**

CSAPR is a regional trading program designed to address interstate transport of emissions that contribute significantly to non-attainment and maintenance of the 1997 ozone and PM NAAQS in downwind states. CSAPR relies on SO<sub>2</sub> and NO<sub>x</sub> allowances and individual state

budgets to compel further emission reductions from electric utility generating units. Interstate trading of allowances is allowed on a restricted basis.

In January 2021, the EPA finalized a revised CSAPR rule, which substantially reduces the ozone season NO<sub>x</sub> budgets in 2021-2024. Several utilities and other entities potentially subject to the Federal EPA's NO<sub>x</sub> regulations have challenged that final rule in the U.S. Court of Appeals for the District of Columbia Circuit and oral arguments were held in September 2022. Management cannot predict the outcome of that litigation but believes it can meet the requirements of the rule in the near term, and is evaluating its compliance options for later years, when the budgets are further reduced. In addition, in February 2023, the EPA Administrator finalized the denial of 2015 Ozone NAAQS SIPs for 19 states. A FIP that further revises the ozone season NO<sub>x</sub> budgets under the existing CSAPR program in those states, including Kentucky, is expected to be finalized in spring of 2023 and will likely take effect for the 2023 ozone season. Management is evaluating the impact of changes in the rule.

Collectively, the installed SCR and FGD systems' respective emission reductions of NO<sub>x</sub> and SO<sub>2</sub>, the use of allocated NO<sub>x</sub> and SO<sub>2</sub> emission allowances in conjunction with adjusted banked allowances, and the purchase of additional allowances as needed through the open market position Kentucky Power well moving forward for compliance with CSAPR.

### **3.3.4 Climate Change, CO<sub>2</sub> Regulation, and Energy Policy**

In 2019, the Affordable Clean Energy (ACE) rule established a framework for states to adopt standards of performance for utility boilers based on heat rate improvements for such boilers. However, in January 2021, the U.S. Court of Appeals for the District of Columbia Circuit vacated the ACE rule and remanded it to the EPA. In October 2021, the United States Supreme Court granted certiorari and combined four separate petitions seeking review of the District of Columbia Circuit Court decisions. Oral arguments were held in February 2022 and on June 30, 2022, the United States Supreme Court reversed the District of Columbia Circuit Court's decision and remanded for further proceedings. The EPA must take some action before anything is required of the utilities as a result of this decision. At a minimum, if the EPA intends to implement the ACE rule, it must conduct additional rulemaking to update its applicable deadlines, which have all passed. Alternatively, the EPA may abandon the ACE rule and proceed to regulate greenhouse gases through a new rule, the scope of which is unknown. The EPA has announced it expects to propose a new rule in 2023. Management is unable to predict how the EPA will respond to the Court's remand.

In 2018, the EPA filed a proposed rule revising the standards for new sources and determined that partial carbon capture and storage is not the best system of emission reduction because it is not available throughout the U.S. and is not cost-effective. That rule has not been finalized. The EPA has indicated that it intends to conduct a comprehensive review of the existing standards and, if appropriate, amend the emission standards for new fossil fuel-fired generating units. A proposed rule is expected in 2023. Management continues to actively monitor these rulemaking activities.

Kentucky Power continues to analyze the available information and engage with the states and other stakeholders in an effort to understand the available program design options and their potential impacts on its operations.

### **3.3.5 Coal Combustion Residual (CCR) Rule**

The EPA's CCR rule regulates the disposal and beneficial re-use of CCR, including fly ash and bottom ash created from coal-fired generating units and FGD gypsum generated at some coal-fired plants. The rule applies to active and inactive CCR landfills and surface impoundments at facilities of active electric utility or independent power producers.

In 2020, the EPA revised the CCR rule to include a requirement that unlined CCR storage ponds cease operations and initiate closure by April 11, 2021. The revised rule provides two options that allow facilities to extend the date by which they must cease receipt of coal ash and close the ponds.

The first option provides an extension to cease receipt of CCR no later than October 15, 2023 for most units, and October 15, 2024 for a narrow subset of units; however, the EPA's grant of such an extension will be based upon a satisfactory demonstration of the need for additional time to develop alternative ash disposal capacity and will be limited to the soonest timeframe technically feasible to cease receipt of CCR.

The second option is a retirement option, which provides a generating facility an extended operating time without developing alternative CCR disposal. Under the retirement option, a generating facility would have until October 17, 2023 to cease operation and to close CCR storage ponds 40 acres or less in size, or through October 17, 2028 for facilities with CCR storage ponds greater than 40 acres in size.

Under both the first and second options, each request must undergo formal review, including public comments, and be approved by the EPA. The Company filed an application for

an extension of time to cease receipt of coal ash at the Mitchell Plant. That application is still pending before EPA.

Kentucky Power's Mitchell Plant is equipped with a dry fly ash handling system and dry ash landfill to meet current permit requirements, and these in-place controls position the plant well for future compliance with the CCR rulemaking.

In January 2022, the EPA proposed to deny several extension requests filed by the other utilities based on allegations that those utilities are not in compliance with the CCR Rule (the January Actions). In November 2022, the Federal EPA finalized one of these denials. The Federal EPA's allegations of noncompliance rely on new interpretations of the CCR Rule requirements. The January Actions of the Federal EPA have been challenged in the U.S. Court of Appeals for the District of Columbia Circuit as unlawful rulemaking that revises the existing CCR Rule requirements without proper notice and without opportunity for comment. Management is unable to predict the outcome of that litigation.

### **3.3.6 Clean Water Act Regulations**

The EPA's ELG rule for generating facilities establishes limits for FGD wastewater, fly ash and bottom ash transport water and flue gas mercury control wastewater, which are to be implemented through each facility's wastewater discharge permit. A 2020 revision to the ELG rule established additional options for reusing and discharging small volumes of bottom ash transport water, provided an exception for retiring units and extended the compliance deadline to a date as soon as possible beginning one year after the rule was published but no later than December 2025. The Mitchell Plant's NPDES permit has been modified to include the requirements of the 2020 ELG Rule. On March 7, 2023, federal EPA signed proposed revisions to the ELG Rule which, if finalized, would establish a zero discharge standard for flue gas desulfurization wastewater and bottom ash transport water, and more stringent discharge limits for combustion residual leachate. Pursuant to the Commission's order in case 2021-00004, costs associated with ELG Rule compliance will be borne solely by Wheeling Power<sup>8</sup>.

<sup>8</sup> Order, In The Matter Of: Electronic Application Of Kentucky Power Company For Approval Of A Certificate Of Public Convenience And Necessity For Environmental Project Construction At The Mitchell Generating Station, An Amended Environmental Compliance Plan, And Revised Environmental Surcharge Tariff Sheet, Case No. 2021-00004 (Ky. P.S.C. July 15, 2021)



In January 2023, the EPA finalized a new rule revising the definition of “waters of the United States,” which will become effective in March 2023. The new rule expands the scope of the definition, which means that permits may be necessary where none were previously required and issued permits may need to be reopened to impose additional obligations. Kentucky Power is evaluating what impacts the revised rule will have on operations.

In October 2022, the United States Supreme Court heard an appeal related to the scope of “waters of the United States,” specifically which wetlands can be regulated as waters of the United States. Management cannot predict the outcome of that litigation.

### **3.4 Current Demand-Side Programs**

Demand-Side programs, also known as Demand-side Management (DSM) collectively includes utility programs aimed at influencing both the level of, and timing of, customer use of grid supplied electricity. These types of programs are structured to counter the ongoing need for increased supply resources through customer energy conservation or direct intervention in how customers use electricity. Typically, customer influence is achieved through some form of monetary or product enticement either through utility rebates or electric bill credit payments. Several demand-side programs typically available including Energy Efficiency (EE), Demand Reduction (DR), Conservation Voltage Reduction (CVR) and Distributed Generation (DG).

Generally, EE programs pay rebates directly to customers that are designed to encourage either end-use conservation or energy use reduction through the installation of or upgrade to more efficient end-use technologies. Some EE programs do not pay a cash rebate but instead encourage customers to reduce their annual energy consumption, or better manage their cost of electricity. Other types of EE programs seek to influence the manufacture and supply of more efficient end-use technologies through upstream rebate payments to end-use technology providers that reduce the technology cost to end-use customers. EE programs provide both energy and demand savings. Energy savings are accounted for as an around-the-clock energy reduction impact while demand

savings are accounted for in terms of their point-in-time, peak coincident use reduction on an hourly basis.

Generally, DR programs offer electric bill credits through tariff pricing mechanisms to elicit point-in-time energy use reductions (also known as demand, or coincident peak demand reductions). DR programs require specific action to monitor and control electricity use during periods of peak usage. Direct load control (DLC) programs allow utility control over customers' end use loads to achieve the specific peak period use reduction. Other types of DR programs allow customers to reduce use during peak periods on their own accord and pay bill credits based on the actual level of usage during peak period events. Demand response programs primarily provide peak coincident demand impacts but can provide energy impacts as well depending upon the extent of use reduction that occurs. For this IRP, incremental DR programs were not modeled however, the Company will continue to review opportunities to offer a program for its customers.

DG typically refers to small-scale customer-sited generation behind the customer meter. Common examples are Combined Heat and Power (CHP), residential and small commercial solar applications, and even wind. Currently, these sources represent a small component of demand-side resources, even with available federal tax credits and tariffs favorable to such applications. Kentucky Powers retail jurisdictions have "net metering" tariffs in place which currently allow excess generation to be credited to customers at a reduced retail rate. For this IRP, incremental DG resources were assumed to be captured within the Company's load forecast as discussed in section 2.6.1.

CVR (a.k.a. Electric Energy Consumption Optimization (EECO) or Volt-VAR Optimization (VVO)) is a process by which the utility systematically reduces voltages in its distribution network through the installation and use of sensors and controllers on the grid, resulting in a proportional reduction of load on the network. This voltage reduction still maintains minimum levels needed by customers but elicits lower energy use from end-use customer appliances without any changes in behavior or changes to appliance efficiencies. For this IRP, VVO resources were not included in the model as part of the available resources as the Company continues to review existing circuits and their performance.

### **3.4.1 Existing Levels of Active Demand Response (DR)**

Kentucky Power currently has active DR capability totaling 6.2 MW of peak DR Capability. This is achieved through demand response agreements with three customers.

### **3.4.2 Existing Levels of Distributed Generation (DG)**

As of December 2022, Kentucky Power had 184 net metering system installations including 156 residential systems and 27 commercial systems and 1 industrial system for a total of 2.5 MW of net metered photovoltaic DG (i.e., rooftop solar) throughout the service territory.

### **3.4.3 Cogeneration / Combined Heat and Power (CHP)**

Kentucky Power currently does not have any CHP customers within its territory. Kentucky Power has been and will continue to be open to discussing the possibility of CHP resources and how they fit into the Company's current tariffs.

### 3.5 KPSC Staff DSM Recommendations Addressed

As mentioned earlier, in its report on Kentucky Power's 2019 Integrated Resource Plan the Commission Staff recommended that the Company address certain items in its next IRP report (this report). The following items pertaining to DSM are restated from the Staff report and addressed below:

- 1. As required by the IRP regulation, 807 KAR 5:058, Kentucky Power should continue to define and improve procedures to evaluate, measure, and verify both actual costs and benefits of energy savings based on the actual dollar savings and energy savings. With the expiration of the Rockport UPA, the potential impact of new DSM programs will be much greater in the next IRP.**

The Company has initiated a detailed Market Potential Study to identify energy efficiency programs beneficial to its territory. For this IRP, a preliminary estimate of realistic potential was modeled as a proxy for economic selection of energy efficiency programs as part of the overall portfolio.

- 2. Kentucky Power should continue to scrutinize the results of each existing DSM program measure's cost-effectiveness test and provide those results in future DSM cases, along with detailed support for future DSM program expansions and additions after the Rockport UPA capacity is no longer available.**

The Company has only one currently approved DSM program, the Targeted Energy Efficiency program, which is a low-income weatherization program. Potential future DSM programs will be evaluated in the Market Potential Study and presented to the Commission for review and approval in a subsequent filing.

- 3. Kentucky Power should evaluate the marginal benefits and costs, including opportunity costs of VVO and DR programs.**

The Company currently has more than 20 circuits with VVO technology installed and will need to further evaluate their performance and benefits prior to the installation of VVO on additional circuits. With the potential transition to Liberty, additional studies will be needed to further understand the required technology transfers for ongoing support of this resource.

- 4. Kentucky Power should examine additional low-income programs that allow for more participants and easier access to EE alternatives.**

As part of the Market Potential Study being performed at the time of this IRP, low-income programs will be evaluated. An estimate of low-income energy efficiency program savings was included in all portfolios modeled in this IRP.

## **5. Kentucky Power should continue to monitor the DG additions.**

The Company continues to monitor the growth of DG additions in its territory as discussed in Section 2.13 and further illustrated in Section 2.6.1

### **3.6 AEP-PJM & Kentucky Power Transmission**

#### **3.6.1 General Description**

The AEP eastern transmission system (Eastern Zone) consists of the transmission facilities of the eleven eastern AEP operating or Transmission companies including I&M, Appalachian Power Company (APCo), Ohio Power Company (OPCo), Kentucky Power Company (Kentucky Power), Wheeling Power Company (WPCo), Kingsport Power Company (KgPCo), AEP Appalachian Transmission Company [APTC], AEP Indiana Michigan Transmission Company (IMTC), AEP Kentucky Transmission Company (KYTC), AEP Ohio Transmission Company (OHTC), and AEP West Virginia Transmission Company (WVTC). The Eastern Zone is composed of approximately 14,950 miles of circuitry operating at or above 100kV and includes over 2,120 miles of 765kV transmission lines overlaying 3,550 miles of 345kV lines and over 9,000 miles of 138kV circuitry. This expansive system allows the economical and reliable delivery of electric power approximately 21,610 MW of customer demand connected to the AEP eastern transmission system that takes transmission service under the PJM open access transmission tariff.

The Kentucky Power transmission system is composed of approximately 1,263 transmission circuit miles operating at or above 34.5 kV, which is connected with the AEP eastern transmission system, and takes transmission service under the PJM Open Access Transmission Tariff (OATT). The transmission circuit miles in Kentucky include approximately 258 miles of 765 kV, 168 miles of 345 kV, 48 miles of 161 kV, 359 miles of 138 kV lines, 416 miles of 69 kV, 166 miles of 46 kV lines, and 1 mile of 34.5kV lines. Exhibit F includes a map of the entire AEP System-East Zone transmission grid, as well as a map of Kentucky Power's transmission grid.

The AEP eastern transmission system, which includes Kentucky Power, is part of the Eastern Interconnection, the most integrated transmission system in North America. The entire AEP eastern transmission system is located within the ReliabilityFirst Corporation (RFC)<sup>9</sup>

<sup>9</sup> Responsible for the reliability and security of the electric grid in the Great Lakes and Mid-Atlantic areas of the United States, which includes all or portions of Delaware, New Jersey, Pennsylvania, Maryland, Virginia, Illinois, Wisconsin, Indiana, Ohio, Michigan, Kentucky, West Virginia,

geographic area. On October 1, 2004, AEP's eastern zone joined the PJM RTO and participates in the PJM regional planning, operations and markets.

The AEP eastern transmission system can be influenced by both internal and external factors from its geographical location, expanse, and numerous interconnections. Facility outages, load changes, or generation re-dispatch on neighboring companies' systems, in combination with power transactions across the interconnected network, can affect power flows on AEP's transmission facilities. As a result, the AEP eastern transmission system is designed and operated to perform adequately even with the outage of its most critical transmission elements or the unavailability of generation. The eastern transmission system conforms to the NERC Reliability Standards and applicable RFC standards and performance criteria.

The eastern transmission system conforms to the North American Electric Reliability Corporation (NERC) Reliability Standards and applicable RFC standards and performance criteria.

Over the years, AEP, and more recently PJM, entered into numerous study agreements to assess the impact of the connection of potential generation to the eastern transmission system. AEP companies, in conjunction with PJM, have interconnection agreements in their service territories with several plant developers. Other generation additions are planned to be connected to the eastern transmission system over the next several years (including upgrades to existing facilities, once studied and approved through the PJM Generation Interconnection queue process) and additional generation is under study for potential interconnection.

The integration of the generation now connected to the eastern transmission system required incremental transmission system upgrades, such as installation of larger capacity transformers and circuit breaker replacements. Other transmission system enhancements will be required to match general load growth and allow the connection of large load customers and any other generation facilities. In addition, transmission modifications may be required to address changes in power flow patterns and changes in local voltage profiles resulting from operation of the PJM and adjacent markets, such as MISO and NYISO. Over the years, numerous studies have been performed to assess the impact of the connection of potential merchant generation to the eastern transmission system.

There is one area in particular where the planned transmission enhancements will allow the reliable operation of the Kentucky Power transmission system. The transmission network in the Hazard-Wooton area that serves approximately 300 MW of load is connected to TVA's 161 kV system at TVA's Pineville Station and to LG&E's 161 kV system at Wooton Station. A comprehensive plan has been developed that will address these issues and has been the subject of past and present filings before the Kentucky Public Service Commission.<sup>10</sup>

### **3.6.2 Transmission Planning Process**

AEP and PJM coordinate the planning of the transmission facilities in the AEP Eastern Zone through a "bottom up/top down" approach. AEP will continue to develop transmission expansion plans to meet the applicable reliability criteria in support of PJM's transmission planning process. PJM will incorporate AEP's expansion plans with those of other PJM member utilities and then collectively evaluate the expansion plans as part of its Regional Transmission Expansion Plan (RTEP) process. The PJM assessment will ensure consistent and coordinated expansion of the overall bulk transmission system within its footprint. In accordance with this process, AEP will continue to take the lead for the planning of its local transmission system under the provisions of Schedule 6 of the PJM Operating Agreement and Attachment M-3 of the PJM tariff. By way of the RTEP, PJM will ensure that transmission expansion is developed for the entire RTO footprint via a single regional planning process that considers both regional and local needs and solutions, thus ensuring a consistent view of needs and expansion timing while minimizing expenditures. When regional system upgrade requirements are identified under the RTEP, PJM determines the individual member's responsibility as related to construction and costs to implement the expansion. This process identifies the most appropriate, reliable, and economical integrated transmission reinforcement plan for the entire region, while blending the local planning expertise of the transmission owners such as I&M with a regional view and formalized open Stakeholder input.

AEP's transmission planning criteria are consistent with North American Electric Reliability Corporation (NERC) and RFC reliability standards. The AEP planning criteria are filed with FERC annually as part of AEP's FERC Form 715 and these planning criteria are posted on the AEP website. Using these criteria, limitations, constraints and future potential deficiencies on

<sup>10</sup> *Application Of Kentucky Power Company For Certificate Of Public Convenience And Necessity To Construct A 161 kV Transmission Line In Perry And Leslie Counties, Kentucky And Associated Facilities*, KPSC Case Nos. 2017-00328 and 2019-00154.

the AEP transmission system are identified. Remedies are identified and budgeted as appropriate to ensure that system enhancements will be timed to address anticipated deficiencies. Similarly, AEP also identifies local needs and solutions through the Attachment M-3 planning process that drives Supplemental and asset management projects in the RTEP. All projects affecting the topology of the grid, whether PJM identified or Transmission Owner identified (TO Projects), are subject to the stakeholder process within PJM. While PJM does not formally “approve” TO Projects, these projects are submitted to PJM and reviewed with the Transmission Expansion Advisory Committee (TEAC) and Subregional RTEP Committee – Western on a periodic basis in accordance with the provisions in Attachment M-3 of the PJM Tariff. All TEAC and Subregional RTEP Committee- Western meetings are open and any transmission stakeholder can attend. TO Projects are subject to multiple rounds of review and detailed project information, including needs and alternative solutions. The Attachment M-3 process ensure stakeholders have an opportunity to review TO Projects and include the following meetings and posting requirements:

- Separate stakeholder meetings to discuss:
  - Criteria, assumptions, and models used to plant TO Projects (Assumptions Meeting);
  - Needs underlying TO Projects (Needs Meeting); and,
  - Potential solutions to meet those needs (Solutions Meeting).
- Posting of criteria, assumptions, and models at least 20 calendar days prior to the Assumptions Meeting and accepting post-meeting comments for ten days after this meeting;
- Posting of criteria violations and drivers at least ten days in advance of the Needs Meeting and accepting post-meeting comments for ten days after this meeting;
- Posting of potential solutions and alternatives identified by PJM Transmission Owners or stakeholders at least ten days in advance of the Solutions Meeting and accepting post-meeting comments for ten days after this meeting; and,
- Opportunity to submit final comments for PJM Transmission Owner review and consideration at least ten days before the Local Plan is integrated into the RTEP.

PJM also coordinates its regional expansion plan on behalf of the member utilities with neighboring utilities and/or RTOs, including the MISO, to ensure inter-regional reliability. The Joint Operating Agreement between PJM and the MISO provides for joint transmission planning. AEP, working on behalf of Kentucky Power and PJM, coordinate the planning of the transmission facilities in the AEP System-East Zone through a “bottom up/top down” approach. AEP will



continue to develop transmission expansion plans to meet the applicable reliability criteria in support of PJM's transmission planning process. PJM will incorporate these expansion plans with those of other PJM member utilities and then collectively evaluate the expansion plans as part of its Regional Transmission Expansion Plan (RTEP) process. The PJM assessment will ensure consistent and coordinated expansion of the overall bulk transmission system within its footprint. In accordance with this process, AEP will continue to take the lead for the planning of its local transmission system under the provisions of Schedule 6 of the PJM Operating Agreement. By way of the RTEP, PJM will ensure that transmission expansion is developed for the entire RTO footprint via a single regional planning process, ensuring a consistent view of needs and expansion timing while minimizing expenditures. When the RTEP identifies system upgrade requirements, PJM determines the individual member's responsibility as related to construction and costs to implement the expansion. This process identifies the most appropriate, reliable and economical integrated transmission reinforcement plan for the entire region, while blending the local expertise of the transmission owners such as Kentucky Power with a regional view and formalized open stakeholder input.

Limitations, constraints, and potential future deficiencies on the Kentucky Power transmission system are identified using the AEP planning criteria, which are posted on the AEP website.<sup>11</sup> The AEP planning criteria are filed with FERC annually as part of AEP's FERC Form 715 and pursuant to PJM's M-3 Process, are made available for review by PJM and transmission stakeholders. Projects that affect the topology of the grid and are necessary to address limitations, constraints and future potential deficiencies on the Kentucky Power transmission system are submitted to PJM and subjected to two rounds of review with the Transmission Expansion Advisory (TEAC) and Sub-regional RTEP Committee-Western. All transmission stakeholders may attend and participate in the TEAC and Sub-regional RTEP Committee-Western meetings. After stakeholder input is vetted through this committee meeting process, solutions are budgeted and implemented as appropriate to ensure that system enhancements will be timed to address anticipated deficiencies.

<sup>11</sup><https://www.aep.com/assets/docs/requiredpostings/TransmissionStudies/docs/2019/2019%20AEP%20PJM%20FERC%20715%20FINAL%20Part%204.pdf>.

PJM also coordinates its regional expansion plan on behalf of the member utilities with the neighboring utilities and/or RTOs, including MISO, to ensure inter-regional reliability. The Joint Operating Agreement between PJM and MISO provides for joint transmission planning.

### **3.6.3 System-Wide Reliability Measure**

Transmission reliability studies are conducted routinely for seasonal, near-term, and long-term horizons to assess the anticipated performance of the transmission system. The reliability impact of resource adequacy (either supply- or demand-side) would be evaluated as an inherent part of these overall reliability assessments. If reliability studies indicate the potential for inadequate transmission reliability, transmission expansion alternatives and/or operational remedial measures would be identified.

### **3.6.4 Evaluation of Adequacy for Load Growth**

As part of the on-going near-term/long-term planning process, AEP and PJM use the latest load forecasts along with information on system configuration, generation dispatch, and system transactions to develop models of the AEP transmission system. These models are the foundation for conducting performance appraisal studies based on established criteria to determine the potential for overloads, voltage problems, or other unacceptable operating problems under adverse system conditions. Whenever a potential problem is identified, PJM and AEP seek solutions to avoid the occurrence of problems. Solutions may include operating procedures or capital transmission reinforcements. Through this on-going process, AEP works diligently to maintain an adequate transmission system able to meet forecasted loads with a high degree of reliability.

In addition, PJM performs a Load Deliverability assessment on an annual basis using a 90/10<sup>12</sup> load forecast for areas that may need to rely on external resources to meet their demands during an emergency condition.

### **3.6.5 Evaluation of Other Factors**

As a member of PJM, and in compliance with FERC Orders 888 and 889, AEP is obligated to provide sufficient transmission capacity to support the wholesale electric energy market. In this regard, any committed generator interconnections and firm transmission services are taken into

<sup>12</sup> 90% probability that the actual peak load will be lower than the forecasted peak load and 10% probability that the actual peak load will be higher than the forecasted peak load.

consideration under AEP's and PJM's planning processes. In addition to providing reliable electric service to Kentucky Power's retail and wholesale customers, PJM will continue to use any available transmission capacity in AEP and Kentucky Power's transmission system to support the power supply and transmission reliability needs of the entire PJM – MISO joint market.

A number of generation requests have been initiated in the PJM generator interconnection queue. AEP, through its membership in PJM, is obligated to evaluate the impact of these projects and construct the transmission interconnection facilities and system upgrades required to connect any projects that sign an interconnection agreement. The amount of this planned generation that will actually come to fruition is unknown at this time.

### **3.6.6 Transmission Expansion Plans**

The transmission system expansion plans for the AEP system, which includes Kentucky Power, are developed and reviewed through the PJM stakeholder process to meet projected future requirements. To evaluate future transmission upgrades, AEP and PJM use power flow analyses to simulate normal conditions, and credible single and double contingencies to determine the potential thermal and voltage impact on the transmission system.

As discussed earlier, Kentucky Power, in coordination with PJM and transmission stakeholders, will continue to develop transmission reinforcements to serve its own load areas to ensure compatibility, reliability and cost efficiency.

### **3.6.7 FERC Form 715 Information**

A discussion of the AEP Eastern Zone reliability criteria for transmission planning, as well as the assessment practice used, is provided in AEP's 2021 FERC Form 715 Annual Transmission Planning and Evaluation Report, which can be found in Appendix Volume 3, Exhibit A. That filing also provides pertinent information on power flow studies and an evaluation and continued adequacy assessment of AEP's eastern transmission system.

As the transmission planner for AEP and AEP eastern subsidiaries, including Kentucky Power, PJM performs all required studies to assess the robustness of the Bulk Electric System. All the models used for these studies are created by and maintained by PJM with input from all transmission owners, including AEP and its subsidiaries. Information about current cases, models, or results can be requested from PJM directly. PJM is responsible for ensuring that AEP meets all NERC transmission planning requirements, including stability of the system.

Performance standards establish the basis for determining whether system response to credible events is acceptable. Depending on the nature of the study, one or more of the following performance standards will be assessed: thermal, voltage, relay, stability, and short circuit. In general, system response to events evolves over a period of several seconds or more. Steady state conditions can be simulated using a power flow computer program. A short circuit program can provide an estimate of the large magnitude currents, due to a disturbance, that must be detected by protective relays and interrupted by devices such as circuit breakers. A stability program simulates the power and voltage swings that occur as a result of a disturbance, which could lead to undesirable generator/relay tripping or cascading outages. Finally, a post contingency power flow study can be used to determine the voltages and line loading conditions following the removal of faulted facilities and any other facilities that trip as a result of the initial disturbance.

For the eastern AEP transmission system, thermal and voltage performance standards are usually the most constraining measures of reliable system performance.

Sufficient modeling of neighboring systems is essential in any study of the Bulk Electric System. Neighboring company information is obtained from the latest regional or interregional study group models, the RFC base cases, the Eastern Interconnection Reliability Assessment Group (ERAG) Multiregional Modeling Working Group (MMWG) power flow library, the PJM base cases, and neighboring companies themselves. In general, sufficient detail is obtained to adequately assess all events, outages, and changes in generation dispatch, which are contemplated in any given study. A discussion of the eastern AEP System reliability criteria for transmission planning, as well as the assessment practice used, is provided in AEP's 2019 FERC Form 715 Annual Transmission Planning and Evaluation Report. That filing also provides transmission maps, and pertinent information on power flow studies and an evaluation and continued adequacy assessment of AEP's eastern transmission system.

As the transmission planner for AEP and Kentucky Power, PJM performs all required studies to assess the robustness of the Bulk Electric System. All the models used for these studies are created by and maintained by PJM with input from all transmission owners, including AEP. Information about current cases, models, or results can be requested from PJM directly. PJM is responsible for ensuring that AEP meets all NERC transmission planning requirements, including stability of the system.

Performance standards establish the basis for determining whether system response to credible events is acceptable. Depending on the nature of the study, one or more of the following performance standards will be assessed: thermal, voltage, relay, stability, and short circuit. In

general, system response to events evolves over a period of several seconds or more. Steady state conditions can be simulated using a power flow computer program. A short circuit program can provide an estimate of the large magnitude currents, due to a disturbance, that must be detected by protective relays and interrupted by devices such as circuit breakers. A stability program simulates the power and voltage swings that occur as a result of a disturbance, which could lead to undesirable generator/relay tripping or cascading outages. Finally, a post contingency power flow study can be used to determine the voltages and line loading conditions following the removal of faulted facilities and any other facilities that trip as a result of the initial disturbance.

The planning process for AEP's transmission network embraces two major sets of contingency tests to ensure reliability. The first set, which applies to both bulk and local area transmission assessment and planning, includes all significant single contingencies. The second set, which is applicable only to the Bulk Electric System, includes multiple and more extreme contingencies. For the AEP system, thermal and voltage performance standards are usually the most constraining measures of reliable system performance.

Sufficient modeling of neighboring systems is essential in any study of the Bulk Electric System. Neighboring company information is obtained from the latest regional or interregional study group models, the RFC base cases, the Eastern Interconnection Reliability Assessment Group (ERAG) Multiregional Modeling Working Group (MMWG) power flow library, the PJM base cases, and neighboring companies themselves. In general, sufficient detail is obtained to adequately assess all events, outages and changes in generation dispatch, which are contemplated in any given study.

### **3.6.8 Kentucky Transmission Projects**

A brief summary of the major transmission projects in Kentucky Power's service territory is provided below. This list includes projects which have recently been completed, projects which will be completed within the next three years, and projects which will begin in the next three years.

- **Hazard – Wooton 161 kV Project**

This project addresses thermal violations, equipment material condition, performance, and risk concerns identified with the Hazard-Wooton 161 kV line and 161/138 kV transformer. Specifically, this project will rebuild approximately 6.6 miles of the Hazard - Wooton 161 kV line and replace three, single phase 161/138 kV transformers at Hazard with a single higher capacity three-phase transformer. Additionally, this project will replace the existing 138/69 kV

transformers with new 138/69 kV 130 MVA transformers due to identified equipment material condition, performance, and risk concerns. The revised in-service date for this project is December 2022.

**Hazard – Wooton 161 kV Line**

Existing Summer Emergency Conductor Capacity: 215 MVA Proposed Summer  
Emergency Conductor Capacity: 390 MVA

**Hazard 161/138 kV Transformer**

Existing Nameplate Capacity: 135 MVA Proposed Nameplate Capacity: 350 MVA

**Hazard 138/69 kV Transformer #1**

Existing Nameplate Capacity: 50 MVA  
Proposed Nameplate Capacity: 130 MVA

- **Wooton - Stinnett 161 kV Project**

The proposed project would rebuild the approximately 11 mile Wooton - Stinnett 161 kV line. The project would address equipment material conditions, performance, and risk concerns associated with the 1940's wood structure line. Current projected in service date for the project December 2024.

**Wooton – Stinnett 161 kV Line**

Existing Summer Emergency Conductor Capacity: 215 MVA  
Proposed Summer Emergency Conductor Capacity: 390 MVA

- **Stinnett – Pineville 161 kV Project**

The proposed project would rebuild the approximately 30 mile Wooton – Stinnett 161 kV line. The project would address equipment material conditions, performance, and risk concerns associated with the 1940's wood structure line. Current projected in service date for the project November 2030.

**Stinnett - Pineville 161 kV Line**

Existing Summer Emergency Conductor Capacity: 215 MVA  
Proposed Summer Emergency Conductor Capacity: 390 MVA

- **Leslie Transformer Replacement**

This project will replace the 161/69 kV transformer at Leslie station. The transformer is being replaced due to insulation and short circuit strength breakdown. Current projected in-service date for the transformer replacement is November 2024.

**Leslie Transformer**

Existing Nameplate Capacity: 90 MVA  
Proposed Nameplate Capacity: 130 MVA

- **Kewanee-Enterprise Park 138 kV Transmission Line Project**

This project will address thermal and voltage violations identified on the Pikeville 46kV network by establishing a new substation (Kewanee) to the west (~1.5 mi.) of the existing Fords Branch Station, potentially in/near the new Kentucky Enterprise Industrial Park. This new station will consist of four -138 kV breaker ring bus and two step-down distribution voltage transformers and a 28.8 MVAR Cap Bank. The project will construct approximately 5 miles of new double circuit 138 kV line in order to loop the new substation into the existing Beaver Creek – Cedar Creek 138 kV circuit. The current projected in-service date is May 2023.

  - **Beaver Creek – Kewanee 138kV Line**

    - Proposed Summer Emergency Conductor Capacity 378 MVA

  - **Kewanee – Cedar Creek 138kV Line**

    - Proposed Summer Emergency Conductor Capacity 378 MVA

- **Middle Creek BESS and Middle Creek – Prestonsburg 46kV Rebuild**

This project will address needs on ~23 miles of the Falcon – Prestonsburg 46kV circuit. Falcon – Prestonsburg 46kV line consists of 1940s wood structures. As part of the solution, A BESS (Battery Energy Storage Solution) will be installed at Middle Creek substation. The project will retire ~14.5 miles of 46kV lines between Falcon and Middle Creek substations. The project will rebuild ~8.5 miles of 46kV line between Prestonsburg and Middle Creek station. The current projected in-service date for the project is November 2025.

  - **Middle Creek – Prestonsburg 46kV Line**

    - Existing Summer Emergency Conductor Capacity: 23 MVA

    - Proposed Summer Emergency Conductor Capacity 70 MVA

- **Garrett Area Improvements**

This project will construct ~9.3 miles of single circuit 138kV from Soft Shell to Garrett picking up Salt Lick Co-op via Snag Fork along the way. The Project will also construct ~3.5 miles of single circuit 138kV from the Eastern station to Garrett station, a short extension from the new Eastern station to the existing Hays Branch metering point, a short extension to existing Morgan Fork – Hays Branch 138 kV circuit from Eastern station, and a double circuit cut into existing Hays Branch - Morgan Fork line to tie into new Hays Branch S.S PoP switch. The Project will also require installation of a new heavy double circuit dead-end tap structure on the existing Hays Branch – Morgan Fork 138kV Line (Due to unequal loading on the transmission line). In addition, the Garrett station will be expanded to install a 138kV three breaker ring bus (If space becomes a constraint, a straight bus arrangement with two 138 kV breakers and a circuit switcher on the high side of the transformer may be installed), and a 138/12kV 30 MVA transformer. A new 138 kV

substation (Eastern) will be constructed south of the existing Hays Branch station and will include two 138kV breakers (3000A 40kA) on exits toward Morgan Fork and Garrett station. Finally, the Project will construct a new Snag Fork Switch Station and install a 3-way phase over phase motorized (automated) switching structure near Saltlick to serve the EKPC co-op. The current projected in-service date is November 2024.

**Eastern - Garrett 138kV Line**

Existing Summer Emergency Conductor Capacity: 29-50 MVA

Proposed Summer Emergency Conductor Capacity 253 MVA

**Garrett – Soft Shell 138kV Line**

Existing Summer Emergency Conductor Capacity: 29-50 MVA

Proposed Summer Emergency Conductor Capacity 253 MVA

- **Inez Station Improvements**

At Inez station, replace Breakers B, B2, C and C1. Install three new 138kV breakers and create third string in the existing breaker and half configuration. Replace 138/69kV Inez Transformer #1 with a 138/69kV/12kV 90 MVA autotransformer. Move the new Inez 139/69/12kV Transformer #1 and Martiki 138kV feed to the new string. Install Breaker B1 towards Johns Creek to complete the string. Installation of Breaker B1 and the third string addresses dissimilar zones of protection between the #1 bus and 20+ mile Inez to Johns Creek 138 kV circuit and dissimilar zones of protection between the 138 kV bus #2, 138/69 kV transformer #1, and the 138 kV circuit to the Martiki coal service point. Replace Cap bank switchers CS-BB and CS-CC with 138kV circuit breakers. Replace obsolete relays at Inez substation. Retire 69kV Capacitor Bank and the circuit switcher AA. Projected in-service date for this project is December 2022.

**Inez Transformer**

Existing 138/69kV Nameplate Capacity: 50 MVA

Proposed 138/69kV Nameplate Capacity: 90 MVA

- **Fleming Station Rebuild**

Rebuild the Fleming station in the clear; Replace 138/69kV Fleming Transformer #1 with 138/69 kV 130 MVA transformer with high side 138 kV CB; Install a 5 breaker 69 kV ring bus on the low side of the transformer, replace 69 kV circuit switcher AA, replace 69/12kV transformer #3 with 69/12 kV 30 MVA transformer, replace 12 kV CB A and D. Retire existing Fleming substation. The current project in-service date for this project is September 2023.

**Fleming 138/69kV Transformer**

Existing 138/69kV Nameplate Capacity: 130 MVA

Proposed 138/69kV Nameplate Capacity: 130 MVA



- **Allen Station Improvement**

Rebuild Allen Station in the clear. A 0.2 mile segment of the Allen-East Prestonburg 46 kV line will be relocated to the new station. The McKinney-Allen line extension will walk around the south and east sides of the existing Allen station to the new Allen Station being built in the clear. A short segment of new single circuit 69 kV line and a short segment of new double circuit 69 kV line (both operated at 46 kV) will be added to the line to tie into the new Allen Station bays. A segment of the Stanville-Allen line will have to be relocated to the new station. A 0.25 mile segment of the existing Allen-Prestonburg single circuit will be relocated. Remote end work will be required at Prestonburg, Stanville, and McKinney stations. The current projected in-service date for this project is June 2024.

**Stanville - Allen 46kV Line**

Existing Summer Emergency Conductor Capacity: 47 MVA

Proposed Summer Emergency Conductor Capacity 50 MVA

- **New Camp Loop**

In conjunction with the baseline work identified under B3288 which would install new 69kV line between Stone and New Camp via Orinoco substation, the following is proposed under this solution to address the identified needs on the Sprigg – Stone 46kV line. Replace Belfry substation with Orinoco substation by installing a 69KV box bay and 12KV rural bay to be built in the clear southwest of existing Belfry station. Install 69/12kV 20 MVA transformer and two 12kV breakers. Retire Belfry 46kV substation. Retire 46kV equipment from Stone substation. At Hatfield substation, replace MOAB Y with a 69KV Circuit Breaker towards Stone 69kV line via New Camp and Orinoco. Retire the 46kV equipment at Sprigg station towards Stone (via Belfry). Retire Turkey Creek Tap. Retire the ~8.23 miles of the 46kV Sprigg – Stone 46 KV circuit. The current projected in-service date for this project is November 2025.

**New Camp - Orinoco 69kV Line**

Proposed Summer Emergency Conductor Capacity: 142 MVA

**Orinoco – Stone 69kV Line**

Proposed Summer Emergency Conductor Capacity: 142 MVA

- **Elwood Station Replacement**

Construct a greenfield 138KV Myra Station to replace Elwood Station. Install 138KV double box bay with two 138kV circuit breakers and line exits to Fremont & Beaver Creek. Install 138/34.5 kV transformer with high-side circuit switcher and associated 34.5kV breakers. Install fiber connectivity for upgraded relaying. Construct a new ~2 mi double circuit 138 kV line to the proposed Myra substation. Reconfigure the existing Beaver Creek - Fremont 138kV circuit to

facilitate the construction of the new double circuit Myra Extension 138kV Line to feed the proposed Myra Substation. Install two replacement structures in order to bypass Elwood station. Transfer wires from old structure to new structure. Tie new structure to Cedar Creek-Henry Clay 46kV Line. The current projected in-service date for this project is September 2026.

**Beaver Creek - Myra 138kV Line**

Proposed Summer Emergency Conductor Capacity: 310 MVA

**Myra – Fremont 138kV Line**

Proposed Summer Emergency Conductor Capacity: 310 MVA

- **Burton Station Replacement**

Construct a greenfield 69/12 KV Osborne Station to replace Burton Station, including a high side 69KV Phase Over Phase switch, fiber connectivity, a circuit switcher, and one 69/12kV 12/16/20MVA transformer and associated distribution feeders. Construct a greenfield 69/12 KV Osborne Station to replace Burton Station, including a high side 69KV Phase Over Phase switch, fiber connectivity, a circuit switcher, and one 69/12kV 12/16/20MVA transformer and associated distribution feeders. Construct a new ~0.5 mi double circuit 69 kV line to the proposed Osborne substation. Reconfigure the existing Beaver Creek - Fleming 69kV line to facilitate the construction of the new double circuit Osborne 69kV line to feed the proposed Osborne Substation. The current projected in-service date for this project is November 2023.

**Beaver Creek - Osborne 69kV Line**

Proposed Summer Emergency Conductor Capacity: 75 MVA

**Osborne – Weeksbury 69kV Line**

Proposed Summer Emergency Conductor Capacity: 75 MVA

- **Dewey Station Upgrades**

In the 2025 Winter RTEP case, there are voltage violations at Stanville and Hays Branch 138kV buses, Mayo Trail and West Paintsville 69kV buses and Kenwood, Prestonsburg, East Prestonsburg, Allen, and Middle Creek 46KV in the event of an N-1-1 scenario. To mitigate the voltage violations at Dewey substation, Install 138 kV circuit switcher on the 138/69 kV transformer #1 and 138/34.5 kV transformer #2 at Dewey. Install 138 kV 2000 A 40 kA breaker on Stanville line at Dewey 138 kV substation. The current projected in-service date for this project is November 2025.

**Dewey 138/69kV Transformer**

Existing 138/69kV Nameplate Capacity: 50 MVA

- **Prestonburg – Thelma Rebuild and Thelma Transformer Replacement**

In 2026 RTEP Winter case, voltage magnitude and voltage drop violations at Mckinney, Salisbury, Allen, East Prestonsburg, Prestonsburg, Middle Creek, Kenwood 46kV buses are identified for multiple N-1-1 contingency pairs. In 2026 RTEP Winter case, the 46kV winding of the Thelma TR#1 is overload for multiple N-1-1 contingency pairs. To address the voltage violations, Rebuild Prestonsburg - Thelma 46kV circuit, approximately 14 miles. The project also proposes to retire Jenny Wiley SS. To address thermal violations, Replace Thelma Transformer #1 with a 138/69/46kV 130/130/90 MVA transformer and replace 46kV risers and relaying towards Kenwood substation. Existing TR#1 to be used as spare. The current projected in-service date for this project is November 2026.

**Thelma 138/69/46kV Transformer**

Existing 138/69/46kV Nameplate Capacity: 62.5/62.5/35 MVA

Proposed 138/69/46kV Nameplate capacity: 130/130/90 MVA

**Prestonsburg – Thelma 46kV Line**

Existing Summer Emergency Conductor Capacity: 50 MVA

Proposed Summer Emergency Conductor Capacity 85 MVA

- **Bellefonte Station Upgrades**

In 2026 Summer RTEP case, the 69kV risers between 69kV Bus #2 and 69kV winding of TR#3 are overloaded for multiple N-1-1 contingencies. In 2023 RTEP short circuit case, Bellefonte 69kV breakers JJ, C, I, AB, Z and G are overdutied. To address short circuit violations, replace overdutied 69kV breakers C, G, I, Z, AB, and JJ in place. The new 69kV breakers to be rated at 3000 A 40kA breakers. To mitigate the thermal violations, Replace Bellefonte 69kV risers on the section between Bellefonte TR#3 and 69kV Bus #2. The project also proposes remote end relaying at Point Pleasant, Coalton and South Point 69KV substations.

Apart from baseline violations at Bellefonte substation, Bellefonte substation has multiple yards, each with a set of needs. The proposed work in the 138kV yard, will retire Transformer #5, #1. Depending upon the 34kV yard retirement schedule, replace Transformers #2 with 120/160/200 MVA Transformer. Install 138kV circuit switchers on the new transformer. Replace the underground cables. The proposed work in the 69kV yard, will replace breakers H, T relocate the Raceland 69kV feed to 69kV Bus #1, relocate and replace the 69kV Cap bank switcher to 69kV Bus #1 along with the 69kV Cap bank. The proposed work in the 34kV yard, will retire the 34kV yard. Bellefonte substation has substantial number of relays that need replacement will also be replaced as part of proposed substation upgrade work. The current projected in-service date for this project is June 2026.

**Bellefonte 69kV Risers**

Existing Summer Emergency Conductor Capacity: 168 MVA

Proposed Summer Emergency Conductor Capacity: 210 MVA

**Bellefonte 138/69kV Transformer #2**

Existing 138/69/46kV Nameplate Capacity: 196 MVA

Proposed 138/69/46kV Nameplate capacity: 200 MVA

- **Hatfield Station Upgrades**

The existing Hatfield substation is need for rehab. To address the supplemental needs at Hatfield substation, the proposed Hatfield Station upgrade project proposes to replace Ground switch MOAB “X1” with a new 138 kV circuit switcher, replace MOAB 11 with a 138kV breaker, replace Circuit Breaker B, replace electromechanical and static relaying identified in the validation summary and retire the 46/7kV 111 MVA transformer #2. This will address equipment material condition, performance and risk as well as improve operational flexibility and performance of Hatfield Station and the Hatfield - Sprigg 138 kV line. The current projected in-service date for this project is November 2025.

**Hatfield 138/69/46kV Transformer**

Existing 138/69kV Nameplate Capacity: 130 MVA

- **Breaks – Dorton conversion**

In 2027 Winter RTEP case, Dorton, Pike 29, Rob Fork, Burdine, Henry Clay, Draffin 46KV buses (along the Cedar Creek - Elwood and Breaks - Dorton – Elwood 46KV circuits) experience voltage magnitude and drop violations under multiple N-1-1 contingency scenarios. Convert Dorton – Breaks 46kV line section to 69kV. Construct Henry Clay and Draffin stations to 69kV standards. Retire Cedar Creek – Elwood 46kV circuit. Retire ~ 5 mi Henry Clay – Elwood 46kV line section. This proposal completely addresses identified supplemental needs on Cedar Creek – Elwood 46kV under Need AEP2019-AP032 (presented 8/29/2019 W-SRRTEP) and identified supplemental needs on Breaks – Dorton – Elwood 46kV circuit under AEP-2020-AP012 (presented 2/21/2020 W-SRRTEP). The proposal proposes retirement of roughly 23.4 mi of obsolete 46kV line. The current projected in-service date for this project is November 2027.

**Breaks - Dorton 69kV Line**

Proposed Summer Emergency Conductor Capacity: 142 MVA

In addition, several other projects outside of the Kentucky area have also been completed or are underway across the AEP System-East Zone. These projects contribute to the robust health and capacity of the overall transmission grid, which benefits all customers.

AEP's transmission system is anticipated to continue to perform reliably for the upcoming peak load seasons. AEP will continue to assess the need to expand its system to ensure adequate reliability for Kentucky customers.

### **3.7 Distribution**

Kentucky Power manages the distribution system to the National Electric Safety Code standards using AEP guidelines and engineering practices. The distribution system has been enhanced over the years with the construction of new substations and distribution lines to meet customers' needs and improve service reliability and quality. Substation transformer and circuit loads are monitored, and load forecasts are developed for an annual, 5-year and 10-year planning period to meet customer load growth and/or load shifting as the economic downturn impacts the local communities. Since 2019, the Company has upgraded distribution substations with plans to either upgrade or add additional substations through 2037, mainly for service improvement opportunities. The Company evaluates Distributed Energy Resources including Energy Storage as alternatives when planning for capacity and reliability upgrades. The Company focuses on the worst performing circuits to make necessary quality improvements. These include replacing aging station equipment, poles and wire. In rough terrain areas, the Company makes efforts to relocate inaccessible facilities to be truck approachable to reduce response and repair time.

## 4.0 Demand-Side Resource Options

### 4.1 Energy Efficiency Benchmarking

#### 4.1.1 Savings

The energy efficiency savings inputs for the IRP are based on the results of a benchmarking exercise conducted by the GDS Associates who is conducting a specific Market Potential Study for Kentucky Power. GDS reviewed the results from recent market potential studies conducted by GDS in Kentucky and Indiana and determined that savings were approximately 1% of utility sales on an incremental annual basis at the achievable potential level. GDS also reviewed EIA Form 861 data<sup>13</sup> for all investor-owned utilities in the United States and found the average annual energy savings to be approximately 1% per year in 2020, with a slightly higher average annual savings from the residential sector compared to the commercial/industrial sector.

Based on the results of the benchmarking, GDS assumed that Kentucky Power could ramp up to a 1% annual savings level over four years, with a starting point of 0.4% annual savings in 2023. From 2027-2042, the savings were held steady at about 1% annually. The table below provides the assumed incremental annual savings level, by sector, and in total (not inclusive of income-qualified programs), across the four years of ramping up of savings (2023-2026) and then for the remaining years of the IRP timeframe (2027-2042).

**Table 4. Energy Efficiency Savings Inputs for the IRP**

Incremental Annual Savings (MWh)	2023	2024	2025	2026	2027-2042
Residential	0.50%	0.70%	0.95%	1.20%	1.20%
Commercial	0.50%	0.70%	0.95%	1.20%	1.20%
Industrial/	0.25%	0.40%	0.55%	0.70%	0.70%
<b>Total (All Sales)</b>	<b>0.40%</b>	<b>0.59%</b>	<b>0.81%</b>	<b>1.02%</b>	<b>1.02%</b>

Savings levels attributable to income-qualified programs/measures within the residential sector in 2023 are based on a 2.5% increase over 2022 planning estimates, with future savings growth ramping up over four years in the same manner described above and holding steady from 2027-2042.

<sup>13</sup> Annual Electric Power Industry Report, Form EIA-861 detailed data files, Schedule 6 Part A;

<https://www.eia.gov/electricity/data/eia861/>

## **4.1.2 Costs**

The energy efficiency costs inputs for the IRP are also based on the benchmarking exercise. The GDS Team leveraged the results of one of its recent potential studies to calculate a utility cost and total resource cost per unit of energy saved (\$/MWh). These per unit of energy costs were multiplied by the MWh savings resulting from the savings as a percent of annual sales by sector.

## **4.2 Energy Efficiency Bundles**

### **4.2.1 Determination of Bundles**

For the IRP analysis, EE measures were modeled to compete directly with supply-side resources. For the modeling, the EE measures were aggregated into blocks of resources to limit the IRP's capacity expansion model run-time. The GDS Team identified three residential bundles, one income-qualified bundle, and two C&I bundles for IRP inputs.

The income-qualified bundle consists of measures that would be offered to qualifying residential customers through a program offering a variety of low-cost direct install measures as well as higher cost and high savings equipment and building retrofit measures such as efficient heat pumps and attic insulation.

The residential bundles consist of a low/medium cost bundle, a high-cost bundle, and a behavioral bundle. The low/medium cost bundle consists of measures which cost less than \$100/MWh. The low/medium cost bundle has an overall cost of ~\$40/MWh. The high-cost bundle includes measures which cost more than \$100/MWh. The behavioral bundle separates out measures which have an effective useful life ("EUL") of one year to prevent these measures from affecting the overall EUL of a bundle which might include both behavioral and non-behavioral measures.

The C&I bundles were similarly created, using a \$100/MWh cutoff to create a low bundle and a high bundle. For the C&I measures, the cutoff incidentally created a low bundle, consisting of all non-behavioral measures, and a high bundle, consisting of just behavioral measures.

Based on measure-bundle assignment, the GDS Team then mapped the savings from those identified in the energy efficiency benchmarking exercise into the identified EE bundles for IRP model input. It is important to note that the bundles are not equal in measure counts or overall magnitude of savings. Select bundles are as small as a single measure type, while other bundles represent a comprehensive suite of measures across various end-uses.

#### 4.2.2 Bundle Adjustments

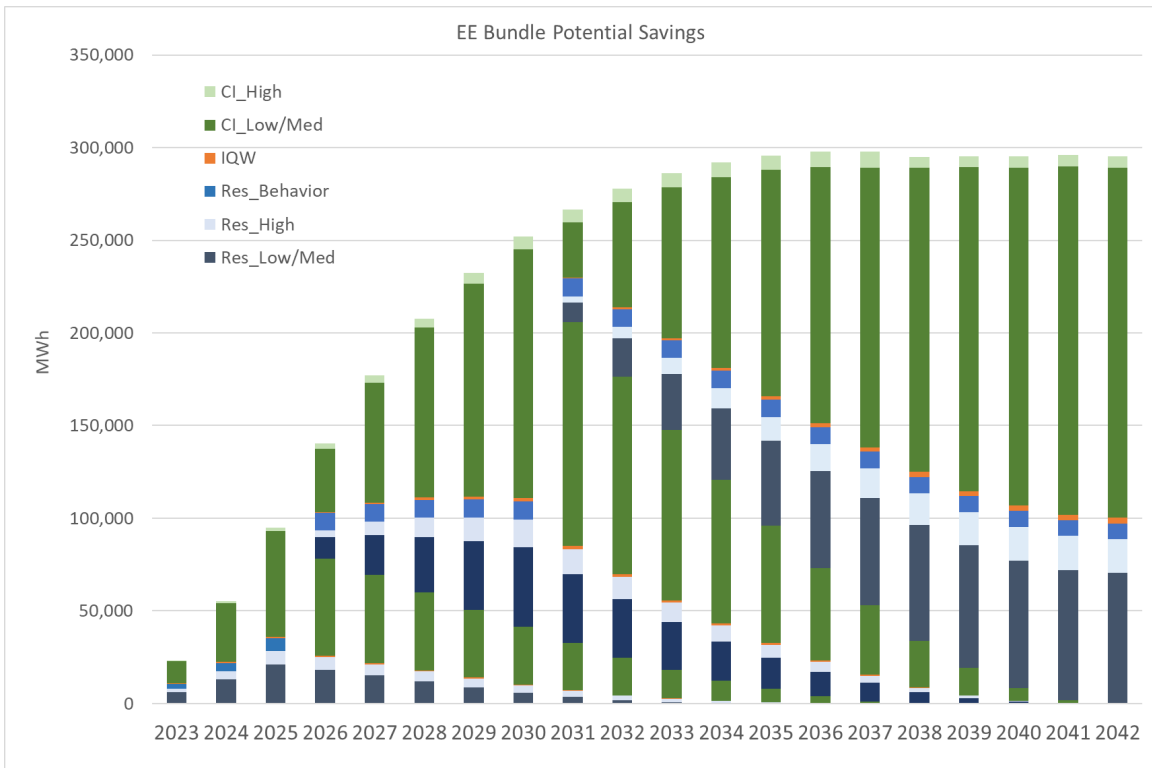
Two adjustments to the savings and an additional adjustment to cost inputs from the energy efficiency benchmarking were made prior to including in the IRP. The first adjustment was to provide the program potential savings at the generator level. The savings in the benchmarking are at the meter, and thus needed to be adjusted to the generator level. This adjustment was made by multiplying the meter-level savings by the Kentucky Power line loss factor. The second adjustment was made to align the projections of future gross energy efficiency potential accounted for in the load forecast as discussed in section 2.6.2.

On the cost side, because the IRP's Capacity Expansion Model does not calculate avoided transmission and distribution (T&D) benefit associated with DSM measures, the GDS Team provided Kentucky Power with energy efficiency costs that have been adjusted to net out an avoided T&D benefit of \$11.5/kW-yr based on a 3 year average estimate.

The energy efficiency provided to Kentucky Power for IRP modeling, is illustrated in Figure 13 below. The GDS team provided the energy efficiency IRP inputs across three different vintage bundles: 2023-2025, 2026-2030, and 2031-2042 to better optimize the value of energy efficiency to the system over time periods that align with subsequent planning periods. The energy efficiency MWh and MW impacts for each vintage block provide the cumulative annual lifetime savings. Conversely, because energy efficiency program costs are only incurred during the year of measure installation, costs are only reflected during the first identified year in each vintage block.

In addition to the annual impacts shown in the tables above, typical hourly (8,760) shapes for each EE bundle, that were assumed to reflect the various measures and end-uses assumed in each EE bundle based on the distribution of end-use savings consistent with the benchmarking analysis, were provided to the Kentucky Power modeling team to permit the IRP model to assess the value of energy savings on an hourly basis. The GDS Team disaggregated the EE bundle savings based on publicly available end-use load shapes for Kentucky that are published by NREL in order to produce an overall bundle 8,760 savings profile. As a result, the 8,760 shapes are unique for each EE sector and vintage bundle.





**Figure 13. EE IRP Bundles – MWh Savings Potential**

## **5.0 Supply-Side Resource Options**

### **5.1 Introduction**

The future landscape of generation technologies has become increasingly uncertain. The roles of traditional technologies in providing baseload and intermediate-load electricity are being challenged by zero marginal cost renewable technologies. The emergence of advanced generation technologies could significantly change the future economics of generation rendering certain technologies obsolete and leading to a risk of premature retirements. The evolving electricity generation mix may also require a more diverse set of resources that can provide different system needs at different times to maintain system reliability particularly under extreme weather conditions.

The supply-side resource options considered by Kentucky Power in this IRP fall into six categories: base/intermediate alternatives, peaking alternatives, renewable alternatives, advanced generation alternatives, long-duration storage alternatives, and short-term market purchases.

Unless stated otherwise, Kentucky Power relied on EIA's 2022 AEO as the starting point for the technology cost and performance assumptions for new utility scale generation in the PJM footprint. Reference case changes to technology cost and performance over time are based on the medium case of the 2022 National Renewable Energy Laboratory's ("NREL") annual technology baseline ("NREL ATB 2022") report.<sup>14</sup> Cost assumptions for advanced technologies are generally based on a compilation of estimates from different external sources, reflecting uncertainties associated with cost estimates for technologies under development. Capital Costs shown are in nominal dollars starting from a base year of 2021, reflecting the Producers Price Index for Energy (PPI).

### **5.2 Base / Intermediate Alternatives**

Baseload electricity is the minimum level of electricity demand in the system. Traditionally, baseload electricity demand is met by baseload power plants optimized for continuous running. Baseload plants include coal and nuclear plants which generally cannot vary their outputs quickly. However, the electricity supply mix is changing with increased intermittent renewable generation. Furthermore, regulations and changing customers' needs have made new

<sup>14</sup> NREL Electricity Annual Technology Baseline (ATB) 2022: <https://atb.nrel.gov/electricity/2022/data>

coal and nuclear plants economically infeasible. As such, coal without carbon capture and storage and traditional nuclear are not part of supply-side resource options in this IRP.

Intermediate power plants adjust outputs as electricity demand fluctuates. This role has been traditionally met by older and relatively less efficient power plants. But as these power plants retire, new capacity will be needed. For this IRP, natural gas combined cycle is considered as a resource option for intermediate power plants.

### **5.2.1 Natural Gas Combined Cycle (NGCC)**

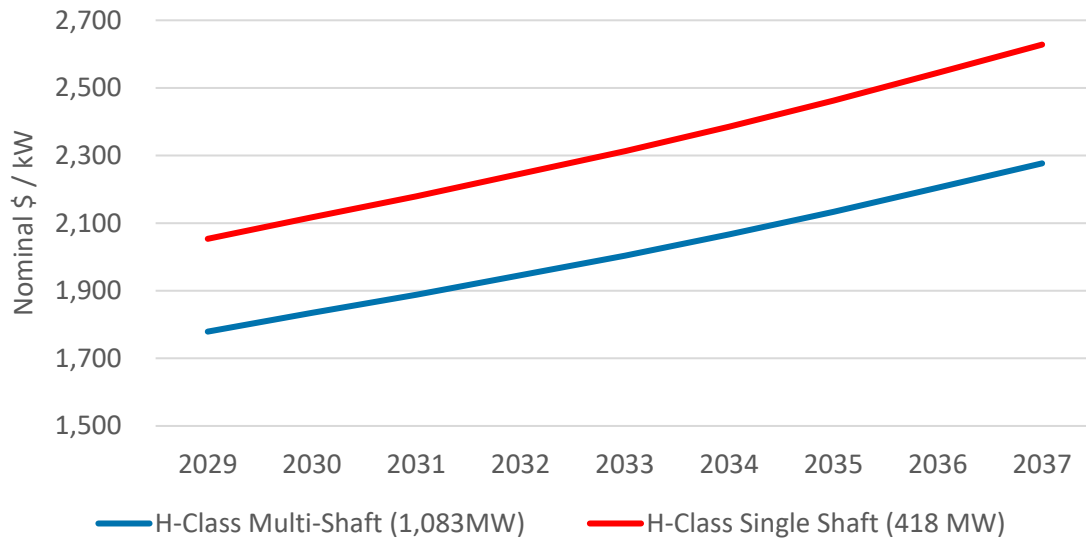
Natural gas combined cycle units combine a steam and a gas turbine cycle to generate electricity. In the gas turbine cycle, atmospheric air is pressurized using a compressor, injected with fuel and ignited to generate high-temperature pressurized gas that expands to drive the turbine and generate electricity. The waste heat from the gas turbine is then used to generate steam to drive a steam turbine to generate additional electricity, increasing overall efficiency.

Modern NGCCs have moderate capital costs, high generating efficiency, relatively low carbon emissions (per MWh) compared to older fossil fuel units, and the ability to load-follow. These characteristics make the technology desirable for baseload and intermediate applications.

NGCCs are modeled in AURORA as a standard dispatchable resource, assigned to run when economic on a short-run variable cost basis, subject to any operational constraints. Two NGCC configurations in the model are available for selection, including the H-class turbine single shaft configuration with 418 MW capacity and the H-class turbine multi-shaft configuration with 1,083 MW capacity.<sup>15</sup> These resources are made available in the model with a first operating year of 2029, reflective of the minimum anticipated period required for approval, siting, engineering, and construction.

Overnight capital cost assumptions for NGCC options are shown in Figure 14. The variable operations and maintenance cost (“VOM”), the fixed operations and maintenance cost (“FOM”) and heat rate assumptions are shown in Table 5.

<sup>15</sup> The smaller single shaft NGCC block size can also be considered as a proxy for a partial ownership option for a larger multi-shaft NGCC where Kentucky Power would coordinate the addition of this resource with other parties.



**Figure 14. Capital Cost Assumptions for NGCC**

**Table 5. Operating and Heat Rate Assumptions for NGCC**

		H-Class Multi-Shaft (1,083 MW)	H-Class Single Shaft (418 MW)
VOM	\$2021 / MWh	1.96	2.67
FOM	\$2021 / kW-yr	12.77	14.76
Heat Rate	Btu / kWh	6,370	6,431

### 5.3 Peaking Alternatives

Peaking sources have traditionally provided generating capacity during times of highest demand. Given the low utilization of peaking generators, the focus in the past has been on minimizing capital and fixed costs instead of on fuel efficiency and other variable costs.

More recently, greater amounts of intermittent renewable generation in the market combined with more extreme weather patterns have necessitated more flexible resources. For example, an unanticipated drop in wind generation during the day will require quick response from other generators to keep supply and demand in balance. A string of extreme cold weather days will require top-up generating capacity beyond the few hours each year traditionally supplied by peak generators. Certain peaking technologies can also provide ancillary services such as frequency response, black start, and inertia that help keep the system reliable. In this IRP, four peaking sources considered are simple cycle combustion turbines, aeroderivatives, reciprocating engines, and lithium-ion batteries.

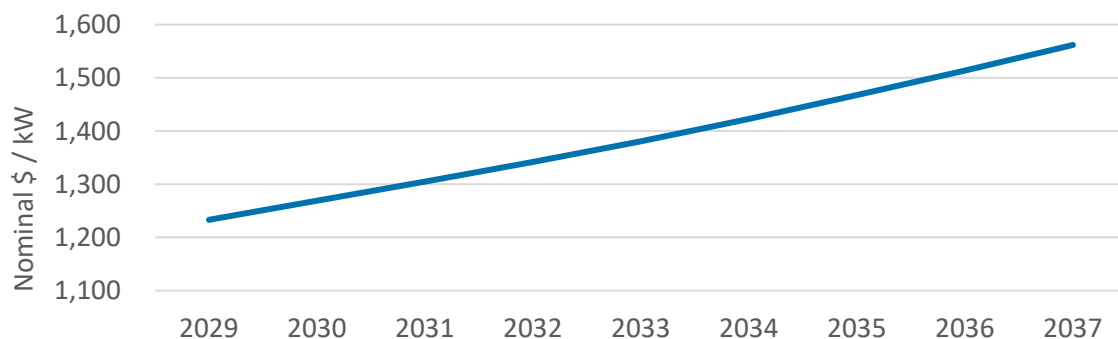
### 5.3.1 Simple Cycle Combustion Turbines (NGCT)

A combustion turbine system uses a compressor to pressurize atmospheric air, which is injected with fuel and ignited to generate high-temperature pressurized gas that expands to drive the turbine and generate electricity. Unlike NGCCs, unused energy is released as exhaust gases into the atmosphere instead of being recovered. NGCTs are usually expected to start up once per day and operate at full capacity during peak demand hours, making them well suited for a power system with predictable peak patterns.

In addition, turbine manufacturers are developing the ability of new gas turbines to burn increasing volumes of hydrogen in the gas stream. Recent turbines can burn up to 30% hydrogen by volume<sup>16</sup> in the gas stream and can potentially be retrofitted to burn 100% hydrogen when the hydrogen supply chain is sufficiently developed. Section 5.5.3 provides further details on the modeling assumptions associated with retrofitting NGCT units to burn hydrogen exclusively.

NGCTs are modeled in AURORA as a standard dispatchable resource, assigned to run when economic on a short-run variable cost basis, subject to any operational constraints. One NGCT configuration is available for AURORA to select, i.e. the 240 MW F-Class unit. These resources are made available in the model with a first operating year of 2029, reflective of the anticipated period required for approval, siting, engineering, and construction. The maximum annual capacity addition is 480 MW and a cumulative total of 720 MW.

The NGCT overnight capital cost assumptions are shown in Figure 15 . FOM, VOM, and heat rate assumptions are shown in Table 6.



**Figure 15. Capital Cost Assumptions for NGCT**

<sup>16</sup> Gas turbines in the US are being prepped for a hydrogen-fuelled future (2021). Retrieved from <https://www.nenergybusiness.com/features/gas-turbines-hydrogen-us/>

**Table 6. Operating and Heat Rate Assumptions for NGCT**

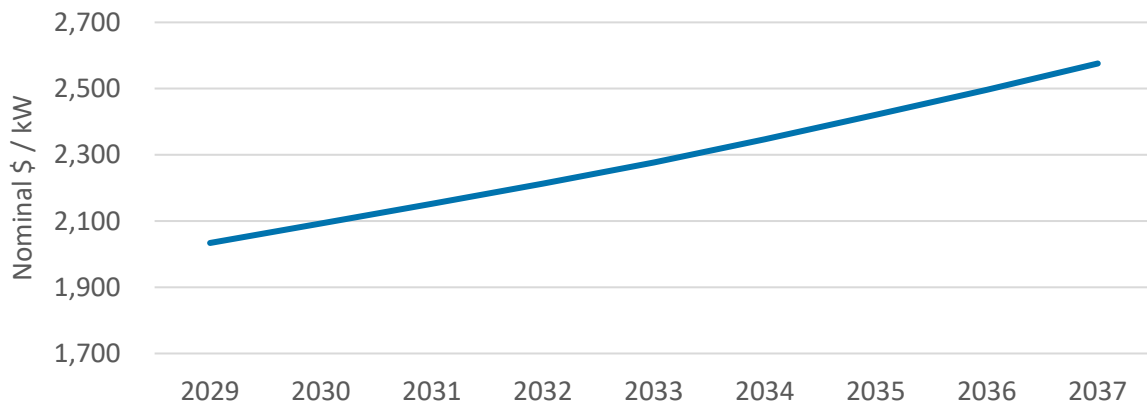
		<b>F-Class CT (240 MW)</b>
VOM	\$2021 / MWh	0.62 <sup>17</sup>
FOM	\$2021 / kW-yr	7.33
Heat Rate	Btu / kWh	9,905

### 5.3.2 Aero derivatives (AD)

Aero derivative units are aircraft jet engines used for power generation. Their operating characteristics make them well suited with high renewable penetration as they can quickly respond to significant shifts in supply and demand conditions in the power system. For example, the GE 9E series NGCT requires 30 minutes to start up whereas the GE LM6000 AD unit requires only 5 minutes. This allows AD units to operate at full load even for a small amount of time. In addition, AD units are more efficient in a simple cycle operation than NGCTs for capacities less than 100 MW. However, AD units are relatively more expensive than NGCTs.

AD units are modeled in AURORA in 105 MW units as a standard dispatchable resource, assigned to run when economic on a short-run variable cost basis, subject to any operational constraints. These resources are made available in the model with a first operating year of 2029, reflective of the anticipated period required for approval, siting, engineering, and construction. The maximum annual capacity addition is 210 MW.

The AD overnight capital cost assumptions are shown in Figure 16. FOM, VOM, and heat rate assumptions are shown in Table 7.



**Figure 16. Capital Cost Assumptions for AD**

<sup>17</sup> Start cost of \$79/MW was applied additional to VOM for NGCT

**Table 7. Operating and Heat Rate Assumptions for AD**

		<b>AD (105 MW)</b>
VOM	\$2021 / MWh	4.92
FOM	\$2021 / kW-yr	17.06
Heat Rate	Btu / kWh	9,124

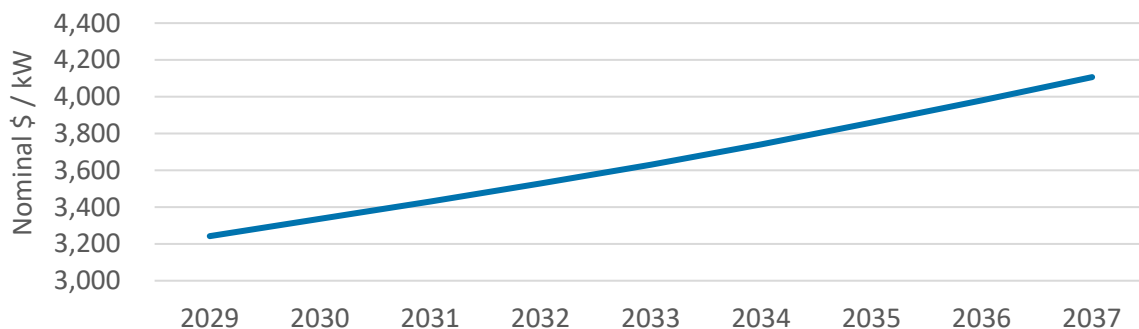
### 5.3.3 Reciprocating Engines (RE)

Like NGCTs, REs rely on the combustion of air mixed with fuel to generate hot pressurized gases. Unlike NGCT, the expansion of these gases is used to drive pistons and a crankshaft in a rotating motion to generate electricity. Multiple RE units are usually incorporated into a larger generating set for main grid applications.

RE generating sets can usually start and reach full load in less than five minutes, making them even faster than AD units in responding to system needs. RE generating sets can also run more efficiently at partial load as individual RE units within the generating set can be shut down to reduce output while allowing remaining units to run at full load. Unlike NGCTs or ADs, RE units can be started multiple times in a day without incurring substantial additional maintenance costs. These characteristics make RE units well suited for power systems that require frequent but short-duration dispatches.

REs are modeled in AURORA in 21 MW units as a standard dispatch resource, assigned to run when economic on a short-run variable cost basis, subject to any operational constraints. These resources are made available in the model with a first operating year of 2029, reflective of the anticipated period required for approval, siting, engineering, and construction. The maximum annual capacity addition is 105 MW.

The RE overnight capital cost assumptions are shown in Figure 17. FOM, VOM, and heat rate assumptions are shown in Table 8.



**Figure 17. Capital Cost Assumptions for RE**

**Table 8. Operating and Heat Rate Assumptions for RE**

		RE (21 MW)
VOM	\$2021 / MWh	5.96
FOM	\$2021 / kW-yr	36.81
Heat Rate	Btu / kWh	8,295

### 5.3.4 Lithium-Ion Battery (Li-ion)

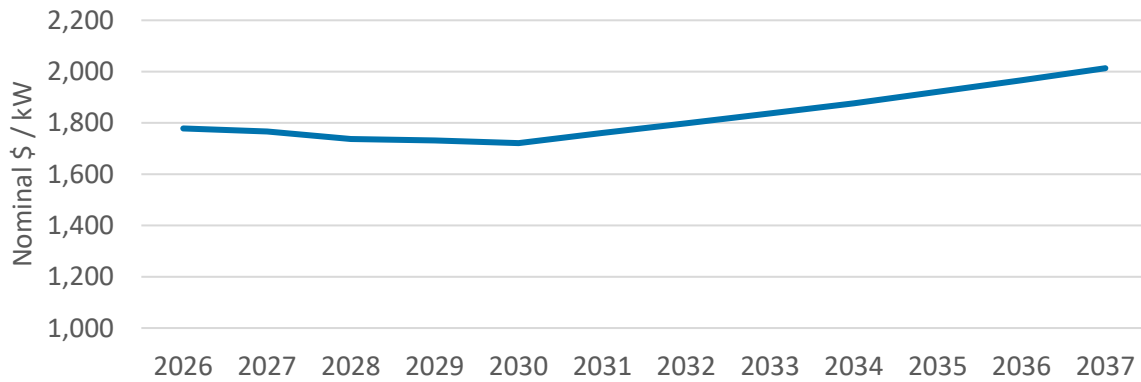
Li-ion batteries store and discharge energy through the movement of lithium ions between a negative and positive electrode, separated by an electrolyte. Unlike other peaking technologies considered, Li-ion batteries do not provide additional energy. Instead, they provide additional capacity during periods of peak energy demand through the discharge of energy stored generally during periods of low demand. Accordingly, increased deployment of Li-ion in the system can smooth out energy price volatility.

Li-ion batteries are experiencing rapid growth in deployment in utility-scale storage applications. This reflects advantageous operating characteristics that include high round-trip efficiency, high energy density, and lower self-discharge. The batteries can also respond to systems within a second, making them well suited for primary frequency regulations, i.e. providing initial immediate response to deviations in grid frequency driven by sudden demand spikes or supply losses. However, Li-ion batteries have limited cycle life due to degradation; battery augmentation is required during the project lifetime to maintain performance.

Li-ion batteries are first made available in AURORA from 2026 and are modeled as an energy storage option with a duration of four hours. AURORA optimizes charging and discharging of the resource against projected PJM hourly electricity prices, taking into account a round-trip efficiency of 85% and a self-discharge rate of 0.2% per hour. As a duration-limited resource, the ability of Li-ion batteries to meet demand peaks will decline as greater amounts of renewable generation widen the length of demand peaks. Therefore, the capacity credit for Li-ion batteries is assumed to decline from 82% today to 62-80% by 2037, depending on the amount of storage resource in the scenario (see section 6.5.2). Li-ion batteries are made available in a configuration of 50 MW. The maximum annual capacity addition is 200 MW and the cumulative maximum is 500 MW.

The overnight capital cost assumptions for Li-ion batteries are shown in Figure 18.

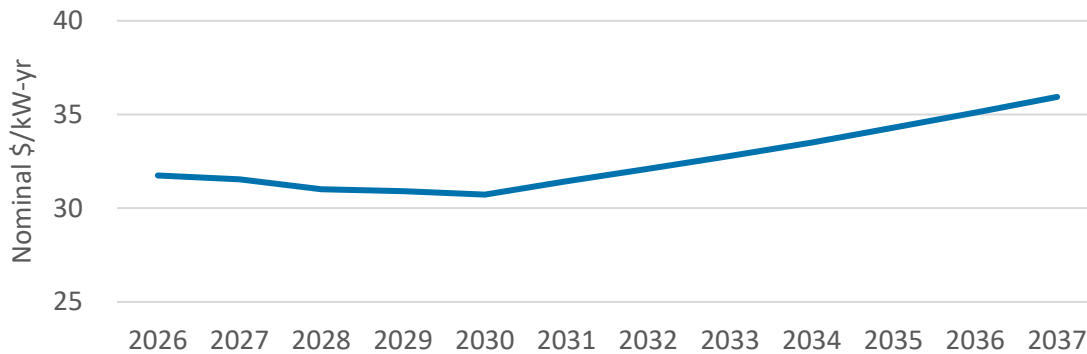




**Figure 18. Capital Cost Assumptions for Li-Ion**

Investment Tax Credit (“ITC”) value is assigned to the project by applying a reduction in modeled upfront capital cost at a rate of 30% for projects entering service before the end of 2032. After 2032, ITC tax credits reduce to 22.5%, 15% and 0% of their value in 2033, 2034, and 2035, respectively.<sup>18</sup>

Figure 19 shows the assumed FOM for a Li-ion battery built in each specific year.



**Figure 19. FOM Assumptions for Li-Ion**

#### 5.4 Renewable Alternatives

The cost of renewable generation alternatives is expected to continue to decline, providing an opportunity to increase affordable clean energy to address future electricity needs, consistent with Kentucky Power’s aim of enabling a greener future. These technologies can provide a hedge against future uncertainties in fuel prices and carbon policies as they have zero carbon emissions

<sup>18</sup> For portfolio modeling, a safe harbor provision is assumed which provides a three-year delay in the effects of declining tax credits as long as adequate construction has commenced for new resources.

and zero marginal costs. Renewables are likely to remain competitive against other technologies as fuel prices fluctuate. The impact of increased renewable generation on the electric system is further discussed in Section 6.5.2.

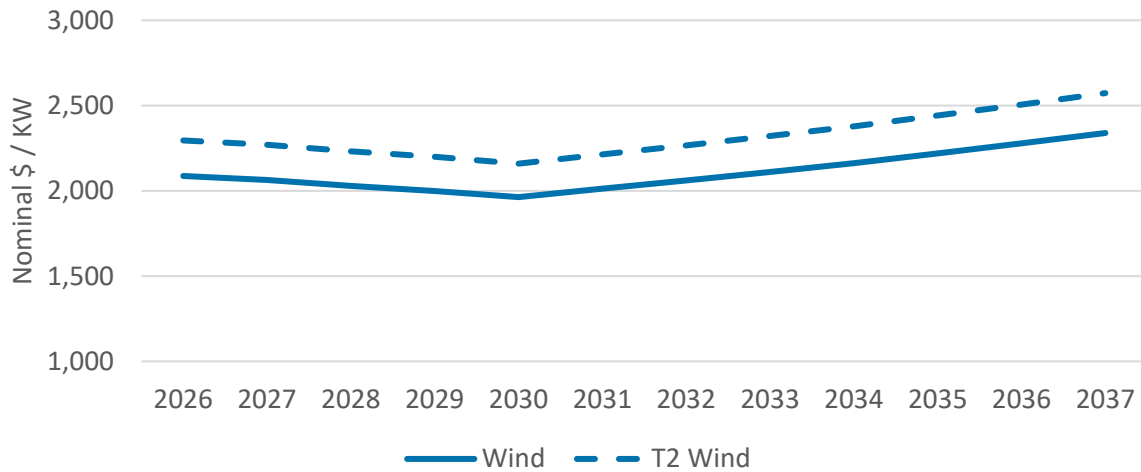
In this IRP, two renewable alternatives considered are onshore wind and utility-scale solar photovoltaic. These two technologies are made available as resource options in AURORA. In addition, AURORA can also choose to pair utility-scale solar photovoltaic with lithium-ion battery where a paired solution is economic.

#### **5.4.1 Wind**

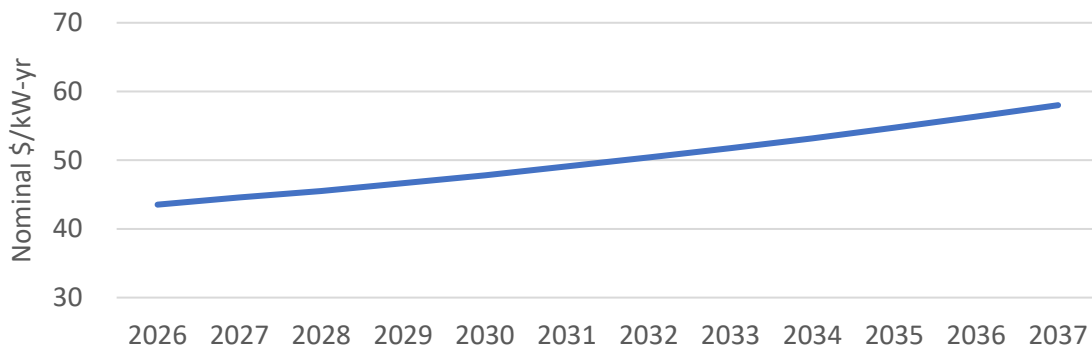
Wind energy is based on exploiting the air pressure differential across two sides of the blade, causing the rotor to spin and generate electricity.

Wind is first made available as a resource option in AURORA at the end of 2026. It is modeled as a generation resource dispatching according to a generic production profile representative of the region with an average capacity factor of 35%. Both the hourly production profile and average capacity factor are estimated based on AURORA national database information representative of resources in the region. As an intermittent resource, wind may not be generating at full capacity during the time of system peak. Therefore, the capacity credit for wind is assumed to decline from 16% today to 11% by 2037. Wind is made available in a configuration of 100 MW. Two pricing tiers, Tier 1 and Tier 2, were modeled to reflect the range of potential RFP responses that might be received. The maximum annual capacity addition is 100 MW for lower cost Tier 1 sites and 300 MW for Tier 2 sites. The cumulative maximum is 1200 MW.

The overnight capital cost for onshore wind in 2023 is based on EIA AEO 2022. The cost reduction curve from NREL ATB 2022 is applied to the capital cost to project the capital costs for 2026 and beyond, as shown in Figure 20 below. Figure 21 illustrates the FOM cost assumptions for onshore wind.



**Figure 20. Capital Cost Assumptions for Onshore Wind**



**Figure 21. FOM Assumptions for Onshore Wind**

Projects whose construction begins by the end of 2032 are eligible for a Production Tax Credit (“PTC”), added to the project value at a rate of 100% of the PTC, or \$25/MWh<sup>19</sup>, which is implemented in AURORA as a negative variable cost adder. After 2032, PTC tax credits reduce to 75%, 50% and 0% of their value in 2033, 2034, and 2035, respectively.<sup>20</sup>

### 5.4.2 Solar

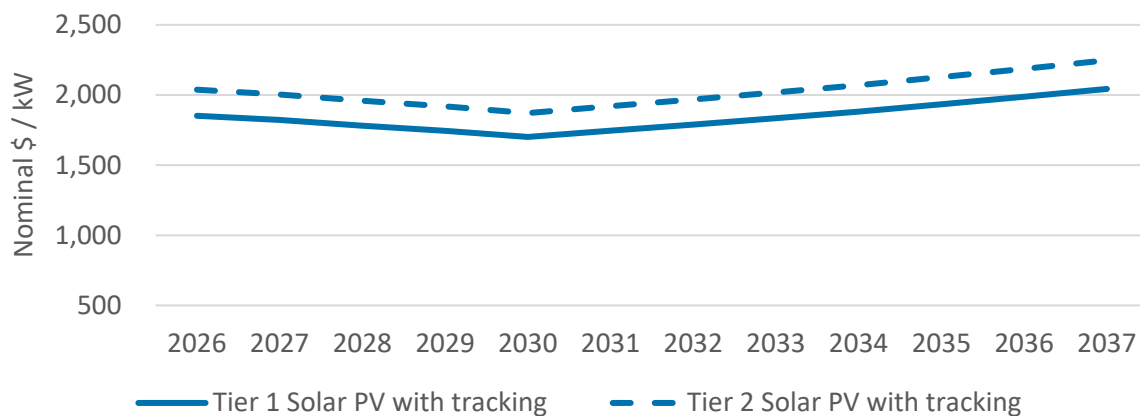
Solar photovoltaic (“solar PV”) uses semiconductor materials surrounded by protective layers to convert sunlight into electricity. The system has a modular structure which allows it to be scaled to meet different levels of energy needs, large or small.

<sup>19</sup> In 2021 dollars; 10 year tax credit.

<sup>20</sup> For portfolio modeling, a safe harbor provision is assumed which provides a three-year delay in the effects of declining tax credits as long as adequate construction has commenced for new resources.

Utility-scale solar PV is first made available as a resource option in AURORA from 2026. Like wind, solar generation is modeled as a must-run resource with a generic hourly production profile representative of the region with a capacity factor of 23%. The hourly production profile and average capacity factor are based on production estimates for Kentucky Power solar resources under development. Solar capacity credit for summer is estimated at a percentage of ICAP. Currently that percentage is 54% but it declines to 23-28% by 2037, depending on the scenario (see Section 6.5.2). Solar is made available in a configuration of 50 MW. Two pricing tiers, Tier 1 and Tier 2, were modeled to reflect the range of potential RFP responses that might be received. The maximum annual capacity addition is 150 MW for lower cost Tier 1 sites and 300 MW for Tier 2 sites. The cumulative maximum is 1800 MW. Hybrid 3:1 solar+storage systems are available in 50 MW blocks, up to 300 MW annually and a cumulative maximum of 600 MW.

The overnight capital cost assumptions for solar PV are shown in Figure 22.



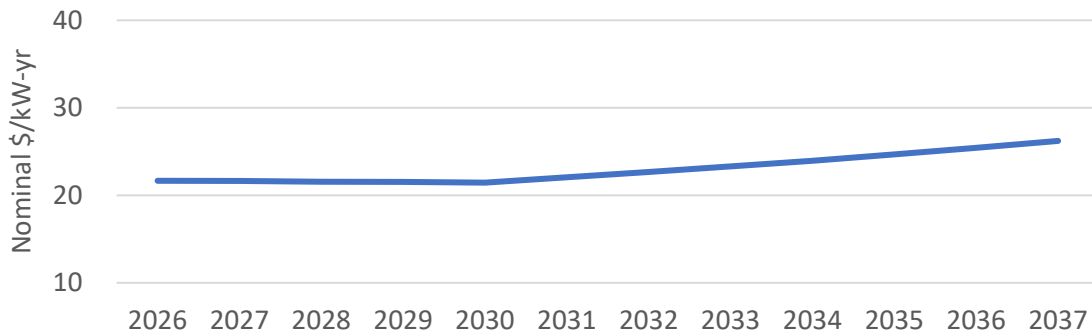
**Figure 22. Capital Cost Assumptions for Utility-Scale Solar PV**

Projects whose construction begins by the end of 2032 are eligible for a Production Tax Credit (“PTC”), added to the project value at a rate of 100% of the PTC, or \$25/MWh<sup>21</sup>, which is implemented in AURORA as a negative variable cost adder. After 2032, PTC tax credits reduce to 75%, 50% and 0% of their value in 2033, 2034, and 2035, respectively.<sup>22</sup>

Figure 23 shows the FOM cost assumptions for solar PV.

<sup>21</sup> In 2021 dollars; 10 year tax credit.

<sup>22</sup> For portfolio modeling, a safe harbor provision is assumed which provides a three-year delay in the effects of declining tax credits as long as adequate construction has commenced for new resources.



**Figure 23. FOM Assumptions for Utility-Scale Solar PV**

## 5.5 Advanced Generation Alternatives

Advanced generation technologies are low-carbon technologies that are still in the development stage but could be commercially available during the planning horizon of this IRP. When they are available, they could potentially render specific generation technologies obsolete leading to their premature retirement. Including advanced generation technologies in this IRP allows Kentucky Power to consider the impact of future technology uncertainties on the Company’s generation portfolio and identify technologies that are available today but might be at risk of obsolescence. This informs the selection of the preferred portfolio that minimizes technology risks and allows Kentucky Power to continue to deliver reliable and affordable power to customers.

Based on a survey of literature on generation technologies, three advanced generating technologies are potentially available within the planning horizon of this IRP, namely small modular reactor (“SMR”), carbon capture and storage (“CCS”), and hydrogen.

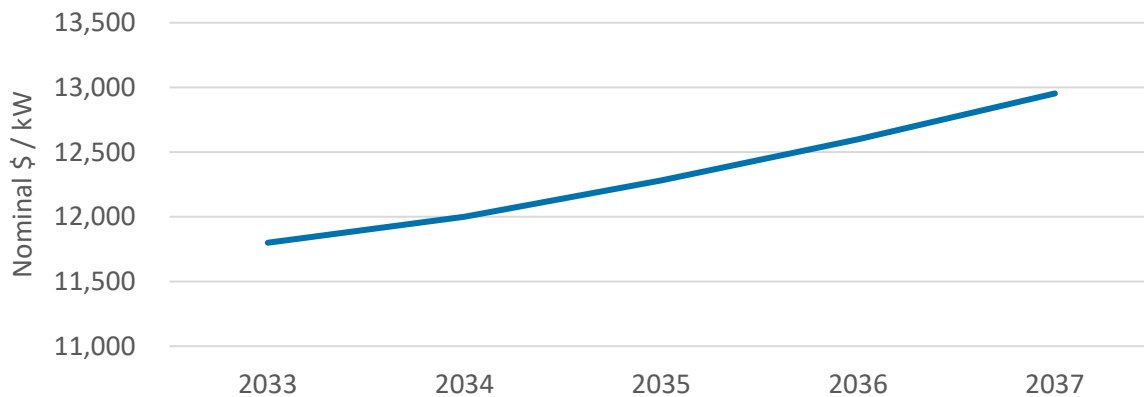
### 5.5.1 SMR

Small Modular Reactor (SMR) is a new generation of nuclear fission technology utilizing smaller reactor designs, module factory fabrication, and passive safety features. Key features of an SMR include:

- Small physical footprints;
- Limited on-site preparation, leading to faster construction time and scalability;
- Siting flexibility including sites previously occupied by coal-fired plants; and
- Passive safety features, allowing the reactor to safely shutdown in an emergency without requiring human interventions.

SMR can be a zero-carbon alternative for providing base-load electricity. Its siting flexibility and improved safety features allow it to be sited closer to demand centers, reducing transmission investments. However, it is subject to the same economic challenges facing base-load power plants today, namely the erosion in value of base-load electricity as a result of increased intermittent generation.

SMR is still in the early stages of development and there remain uncertainties over the cost, performance, and availability of the technology. The cost assumptions for the First-of-a-Kind (“FOAK”) are taken from the EIA AEO 2022. The Nth-of-a-Kind (“NOAK”) cost assumptions in this IRP are based on projecting the FOAK cost forward using a learning rate from a Department of Energy (“DOE”) study on the learning rate for SMR<sup>23</sup>. The DOE study provides a learning rate as a cost reduction in real terms per each doubling of installed capacity. As such, it is further assumed for the purpose of projecting SMR cost reduction that the first SMR unit with FOAK cost assumptions will be built in 2028 and subsequently one new SMR plant will be built each year in the first five years, two new SMR plants for the next five years, and four new SMR plants for the five years after that. Figure 24 below shows the assumed overnight capital cost of SMR cost over time.



**Figure 24. Capital Cost Assumptions for SMR**

**Table 9. Operating and Heat Rate Assumptions for SMR**

		<b>SMR</b>
VOM	\$2021 / MWh	3.14
FOM	\$2021 / kW-yr	99.46
Heat Rate	Btu / kWh	10,443

<sup>23</sup> Department of Energy (2013), Small Modular Nuclear Reactors: Parametric Modeling of Integrated Reactor Vessel Manufacturing Within a Factory Environment Volume 2, p. 59

Like traditional nuclear, SMR cannot adjust its output to match fluctuating electricity demand easily. Therefore, SMR is modeled in AURORA as a must-run resource. It is assumed that SMR will not be available for commercial deployment until 2033 in a block size of 600 MW.

## **5.5.2 Carbon Capture and Storage Technologies (CCS)**

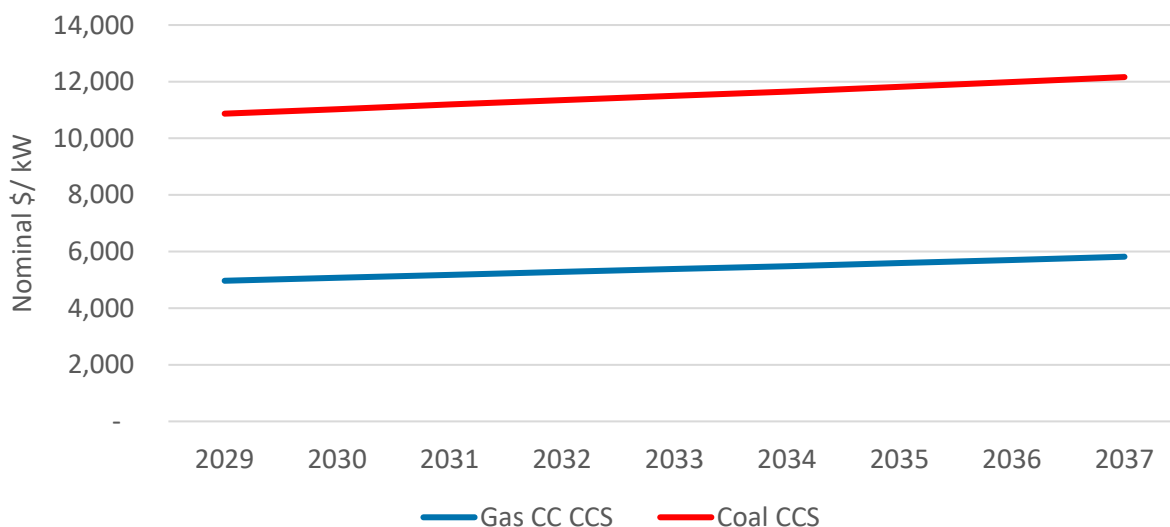
CCS technology provides another alternative for producing reliable low-carbon baseload electricity. Carbon dioxide (“CO<sub>2</sub>”) in the flue gas from the combustion of fossil fuels is captured by an amine-based solvent in the absorption column and then released from the solvent in a concentrated form in a stripper column. The process requires a significant amount of steam to break the bond between the CO<sub>2</sub> and the solvent and needs auxiliary power to run the compressor and other mechanical equipment. As such, CCS-equipped power plants have heat rate and capacity penalties relative to power plants without CCS.

In AURORA, CCS is modeled as new build options and retrofit options. CCS plants are treated as standard dispatch resources in AURORA, which are assigned to run when economic on a short-run variable cost basis, subject to any operational constraints. Section 45Q legislation provides a tax credit of \$94/short-ton of CO<sub>2</sub> sequestered. This incentive is implemented in AURORA as a negative variable cost adder, improving dispatch economics.

### **5.5.2.1 New build options**

Two new build CCS configurations are available for selection in AURORA, including the 650 MW ultra-supercritical coal power plant with 90% carbon capture and the 380 MW H-class combined-cycle natural gas turbine with 90% carbon capture. Both configurations are available for operation beginning in 2029.

The assumptions on overnight capital costs for new build CCS are shown in Figure 25. FOM, VOM, and heat rate assumptions are shown in Table 10 below.



**Figure 25. Capital Cost Assumptions for New Build CCS**

**Table 10. Operating and Heat Rate Assumptions for New Build CCS**

		<b>Coal</b>	<b>Gas</b>
VOM	\$2021 / MWh	11.49	6.11
FOM	\$2021 / kW-yr	62.34	28.89
Heat Rate	Btu / kWh	12,507	7,124

### 5.5.2.2 Retrofit Options

It is also possible for AURORA to choose to retrofit existing NGCC units and coal-fired units with CCS. The cost and performance assumptions for retrofitted NGCCs are based on a compilation of assumptions from various sources including the Clean Air Task Force, Global CCS Institute, and National Energy Technology Laboratory.



**Table 11. Operating and Heat Rate Differentials for Retrofit CCS**

		<b>Retrofitted NGCC</b>
Capacity penalty	% of pre-retrofit capacity	13.2%
Heat rate penalty	% of pre-retrofit heat rate	17.2%
Incremental capital cost	\$2021 / kW post-retrofit capacity	881
Incremental FOM	\$2021 / kW post-retrofit capacity	19.9
Incremental VOM	\$ / kWh	1.24

The cost and performance parameters for retrofit coal units are taken from the Environmental Protection Agency’s (“EPA”) modeling assumptions in its power sector modeling platform<sup>24</sup>. The applied parameters vary based on the capacity and heat rate of the coal unit as shown in Table 12 below. The table shows significant heat rate and capacity penalties on coal units with 400 MW capacity; coal units with lower than 400 MW capacity are assumed to be ineligible for retrofit due to unfavorable economics.

**Table 12. EPA Performance and Unit Cost Assumptions for CC Retrofits on Coal Plants**

<b>Capacity (MW)</b>	<b>Heat Rate (Btu/kWh)</b>	<b>Capital Cost (\$/kW)</b>	<b>FOM (\$/kW-year)</b>	<b>Variable O&amp;M (mills/kWh)</b>	<b>Capacity Penalty (%)</b>	<b>Heat Rate Penalty (%)</b>
400	9,000	2,595	36.9	18.2	33.6	50.6
	10,000	2,960	41.2	19.7	37.3	59.5
	11,000	3,373	46.1	21.3	41.0	69.6
700	9,000	1,852	23.7	14.9	19.2	23.7
	10,000	2,071	26.1	15.6	21.3	27.0
	11,000	2,302	28.6	16.4	23.4	30.6
1000	9,000	1,625	19.7	13.9	13.4	15.5
	10,000	1,810	21.6	14.5	14.9	17.5
	11,000	2,001	23.6	15.0	16.4	19.6

### 5.5.2.3 Carbon Storage and Transportation Costs

CCS plants also incur costs associated with storing and transporting CO<sub>2</sub>. The parameters in Table 13 were derived from EPA National Electric Energy Data System (“NEEDS”) v6, representing the cost of transporting and storing CO<sub>2</sub> across potential CO<sub>2</sub> storage sites. Low cost storage may be depleted over time as more CCS is added to the system, therefore the carbon storage and transportation costs will be higher over time as the storage capacity of the lowest cost option is depleted.

<sup>24</sup> Documentation for EPA’s Power Sector Modeling Platform v6 Using the Integrated Planning Model (2018). Retrieved from [https://www.epa.gov/sites/default/files/2018-05/documents/epa\\_platform\\_v6\\_documentation\\_-\\_all\\_chapters\\_v15\\_may\\_31\\_10-30\\_am.pdf](https://www.epa.gov/sites/default/files/2018-05/documents/epa_platform_v6_documentation_-_all_chapters_v15_may_31_10-30_am.pdf)

**Table 13. Carbon Transport and Storage Schedule (\$2021 / tCO<sub>2</sub>)**

	Indiana	Kentucky	Michigan	Pennsylvania	Illinois	West Virginia
Storage Cost	5.00	5.00	5.00	15.00	5.00	15.00
Transport Cost	18.64	11.09	32.92	31.73	30.29	13.75
<b>Total Cost</b>	<b>23.64</b>	<b>16.09</b>	<b>37.92</b>	<b>46.73</b>	<b>35.29</b>	<b>28.75</b>

### 5.5.3 Hydrogen (H<sub>2</sub>)

Two key components that make up a “green” hydrogen system<sup>25</sup> are the polymer electrolyte membrane (“PEM”) electrolyzer and the hydrogen gas combustion turbine (“H<sub>2</sub> CT”).

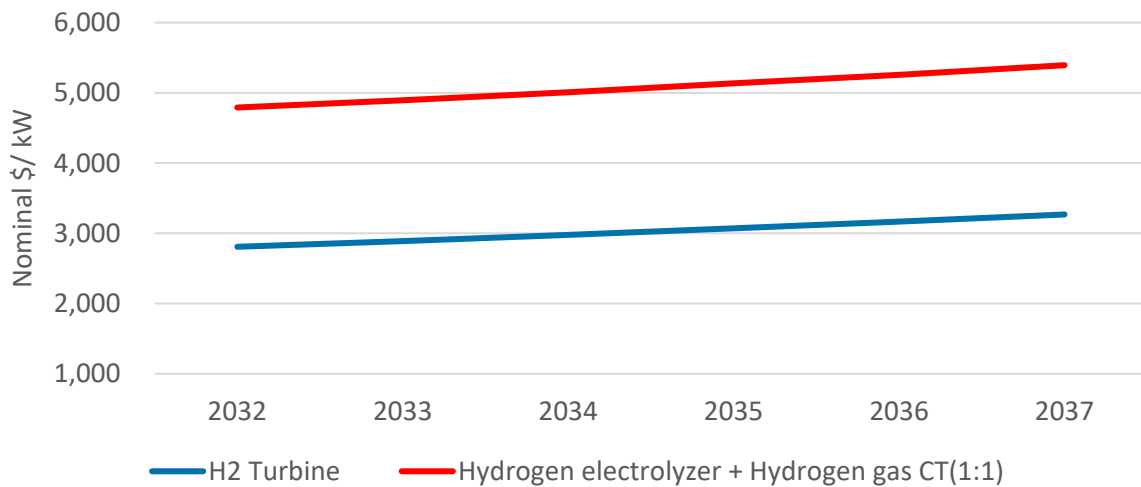
H<sub>2</sub> CTs operate on the same principle as the NGCT systems but with some differences in operating characteristics including:

- **Energy density:** H<sub>2</sub> is less energy dense than natural gas. Using hydrogen as a fuel will require a fuel accessory system configured to provide three times higher fuel flow rates into the turbine relative to using natural gas;
- **Flame speed:** H<sub>2</sub> has about 4.5 times the flame speed of natural gas. The combustion systems have to be configured specifically for hydrogen to prevent the flame from propagating upstream;
- **Flammability:** H<sub>2</sub> is more flammable than natural gas. The enclosure and ventilation systems have to be designed to limit the concentration of hydrogen; and
- **Flame temperature:** H<sub>2</sub> burns at a higher temperature than natural gas, resulting in higher NO<sub>x</sub> emissions. A selective catalytic reduction system is required to reduce NO<sub>x</sub> emissions.

H<sub>2</sub> can play multiple roles within an electricity system. It can provide storage capacity during periods of high renewable generation and, depending on H<sub>2</sub> prices, cycling capabilities for intermediate loads or generation capacity during periods of high electricity demand. As a combustion turbine technology, hydrogen can also provide system services such as inertia, frequency response, voltage support, regulating reserves, and black start.

<sup>25</sup> Green hydrogen is produced with electrolyzers powered by non-carbon emitting resources. Other types of hydrogen production, for example “blue” hydrogen, is made from reforming methane with CCS of the CO<sub>2</sub> byproduct.

The cost, cost reduction curve, and efficiency assumptions for the PEM electrolyzer are developed based on a compilation of various sources including PNNL<sup>26</sup>, IEA<sup>27</sup>, EPRI<sup>28</sup>, DOE<sup>29</sup> and the International Council on Clean Transportation<sup>30</sup>. The capital cost assumption for the PEM electrolyzer component includes stack replacement costs. The cost and performance modeling assumptions for H<sub>2</sub> CT is from conversations with power equipment vendors. The capital cost reduction curve is based on NREL for NGCT. Overnight capital cost assumptions are shown in Figure 26, FOM for electrolyzer in Figure 27, efficiency for electrolyzer in Figure 28. Other parameters shown in Table 14 are VOM and NGCT’s FOM and heat rate; these are not expected to improve over time. The fixed operating cost for a H<sub>2</sub> CT is estimated to be the same as the EIA AEO 2022 estimate for NGCT, reflecting additional costs for maintaining a system with high levels of water and steam injection for emission control.



**Figure 26. Capital Cost Assumptions for PEM Electrolyzer and H2 CT Components**

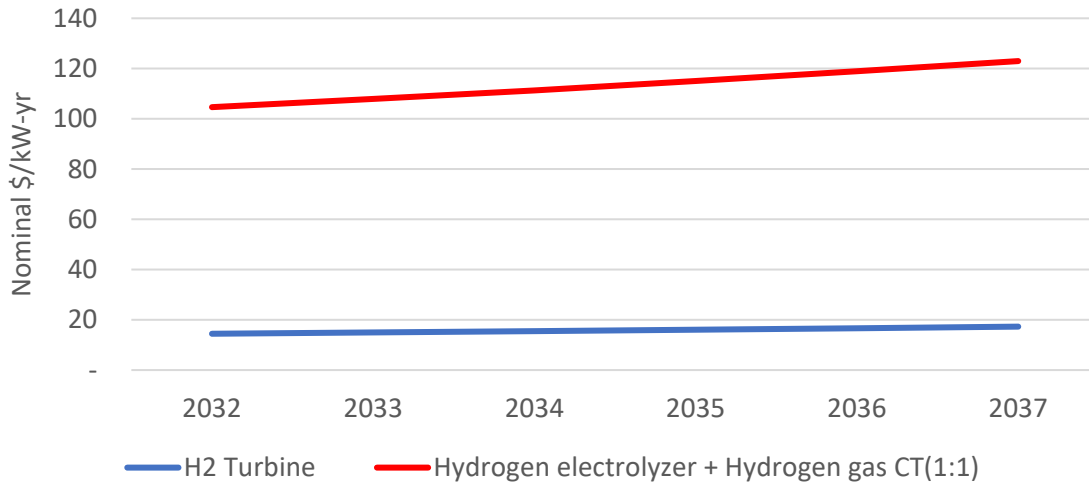
<sup>26</sup> 2020 Grid Energy Storage Technology Cost and Performance Assessment 2020 (December 2020). Retrieved from [https://www.pnnl.gov/sites/default/files/media/file/Hydrogen\\_Methodology.pdf](https://www.pnnl.gov/sites/default/files/media/file/Hydrogen_Methodology.pdf)

<sup>27</sup> The Future of Hydrogen – Assumption Annex (December 2020), Retrieved from [https://iea.blob.core.windows.net/assets/29b027e5-fefc-47df-aed0-456b1bb38844/IEA-The-Future-of-Hydrogen-Assumptions-Annex\\_CORR.pdf](https://iea.blob.core.windows.net/assets/29b027e5-fefc-47df-aed0-456b1bb38844/IEA-The-Future-of-Hydrogen-Assumptions-Annex_CORR.pdf)

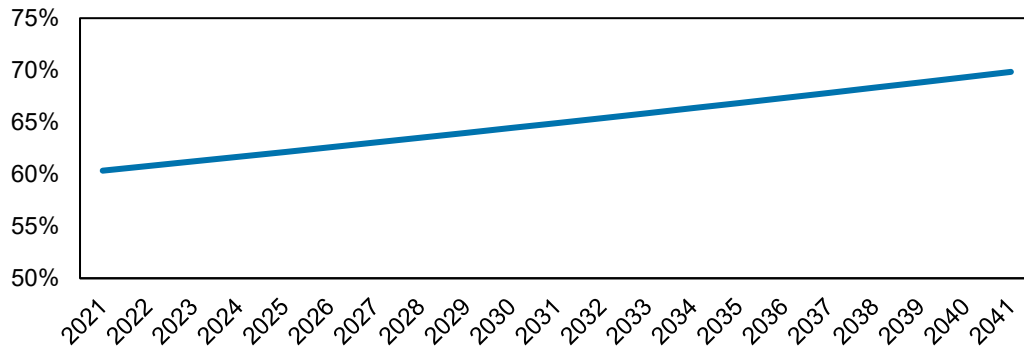
<sup>28</sup> Program on Technology Innovation: Prospects for Large-Scale Production of Hydrogen by Water Electrolysis. Retrieved from <https://www.epri.com/research/products/000000003002014766>

<sup>29</sup> Hydrogen Production Cost from PEM Electrolysis – 2019 (February 2020). Retrieved from [https://www.hydrogen.energy.gov/pdfs/19009\\_h2\\_production\\_cost\\_pem\\_electrolysis\\_2019.pdf](https://www.hydrogen.energy.gov/pdfs/19009_h2_production_cost_pem_electrolysis_2019.pdf)

<sup>30</sup> Assessment of Hydrogen Production Costs from Electrolysis: United States and Europe (June 2020). Retrieved from [https://theicct.org/sites/default/files/icct2020\\_assessment\\_of\\_hydrogen\\_production\\_costs\\_v1.pdf](https://theicct.org/sites/default/files/icct2020_assessment_of_hydrogen_production_costs_v1.pdf)



**Figure 27. FOM Assumptions for PEM Electrolyzer**



**Figure 28. Efficiency Assumptions for PEM Electrolyzer**

**Table 14. Operating and Heat Rate Assumptions for PEM Electrolyzer and H2 CT**

		PEM Electrolyzer	H <sub>2</sub> CT
VOM	\$2021 / MWh	0.5	0.62
FOM	\$2021 / kW-yr	Figure 27	7.33
Heat Rate	Btu / kWh	Figure 28	9,655

Projects whose construction begins by the end of 2032 are eligible for a Production Tax Credit (“PTC”) established by a new Section 45V incentive through the Inflation Reduction Act. This is applied as a discount to the price of hydrogen fuel in AURORA at a rate of \$3/kg<sup>31</sup>. The

<sup>31</sup> While the amount of the credit varies based on the CO<sub>2</sub>e per kg of emissions of the hydrogen production process, the ten-year hydrogen PTC is for up to \$3 per kg (in 2022 dollars and inflated over time).

hydrogen fuel is assumed to have been created using a process that is less than 0.45 kg of CO<sub>2</sub>-eq emissions, qualifying for the full PTC.

Hydrogen is made available in AURORA starting in 2032. This is based on statements by various major power equipment providers committing to provide 100% H<sub>2</sub> CTs by 2030, and a best estimate of when market supply of hydrogen could be reliably available. Hydrogen CT is made available in a block of 240 MW. The maximum annual capacity addition is 480 MW and the cumulative maximum is 720 MW.

Hydrogen resources are offered in AURORA assuming third-party H<sub>2</sub> supply, whereby only the H<sub>2</sub> CT is assumed to be utility owned, thus the modeled costs comprise the capital cost, FOM, VOM of H<sub>2</sub> CT only, and fuel prices represented by the levelized cost of hydrogen. The levelized cost of hydrogen is estimated at \$37.5/MMBtu (real \$2021; before PTC) based on the levelized cost of the PEM electrolyzer plus the electricity costs for the PJM region. The supply of H<sub>2</sub> is assumed to be available on demand. The H<sub>2</sub> CT is then modeled as a standard dispatchable resource, assigned to run when economic on a short-run variable cost basis, subject to any operational constraints.

## **5.6 Long Duration Storage Alternatives**

For the purposes of this IRP, long-duration storage refers to storage that can provide 20 hours of energy. A storage of this duration can be used to balance diurnal variations in renewable energy resources as well as variations in demand from weekends (low demand) to weekdays (high demand). The technology can also provide needed capacity during longer duration weather events, such as cold periods or wind droughts that could last for several days.

The value of long-duration storage is likely to increase as intermittent renewable generation increases in Kentucky Power's service territory and extreme weather events become more frequent. In addition to energy arbitrage, some long-duration technologies can also increase system reliability through the provision of frequency, inertia, voltage, short circuit levels and restoration. Increased deployment of long-duration storage can also dampen price volatility and displace more expensive forms of generation during periods of high electricity demand, contributing to rate stability and customer affordability.

Pumped hydro energy storage is currently the dominant form of long duration storage, however its potential has largely been depleted and is not considered as part of this IRP. Three

alternative long-duration technologies are considered, including pumped thermal energy storage, vanadium flow battery storage, and compressed air energy storage.

Cost and performance assumptions for the IRP are developed based on a compilation of projections from various sources.

### **5.6.1 Pumped Thermal Energy Storage (PTES)**

PTES refers to a group of technologies that use a heat pump and heat engine to convert electricity into stored heat which is in turn converted back to electricity. The heat is stored in a thermal medium, such as molten salt in an insulated tank to reduce heat leakage. When needed, a heat engine takes the heat from the tank to generate steam to drive a turbine to generate electricity.

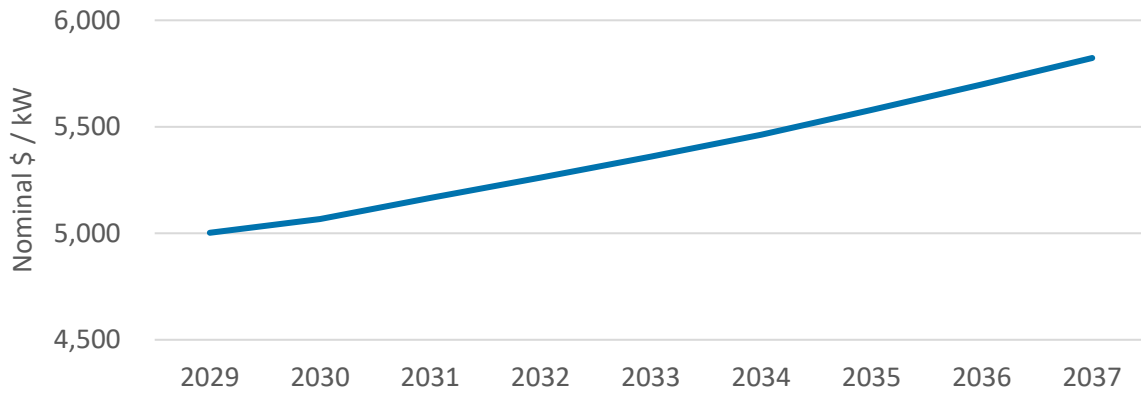
Large insulated thermal tanks have already been widely deployed as part of the development of concentrated solar power plants. Whereas concentrated solar power plants use reflected sunlight to heat the thermal medium, PTES uses the heat pump instead.

Key benefits of PTES include relatively low capital costs, siting flexibility, high energy density, ability to provide inertia, and avoided use of toxic or hazardous chemicals to store energy. However, it has relatively low round-trip efficiency, slower response time, and high self-discharge.

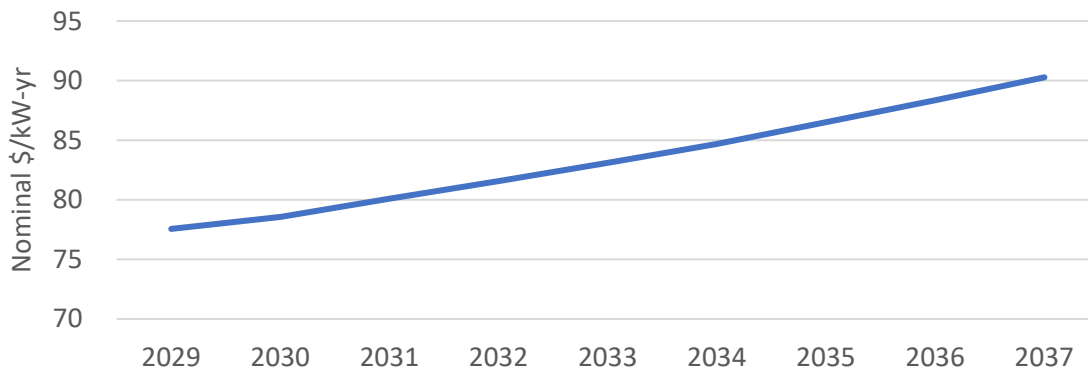
As a turbine-based technology, PTES can provide various ancillary services including inertia, frequency response, regulating reserve and voltage support. However, the response time of PTES is around 10 seconds, which is slower than other storage technologies such as Lithium-Ion battery or vanadium flow battery.

PTES is modeled in AURORA as an energy storage option. AURORA optimizes charging and discharging of the resource against projected PJM hourly electricity prices, taking into account a round-trip efficiency of 65% and a self-discharge rate of 1% per day. PTES is made available in a configuration of 50 MW. The maximum annual capacity addition is 200 MW and the cumulative maximum of 500 MW.

The forecasted PTES overnight capital cost and FOM assumptions are developed based on averages of values reported in a wide range of sources including reports published by NREL, the UK Department for Business, Energy & Industrial Strategy (“BEIS”), and academic studies. The assumptions are shown in Figure 29 and Figure 30 below.



**Figure 29. Capital Cost Assumptions for 20-hour duration PTES**



**Figure 30. FOM Assumptions for 20-hour duration PTES**

Investment Tax Credit (“ITC”) value is assigned to the project by applying a reduction in modeled upfront capital cost at a rate of 30% for projects entering service before the end of 2032. After 2032, ITC tax credits reduce to 22.5%, 15% and 0% of their value in 2033, 2034, and 2035, respectively.<sup>32</sup>

### 5.6.2 Vanadium Flow Battery Storage (VFB)

VFB stores energy in vanadium-based electrolytes that can transfer electrons back and forth between four different oxidation states causing charge and discharge. The electrolytes are dissolved in water and stored in two tanks connected by an iron selective membrane. During a discharge, electrolyte is spent producing DC power which is converted to AC power using converters and controllers. Electrolytic fluid is then regenerated using DC power from the

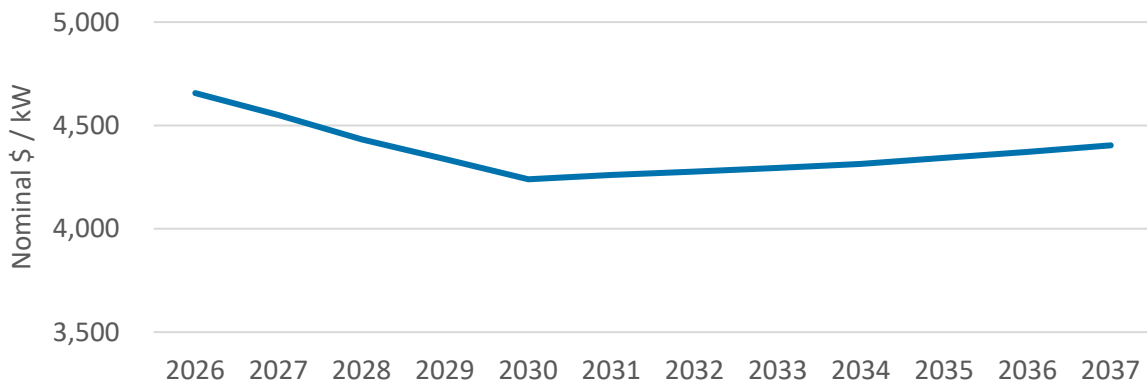
<sup>32</sup> For portfolio modeling, a safe harbor provision is assumed which provides a three-year delay in the effects of declining tax credits as long as adequate construction has commenced for new resources.

converter during a charge. VFB is already being commercially deployed, but the supply chain is not as mature as lithium-ion battery.

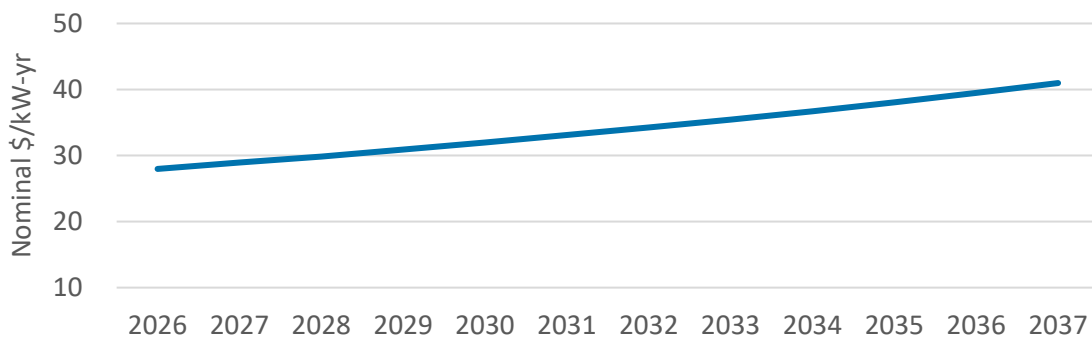
Key benefits of VFB include quick response time of less than 1 second, high round-trip efficiency, siting flexibility, and no degradation during its lifetime. Disadvantages include high operating costs and the use of corrosive electrolyte.

VFB is modeled in AURORA as an energy storage option. AURORA optimizes charging and discharging of the resource against projected PJM hourly electricity prices, considering a round-trip efficiency of 70% and a self-discharge rate of 1% per day. VFB is made available in a configuration of 50 MW. The maximum annual capacity addition is 200 MW and the cumulative maximum is 500 MW. The first available year for operation is 2026.

The forecasted VFB overnight capital cost and FOM assumptions are developed based on an average of values reported in wide range of sources including reports published by EIA, PNNL, BEIS, and academic studies. These assumptions are shown in Figure 31 and Figure 32 below.



**Figure 31. Capital Cost Assumptions for 20-hour duration VFB**



**Figure 32. FOM Assumptions for 20-hour duration VFB**



Investment Tax Credit (“ITC”) value is assigned to the project by applying a reduction in modeled upfront capital cost at a rate of 30% for projects entering service before the end of 2032. After 2032, ITC tax credits reduce to 22.5%, 15% and 0% of their value in 2033, 2034, and 2035, respectively.<sup>33</sup>

### **5.6.3 Compressed Air Energy Storage (CAES)**

CAES is using compressed air to generate electricity. First, electricity is used to drive a compressor to pump air into a pressurized reservoir, e.g., salt cavern, abandoned natural gas storage facilities, or depleted oil and gas fields. The compressor generates heat which is captured by a heat exchanger and stored in a separate thermal energy storage device. To discharge, the compressed air in the reservoir is combined with the stored heat to create hot high-pressure air which expands in a turbine to generate electricity.

Existing CAES projects are based on a diabatic process where the heat generated by the compressor is released into the atmosphere instead of being stored. As a result, an alternative source of heat, often fossil fuel, is required during the expansion stage, leading to a lower round-trip efficiency.

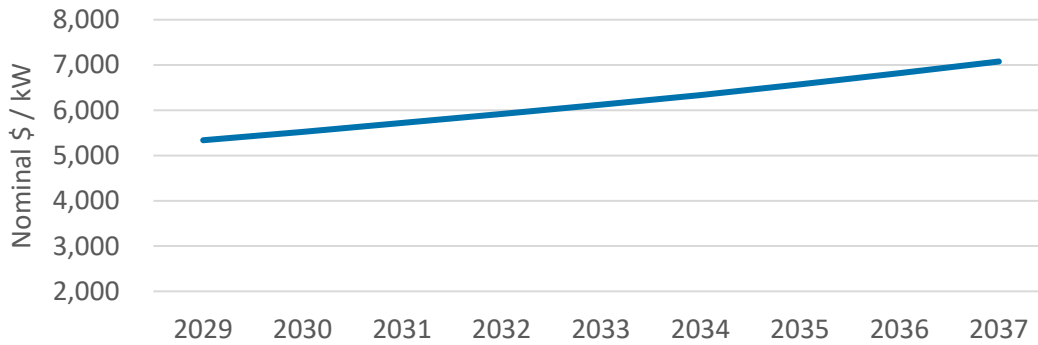
Key advantages of CAES include avoided use of toxic or hazardous chemicals, relatively mature and well understood component parts of the technology, and the opportunity to revive abandoned energy infrastructures such as abandoned natural gas storage facilities. Disadvantages include siting limitations and relatively low round-trip efficiency. CAES also has relatively longer response time of about a minute, which is slower than other technologies in this section.

CAES is modeled in AURORA as an energy storage option with a round trip efficiency of 52% and a self-discharge rate of 0.05% per day. AURORA optimizes charging and discharging of CAES based on projected PJM hourly electricity prices. CAES is made available in a configuration of 50 MW. The maximum annual capacity addition is 200 MW and the cumulative maximum is 500 MW. The first available for operation is 2029.

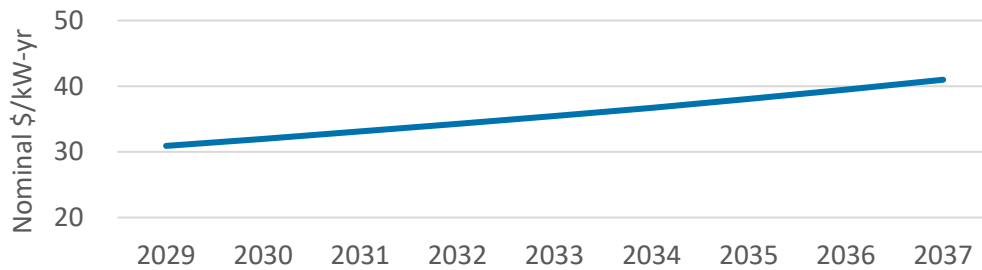
The forecasted CAES overnight capital cost is based on a survey of recent project development activity, whereas FOM is based on an average of a wide range of sources including

<sup>33</sup> For portfolio modeling, a safe harbor provision is assumed which provides a three-year delay in the effects of declining tax credits as long as adequate construction has commenced for new resources.

reports from DOE, PNNL, BEIS, and academic studies. These assumptions are shown in Figure 33 and Figure 34 below.



**Figure 33. Capital Cost Assumptions for CAES**



**Figure 34. FOM Assumptions for CAES**

Investment Tax Credit (“ITC”) value is assigned to the project by applying a reduction in modeled upfront capital cost at a rate of 30% for projects entering service before the end of 2032. After 2032, ITC tax credits reduce to 22.5%, 15% and 0% of their value in 2033, 2034, and 2035, respectively.<sup>34</sup>

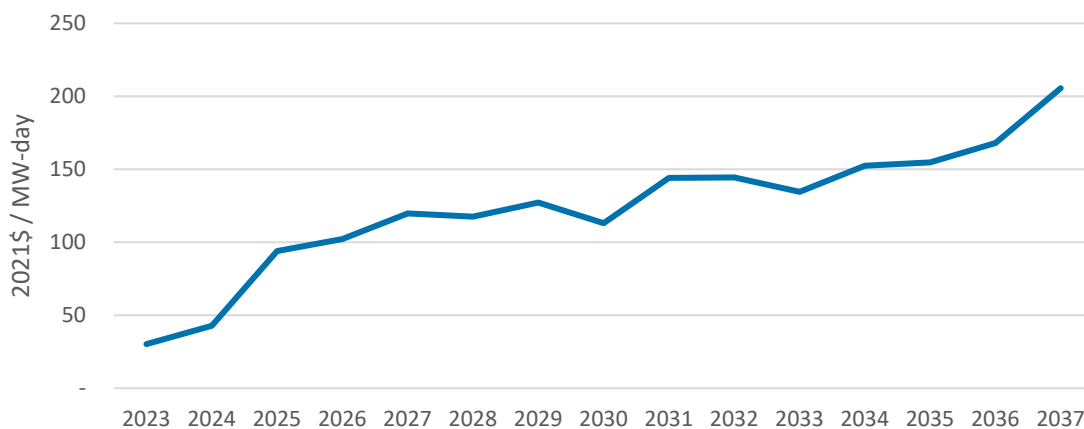
### 5.7 Short-Term Market Purchase (STMP)

Short-Term Market Purchase alternative resources were made available to the model for selection during the development of the optimal plans. This resource is assumed to have no energy associated with it and a contract term of one year. The cost of these purchases is based on an outlook for price levels in the PJM Reliability Pricing Mechanism, shown in Figure 35.<sup>35</sup> This

<sup>34</sup> For portfolio modeling, a safe harbor provision is assumed which provides a three-year delay in the effects of declining tax credits as long as adequate construction has commenced for new resources.

<sup>35</sup> Prices reflect PJM RTO zone and are assessed as the net avoidable going forward cost of the marginal unit of supply required to satisfy the PJM Variable Resource Requirement Curve in each annual auction.

price level represents the opportunity cost of capacity in the region which Kentucky Power could transact at. The purpose of adding this resource was to allow the model an option to include a short-term capacity commitment in place of a long-term capacity resource to mitigate abrupt capacity shortfalls. This resource is available in the model through 2025 and in 2028 up to 500 MW per year, and in 2026, 2027, 2030, 2031, 2033, 2034, 2036, and 2037 up to 235 MW per year. Limits were established to allow this resource to be used as a capacity bridge while the Company might work to acquire firm resources and to align with an approximate size of a NGCT resource. Through the resources acquisition process, the Company may discover this type of resource is available other than assumed in this IRP and those options will be evaluated at that time.



**Figure 35. PJM Capacity Price Outlook**

## 5.8 Optimization of Supply-Side Resources

Each supply-side resource is offered into the AURORA model on an equivalent basis. The combination of costs and operating characteristics determines the competitiveness of each resource within the context of demand and other system or portfolio parameters. The AURORA model selects resources to serve the adequacy position in the most economic combination, regardless of whether the resource is on the demand- or supply-side.

## 5.9 KPSC Staff Supply-Side Modeling Recommendations Addressed

In its report on Kentucky Power’s 2019 Integrated Resource Plan the Commission Staff recommended that the Company address certain items in its next IRP report (this report). The following items pertaining to Supply-Side Modeling are restated from the Staff report and addressed below:

- 1. Kentucky Power should provide a detailed cost benefit study demonstrating why it should continue to participate in PJM as an FRR versus RPM, and discussing the advantages of remaining an FRR company.**

While an analysis to undertake a study to determine if there are customer benefits to be gained from leaving PJM or other options is anticipated following a presumed completed transaction for Kentucky Power to Liberty, the Company performed an indicative analysis on the continued participation as an FRR versus RPM entity. In this analysis, the conclusion was that with the Preferred Plan new resource additions in 2029, it would be favorable for Kentucky Power to remain as an FRR entity within PJM. The benefits of an FRR entity to Kentucky Power ratepayers include: (1) a lower PJM Capacity Obligation by approximately 13%; (2) an option to use additional capacity length to support potential unit downgrades or the sale of the additional capacity beyond the Forecast Pool Requirements (FPR) and the obligated 3% holdback; and (3) the opportunity to mitigate PJM capacity performance penalties in the event the Company might find itself in a situation unable to respond to a capacity delivery need during a PJM event. The analysis can be reviewed in Appendix Exhibit J.

- 2. Kentucky Power should, if not already included in the prior study, conduct a separate FRR versus RPM cost benefit study similar to the first, except that the analyses should explicitly assume the Mitchell station will continue generating beyond 2028 and then assume the Mitchell station will retire in 2028.**

The analysis described in item 1 above excluded the Mitchell station as a resource to align with the assumptions for existing resources in this IRP.

- 3. Kentucky Power should explicitly discuss how and demonstrate that its winter capacity requirements are being satisfied over the forecast horizon. The discussion should include the role the PCA plays in the satisfaction of Kentucky Power's seasonal capacity and energy requirements.**

Kentucky Power has modeled portfolio adequacy in both the summer and winter seasons for this integrated resource planning process. Kentucky Power considered the results of all the portfolios modeled to identify a "least regrets" Preferred Plan that provides the Company optionality for additional resources as needed. Please see sections 7.2.2 and 7.2.3.

- 4. Kentucky Power should explicitly describe its evaluation of the inclusion of Kentucky base generation merchant plants and how those costs compare to other alternate supply-side resources.**

All resources in Kentucky and PJM were modeled in the market evaluation of this IRP. When modeling new supply-side resources, Kentucky Power is modeling generic resources in AURORA by fuel source as outlined in Section 5.0.

- 5. Kentucky Power should explain the costs and benefits of acquiring renewables through purchased power contracts or through the construction of the facility itself generally and specifically in support of any renewable capacity additions.**

The costs and benefits of acquiring renewables through purchased power contracts versus through owned construction will be fully evaluated during the RFP and CPCN process. IRP modeling is a non-location specific analysis of generic resources. For the purposes of this IRP, Kentucky Power included two different pricing tiers of solar and wind resources in AURORA to account for the potential variability in resource costs. Further analysis and cost justifications will be completed as project development advances.

- 6. Kentucky Power should explain the costs associated with upgrading the transmission system so to accommodate any renewable generation capacity.**

The addition of new generation capacity requires significant analysis at the specific location. For modeling purposes, Kentucky Power modeled generic interconnection costs for resource evaluation based on a recent LBL study<sup>36</sup>. Please see Sections 3.6.1, 3.6.2, and 3.6.5.

- 7. Kentucky Power should model the impact to the Mitchell Plant due to the publication of the final ELG rule along with any impacts to Kentucky Power's preferred supply side plan to meet its PJM reserve margin requirements and its anticipated winter capacity and demand requirements.**

The Company did not model this as it is no longer an assumed resource in the portfolio after 2027.

- 8. Kentucky Power should model scenarios of differing renewable constraints and no constraints on the size or addition.**

<sup>36</sup> [https://eta-publications.lbl.gov/sites/default/files/berkeley\\_lab\\_2023.1.12- pjm\\_interconnection\\_costs.pdf](https://eta-publications.lbl.gov/sites/default/files/berkeley_lab_2023.1.12- pjm_interconnection_costs.pdf)

Kentucky Power identified renewable build limits that were informed by resources in the PJM queue. For renewable resources such as wind and solar, annual limits were not generally demonstrated as binding in the model. The Company maintains the benefits of running a model without constraints would not provide any further insights.

**9. If Kentucky Power has not pursued any of the preferred plan options or has pursued another option by the next IRP, provide a detailed explanation of why and a detailed explanation and modeling of any alternate course taken.**

Kentucky Power has taken actions on the three-year action plan included in the 2019 IRP including the initiation of a Market Potential Study to examine opportunities to increase cost-effective levels of EE, pursuing cost-effective market capacity purchases and solar resources.

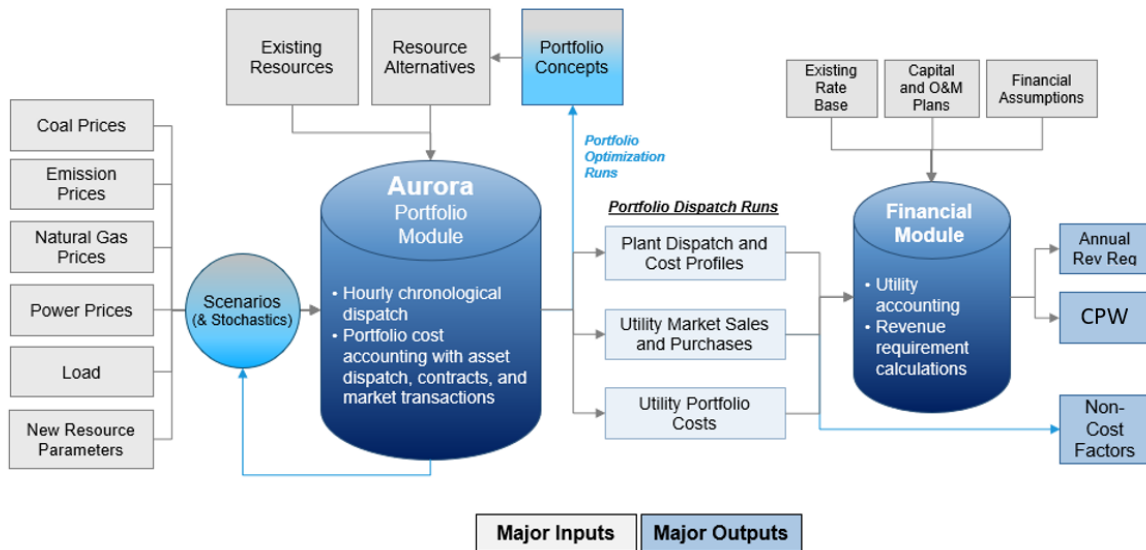
## **6.0 Planning Scenarios and Uncertainties**

### **6.1 Introduction**

Rate stability and maintaining reliability are two of Kentucky Power’s objectives for the 2022 IRP. In the context of future uncertainties, this section explains how the 2022 IRP analysis captures the key uncertainties and planning risks facing the Kentucky Power portfolio and evaluates their impact on system reliability and costs to customers. The analysis informs the selection of candidate resources that balance customer affordability with rate stability, maintain reliability, and provide positive local impacts to Kentucky Power’s customers. Kentucky Power evaluated uncertainty and risk using two different methods as part of the 2022 IRP.

The first method is based on developing a set of five market scenarios that test plausible, but materially different, long-term views of fundamental external market conditions such as commodity prices, customer preferences, policy requirements, and transmission availability. In addition to the Reference scenario, which is intended to reflect a “most likely” outcome, Kentucky Power developed four additional market scenarios that test the boundaries of expected long-term outcomes. Each portfolio was then stress-tested under all five market scenarios.

Each of these market scenarios is supported by a set of assumptions describing the fundamental inputs from the Company’s Fundamental Forecast described in Section 6.2 that combine to reflect a specific theme or “what-if” narrative. The key categories of assumptions used to develop the 2022 IRP market scenarios include: load, fuel prices (natural gas prices and coal), CO<sub>2</sub> prices, reserve requirements by season, supply-side technology costs and performance inputs. All five scenarios in the 2022 IRP were modeled using AURORA to evaluate the evolution of generation capacity and prices across PJM under these different sets of fundamental conditions. This process is illustrated in Figure 36.



**Figure 36. 2022 IRP Modeling Framework**

The second method subjected the 2022 IRP portfolios to a large number of randomly drawn market simulations as part of the stochastic analysis. This means that each portfolio was dispatched against a wide range of market outcomes that combine volatility of power prices and natural gas prices with volatility of generator output to observe the impact on customer costs. In some simulations, these factors combine into severe operating conditions similar to those observed during extreme weather. Kentucky Power analyzes the portfolio costs under these severe outcomes to assess how much higher customers costs are likely to be under adverse or extreme market conditions, and how exposed customers are to higher costs under each portfolio.

## 6.2 The Fundamental Market Forecast

CRA produced a fundamental forecast of key market assumptions including prices for natural gas, coal, and CO<sub>2</sub> based on information from EIA and CRA's market models.

The primary tool used for the development of the North American long-term energy market pricing forecasts is the AURORA energy market simulation model. The AURORA model iteratively generates zonal, but not company-specific, long-term capacity expansion plans, annual energy dispatch, fuel burns, and emission totals from inputs including fuel, load, emissions, and capital costs.

The AURORA model is widely used by utilities for integrated resource and transmission planning, power cost analysis and detailed generator evaluation. The database includes approximately 25,000 electric generating facilities in the contiguous United States, Canada, and



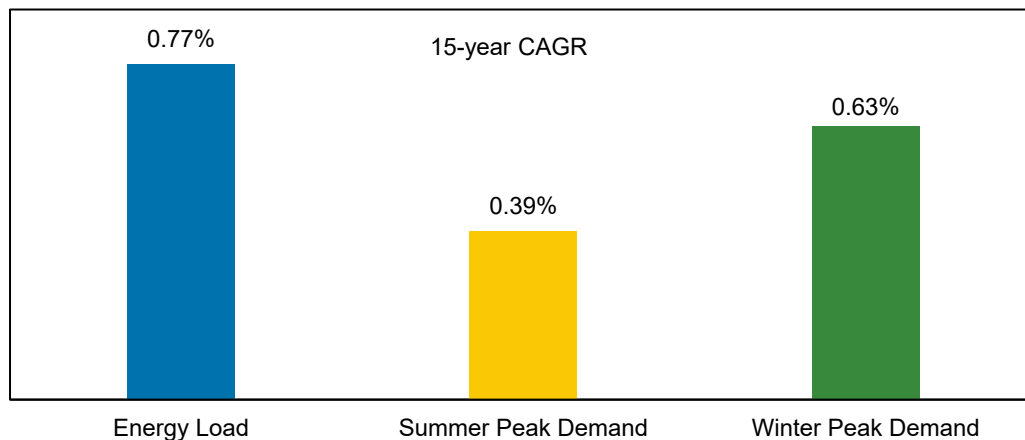
Baja Mexico. These generating facilities include wind, solar, biomass, nuclear, coal, natural gas, and oil. A licensed online data provider, ABB Velocity Suite, provides up-to-date information on markets, entities and transactions along with the operating characteristics of each generating facility, which are subsequently exported to the AURORA model.

### 6.3 Reference Scenario Market Drivers and Assumptions

The Reference scenario represents an expected view of how load growth, commodity prices, technology development, and policy will evolve over time and contribute to the market conditions under which Kentucky Power will operate.

#### 6.3.1 Reference Scenario Load

Under the Reference scenario, demand for energy in PJM is expected to grow by 0.8% per year over the 15-year forecast period (2023-2037). Peak summer demand is expected to grow at a rate of 0.4% per year, while peak winter demand grows more quickly at 0.6% per year.<sup>37</sup> These figures are illustrated in Figure 37.



**Figure 37. Reference Case PJM Energy and Seasonal Peak Demand Growth Rates (2023-2037)**

#### 6.3.2 Reference Scenario Fuel & CO<sub>2</sub> Prices

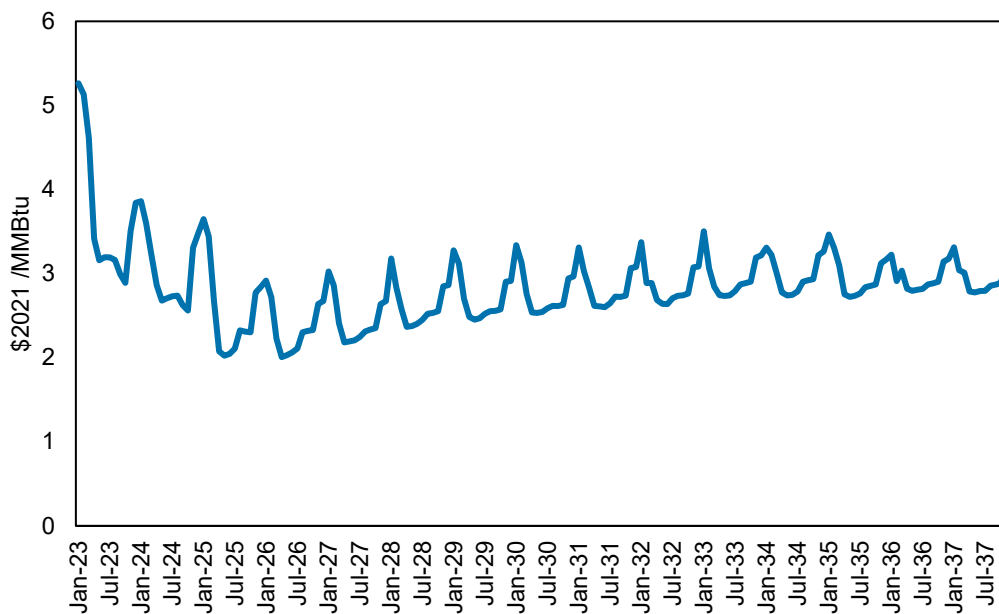
The commodity price inputs to the Reference scenario reflect the “base” view for natural gas, coal, and CO<sub>2</sub> emissions pricing. For the 2022 IRP Reference scenario, these “base”

<sup>37</sup> Based on 2022 PJM Load Forecast, <https://pjm.com/-/media/library/reports-notices/load-forecast/2022-load-report.ashx>

commodity price outlooks were used to represent the expected conditions for the broader PJM market.

### 6.3.2.1 Natural Gas Prices

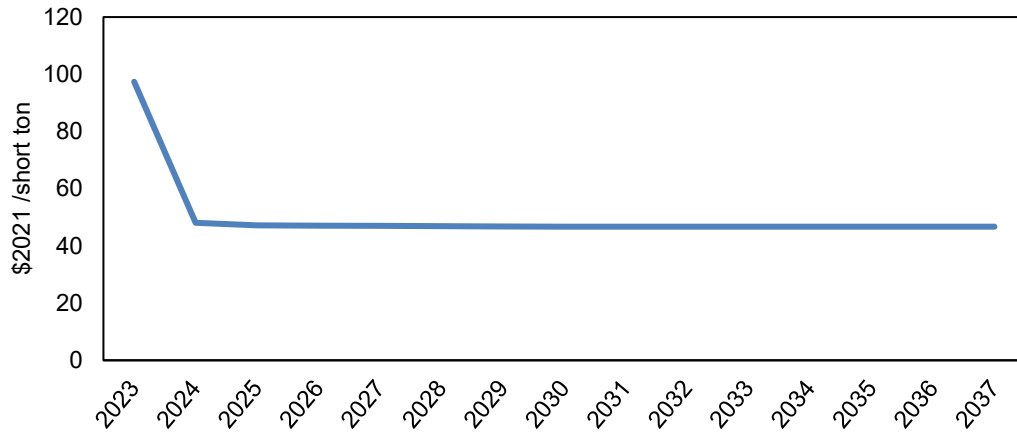
Figure 38 illustrates the monthly Columbia Gas Transmission (TCO Pool) price forecast that was used for the PJM market modeling in the Reference scenario. This pricing point was selected for the report because it reflects the point used to supply Kentucky Power’s units and is largely representative of gas prices in the region. Under the Reference scenario, prices fall from current levels through 2026 in real terms, after which annual growth in prices is modest for the remainder of the forecast period.



**Figure 38. TCO Pool Natural Gas Prices (real \$ / MMBtu)**

### 6.3.2.2 Coal Prices

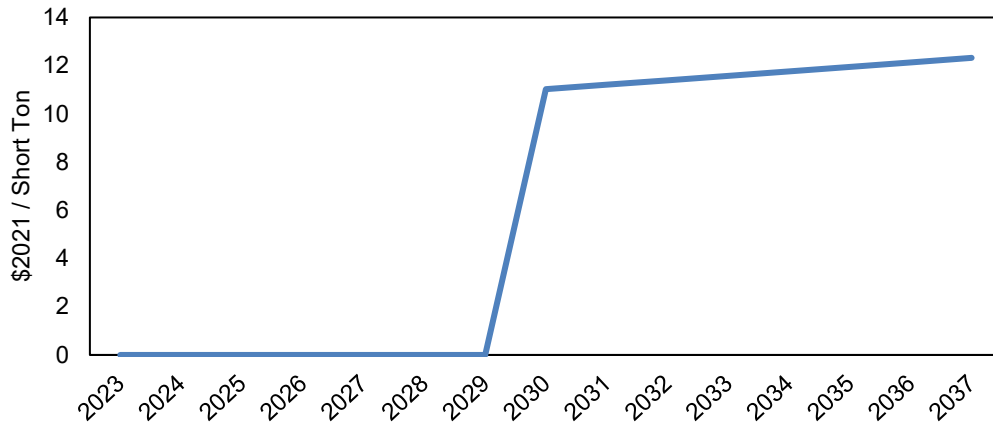
Figure 39 below illustrates the annual forecast of Central Appalachian Basin (“CAPP”) coal prices at the point of purchase (i.e., exclusive of transportation costs) that were used in the Reference scenario. While some coal-fired units in PJM burn coals other than CAPP, this price reflects the outlook for the type of coal burned at Kentucky Power’s solid fuel facilities. In the Reference scenario, similar to natural gas, the CAPP forecast exhibits a shorter-term decline in prices from current levels then remains largely consistent through the end of the forecast horizon to 2037.



**Figure 39. CAPP Coal Prices (real \$ / short ton, FOB origin)**

### 6.3.2.3 CO<sub>2</sub> Prices

Kentucky Power assumes that policymakers enact a moderate CO<sub>2</sub> price starting in 2030 as part of the 2022 IRP Reference scenario. This price is assumed to start around \$11/Ton (in real \$2021) and rises modestly throughout the forecast period, as illustrated in Figure 40. The CO<sub>2</sub> price increases the dispatch cost of all fossil-fired units in PJM based on the modeled emissions of the unit that, in turn, is a function of each unit’s heat rate and the carbon content of the fuel it consumes.



**Figure 40. Moderate CO<sub>2</sub> Price Forecast (\$2021 / Short Ton)**

### 6.3.3 Reference Scenario Reserve Requirements

As discussed in Section 3.0, PJM Installed Reserve Margin (IRM) is 14.7% Adjusted for the PJM wide average EFORd, the Forecast Pool Requirement (FPR) planning reserve requirement modeled for the Reference scenario is approximately 9%.

While the planning reserve margin percentage is not assumed to change over the course of the forecast period in the Reference scenario, Kentucky Power does assume changes in the capacity contribution of different technology types, namely solar PV, wind, and 4-hour battery storage to reflect how incremental additions of these technologies are expected to shift peak load and reduce the Effective Load Carrying Capacity (“ELCC”) of these resources. Kentucky Power relied upon studies performed by PJM to estimate the change in ELCC over time as penetration of these resources increases in the PJM footprint.<sup>38</sup>

Increments of certain new resources, including some renewables and 4-hour battery storage, provide less additional capacity value as more of the resource is added to the system. That is, the amount of solar already installed on the system impacts how much ELCC the next increment provides.

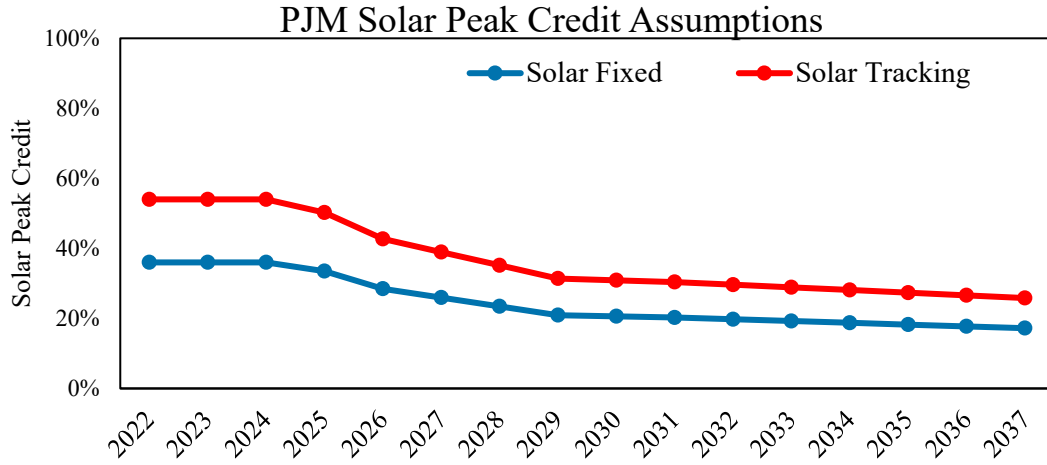
Figure 41 through Figure 43 summarizes the ELCC views for select technologies used in the 2022 IRP scenarios. This figure summarizes the ELCC value awarded by year in the PJM market. The assumed ELCC values were informed by studies performed by PJM.<sup>39, 40, 41</sup>

<sup>38</sup> December 2021 Effective Load Carrying Capability (ELCC) Report. PJM. December 2021. <<https://www.pjm.com/-/media/planning/res-adeq/elcc/elcc-report-december-2021.ashx>>

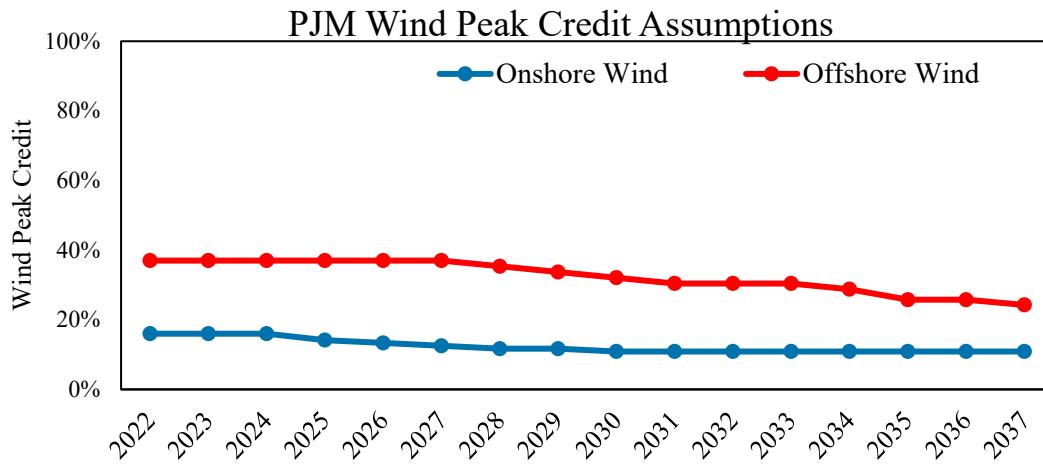
<sup>39</sup> December 2021 Effective Load Carrying Capability (ELCC) Report. PJM. December 2021. <<https://www.pjm.com/-/media/planning/res-adeq/elcc/elcc-report-december-2021.ashx>>

<sup>40</sup> PJM ELCC Class Ratings and Accredited UCAP values. 2024/2025 BRA ELCC Class Ratings. December 2021. <<https://www.pjm.com/-/media/planning/res-adeq/elcc/elcc-class-ratings-for-2024-2025.ashx>>

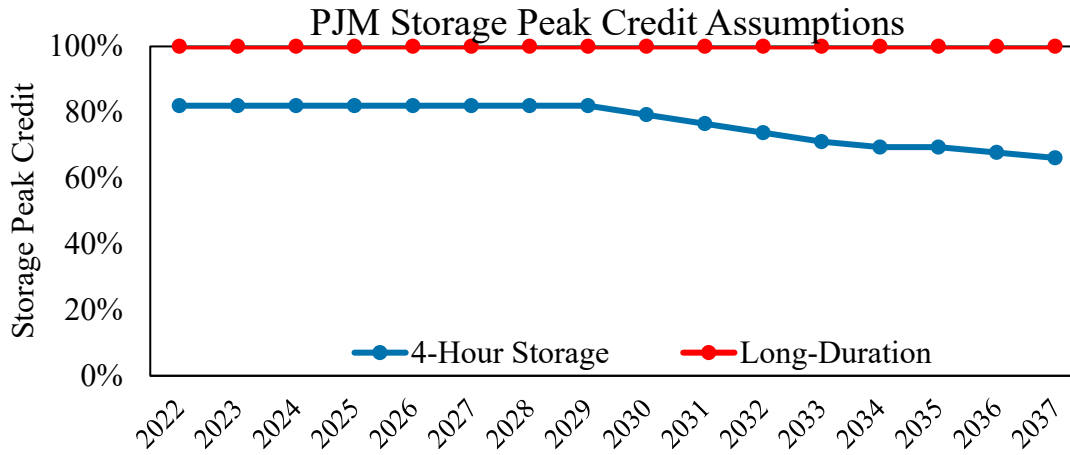
<sup>41</sup> The ELCC value awarded by year across scenarios are discussed in Section 7.5.2



**Figure 41. ELCC Assumptions for Solar Resources by Year**



**Figure 42. ELCC Assumptions for Wind Resources by Year**



**Figure 43. ELCC Assumptions for Storage Resources by Year**

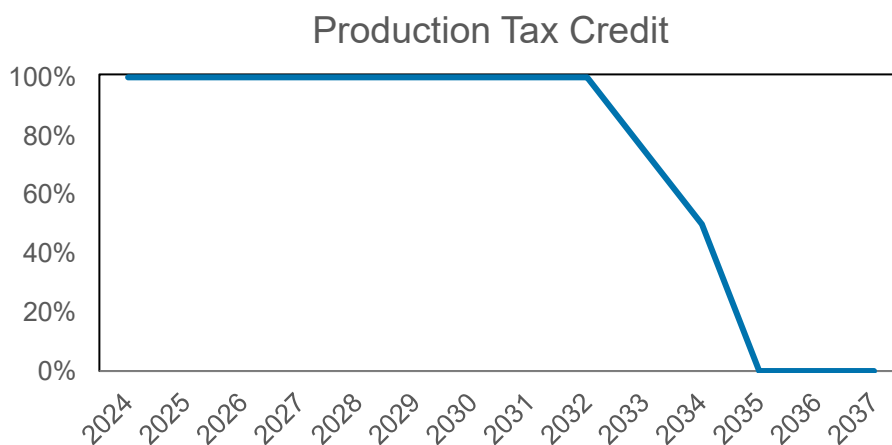
### 6.3.4 Reference Scenario Technology Assumptions

In general, Kentucky Power relied on EIA’s 2022 AEO as the starting point for the technology cost and performance assumptions for new utility scale generation in the PJM footprint. Reference case changes to technology cost and performance over time are based on the moderate case of the 2022 National Renewable Energy Laboratory’s (“NREL”) annual technology baseline (“ATB”) report.<sup>42</sup> Kentucky Power assumes that in the Reference scenarios, federal tax credits for new renewable generation and grid energy storage reflect current law and the schedules enacted in the Inflation Reduction Act (IRA) of 2022.

#### 6.3.4.1 Federal Tax Credits for Renewable Energy

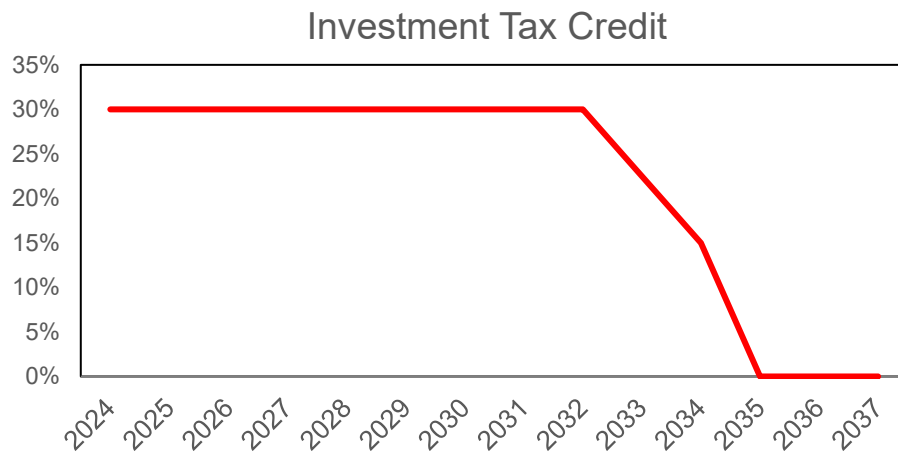
The Inflation Reduction Act of 2022 (“IRA”) provides federal tax credits for clean energy, energy storage, clean hydrogen, and CCS. Kentucky Power modeled the IRA as part of the 2022 IRP.

The primary provisions under the IRA are made available through the production tax credit (“PTC”) and investment tax credit (“ITC”). These benefits are adopted for all scenarios. Figure 44 below illustrates how these benefits are assumed to decline over time. The PTC value in Figure 44 represents the multiplier applied to the statutorily defined value of the credit<sup>43</sup> (e.g., in 2024 it is assumed that new wind and solar units will receive 100% of the defined credit value). By contrast, the ITC value represents the percent of capital cost that can be recovered through the credit (e.g., in 2024 it is assumed that new storage will receive a 30% rebate on capital costs).



<sup>42</sup> NREL Electricity Annual Technology Baseline (ATB) 2022. <<https://atb.nrel.gov/electricity/2022/data>>

<sup>43</sup> \$25/MWh, real \$2021 dollars; 10 year tax credit.



**Figure 44. Federal Tax Credit Assumptions Used in the 2022 IRP (2024-2037)**

#### 6.4 IRP Scenario Inputs

Kentucky Power evaluated four market scenarios, in addition to the Reference scenario, that describe plausible futures that may develop over time and result in a materially different set of market conditions under which Kentucky Power will need to serve customer needs. Each scenario is driven by a set of thematically oriented fundamental market assumptions. These scenarios are used to test the boundaries of future market conditions. Kentucky Power dispatched the 2022 IRP portfolios across the scenarios. The themes tested within and across scenarios reflect the priorities and key risks identified by Kentucky Power and its stakeholders and allow for a no or least regrets evaluation of options. Figure 45 summarizes the key drivers of each scenario in a matrix.

##### ***Reference High-Cost (“REF-HC”)***

Under the REF-HC case, the PJM market continues to evolve based on the Reference outlook for load growth, commodity prices, and regulatory pressure. New unit costs for solar, wind, and storage remain elevated, relative to the Reference scenario, as short-term shocks to the supply chain are not fully resolved over the forecast period.

##### ***Clean Energy Technology Advancement (“CETA”)***

The CETA scenario is one of two in the 2022 IRP that test how an aggressive policy shift to decarbonize the electric sector could manifest in future market conditions. Under the CETA scenario, GHG reductions are achieved primarily through increased incentives for deployment of clean supply- and demand-side technologies. For example, under the CETA scenario Kentucky Power assumes that investments in R&D drive cost improvements beyond the Reference scenario

for new wind, solar, and storage units. The CETA case also incorporates more aggressive end-use electrification than the Reference scenario resulting in greater penetration of EVs and other technologies. This results in a higher load forecast and a shift in customer demand patterns.

***Enhanced Carbon Regulation (“ECR”)***

The ECR case is the other case that tests an aggressive policy shift to decarbonize the electric sector. Unlike the CETA case, reductions under the ECR scenario are achieved through a combination of actions that result in higher costs for emitting generation and restrictions on the future development of fossil fuels. Under the ECR scenario, carbon emissions are regulated through a federal cap-and-trade program that results in a significant CO<sub>2</sub> price and higher natural gas costs, relative to the Reference scenario.

***No Carbon Regulation (“NCR”)***

Under the NCR case, natural gas prices remain low and no federal limits on carbon emissions are enacted during the forecast period. The resulting market conditions are similar to recent history and tend to be more favorable for natural gas and coal resources relative to the Reference scenario. The NCR case allows Kentucky Power to stress test portfolios that rely more heavily on new renewable generation under conditions that are generally more favorable to gas-fired units and evaluate the impact on expected customer costs.

Scenario Concept	Load	Natural Gas	Carbon	New Resource Cost
Reference	Base	Base	Moderate	Base
Reference High-Cost (REF-HC)	Base	Base	Moderate	Slower Decline
Clean Energy Technology Advancement (CETA)	High	Base	Moderate	Faster Decline
Enhanced Carbon Regulation (ECR)	Low	High	High	Faster Decline
No Carbon Regulation (NCR)	Base	Low	No Price	Base

**Figure 45. 2022 IRP Scenario Assumption Matrix**



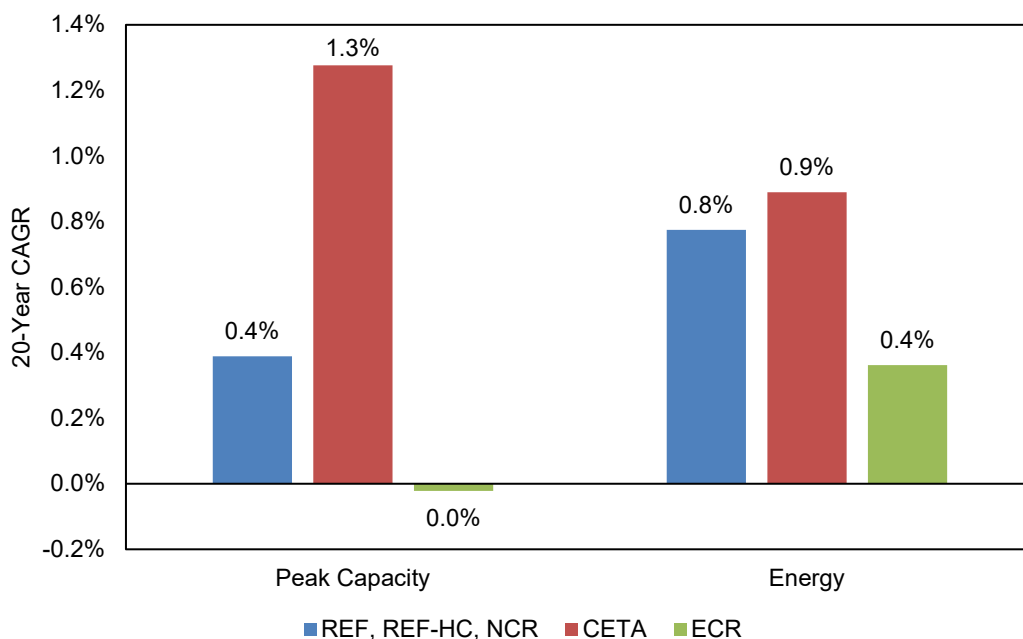
### 6.4.1 Scenario Load

Two of the 2022 IRP scenarios, the REF-HC and NCR scenarios, use the same base case load forecast as the Reference scenario above, while the CETA and ECR cases flex customer load higher and lower (respectively) to reflect changes in the broader economy.

Under the CETA scenario, load grows more quickly than under the Reference scenario driven by increased economic growth, deployment of electric vehicles, and greater building electrification. Overall annual peak growth for the PJM market in the CETA scenario is 1.3% per year, or approximately 0.9% higher than the Reference scenario, and annual energy growth is 0.9% per year. The accelerated adoption of EVs and other end-use electrification applications also impact the load shape.

Under the ECR scenario, overall system wide energy load levels in PJM fall over time driven by lower economic growth and adoption of distributed technologies by Kentucky Power’s customers. Under this case, annual energy growth in PJM is forecast at 0.4% per year, or approximately 0.4% lower than the 20-year forecast of load growth from the Reference scenario, while peak capacity exhibits very little growth.

Changes to annual load across the PJM market are illustrated in Figure 46, below.



**Figure 46. PJM Load Growth 20-Year CAGR and Comparison with Reference Scenario**

## **6.4.2 Scenario Fuel & CO<sub>2</sub> Prices**

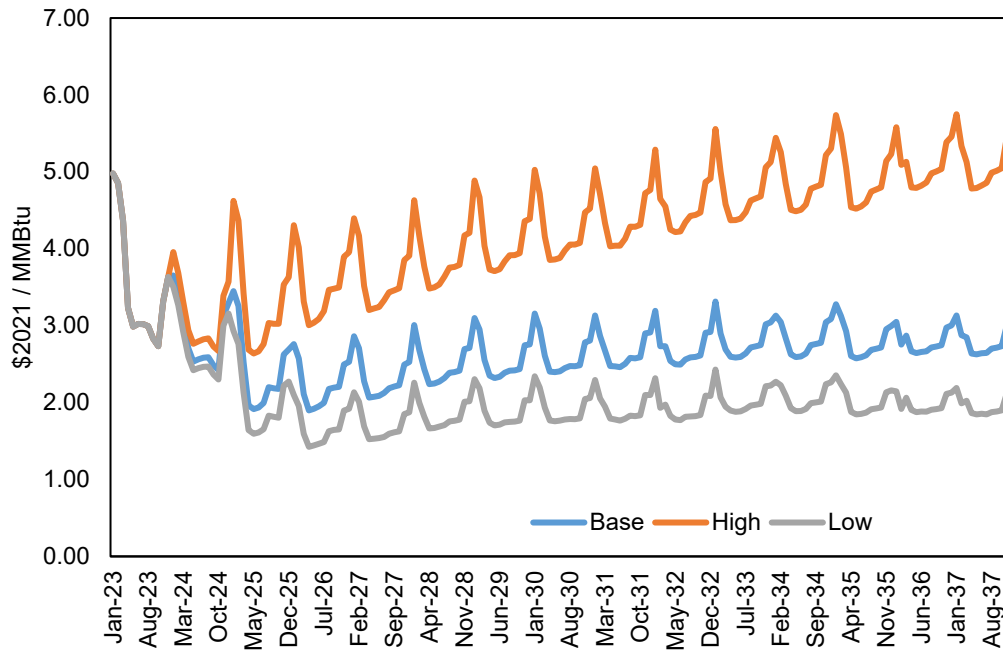
Where the Reference scenario reflects an expected outlook for commodity prices and other fundamental market drivers, there are a number of factors that may result in market conditions that produce higher or lower natural gas and CO<sub>2</sub> prices.

### **6.4.2.1 Natural Gas Prices**

The same natural gas price view relied upon for the Reference scenario is also used in the CETA and the REF-HC scenarios when deriving the power price forecast for the PJM market. Under the ECR and NCR scenarios, natural gas prices are flexed upwards and downwards (respectively) reflecting different views of supply-side conditions for producers.

Under the ECR case, natural gas prices are assumed to be higher than in the Reference scenario despite lower overall demand. In this scenario, policymakers are enacting stricter federal regulations in an effort to reduce GHG emissions economy-wide. This results in a higher CO<sub>2</sub> price sooner, limits on access to natural gas supply (e.g., drilling bans), and higher production costs due to higher CO<sub>2</sub> prices and stricter environmental requirements. The result is that the natural gas price forecast is approximately \$1.50/MMBtu higher than in the Reference scenario over the course of the forecast period. Under the NCR case, policymakers place less pressure on economy-wide GHG emissions than under the Reference scenario and natural gas prices are approximately \$0.60/MMBtu lower.

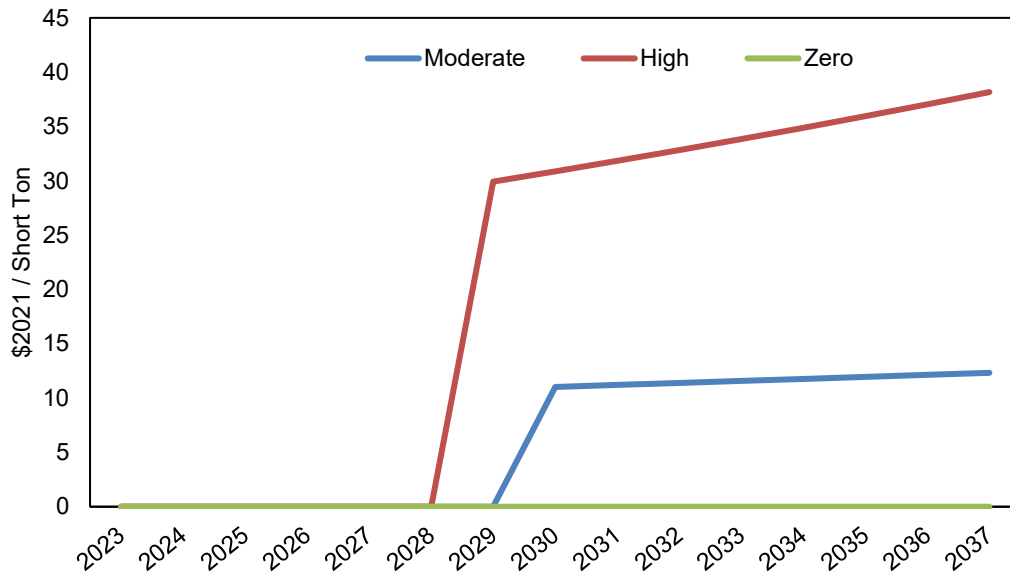
Figure 47 below compares the high and low gas price forecasts relied upon in the ECR and NCR cases to the base view used for the remaining scenarios.



**Figure 47. High and Low TCO Pool Natural Gas Price Forecasts (real \$ / MMBtu)**

#### 6.4.2.2 CO<sub>2</sub> Prices

Under the Reference scenario policymakers enact measures that put moderate pressure on the economy to reduce greenhouse gas emissions in the form of a carbon price starting in 2030. Both the CETA and REF-HC scenarios use the same trajectory for CO<sub>2</sub> prices. However, there is the potential that future emissions reduction policy could occur sooner than expected and that the level of policy pressure could be materially higher, as represented in the high CO<sub>2</sub> price forecast used in the ECR scenario. Under this scenario, a national cap on carbon is instituted starting in 2029 with prices starting at approximately \$30/Ton (real \$2021) and rising to around \$43/Ton by 2037. Under the NCR scenario, policymakers do not enact a price on CO<sub>2</sub>, and prices are assumed to be zero throughout the forecast period. Figure 48 below illustrates how the high and zero CO<sub>2</sub> prices in the ECR and NCR scenarios (respectively) compare to the moderate CO<sub>2</sub> price view used in the remaining three scenarios.



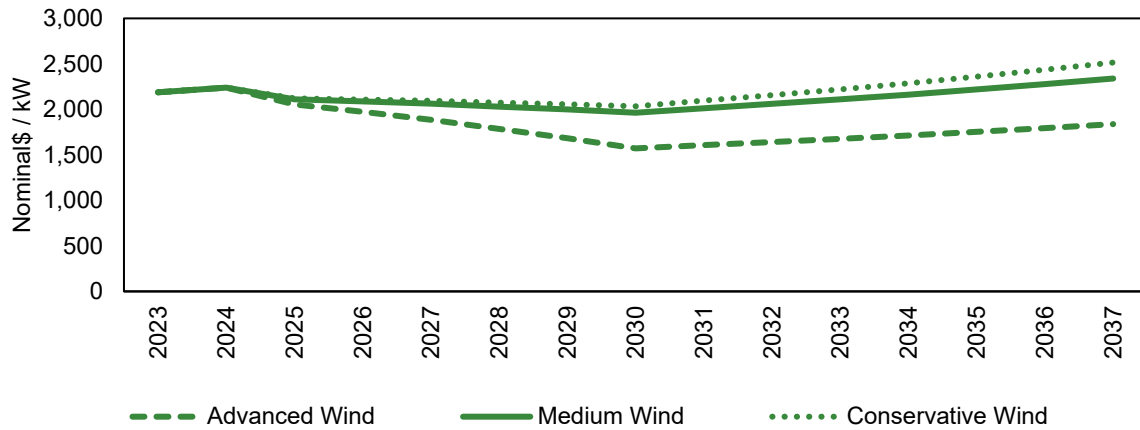
**Figure 48. High and Zero CO<sub>2</sub> Price Forecasts (\$2021 / Short Ton)**

### 6.4.3 Scenario Technology Cost Assumptions

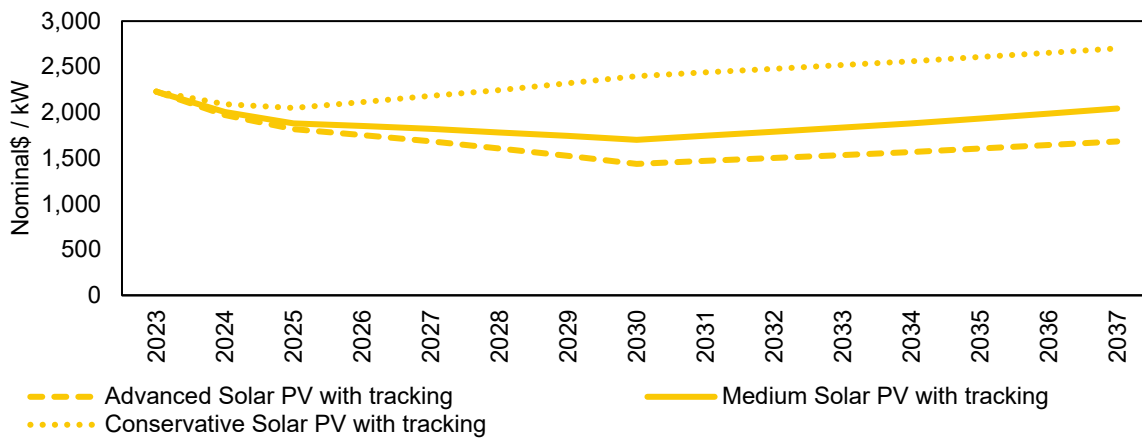
Kentucky Power’s 2022 IRP scenario flexed the expected capital cost as part of the 2022 IRP scenarios.

#### 6.4.3.1 Technology Capital Costs

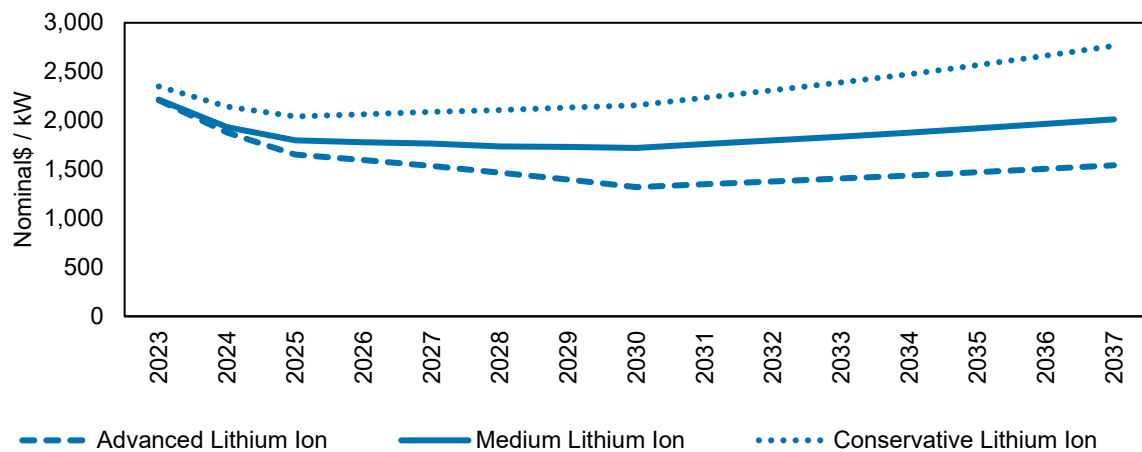
As described in Section 5.0, Kentucky Power generally relies on technology cost assumptions from EIA’s 2022 AEO report to establish the expected capital cost of new utility-scale resources. Those costs change over time based on the medium outlook from the NREL 2022 ATB. This outlook of new unit costs is used for two of the 2022 IRP scenarios: the Reference scenario and the NCR scenario. Under the ECR and CETA scenarios, rapid deployment of new renewable technologies combined with higher levels of policy support cause the cost of these technologies to decline more quickly. Capital costs follow the “advanced” NREL ATB case learning rates, resulting in costs that are materially lower throughout the forecast period. Finally, for the REF-HC scenario, new unit costs remain elevated as short-term shocks to the supply chain are not fully resolved over the forecast period. Capital costs follow the “conservative” NREL ATB case learning rates, resulting in costs that are materially higher throughout the forecast period. Figure 49, Figure 50, and Figure 51 below compare the forecast of expected capital costs from NREL’s advanced case used in the ECR and CETA scenarios and the conservative case used in the NCR scenario against the medium case costs used in the remaining two scenarios.



**Figure 49. Comparison of Capital Costs Under Advanced and Medium Outlooks for Wind Technologies (2023-2037 | Nominal \$/kW)**



**Figure 50. Comparison of Capital Costs Under Advanced and Medium Outlooks for Solar Technologies (2023-2037 | Nominal \$/kW)**



**Figure 51. Comparison of Capital Costs Under Advanced and Medium Outlooks for Lithium Ion Technologies (2023-2037 | Nominal \$/kW)**

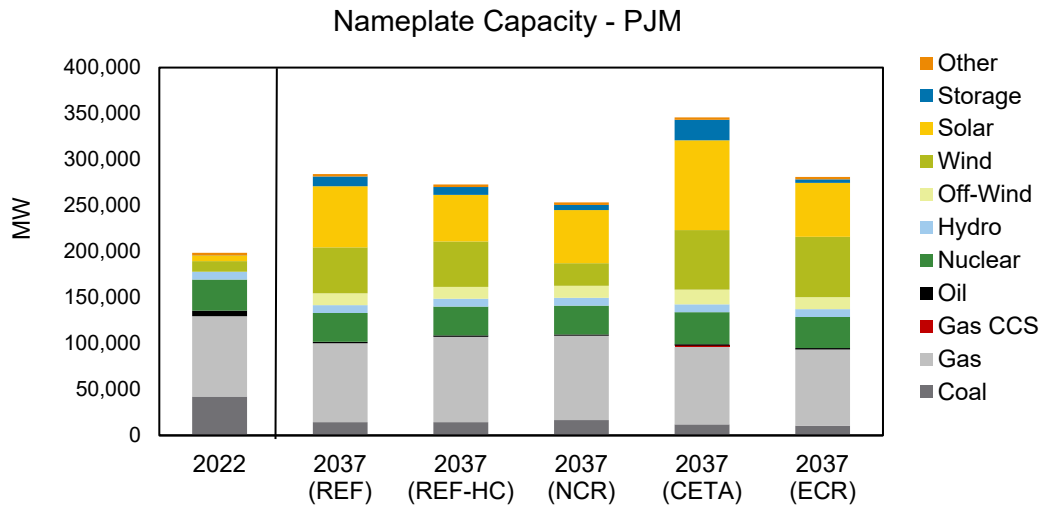
## **6.5 Market Scenario Results**

The load, technology, policy, and other assumptions for the five scenarios described above served as inputs into the AURORA model. Using the model's long-term capacity expansion ("LTCE") functionality, Kentucky Power developed scenario-specific forecasts of the PJM market. In the portfolio modeling stage, described below in Section 7.0, Kentucky Power developed an optimal resource portfolio in each one of the five scenarios.

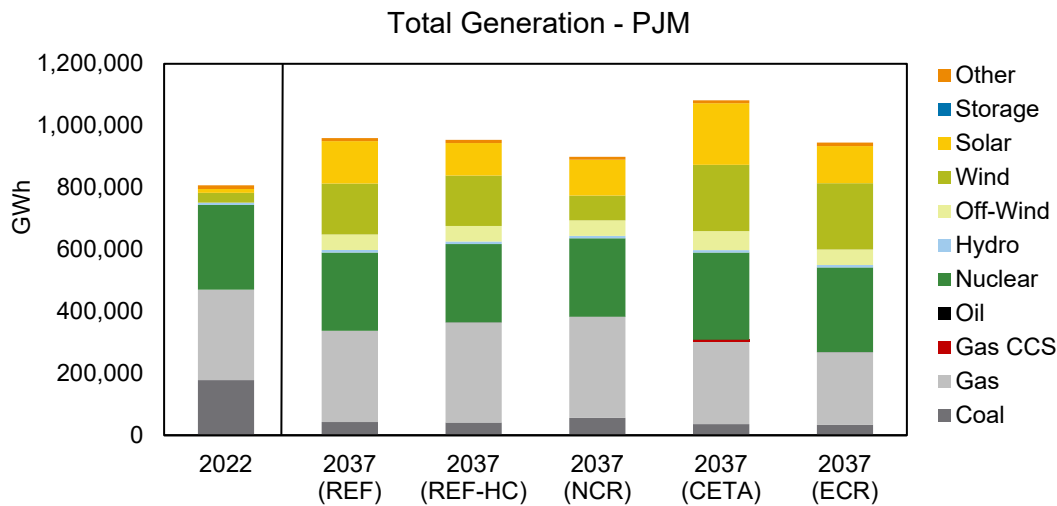
### **6.5.1 Capacity Expansion Results**

Kentucky Power used the AURORA LTCE model to forecast the least-cost combination of resource additions and retirements in PJM using the assumptions for each market scenario. While the PJM market selections do not directly impact the resources that can be selected for the Kentucky Power portfolio, they are informative for describing how different resource types are likely to perform under certain conditions. Figure 52 and Figure 53 below illustrate the 2037 PJM capacity and generation mix, respectively, across all five market scenarios compared with the PJM resource mix in 2022.

Under the Reference scenario, much of the existing coal fleet is retired over the course of the forecast. Due to the combination of announced retirements and the modest CO<sub>2</sub> price that comes into effect in 2030, only 14 GW of coal are left by the end of the study period. To replace coal plant retirements and meet growing load, a combination of renewables, 4-hour battery storage, and new gas units are added over time. In total, approximately 39 GW of new wind, 60 GW of new solar, 11 GW of new storage units, 7 GW of new gas peakers, and 2 GW of new combined cycles are added by 2037. The gas units are installed primarily to meet firm requirements. Under the Reference scenario, solar and wind generators provide more than 37% of the total PJM generation by 2037. The result is that total CO<sub>2</sub> emissions in the PJM market decline by almost 50% in the Reference scenario from 2022 to 2037.



**Figure 52. Comparison of 2022 and 2037 Nameplate Capacity by Technology in PJM**



**Figure 53. Comparison of 2022 and 2037 Generation by Technology in PJM**

In the REF-HC scenario, commodity price conditions are the same as in the Reference scenario, but the relatively higher cost of renewables and storage results in a larger proportion of thermal generation in the PJM market than under Reference scenario conditions. As a result, by 2037, there is 7 GW of additional gas-fired capacity added relative to the Reference scenario. Approximately 45 GW of new solar, 38 GW of new wind, and 9 GW of new 4-hour battery storage are added by 2037. Renewable sources comprise just under 33% of PJM market generation in this year. PJM CO<sub>2</sub> emissions decline by approximately 43% from 2022 to 2037, compared to around 50% in the Reference scenario.

Under the CETA scenario, load growth is higher than in the Reference scenario and the cost of new renewable generation is lower due to faster learning rates. The combination of higher

load and more affordable renewable technology leads to materially greater deployment of solar, wind and 4-hour battery storage than under the Reference scenario. By 2037, nearly 92 GW of new solar, 53 GW of new wind, and 22 GW of new 4-hour battery storage are added in PJM under the CETA scenario. Furthermore, approximately 1 GW of NGCC capacity is retrofitted with carbon capture and storage. Despite higher load and 3 GW more coal retirements, gas generation across PJM under CETA is lower than under the Reference scenario due to greater penetration of renewables. Solar and wind units comprise more than 44% of total PJM generation by 2037, and CO<sub>2</sub> emissions decline by around 52% PJM-wide relative to 2022 levels.

In the ECR scenario, a lower load outlook for PJM is combined with a higher outlook for CO<sub>2</sub> and natural gas commodity prices. This results in accelerated coal retirements, where relative to the Reference scenario, an additional 4 GW of coal capacity is retired in PJM by 2037. Natural gas-fired capacity also falls PJM-wide over the forecast period. Due to a more favorable outlook for nuclear, about 2.5 GW of existing nuclear capacity is relicensed in 2034 under the ECR scenario. PJM sees an additional 15 GW of wind and 7 GW less of solar deployment compared to the Reference scenario, and lower levels of 4-hour battery storage (around 7 GW lower). Renewable resources make up a significant proportion of the overall system, with wind and solar accounting for 42% of total PJM generation by 2037. PJM-wide CO<sub>2</sub> emissions are the lowest in this scenario and decline by 58% relative to 2022 levels by the end of the forecast period. The additional nuclear output is a major contributor to these reductions.

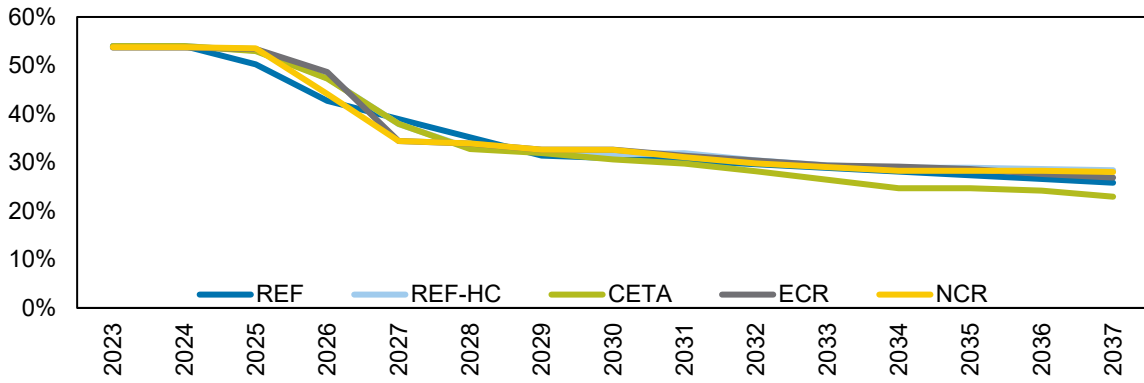
Under the NCR scenario, there is no economy-wide CO<sub>2</sub> price and natural gas prices are forecast lower than in the Reference scenario. The result is that more existing coal is able to remain competitive and approximately 17 GW of coal units are still operating by the end of the forecast period. The overall build-out of new renewables in the NCR scenario is lower than in the Reference scenario with approximately 13 GW of new wind, 52 GW of new solar, and 6 GW of new 4-hour battery storage added by 2037. Compared to the Reference scenario, there is an additional 6 GW of total gas capacity, due to the lower commodity price assumption that makes these units more competitive. The result is that renewable units comprise only about 27% of total PJM generation by 2037 in the NCR scenario, with natural gas and nuclear units providing the majority of the remaining energy. Emissions decline in this scenario, but not as far as in the Reference scenario, down around 37% from 2022 levels by 2037.



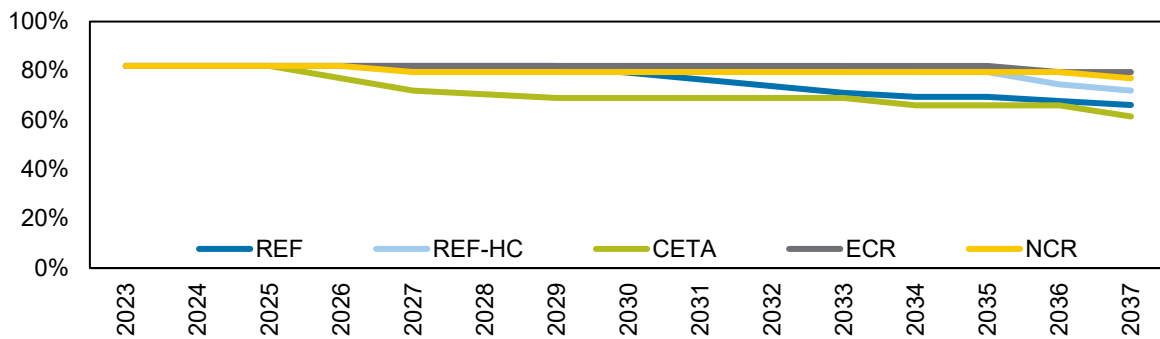
## 6.5.2 Effective Load Carrying Capability (ELCC) Results

As described in Section 6.3.3 and Section 6.5.1, the Kentucky Power scenarios have produced a range of capacity expansion results using the AURORA LTCE model that result in different penetration levels of renewables and 4-hour battery storage. The ELCC value of the renewables and 4-hour battery storage are based on the amounts installed in each scenario. The resulting differences are illustrated by the curves in Figure 41 through Figure 43 above.

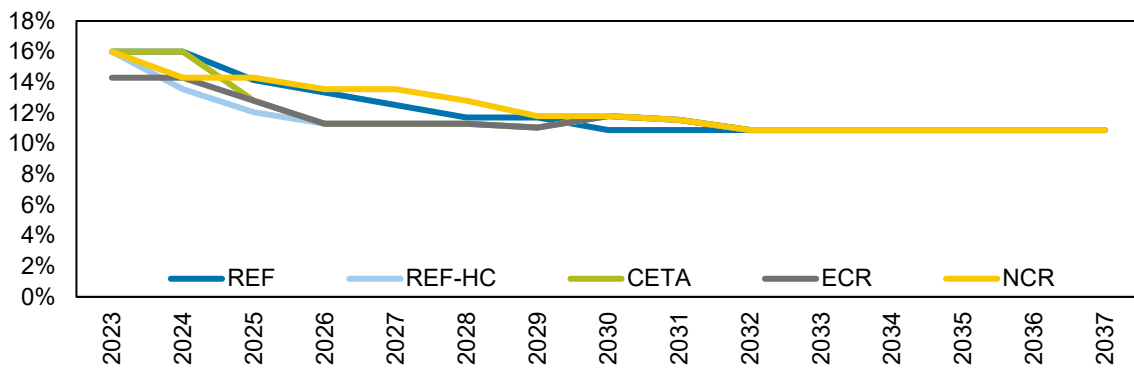
Under the Reference, REF-HC, and ECR scenarios, solar ELCC values decline from the current 54% value to levels near 26% by 2037, falling over time in-line with the increments of new solar added in each case. Less solar is added in the NCR case driven by lower commodity and energy prices, hence solar ELCC declines to around 28% peak value by 2037. While the NCR scenario represents an upper bound, the CETA case sets the lower bound at 23%. Under the CETA scenario, capital costs are lower for renewable resources, leading to more and earlier additions. Similar to solar, storage ELCC values vary across scenarios, ranging from 66% to 80% by 2037. For wind, ELCC varies the least with a uniform level of 11% across scenarios for onshore and a narrow range of 22% to 25% for offshore wind by 2037. The resulting solar, storage, and wind summer ELCC values are summarized in Figure 54 through Figure 57 below.



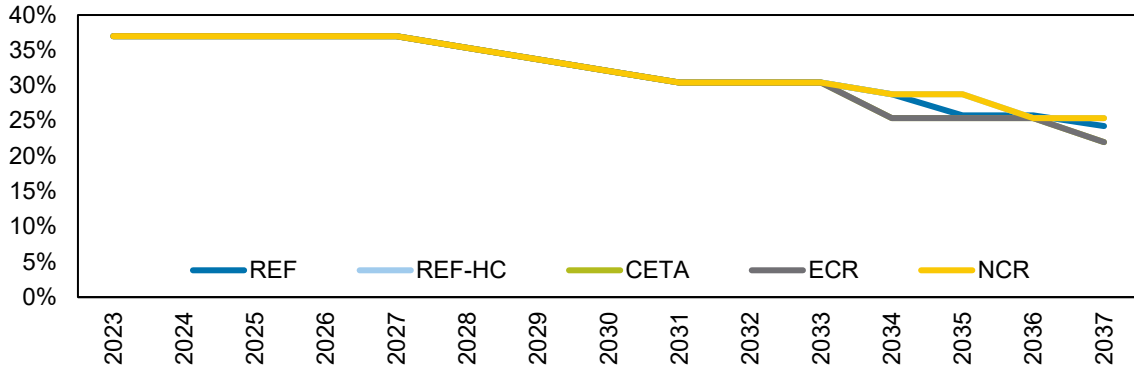
**Figure 54. Comparison of Summer Peak Solar Credits by Scenario**



**Figure 55. Comparison of Summer Peak Battery Storage Credits by Scenario**



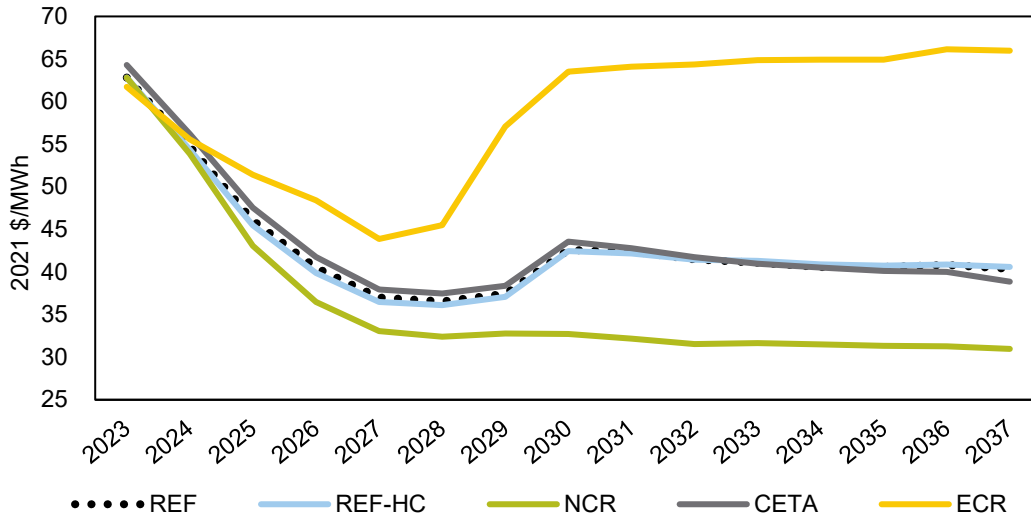
**Figure 56. Comparison of Summer Peak Onshore Wind Credits by Scenario**



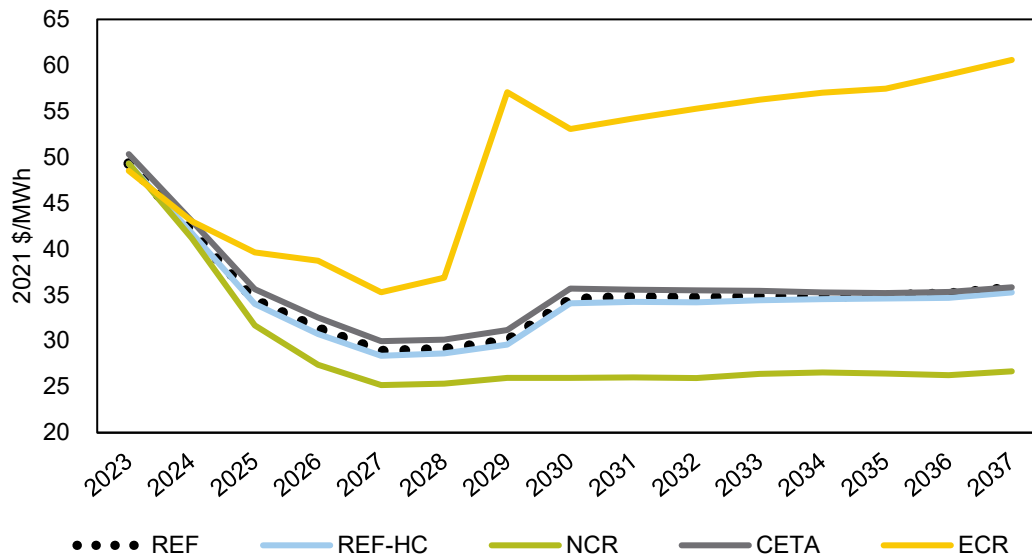
**Figure 57. Comparison of Summer Peak Offshore Wind Credits by Scenario**

### 6.5.3 Market Price Results

The key market outputs from the scenario modeling process are the power prices illustrated below in Figure 58 and Figure 59. Shown are all five market scenarios modeled in the 2022 IRP. These figures illustrate the wide but plausible range of energy prices that emerge from the scenario modeling steps that were used to develop and select the Preferred Plan.



**Figure 58. Annual On-Peak PJM AEP Hub Electricity Price (\$2021 / MWh)**



**Figure 59. Annual Off-Peak PJM AEP Hub Electricity Price (\$2021 / MWh)**

Under the Reference scenario, on-peak energy prices in PJM AEP Zone decline from around \$63/MWh (\$2021 real) in 2023 to \$37/MWh by 2029 in large part due to the decrease in natural gas prices over the period. There is approximately a \$12/MWh spread between on- and off-peak pricing over this same period, in real dollar terms. Starting in 2030 prices step up in both on- and off-peak periods by approximately \$5/MWh driven by the introduction of the CO<sub>2</sub> price in that year. There is a slight decline in on-peak pricing from 2031 onward even as CO<sub>2</sub> prices continue to rise due to the increasing penetration of renewable generation on the PJM system. Off-peak prices, however, remain fairly level due to increasing costs of thermal generation during periods of lower solar output. This contributes to a narrowing of the spread between on- and off-peak prices over the forecast period, which declines to about \$4/MWh by 2037.

Under the REF-HC and CETA scenarios, PJM market prices are largely similar to the Reference scenario. This outcome is to be expected given that the same commodity prices were used in all three of these scenarios (i.e., base natural gas and moderate CO<sub>2</sub> prices). Under the REF-HC scenario, long term prices for both on- and off-peak energy remain close to the Reference scenario. Under the CETA scenario, prices are between \$1-2/MWh higher than the Reference scenario over the long term due to faster load growth in the PJM market.

The ECR scenario sets the upper bound of PJM market prices. During the 2023-2028 period, both on- and off-peak prices are approximately \$5/MWh higher than in the Reference scenario due to the higher natural gas price assumed in this scenario. In 2029, the high CO<sub>2</sub> price is introduced, and PJM market prices rise by around \$20/MWh in on-peak and \$27/MWh in off-peak

periods. From 2029 onward, on-peak prices tend to remain stable (in real terms) due to the lower load growth assumption in this scenario and the high penetration of renewable generation. Conversely, off-peak prices grow slightly from 2029-2037 due to the high cost of running thermal generation during periods of low solar output. The result is that the spread between on- and off-peak prices falls to around \$5/MWh by 2037 in the ECR scenario when viewed on an annual average basis.

The NCR scenario sets the lower bound of PJM market prices. From 2023-2029, overall market prices are around \$1-5/MWh lower than in the Reference scenario due to the low natural gas price forecast that is assumed in this scenario. After 2030, PJM prices in this case are materially lower than in the Reference scenario due to the lack of federal CO<sub>2</sub> pricing and lower outlook for natural gas prices that are assumed as part of the scenario. On-peak prices decline modestly in real terms, from 2029 until the end of the outlook horizon as renewable generation is added to the system. Off-peak pricing is flat from 2029 through 2037. In this scenario, the spread between on- and off-peak prices therefore narrows modestly on an annual basis, to \$5/MWh by 2037.

## **6.6 IRP Stochastics Inputs Development**

Kentucky Power’s stochastic risk analysis attempts to evaluate volatility and “tail risk” impacts to its generation portfolio that would not be included under “expected” or “weather normal” deterministic forecasts. The selected variables modeled for stochastic realizations – gas prices, power prices, and renewable output – are specifically selected to address portfolio performance under various market dynamics and generation availability outcomes.

As described in Section 7.2, rate stability is one of the key objectives for the preferred portfolio. The scorecard metric “Cost Risk” is defined as the CPW increase between the 95<sup>th</sup> percentile and 50<sup>th</sup> percentile portfolio cost observed under the set of stochastic distributions of variables. This metric captures the robustness of portfolio cost when subjected to a range of combinations of gas prices, power prices, and renewable output.

This analysis involves developing 250 combinations of stochastic gas prices, power prices, and renewable output, then determining the portfolio costs under each of the 250 iterations through portfolio dispatch in AURORA and the PERFORM<sup>44</sup> financial module. The 95<sup>th</sup> and 50<sup>th</sup>

<sup>44</sup> PERFORM is CRA’s utility financial model, see Section 7.3 below.

percentile CPW among the set of portfolio cost realizations are identified to calculate the “Cost Risk” scorecard metric.

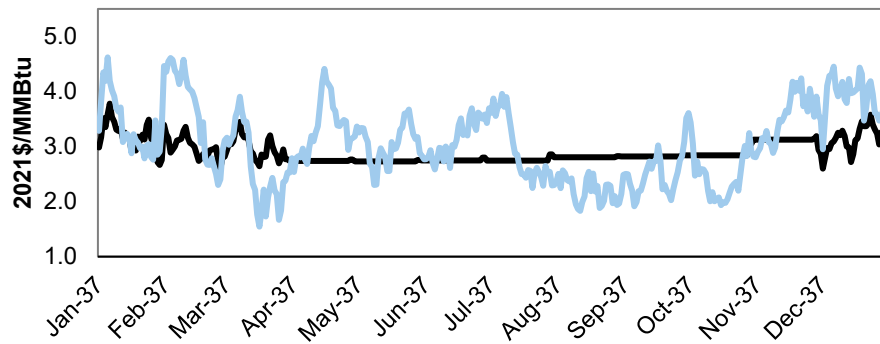
### 6.6.1 Gas and Power Prices Stochastics

Stochastic price paths for gas and power prices are developed using CRA’s Moment Simulation Energy Price (“MOSEP”) model. MOSEP is a regime-switching, mean-reverting<sup>45</sup> model that takes as input expected paths for gas and power prices, based on Kentucky Power’s Reference scenario outlined in Section 6.3. MOSEP’s Monte Carlo engine simulates random price deviations around the expected paths based on historical volatility and seasonal gas-power correlative relationships to yield “realized” price paths for both gas and power. While price paths are developed for the period 2022-2037, data from 2037 is singled out for the portfolio cost analysis as representative of the study period.

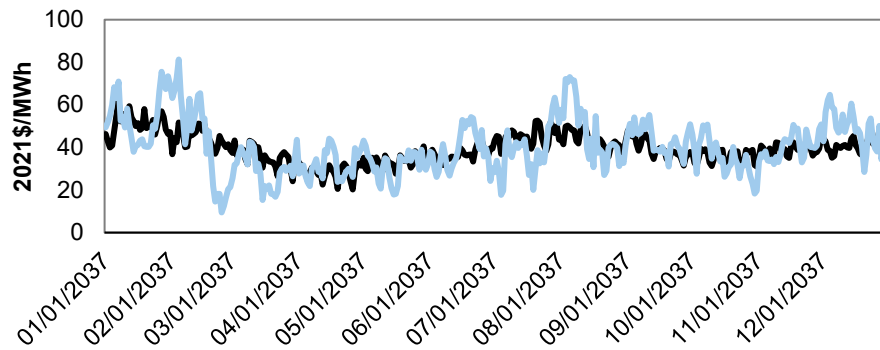
To reflect realistic market price behavior, historical daily average gas and power price data were gathered to observe key price characteristics and calibrate simulation model parameters. The key seasonal market price characteristics include, but are not limited to, the range of prices around a seasonal median price, standard deviation, magnitude and frequency of sudden price spikes, market heat rate, and correlation between gas and power. The specific pricing points used in this analysis are the daily natural gas spot index at TCO pool and the day-ahead, around-the-clock PJM AEP GEN HUB price strip. The historical prices from the period January 1, 2017, to August 31, 2022, were used to summarize the relevant market price behavior and include only the most recent market dynamics.

Figure 60 and Figure 61 illustrate one sample iteration of gas and power daily prices in 2037 produced by MOSEP (blue lines). The baseline forecasts are included in the same graphic (black lines) for comparison. As illustrated, the stochastic price paths exhibit more daily volatility as well as high-price and low-price risk than the deterministic Reference scenario forecasts.

<sup>45</sup> The model simulates price behavior under different price regimes (e.g., normal price regime, spike price regime). Commodity prices have been found to exhibit a mean-reverting behavior after a sudden price jump. The model facilitates switching between different regimes via a Markov transition matrix. Given the current regime, the transition matrix specifies the probabilities of staying in the current regime or moving to a different regime. These probabilities are approximated based on historical data. For references, see the following paper, on which MOSEP is based - Higgs, H. & Worthington, A. “Stochastic price modeling of high volatility, mean-reverting, spike-prone commodities: The Australian wholesale electricity market.” *Energy Economics*, 2008.

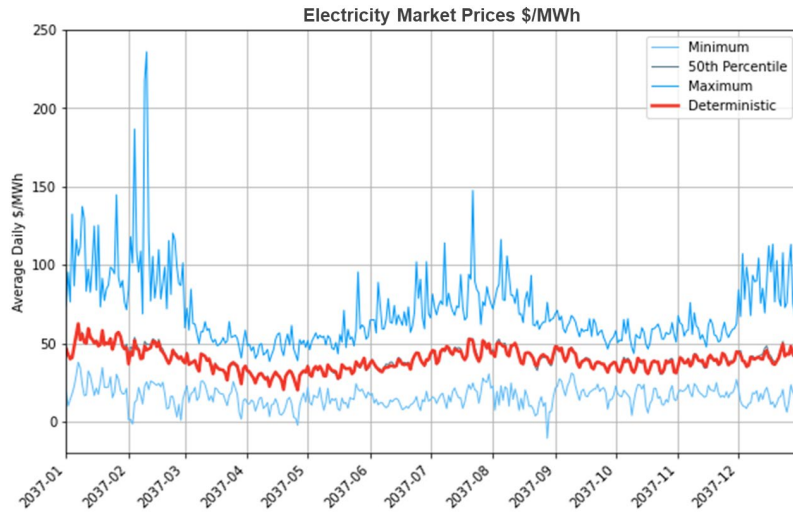


**Figure 60. Sample Iteration of Daily Natural Gas Price Simulation for 2037**

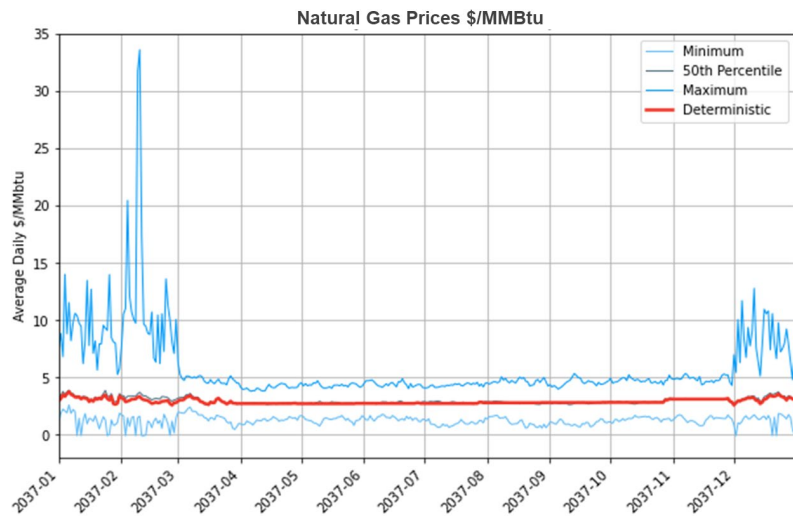


**Figure 61. Sample Iteration of Daily Power Price Simulation for 2037**

The distributions of the values associated with electricity and natural gas prices are shown in Figure 62 and Figure 63, respectively. Electricity prices show strong tendency to spike during winter and summer months with significantly lower spiking probability during shoulder months leading to differences in average monthly price ranges. Natural gas prices spike consistently during winter months with lower probability of spiking during summer and shoulder months leading to differences in average monthly price ranges.



**Figure 62. Range of Variable Inputs for Stochastic Analysis – Electric Prices**



**Figure 63. Range of Variable Inputs for Stochastic Analysis – Natural Gas Prices**

### 6.6.2 Renewable Energy Output Stochastics

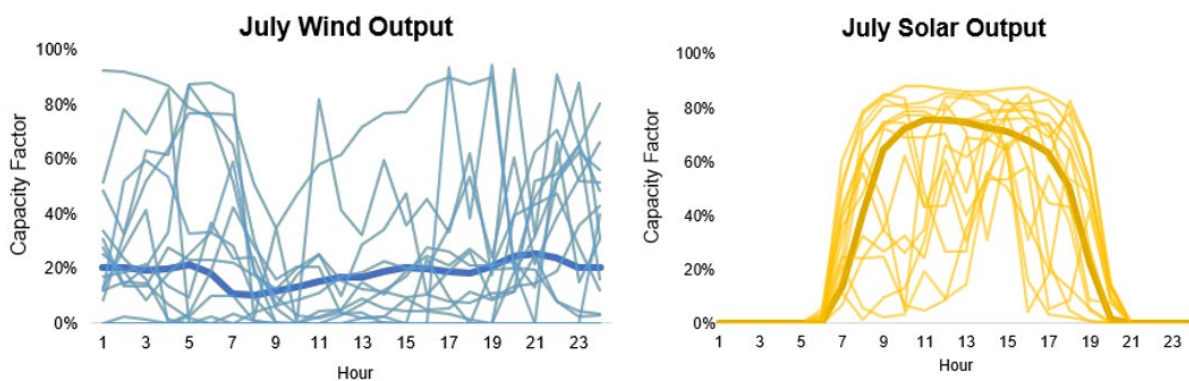
Renewable energy output uncertainty is integrated in Kentucky Power’s stochastic analysis process to address the risks associated with energy market exposure. To widen the range of modeled renewable availability, historical weather data from NREL was used to proxy wind and solar availability using NREL’s System Advisor Model (“SAM”).



Historical hourly weather conditions for the years 2008 to 2012 (5 weather years) for two counties across Kentucky<sup>46</sup> were used as inputs into the SAM tool. Proxies for a farm of wind turbines and single-axis tilt solar panels were used in SAM to simulate hourly wind and solar power output, respectively. Adjustments to SAM power estimates were used to align with Kentucky Power’s capacity factor assumptions for new wind and solar resources.

Figure 64 illustrates hourly capacity factor shapes for wind and solar in the month of July, with the monthly average capacity factor shape depicted in the bolded blue and yellow lines, respectively.

Each of the 250 commodity price paths are combined with renewable energy output data from one of the five historic weather years. For example, the first 50 iterations of gas and power prices are matched with wind and solar output based on historical weather year 2008 conditions.

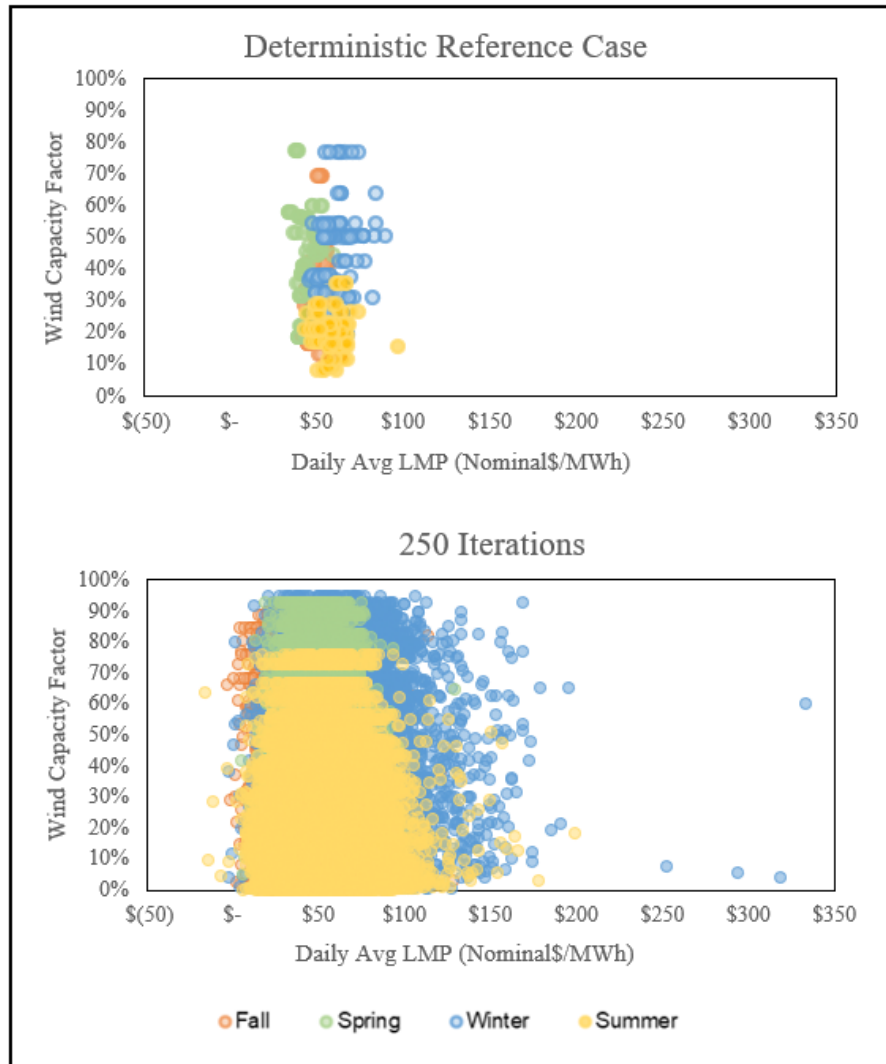


**Figure 64. Simulated Hourly Wind and Solar Capacity Factor for July**

By incorporating stochastic renewable profiles and gas and power outputs, the combinations of renewable energy output and price paths cover a greater range than the Reference scenario. This is illustrated in Figure 65 that compares combinations of daily average wind capacity factors and the daily average power price across the deterministic Reference scenario versus the 250 stochastic iterations around the Reference scenario. From the first graphic, prices vary with renewable energy output, but there is limited variability in the overall market prices that are reflected. By contrast, the stochastic modeling approach used by Kentucky Power tests many

<sup>46</sup> Historical wind data was taken from 5 different weather years for Morgan County, KY. Historical solar data was taken from 5 different weather years for Morgan County, KY. These weather profiles were used in SAM to estimate a power output shape for each resource.

more hours and captures periods of high market prices and low renewable energy output, and vice versa.



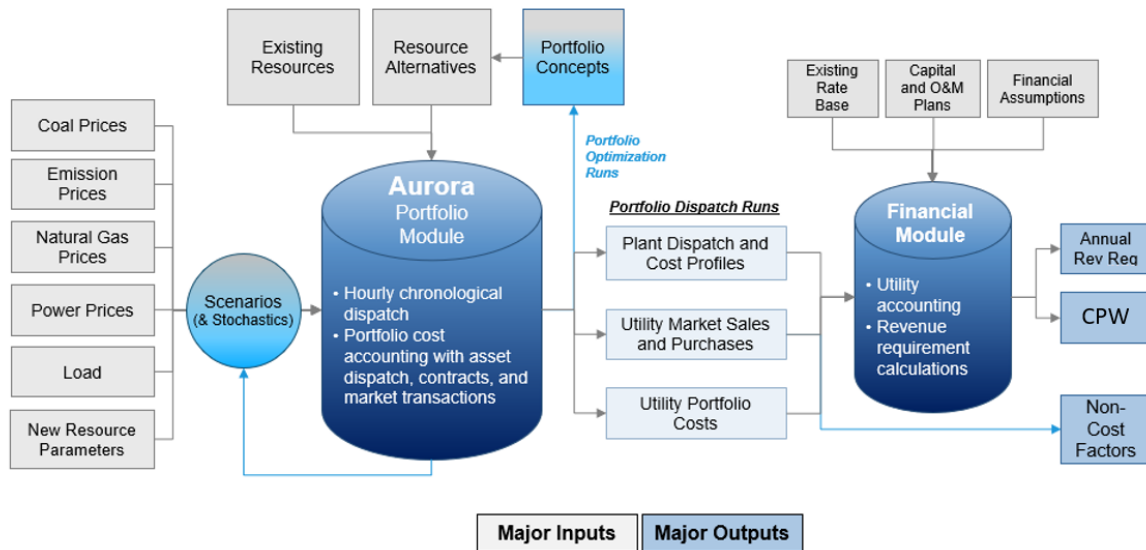
**Figure 65. Daily Average Wind Capacity Factor and Power Price, under Deterministic Reference Scenario vs. 250 Stochastic Iterations**

## **7.0 Portfolio Analysis**

### **7.1 Introduction**

The 2022 Portfolio Analysis began by reviewing the priorities and objectives of Kentucky Power and its Stakeholders, as well as key uncertainties and potential futures risks associated with the cost of serving Kentucky Power’s customers described in the prior section. This process informed the analysis performed and the development of an IRP scorecard. The scorecard is a tool used to evaluate the potential trade-offs between different demand- and supply-side options that Kentucky Power may employ to meet future customer needs in the 2022 IRP. The 2022 IRP scorecard and metrics are detailed below in this chapter.

In terms of impact on the IRP analysis, the priorities and objectives informed the 2022 IRP by leading to the creation of five different market scenarios that reflect plausible, but different, combinations of outcomes across key related fundamental market drivers (e.g., load, fuel costs, seasonal requirements, level of environmental pressure, etc.) described in the prior section. These scenarios tested how the prices of energy, capacity, and other services changed across the PJM market under different combinations of these fundamental conditions. A portfolio was developed under each of the five scenarios using the capacity expansion model in AURORA to find “optimal” selections of resources under different market conditions. Two additional plans were then created in response to stakeholder engagement and feedback. The five PJM market scenarios were also used to perform stochastic analysis to evaluate each portfolio’s cost risk by subjecting them to a wide range of market outcomes that reflect periods of volatility.



**Figure 66. 2022 IRP Modeling Framework**

This IRP seeks to test volatility through the stochastic analysis of power, gas, and renewable outcomes. Risk metrics incorporate high-cost outcomes to evaluate the potential impacts on total system costs under a range of PJM market conditions that may occur in both winter and summer.

## 7.2 Scorecard Metrics

In resource planning, a scorecard can be an effective tool in decision-making. “Scorecard” for resource planning purposes refers to a device that illustrates the performance of alternative resource plans across a set of company-defined objectives, performance indicators, and metrics. A scorecard enables a utility to develop and defend resource decisions based on how different plans score on the factors that matter to the utility and the customers it serves. It provides a simple and structured means of explaining how sometimes objectives align, while other times they can conflict and be traded off as part of reaching a reasonable decision that is in the best interest of customers.

The scorecard has three primary elements, illustrated in Figure 67:

- **Objectives** are overarching goals that align to Kentucky Power or stakeholder priorities. The four objectives of the 2022 Kentucky Power IRP Scorecard are:
  - Customer Affordability
  - Rate Stability
  - Maintaining Reliability
  - Local Impacts & Sustainability
- **Performance indicators** measure progress towards goals and serve as measurable categories across which portfolios can be compared. There are ten performance indicators on the Kentucky Power Scorecard, these align to the four objectives and are detailed below.
- **Metrics** are the units in which the performance indicators are measured, often they include a time element (e.g., cumulative net worth, cumulative period, future test year) in addition to numerical value or calculation.

Objective	Performance Indicator	Metric
Customer Affordability	CPW	Total long-term annual costs paid by ratepayers
	% of Income	Percentage of wallet for residential customers
	Near-Term Rates	Near-term rate impact of resource decisions
Rate Stability	Scenario Resilience	Range of cost from highest to lowest market scenario
	Cost Risk	95th percentile of shock risk
	Market Exposure	Amount of net purchases or sales from SPP market
Maintaining Reliability	Reserve Margin	Excess capacity position
	Operational Flexibility	Dispatchable capacity included in portfolio
Local Impacts & Sustainability	Local Impacts	New investment in utility service territory
	Carbon Emissions	Percent carbon reduction

**Figure 67. Elements of the 2022 Kentucky Power IRP Scorecard**

The details of the objectives, performance indicators, and metrics is described in the following sections. The scorecard is found below as Figure 68.

### 7.2.1 Objective 1: Customer Affordability

Customer affordability is a primary goal for Kentucky Power. Affordable power and lowest reasonable rates were identified as key considerations. For the Kentucky Power 2022 IRP, minimizing the expected cost to customers, to the extent reasonable when evaluated against other objectives, was a clear and obvious objective for the scorecard.

The Kentucky Power scorecard includes two performance indicators that track the customer affordability objective across the short- and long-term.

#### **7.2.1.1 Short Term: 5-year expected growth in customer rates**

Customers need affordable energy over the long-term. However, many customers may tend to prefer resource plans that limit expected short-term increases in customer rates. portfolios with similar cumulative present worth over the longer term can have significantly different near-term impacts, which may be important to consider, along with long-term costs, when selecting a preferred plan. This performance indicator allows Kentucky Power to assess that risk across portfolios and weigh short- and long-term cost considerations when selecting the preferred plan.

Kentucky Power measures and considers the expected percentage growth in retail rates over five years as the metric for the short-term customer affordability performance indicator. Near-term retail rate impact is measured using a 5-year Compound Annual Growth Rate (“CAGR”) of expected system costs for the years 2023-2028.

#### **7.2.1.2 Long Term: 15-year cumulative present worth**

Portfolios that perform well in the short- and medium-term may be expensive over the longer term. Further, portfolios that perform similarly in the short- to medium-term may look very different over the long-term under varying market conditions.

Current Kentucky Power plans include loss of the Mitchell plant in 2028, creating a need for new capacity in the near-term. Longer term, Kentucky Power is facing a potential retirement of the Big Sandy unit in 2031 that creates a further capacity need. This performance indicator allows Kentucky Power to evaluate the risk of higher cost when viewed further into the future and weigh short- and long-term cost considerations.

Cumulative Present Worth (“CPW”) was selected as the metric for this performance indicator. CPW is a representation of the total long-term annual costs paid by Kentucky Power’s utility customers related to power supply. This includes plant O&M costs, fuel costs, environmental costs, net purchases and sales of energy and capacity, property and income taxes, and the return on and of capital related to power supply. CPW will be measured over the long-term using a 15-year period (2023-2037) and is expressed both in terms of total and levelized rate. The levelized rate is the fixed charge per MWh needed to recover the 15-year CPW.

## **7.2.2 Objective 2: Rate Stability**

Rate stability is a key component of affordability for Kentucky Power’s customers. A resource plan that performs well under expected conditions may expose ratepayers during periods of volatility, extreme weather events, or extended outages. Kentucky Power understands that market fluctuations in electric and fuel commodities and other uncertainties can adversely impact customer rates under a resource plan deemed to be the most affordable. This risk was recently highlighted during the December 2022, North American winter storm where a historic cold weather event led to forced generator outages, high wholesale gas prices, and high electricity prices, to which Kentucky Power’s customers were exposed.

The performance indicators of rate stability test how certain and robust the expected costs of each portfolio are by subjecting them to different market scenarios and to random shocks in power and gas prices, and renewable outputs. This assessment evaluates how portfolios perform under a wide range of market conditions, commodity prices, and policy outcomes and allows Kentucky Power to balance affordability under expected conditions against resilience to changes in the market.

The three performance indicators for rate stability are described below. They include an assessment of the potential change in rates across a wide range of scenarios, the amount of revenue requirement at risk under adverse or extreme conditions, and track the amount of seasonal reliance on the PJM energy market under each portfolio.

### **7.2.2.1 Scenario Resilience: Range of 15-year CPWs across the 5 market scenarios**

This performance indicator describes the range of total long-term costs for a given portfolio when modeled across all five market scenarios. This allows Kentucky Power to compare the overall variability or consistency of costs for each portfolio under the full range of market conditions considered in the IRP.

The metric for this performance indicator measures the range in cost of each portfolio option between its best and worst performing planning scenario. It is calculated by subtracting the 15-year CPW for a given portfolio in (1) the market scenario under which total costs for the portfolio were the lowest from (2) the market scenario under which the total costs to the portfolio were the highest.

The 15-year CPW is selected because Kentucky Power’s going in position shows a need for replacements in the 2020s and 2030s. Using a long-term metric allows for all the resource

decisions made in the IRP to be fully reflected and maintains consistency in the affordability performance indicators on the scorecard. CPW is a representation of the total long-term annual costs paid by Kentucky Power's utility customers related to power supply. This includes plant O&M costs, fuel costs, environmental costs, net purchases and sales of energy and capacity, property and income taxes, and the return on and of capital related to power supply. CPW will be measured over the long-term using a 15-year period (2023-2037) and is expressed both in terms of total and levelized rate.

#### **7.2.2.2 Cost Risk: The revenue requirement increases when moving from the 50th to the 95<sup>th</sup> percentile of portfolio costs in year 2037**

Portfolios that perform well (or similarly) under expected conditions may perform poorly when exposed to market volatility, extreme weather, or extended unit outages. This measure tests the robustness of portfolio costs when exposed to random combinations of gas prices, power prices, and renewable outputs, and allows Kentucky Power to compare the cost of the portfolios under adverse market conditions, relative to the expected cost of the option under normal conditions. In other words, this metric measures the increase in the expected cost to serve customers under volatile or extreme conditions, relative to the expected case.

The metric for this performance indicator measures the difference between the (1) total portfolio costs under 95th percentile conditions and (2) portfolio costs under median conditions across the stochastic distribution in the Reference scenario at the end of the 15-year IRP planning period in 2037. This measure serves as a useful touch point for discussing portfolio risk with stakeholders and evaluating whether renewable-heavy portfolios that engage in market purchases and sales at different times of the day or year increase or decrease its cost risk.

#### **7.2.2.3 Market Exposure: net purchases or sales as a % of summer and winter load in 2037**

As part of the Commission feedback in the previous IRP, Kentucky Power evaluated seasonal performance of how the portfolios may expose Kentucky Power customers to winter and summer market events that result in high (or low) wholesale energy prices.

This performance indicator allows Kentucky Power to evaluate the medium- and long-term exposure of different resources options to conditions in the PJM energy markets by indicating the total portion of customer needs served by the market, or conversely, the reliance on market sales in certain periods of excess generation.



The metric for this performance indicator measures the magnitude of net purchases or sales made by each portfolio at the end of the 15-year IRP planning period in 2037, distinguishing between market activity occurring during the summer (June, July, Aug) and winter (Dec, Jan, Feb) seasons. It is calculated by subtracting the volume of hourly gross energy sales from hourly gross purchases across the test months for each season, and then dividing the resulting value by total volume of energy demand served over those same months. Both winter and summer values are reported for this year.

### **7.2.3 Objective 3: Maintaining Reliability**

“Safe, reliable power” is a key theme for Kentucky Power and reliability is an important consideration for Kentucky Power’s customers that are active in the stakeholder process. Understanding the role that PJM plays in maintaining broader system reliability, Kentucky Power has identified maintaining reliability as an important, fundamental objective to be included on the IRP scorecard. Reliability is an essential aspect of a utility’s mission and has taken on even greater importance since the PJM energy event of December 2022. The potential benefits to maintaining reliability of distributing a relatively larger number of smaller units across geographies that provide local benefits and relieve system constraints are also a consideration.

Four performance indicators were selected to measure progress towards maintaining reliability. These cover the total capacity reserves, by season, maintained by Kentucky Power under each plan, the amount of dispatchable capacity included in each plan, and an indicator of the locational diversity of the resources selected in each portfolio.

#### **7.2.3.1 Planning Reserves: % of summer and winter capacity requirements served by the resource plan from 2023-2037**

Kentucky Power evaluated the energy and capacity exposure separately in this IRP. This performance indicator measures Kentucky Power’s expected reliance on the market (or excess capacity) for meeting summer and winter reserve margin requirements. This measure allows Kentucky Power to evaluate the seasonal exposure of different resource portfolios to reliability events measured as the percent of seasonal reserve requirements contributed by owned resources (i.e., excluding any short-term purchases) towards meeting planning reserve margin requirements. This exposure is viewed as the average performance across all five market scenarios to capture the full range of load forecasts included in the 2022 IRP.

The metric for this performance indicator will be Kentucky Power's reserve margin measured as the ratio of firm (i.e., UCAP) supply to expected peak demand for *both* the summer and winter periods. For reporting purposes, the average reserve margin period over the 2023-2037 time period will be included in the scorecard. The period 2023-2037 is used to evaluate Kentucky Power's average exposure across the portfolios over time.

This metric is calculated by dividing the winter UCAP of the resource plan by Kentucky Power's winter peak requirement and the summer UCAP of the resource plan by Kentucky Power's summer peak requirement for years 2023-2037 across all five market scenarios. This results in 75 winter values and 75 summer values. These values are then averaged by season and reported on the scorecard.

### **7.2.3.2 Operational Flexibility: Dispatchable capacity in 2027 and 2037**

The increase in intermittent renewable resources across PJM may create the need for more flexible resources that can provide a reliability service and balance the system during periods of low output or extreme weather. Understanding each portfolio's ability to respond to system needs is an important factor for determining the preferred plan and can also be considered as a measure of future ancillary services value, which is highly uncertain.

This performance indicator allows management to evaluate the amount of ramping capacity on its system measured as the cumulative amount of dispatchable capacity selected by the portfolio in 2027 and 2037. Dispatchable resources include existing coal units, new and existing gas peaking units (multiple configurations), new gas combined cycle units (with or without CCS), new energy storage units, and new hydrogen-fired units.

The metrics for this performance indicator represent the total firm capacity (UCAP) provided by fast-ramping technologies in years 2027 and 2037. Multiple blocks of identical scalable technologies (such as battery storage) constructed within a single year will be considered as separate units, since no discount is being provided to represent benefits of collocating projects (i.e., the model does not see lower interconnection or land costs when building many of these units so they could be assumed to be located separately). The 15-year reporting period is selected to align with the results included in the IRP report and reflect Kentucky Power's position after filling the expected capacity gap emerging in the late 2020s and into the 2030s.

### **7.2.3.3 Resource Diversity: Generation mix by resource in 2037**

Kentucky Power is interested in maintaining a diverse set of resources as a method for maintaining reliability for its customers and in evaluating the role that new and innovative technologies can play to help customers reach their goals. This performance indicator will allow management to assess the overall diversity of its long-term resource plan as well as compare the performance of plans that rely on more traditional vs. more advanced technologies.

The metric for this performance indicator is a pie chart displaying the percentage of total generation provided by the different generating technologies selected in each resource portfolio in model year 2037 and under the Reference scenario. The metric is measured in 2037 to capture the full range of replacement decisions and because it is expected that many advanced technologies may not become economic until the 2030s and therefore a shorter term (e.g., 5-year) metric may provide little or no information to support Kentucky Power’s evaluation. Wedges of qualifying “advanced” technologies are emphasized using the color palette to compare the relative level of any new or innovative technologies selected by each resource plan.

### **7.2.4 Objective 4: Local Impacts & Sustainability**

Community partnership and local investment are important considerations in this IRP. Identifying resources that will have a positive local impact within Kentucky Power’s service territory was considered, as well as highlighting the opportunities for customer-sited resources was also considered.

This objective also allows Kentucky Power to evaluate the relative exposure of resource portfolios under outcomes where significant reductions in GHG emissions are required in the power sector – a plausible outcome with potentially material impacts on the cost to serve Kentucky Power’s customers.

Two performance indicators were selected to measure progress towards local impacts & sustainability. Local impacts are measured as the amount of new generation located in the Kentucky Power service territory and the amount of local investment associated with those projects. Sustainability is measured through portfolio CO<sub>2</sub> emissions.

#### **7.2.4.1 Local Impacts: Installed MW and Capital Invested inside Kentucky Power’s Service territory**

Kentucky Power has a continued interest in being a community partner and recognizes the importance of demonstrating the potential benefits of different resource portfolios to its stakeholders and customers, including creating opportunities for customers interested in locating new generation on-site. This performance indicator allows management to compare the amount of total new installed resources likely to be constructed in regions that Kentucky Power serves and that may be candidates for customer sited projects over the 2023-2037 period. Further, this indicator allows management to evaluate the expected amount of local investment made under each resource portfolio, which is a fair proxy for evaluating the relative local economic impacts of each plan.

There are two metrics associated with this performance indicator: (1) The cumulative nameplate MW of new capacity likely located within the Kentucky Power service territory from 2023-2037; and (2) the cumulative capital invested in the Kentucky Power service territory from 2023-2037, calculated as the sum of capital spent over the period in current year (e.g., 2021) dollars. To reflect potential development risk associated with challenges in locating renewables inside Kentucky Power territory, a conservative assumption is made that new wind will not contribute to local impacts, while only 75% of new solar capacity will contribute to this metric.

The 2023-2037 period was selected to align the scorecard to the portfolio modeling results that are presented in the 2022 IRP and to focus the evaluation on local impacts over the 15 years of the overall resource plan.

#### **7.2.4.2 CO2 Emissions: Percent reduction from 2005 in the Reference Scenario in 2027 & 2037**

This performance indicator allows Kentucky Power to evaluate progress towards emissions reduction as one element of the preferred plan and also serves as a measure of comparing the relative exposure of resource portfolios under outcomes where significant reductions in GHG emissions are required in the US power sector.

The metric for this performance indicator is the level of carbon emission reductions relative to Kentucky Power’s total emissions in the year 2005. Carbon emissions are defined as the direct emissions from Kentucky Power’s owned and contracted generating resources. This metric is calculated by dividing the total Kentucky Power portfolio emission in the test year (2027 and 2037)

by total Kentucky Power portfolio emission from the year 2005 and evaluating the percentage reduced.


	Customer Affordability		Rate Stability			Maintaining Reliability			Local Impacts & Sustainability	
Portfolio	Short Term: 5-yr Cost CAGR, Reference Case	Long Term: 15-yr CPW, Reference Case	Scenario Range: High Minus Low Scenario Range, 15-yr CPW	Cost Risk: RR Increase in Reference Case (95th minus 50th Percentile)	Market Exposure: Net Sales as % of Portfolio Load, Scenario Average	Planning Reserves: % Reserve Margin, Scenario Average	Operational Flexibility: Dispatchable Capacity	Resource Diversity: Generation Mix (MWh) by Technology Type - Reference Case	Local Impacts: New Nameplate MW & Total CAPEX Installed Inside Service Territory	CO2 Emissions: Percent Reduction from 2005 Baseline - Reference Case
Year Ref.	2023-2028	2023-2037	2023-2037	2037	2037	2023-2037	2027   2037	2037	2023-2037	2027   2037
Units	%	\$MM Levelized Rate	\$MM Levelized Rate	\$MM	Summer   Winter	Summer   Winter	MW	%	MW   \$MM	% Reduction
Reference Portfolio										
Reference – High Cost Portfolio										
CETA Portfolio										
ECR Portfolio										
NCR Portfolio										
CC Portfolio										
No Wind Portfolio										

Figure 68. 2022 IRP Scorecard

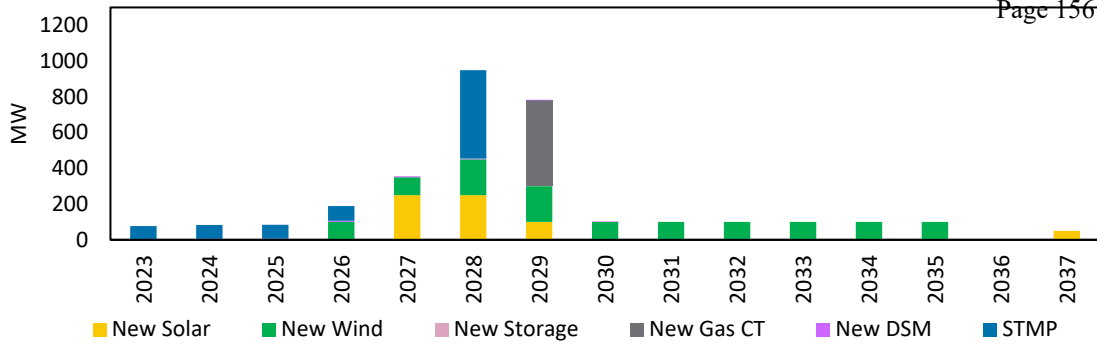
## **7.3 Portfolios Considered**

Kentucky Power used the AURORA model to select an optimal portfolio of resources to meet expected future customer needs under each of the five PJM market scenarios. The AURORA model uses an optimization technique to select the “least-cost” set of resources that minimizes the cumulative present worth (CPW) subject to certain constraints and assuming the market scenario conditions including load, fuel and CO<sub>2</sub> prices, reserve requirements, and technology assumptions including capacity accreditation as discussed for each market scenario in Section 6.0. The resources made available to the model include supply-side and demand-side resource options, the input parameters for the Reference scenario which are discussed in Section 5.0 and Section 4.0 respectively, and the scenario parameters which are discussed in Section 6.0.

In addition to the five least-cost plans discussed above, two additional portfolios were created in response to stakeholder engagement and feedback. The “CC portfolio” tests the impact of including this resource in a portfolio since no plans selected this in the AURORA optimizations. The “No Wind portfolio” was also created following stakeholder feedback related to the availability of wind resources in the Kentucky Power territory and potential challenges with siting or acquiring output from new wind projects. Each of the seven portfolios were stress-tested under all five market scenarios and were also stress tested under stochastic distributions of gas prices, power prices and renewable outputs (as discussed in Section 6.0) using a suite of resource planning tools, namely AURORA and the PERFORM utility financial model. AURORA produces projections of asset-level dispatch and the total variable costs associated with serving load. The AURORA output is then used by CRA’s PERFORM model to build a full annual revenue requirement, inclusive of capital investments, fixed operating and maintenance costs, tax credits, and financial accounting of depreciation, taxes, and utility return on investment. The PERFORM model produces annual and CPW estimates of revenue requirements over the planning horizon. The outputs from AURORA and PERFORM are then used to populate the 2022 IRP Scorecard to inform the Company for the identification of the Preferred Plan.

### **7.3.1 Resource Additions by Portfolio**

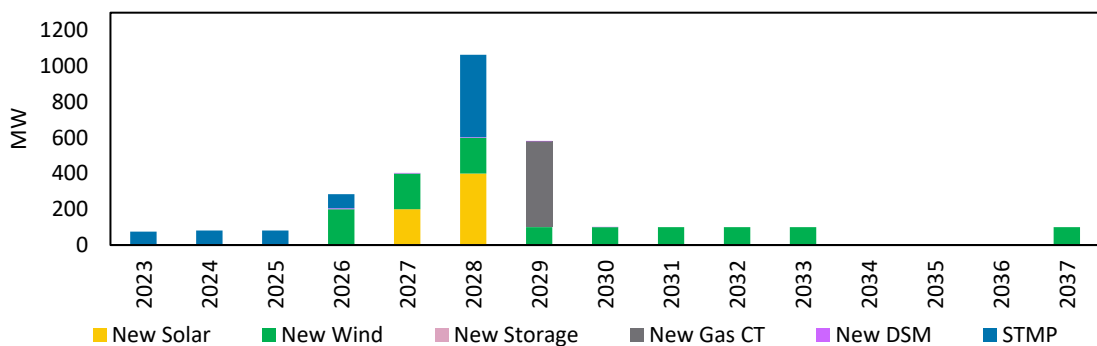
Resource additions in each of the seven portfolios considered are shown in Figure 69 to Figure 76 below.



**Figure 69. Annual Resource Additions in the Reference Portfolio**

For the Reference portfolio, 650 MW of new solar, 1,200 MW of new wind, and 480 MW of new NGCTs are added by 2037. Of the new solar and new wind added, 600 MW of each are added by the end of 2029 representing a significant portion of the new solar and additions. New NGCT units are installed in the earliest possible date of 2029, primarily to replace Mitchell units to meet firm requirements. This portfolio also includes the extension of operations for the Big Sandy gas unit until 2041. Short-Term Market Purchases (STMP) are utilized with up to 82 MW annually through 2026 and 495 MW in 2028 to fully satisfy near-term adequacy.

In addition, demand-side resources are pursued. The summer peak contribution from incremental demand-side resources is 3 MW in 2023, rising to a peak of 37 MW in 2030.



**Figure 70. Annual Resource Additions in the Reference High Cost Portfolio**

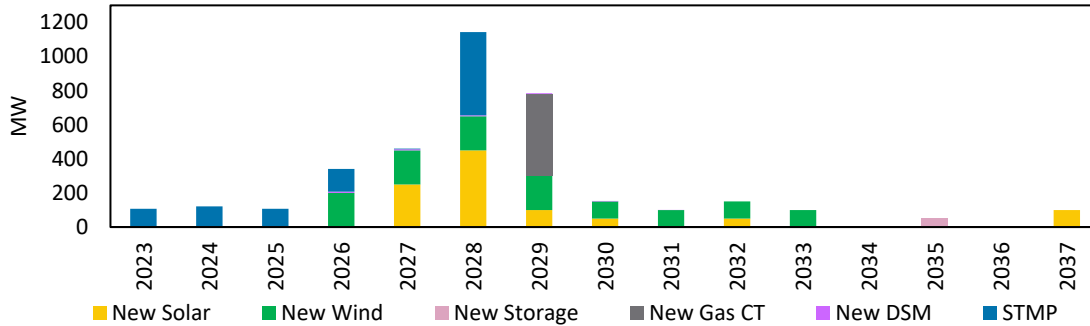
The REF-HC scenario applies slower technology learning and high capital cost for new build resources. Due to limited difference in relative costs, especially in the early part of the outlook horizon, the REF-HC portfolio contains nearly the same resource mix as the Reference portfolio. The additions include lower cumulative additions of new solar, but identical cumulative additions of wind and NGCTs relative to the Reference portfolio.

The REF-HC portfolio adds 600 MW of new solar, 1,200 MW of new wind, and 480 MW of new NGCTs by 2037. This portfolio also includes the extension of operations for the Big Sandy



gas unit until 2041. Short-Term Market Purchases (STMP) are utilized with up to 79 MW annually through 2026 and 461 MW in 2028 to fully satisfy near-term adequacy.

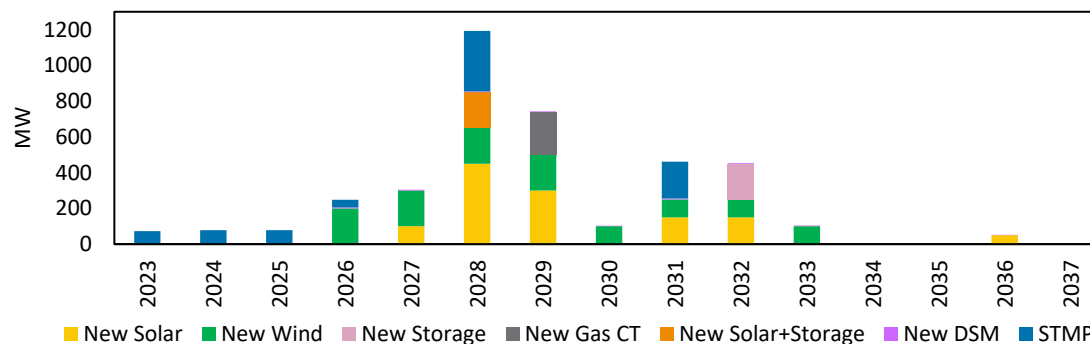
The summer peak contribution from incremental demand-side resources is 2 MW in 2023, rising to a peak of 26 MW in 2030.



**Figure 71. Annual Resource Additions in the CETA Portfolio**

The CETA scenario combines higher load and more affordable renewable technologies reflected with a faster decline in renewable technology costs. As a result of higher load, the CETA portfolio has larger capacity additions. Due to the assumed changes in technology costs, these additions are predominantly renewables. In order to meet firm capacity requirements, the CETA portfolio adds more solar PV relative to other portfolios, as well as more storage units. By 2037, approximately 1,000 MW of solar, 1,200 MW of wind, 480 MW of NGCTs, and 50 MW of storage units are added. This portfolio also includes the extension of operations for the Big Sandy gas unit until 2041. Short-Term Market Purchases (STMP) are utilized with up to 133 MW annually through 2026 and 488 MW in 2028 to fully satisfy near-term adequacy.

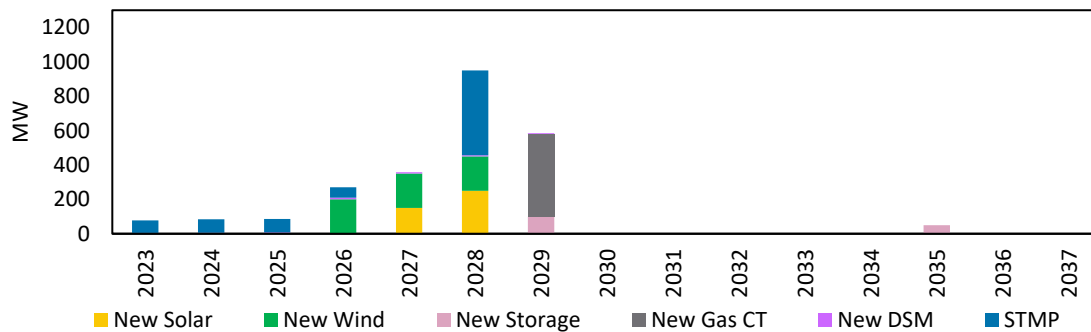
On the demand side, the summer peak contribution from incremental demand-side resources is 2 MW in 2023, rising to a peak of 36 MW in 2031.



**Figure 72. Annual Resource Additions in the ECR Portfolio**

The ECR scenario combines lower load growth with high-cost gas and carbon. Furthermore, technology costs follow the same decline rate as CETA, resulting in more affordable renewable technologies. This combination of drivers results in an ECR portfolio with less gas selection, as relatively lower cost wind, solar, and storage are made even more economic by higher power prices. The ECR portfolio adds 1,200 MW of solar, 1,200 MW of wind, 200 MW of storage, 200 MW of solar+storage, and only 240MW of NGCT. The Big Sandy gas unit is not selected to extend its operations and retires in 2031. Short-Term Market Purchases (STMP) are utilized with up to 78 MW annually through 2026 and 339 MW in 2028, and 206 MW in 2031 to fully satisfy near-term adequacy.

On the demand side, the high gas price improves the economics of demand-side bundles in the long-term as the summer peak contribution from incremental demand-side resources is less than 1 MW in 2023, rising to a peak of 41 MW in 2037.

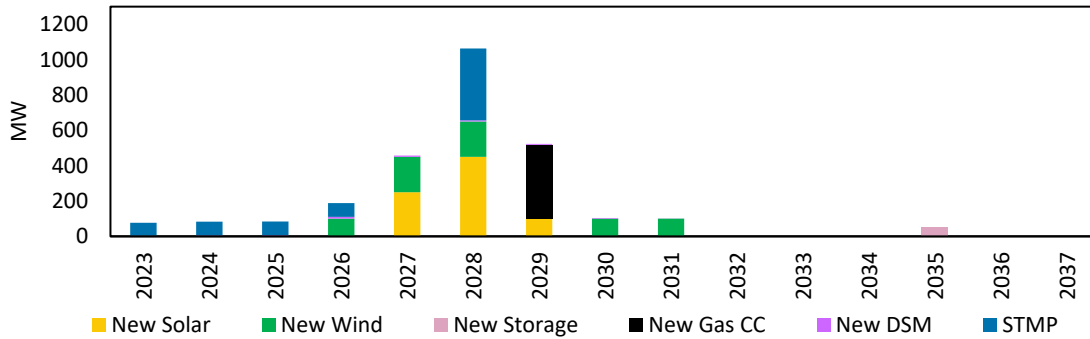


**Figure 73. Annual Resource Additions in the NCR Portfolio**

The NCR scenario has lower natural gas prices and no carbon price that generally improve the economics of gas-fired generation relative to other scenarios. In this case, improved gas-fired generation economics result in higher gas dispatch and the portfolio reaching the market sales limit early, resulting in lower renewable buildout and the addition of new storage resources by 2037. Only 400MW of solar and 600MW of wind are added by 2037, with all of it built before 2029. An additional 150MW of storage is also selected by 2037, as well as 480MW of NGCT. This portfolio also includes the extension of operations for the Big Sandy gas unit until 2041. Short-Term Market Purchases (STMP) are utilized with up to 78 MW annually through 2026 and 494 MW in 2028 to fully satisfy near-term adequacy.

Demand side resources with relatively low energy contribution are viewed more favorably in the near term as they keep the portfolio within the sales constraint. The summer peak

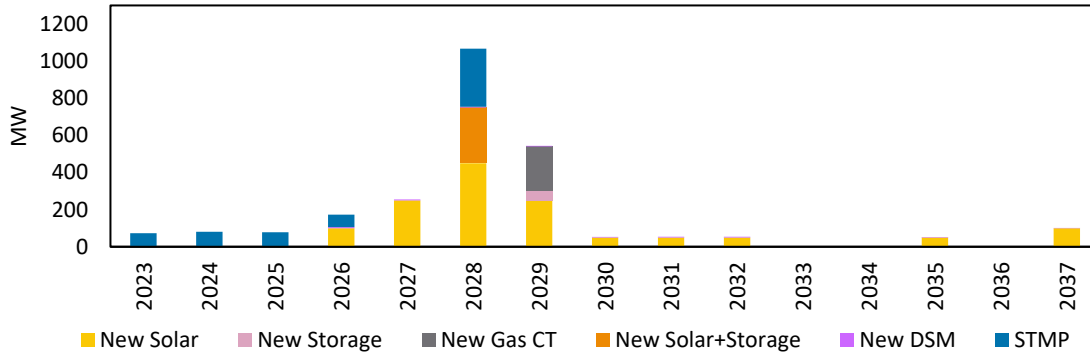
contribution from incremental demand-side resources is 5 MW in 2023, rising to a peak of 50 MW in 2030.



**Figure 74. Annual Resource Additions in the CC Portfolio**

The CC portfolio was modeled following Stakeholder feedback and included the same assumptions as the Reference portfolio. In this portfolio, a CC was assumed to be built in 2029 in place of the CT from the Reference portfolio, and optimization was performed around this assumption. The CC portfolio adds 418MW of 1x1 Combined Cycle, 700MW of wind, 800MW of solar, and 50MW of storage by 2037. This portfolio also includes the extension of operations for the Big Sandy gas unit until 2041. Short-Term Market Purchases (STMP) are utilized with up to 78 MW annually through 2026 and 407 MW in 2028 to fully satisfy near-term adequacy.

On the demand side, the summer peak contribution from incremental demand-side resources is 3 MW in 2023, rising to a peak of 48 MW in 2033.

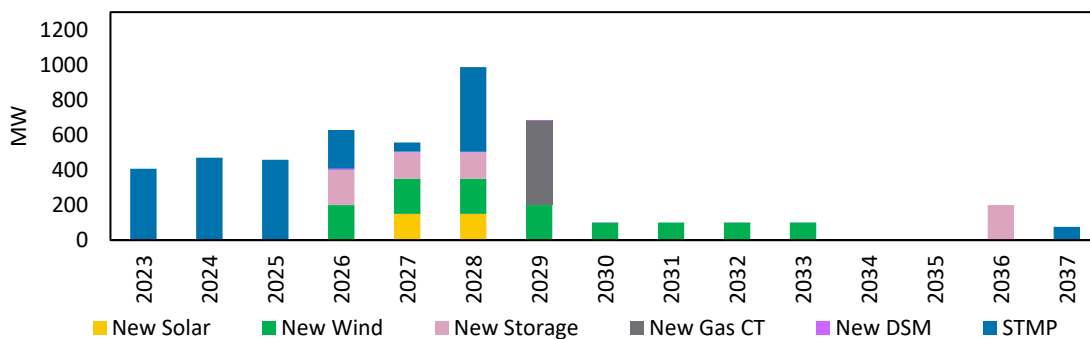


**Figure 75. Annual Resource Additions in the No Wind Portfolio**

The No Wind portfolio was modeled following stakeholder feedback and included the same assumptions as the Reference portfolio. In this portfolio, wind resources were excluded as an alternative and portfolio optimization was performed. The No Wind portfolio adds 240MW of NGCT, 800 MW of solar, and 125MW of storage by 2037. This portfolio also includes the extension of operations for the Big Sandy gas unit until 2041. Short-Term Market Purchases (STMP) are utilized with up to 81 MW annually through 2026 and 313 MW in 2028 to fully satisfy near-term adequacy.

On the demand side, the summer peak contribution from incremental demand-side resources is less than 1 MW in 2023, continuing to increase to 41 MW by 2037.

### 7.3.2 Winter Sensitivity



**Figure 76. Annual Resource Additions in the Winter Sensitivity**

Kentucky Power also evaluated an optimized build under Reference conditions to assess a hypothetical requirement for winter peak adequacy. The result is a portfolio with many commonalities to the summer-optimized portfolios with 300 MW of new solar, 1,200 MW of new wind, 480 MW of new NGCTs, and life extension of the Big Sandy unit. In addition to these

resources, 550 MW of new storage capacity is added by 2028 to support the winter adequacy capacity position that is no longer met with solar resources in the summer optimized portfolio. Larger quantities of Short-Term Market Purchases (STMP) are utilized during the early years of the outlook to bridge the capacity needs until firm resources are available in the model with up to 466 MW annually through 2026 and 483 MW in 2028.

On the demand-side, winter peak contribution from incremental demand-side resources is 2 MW in 2023, rising to a peak of 32 MW in 2033.

## 7.4 Scorecard Results

### 7.4.1 Customer Affordability

Kentucky Power measures customer affordability across two time scales:

- Short-term affordability, measured as the 5-year CAGR of growth in generation rate associated with the new demand- and supply-side resources selected under each portfolio; and
- Long-term affordability, measured as the 15-year CPW of new demand- and supply-side resources selected under each portfolio.

#### 7.4.1.1 Short-Term

Table 15 shows the portfolio performance under the Customer Affordability objective. As discussed in Section 7.2.1, the indicators for this objective include the expected annual growth in generation rate over the next five years and the revenue requirements over the next 15 years expressed on both a CPW basis and a levelized rate basis, all measured under Reference scenario market conditions.

**Table 15. Portfolio Performance under Customer Affordability Metrics**

Portfolio	5-Year Rate CAGR, Reference Scenario (%/annum)	15-Year CPW, Reference Scenario (\$ Millions)	15-Year Levelized Rate, Reference Scenario (\$/MWh)
Reference	7.52%	3,395	\$62.10
REF-HC	8.53%	3,435	\$62.30
CETA	9.16%	3,504	\$64.00
ECR	8.21%	3,605	\$65.60
NCR	7.91%	3,517	\$64.10
CC	8.78%	3,516	\$64.60
No Wind	7.65%	3,755	\$68.40

Over the next five years, the variation in the expected growth of customer Pages 62 of 162 by the differences in near-term resource additions across the portfolios. The Reference portfolio has the smallest amount of capacity additions in this period and this portfolio exhibits the slowest rate of growth at 7.52% per year due to a slower build of renewables compared to other portfolios. Conversely, the CETA portfolio has the highest rate of growth at 9.16% per year, owing to the greater amount of new resources added to the portfolio over this period to meet the relatively higher load requirement. The remaining portfolios fall in between these two extremes, with rates growing at 7.6-8.8%.

#### **7.4.1.2 Long-term**

In terms of revenue requirements over the next 15 years, the Reference and REF-HC portfolios perform similarly on both the CPW and levelized rate basis. The No Wind portfolio has the highest cost at \$360 million CPW above the Reference portfolio owing in large part to the inability to access low-cost wind resources requiring a shift towards higher cost solar and storage. The CETA portfolio is \$109 million more expensive in CPW against the Reference portfolio due to additional capital to meet the higher load obligation, whereas the NCR portfolio is \$120 million more expensive than the Reference portfolio due to higher market purchase reliance resulting from fewer renewables. The ECR portfolio has the highest reliance on renewable installed capacity, hence resulting in a portfolio that is \$210 million more expensive than Reference. The CC portfolio lands at \$121 million above Reference as the higher capex of the NGCC resource along with lower reliance on wind are not fully offset by the economic benefit of higher thermal efficiency.

#### **7.4.2 Rate Stability**

Kentucky Power measures rate stability by evaluating:

- Scenario resilience as measured by the range of 15-year CPW of the portfolio across the five market scenarios;
- Cost risk as measured by the CPW increase when moving from the 50<sup>th</sup> to the 95<sup>th</sup> percentile of portfolio costs in 2037; and
- Market exposure as measured by net sales in the summer and winter seasons as a percentage of load in 2037.

##### **7.4.2.1 Scenario Resilience**

Table 16 shows the 15-year CPW across the five market scenarios and the difference between the highest and lowest CPW of each of the eight portfolios considered. The difference

between the highest and lowest value is used to populate the Scenario Resilience indicator on the IRP scorecard.

**Table 16. The 15-Year CPW of the Portfolio Across Market Scenarios (\$Million)**

Portfolio	Market Scenarios					High/Low Difference
	Reference	REF-HC	CETA	ECR	NCR	
Reference	3,395	3,599	3,333	3,305	3,161	438
REF-HC	3,345	3,639	3,378	3,339	3,207	432
CETA	3,503	3,799	3,396	3,234	3,321	566
ECR	3,605	4,041	3,447	3,155	3,514	886
NCR	3,517	3,664	3,543	3,714	3,210	504
CC	3,516	3,763	3,495	3,457	3,334	430
No Wind	3,755	4,173	3,760	3,882	3,489	684

In general, the REF-HC scenario produces the highest expected 15-year portfolio CPWs under the portfolios due to the higher technology costs assumed in that scenario. The IRP portfolios tend to report the lowest costs under the NCR scenario, due to lower fuel and emissions costs in this forecast than under the other PJM outlooks.

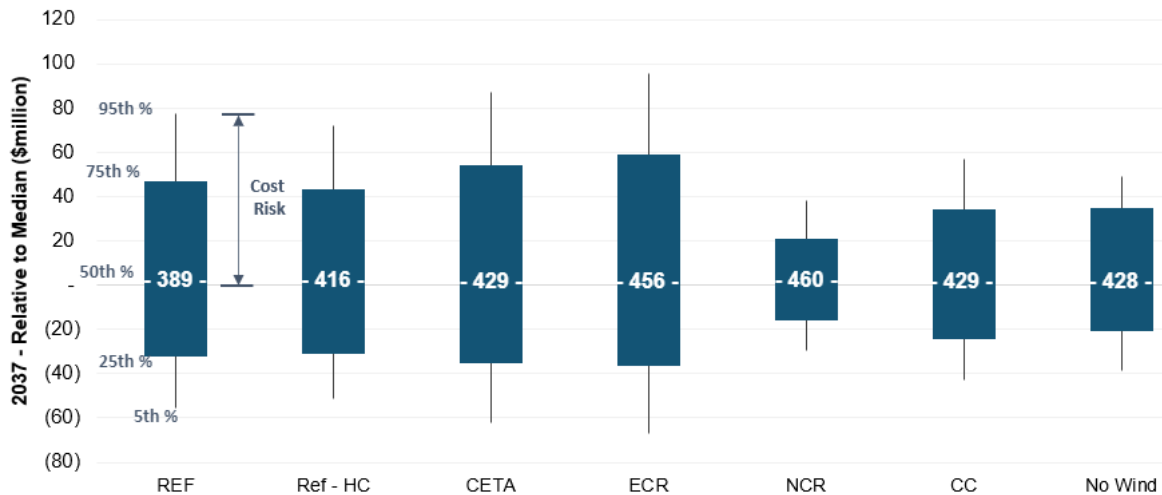
The Reference portfolio, REF-HC portfolio, and CC portfolio are most resilient to the five market scenarios with an average CPW range of approximately \$430-440 million. The CETA and No Wind portfolios produce the next highest range of CPWs at \$566 million and \$684 million, respectively.

The ECR portfolio is the least resilient by this measure with a CPW range of \$886 million when solved under different fundamental conditions. The ECR portfolio sees a more extensive buildout of renewable resources compared to other portfolios, and the range exhibited by this portfolio is primarily driven by the variation in the capital costs and fixed O&M costs associated with these resources. Indeed, the ECR portfolio has the highest CPW in the REF-HC scenario where new technology costs experience slow decline, and the lowest CPW in the ECR scenario where new technology costs experience more rapid decline combined with highest power prices which add value to the net sales position driven by renewables. As such, the ECR portfolio exposes ratepayers to renewable resource cost and market risks.

#### 7.4.2.2 Cost Risk

Figure 77 presents a summary of the stochastic results for each of the eight portfolios. This metric compares the distributions of net cumulative present worth revenue requirements in 2037 after applying 250 iterations of natural gas prices, power prices, and renewable production profiles

to the portfolios under Reference scenario market conditions. The cost risk is expressed as the difference between the median portfolio costs (50<sup>th</sup> percentile) and portfolio costs under adverse conditions (represented as the 95<sup>th</sup> percentile of revenue requirements observed). In the figure below, the median value is represented as the center of each box, with the top of each relevant line indicating costs at the 95<sup>th</sup> percentile. Table 17 shows a summary of the cost risk across each portfolio.



**Figure 77. Distribution of Revenue Requirements Based on Stochastic Analysis (2037)**

**Table 17. Cost Risk - 50<sup>th</sup> to 95<sup>th</sup> Percentile Distribution Range (\$million)**

Portfolio	2037
Reference	77.6
REF-HC	72.2
CETA	87.1
ECR	95.8
NCR	37.9
CC	56.8
No Wind	48.9

The ECR portfolio has the highest cost risk and thus is more exposed to short-term volatility in power prices, gas prices, and renewable output. This demonstrates the substantial risks stemming from a combination of high renewable reliance and market sales exposure. The CETA portfolio has the second highest cost risk, given its large renewable build and associated cost exposure. The NCR portfolio has the lowest cost risk with a much narrower distribution of outcomes, whereby relatively low renewable capacity mitigates exposure to renewable resource variations when compared to portfolios with higher renewable build such as ECR or CETA.



The CC and No Wind portfolios have a reduced cost risk range when compared to most other portfolios. Wind generation has a wide range of dispersion across iterations hence the proportionally lower level of wind in the CC portfolio results in a lower range of generation and cost outcomes. The same effect is observed for the No Wind portfolio. Moreover, the higher efficiency and energy market margins of the NGCC plant in the CC portfolio provides resilient dispatch which maintains output of that plant across a wider range of market conditions as compared to the other portfolios where their dispatch is more sensitive to changes in market conditions.

### 7.4.2.3 Market Exposure

Table 18 shows the net energy sales as a percentage of portfolio load split by summer and winter. The percentages shown are averaged across all market scenarios.

**Table 18. Average Net Energy Sales (Purchases) as % of Portfolio Load Across All Scenarios**

Portfolio	Summer			Winter		
	2023	2027	2037	2023	2027	2037
Reference	33%	-13%	14%	10%	-4%	27%
REF-HC	33%	-9%	10%	10%	8%	24%
CETA	33%	-7%	32%	10%	10%	33%
ECR	33%	-15%	23%	10%	8%	11%
NCR	33%	-11%	-20%	10%	7%	-17%
CC	33%	-10%	24%	10%	4%	21%
No Wind	33%	-16%	5%	10%	-19%	-45%

Kentucky Power’s current portfolio is tilted towards a long energy position, with generation expected to exceed demand in the short-term driven by a higher market heat rate environment and robust thermal dispatch.

By 2027, all portfolios evaluated in the 2022 IRP show a tendency for greater net purchases in summer relative to 2023. This is due to a combination of declining gas prices and increased renewable buildout in PJM driving down the LMP prices, while the cost to dispatch Mitchell remains stable, resulting in lower generation from this plant. In winter, all portfolios have higher sales exposure relative to summer, due in large part to higher output from the increasing wind build across winter months.

The summer net sales position tends to increase between 2027 and 2037 primarily due to later additions of new wind, solar, and gas resources. Net sales in winter tend to grow less between

2027 and 2037 relative to the summer season. This is explained, in part, by the fact that many portfolios include significant amounts of new solar by year 2037, and solar resources tend to produce less energy during winter months. The Preferred portfolio exhibits the smallest level of net energy transactions across a combination of summer and winter.

### 7.4.3 Maintaining Reliability

Kentucky Power measures each portfolio’s contribution to maintaining reliability by evaluating:

- Planning reserves measured as the ratio of firm (i.e., UCAP) supply to expected peak demand for *both* the summer and winter periods, averaged over the period between 2023 and 2037;
- Operational flexibility measured as the total firm capacity (UCAP) provided by fast-ramping technologies in years 2027 and 2037; and
- Resource diversity measured as the percentage of total generation provided by the different generating technologies selected in each resource portfolio in model year 2037 under the Reference scenario.

#### 7.4.3.1 Planning Reserves

Table 19 shows the summer and winter planning reserves, averaged over the period between 2023 and 2037 and across all market scenarios.

**Table 19. Planning Reserves Between 2023 and 2037 by Portfolio**

Portfolio	Summer	Winter
Reference	11.3%	-22.7%
REF-HC	10.6%	-23.1%
CETA	20.2%	-19.9%
ECR	3.4%	-37.4%
NCR	10.2%	-20.8%
CC	10.7%	-26.5%
No Wind	10.6%	-37.1%

Kentucky Power assumed that each portfolio would need to meet a planning reserve margin of 9% above summer peak load as described in section 3.2 when optimizing each portfolio in its native market scenario. This approach can result in capacity short-falls or extra capacity when portfolios are evaluated in non-native scenarios due to differences in load forecasts. For example, the ECR scenario had lower load growth relative to the other scenarios. As a result, AURORA selected a lower amount of accredited capacity to balance customer load in the ECR portfolio under ECR scenario conditions. When run in other portfolios with higher relative load, this

portfolio tended to be short capacity and rely on market purchases to meet firm requirements. The opposite is true in the CETA portfolio, where higher load results in more accredited capacity. As a result, the CETA portfolio tends to have a large surplus when run under load conditions of other scenarios.

When viewed as the average across all scenarios, the ECR portfolios fall short of the 9% requirement in the summer. The CETA portfolio has an average summer reserve margin of 20.2% by this measure, more than twice the 9% PJM planning reserve margin requirements. All portfolio builds exhibit capacity shortfall for winter due to the winter peaking nature of the Kentucky Power system.

### 7.4.3.2 Operational Flexibility

Table 20 shows the capacity of dispatchable units in 2027 and 2037 in each of the portfolios considered.

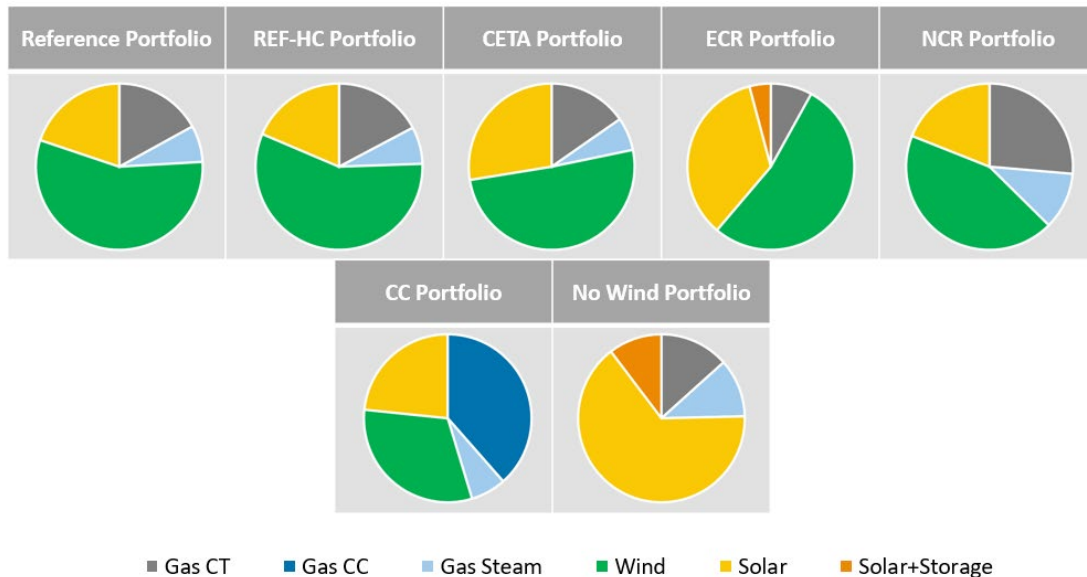
**Table 20. The Amount of Dispatchable Capacity in 2027 and 2037 by Portfolio**

Portfolio	2027	2037
	Dispatchable Capacity (MW)	Dispatchable Capacity (MW)
Reference	1,111	775
REF-HC	1,111	775
CETA	1,111	825
ECR	1,111	490
NCR	1,111	925
CC	1,111	763
No Wind	1,111	660

As Kentucky Power does not develop a significant need for dispatchable capacity until after the divestiture of Mitchell in 2028, all portfolios have the same dispatchable capacity by 2027. The ECR scores lowest on this metric in 2037 because of the overall lower amount of new dispatchable gas resources constructed in the ECR portfolio. Also, the ECR portfolio features the end of operations at Big Sandy in 2031 in anticipation of higher emissions and fuel prices combined with lower customer loads. The CETA, Reference, and REF-HC portfolios all show greater amounts of operational flexibility with two NGCTs installed and operation at Big Sandy extended to 2041. Under the NCR portfolio, the same gas resource plus 150 MW of storage results in the greatest operational flexibility of all portfolios.

### 7.4.3.3 Resource Diversity

Figure 78 shows pie charts displaying the percentage of total generation provided by existing resources as well as the different generating resources selected by each resource portfolio in year 2037 under Reference scenario market conditions.



**Figure 78. 2037 Generation Mix by Technology and Portfolio (MWh)**

Most portfolios rely primarily on wind and solar, with NGCT or NGCC representing a relatively smaller proportion of output when compared to renewables. The balance of energy is supplied by the Big Sandy steam gas unit in all portfolios except for ECR where the unit is retired in 2031. Despite assumed improvements in technology costs over time, no advanced generation technologies are selected and featured across any portfolios.

The NCR portfolio is most diverse with the least concentration and material contribution from wind, solar, gas CT, and gas steam. The Reference, REF-HC, and CETA portfolios are the next most diverse, with over half of energy provided by new wind, and the balance from similar proportions of solar and gas. The CC portfolio has the largest share of energy produced by gas units, leaving solar and wind to smaller shares. Finally, the ECR and No Wind portfolios are least diverse, with renewables dominating total portfolio generation in 2037.

### 7.4.4 Local Impacts & Sustainability

Kentucky Power compares portfolio performance across the local impacts and sustainability objective by evaluating:

- Local impacts measured as (1) the total new installed nameplate capacity inside Kentucky Power service territory, and (2) the total amount of capital invested inside Kentucky Power service territory between 2023 and 2037; and
- The percentage reduction in CO<sub>2</sub> emissions in 2027 and 2037 from owned resources relative to the baseline year 2005 in the Reference scenario.

#### 7.4.4.1 Local Impacts

Table 21 compares the total new installed nameplate capacity and total expected capital invested inside Kentucky Power service territory between 2023 and 2037 for each portfolio. This includes assumptions that most assets would be located inside Kentucky Power’s territory, with the exceptions that only 75% of solar and no wind would be located within the service territory. In recognition of stakeholder feedback related to wind resources selected, the Company acknowledges the risks related to the availability of wind resources and the delivery of energy to Kentucky Power’s region. However, a recent DOE Land-Based Wind market Report<sup>47</sup> estimates the wholesale prices for wind’s values was only approximately 20% lower than average wholesale prices in the PJM market. The Company will, however, continue to explore opportunities to locate resources within and outside of Kentucky Power’s territory if they are beneficial to Kentucky Power customers.

**Table 21. Local Impacts Metrics by Portfolio**

Portfolio	New Nameplate Capacity Between 2023 and 2037 (MW)	Total CapEx Invested Inside Kentucky Power Territory (\$ Millions)
Reference	893	1,146
REF-HC	855	1,134
CETA	1,205	1,511
ECR	1,465	1,942
NCR	855	1,067
CC	933	1,528
No Wind	1,178	2,088

<sup>47</sup> [https://emp.lbl.gov/sites/default/files/2022\\_land\\_based\\_wind\\_market\\_report.pdf](https://emp.lbl.gov/sites/default/files/2022_land_based_wind_market_report.pdf)

The ECR portfolio scores best by the MW metric and second best by the dollar metric due to its reliance on renewables and the highest deployment of installed capacity. The No Wind portfolio scores best by the dollar metric and third best on the MW metric due to its focus on technologies other than wind which can more easily be located within Kentucky Power service territory. The CETA portfolio scores second highest by the MW metric, driven by the greater deployment of new resources under this case to meet faster growth in customer load. The CC portfolio scores third highest on the dollar metric and fourth highest by the MW metric, a reflection of the capital cost intensity of the NGCC unit. The Reference, REF-HC, and NCR portfolios are on the lower end of the range for local impacts.

#### 7.4.4.2 CO<sub>2</sub> Emissions

Table 22 shows the levels of carbon emissions in 2027 and 2037 in the Reference scenario by portfolio and expresses the reduction in carbon emissions relative to the level of emissions to 2005 in percentage terms. Total CO<sub>2</sub> emissions from both Kentucky Power owned plants and contracted output was 9.6 million short-tons (MMst) of CO<sub>2</sub> in year 2005. Emissions have since declined and are now forecasted to be around 5.6 MMst in 2023.

**Table 22. CO<sub>2</sub> Emission Reductions by Portfolio**

Portfolio	Level of Emissions in 2005 (MMstCO <sub>2</sub> )	Level of Emissions in 2027 (MMstCO <sub>2</sub> )	% Reduction in 2027 relative to 2005	Level of Emissions in 2037 (MMstCO <sub>2</sub> )	% Reduction in 2037 relative to 2005
Reference	9.6	2.5	74%	1.0	90%
REF-HC	9.6	2.5	74%	1.0	90%
CETA	9.6	2.5	74%	1.0	90%
ECR	9.6	2.5	74%	0.3	96%
NCR	9.6	2.5	74%	1.0	90%
CC	9.6	2.5	74%	1.3	86%
No Wind	9.6	2.5	74%	0.6	94%

By 2027, all portfolios have the same level of CO<sub>2</sub> emissions at 2.5MMst and put Kentucky Power on a pathway to achieve significant CO<sub>2</sub> emissions reduction by the latter part of this decade. This is primarily driven by a reduction in the output of Mitchell as lower market pricing makes dispatch less economic.

By 2037, all portfolios except the ECR, CC, and No Wind portfolios have similar levels of CO<sub>2</sub> emissions at 1.0 MMst and a 90% reduction relative to 2005. The ECR portfolio has the highest emissions reduction due to buildout of only a single NGCT and closure of operations at

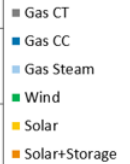
the Big Sandy steam gas unit, resulting in a 96% reduction in CO<sub>2</sub> emissions relative to 2005 levels. The No Wind portfolio exhibits similar reductions to ECR, relying on only a single NGCT unit while retaining the Big Sandy steam gas unit. The CC portfolio exhibits the least decline in emissions caused by high dispatch of the NGCC plant, resulting in an 86% reduction in CO<sub>2</sub> emissions relative to 2005 levels.

#### 7.4.5 Evaluating the 2022 IRP Scorecard

The summary of results and analysis is captured in the IRP scorecard and includes a range of cost based and non-cost based metrics to evaluate the different portfolios. The populated scorecard is shown in Figure 79. The key results from the scorecard are summarized below:

- The Reference portfolio offers balanced performance and score in the favorable end of the range across most criteria. The portfolio ranks best on affordability, while limiting cost risk and market exposure, providing adequate reliability, and strong sustainability.
- The REF-HC portfolio performs similarly as Reference across most metrics, except with a markedly higher short term cost increase. This is reflective of a similar overall build except with an accelerated renewable installation to mitigate higher technology costs in later years.
- The CETA portfolio has the sharpest rate of cost increase which levels off to result in mid-range affordability in the long run. The portfolio also exhibits above average cost risk due to substantial market exposure. With the largest accredited capacity build, the strengths of CETA are underscored through robust reliability and contribution to local impacts.
- The ECR portfolio has the lowest emissions profile along with some of the highest local impacts, caused by the lowest levels of gas and highest renewable supply. The tradeoff for these attributes is poor long-term affordability and highest cost risk. The portfolio demonstrates where perhaps too high a reliance on renewables can pose significant burdens in other areas.
- The NCR portfolio is robust and diverse, scoring highest in operational flexibility with the lowest cost risk, whereas overall affordability is middle of the pack. Less renewable resources and more storage than the other portfolios expose the NCR portfolio to a short energy position.
- The CC portfolio has the lowest scenario cost range reflecting a combination of low renewable cost exposure and favorable merit order dispatch across varying market conditions. However, the high energy output of the NGCC unit results in the highest levels of emissions and lowest decline relative to 2005 levels.
- The cost of the No Wind portfolio is highest of all portfolios, although this also translates to among the highest local impacts. The higher reliance on solar exposes the portfolio to the most energy purchases during winter months. Emissions levels are amongst the lowest of the group owing to reliance on only a single NGCT unit.

	Customer Affordability		Rate Stability			Maintaining Reliability			Local Impacts & Sustainability	
Portfolio	Short Term: 5-yr Cost CAGR, Reference Case	Long Term: 15-yr CPW, Reference Case	Scenario Range: High Minus Low Scenario Range, 15-yr CPW	Cost Risk: RR Increase in Reference Case (95th minus 50 <sup>th</sup> Percentile)	Market Exposure: Net Sales as % of Portfolio Load, Scenario Average	Planning Reserves: % Reserve Margin, Scenario Average	Operational Flexibility: Dispatchable Capacity	Resource Diversity: Generation Mix (MWh) by Technology Type - Reference Case	Local Impacts: New Nameplate MW & Total CAPEX Installed Inside Service Territory	CO2 Emissions: Percent Reduction from 2005 Baseline - Reference Case
Year Ref.	2023-2028	2023-2037	2023-2037	2037	2037	2023-2037	2027   2037	2037	2023-2037	2027   2037
Units	%	\$MM Levelized Rate	\$MM Levelized Rate	\$MM	Summer   Winter	Summer   Winter	MW	%	MW   \$MM	% Reduction
<b>Reference Portfolio</b>	7.52	3,395 \$62.1	438 \$8.9	77.6	14%   30%	11.3%   -22.7%	1,111   775		893   1,146	74%   90%
<b>Reference – High Cost Portfolio</b>	8.53	3,435 \$62.3	432 \$8.7	72.2	10%   26%	10.6%   -23.1%	1,111   775		855   1,134	74%   90%
<b>CETA Portfolio</b>	9.16	3,504 \$64.0	565 \$11.6	87.1	31%   39%	20.2%   -19.9%	1,111   825		1,205   1,511	74%   90%
<b>ECR Portfolio</b>	8.21	3,605 \$65.6	886 \$15.1	95.8	28%   26%	3.4%   -37.4%	1,111   490		1,465   1,942	74%   96%
<b>NCR Portfolio</b>	7.91	3,517 \$64.1	497 \$13.3	37.9	-25%   -20%	10.2%   -20.8%	1,111   925		855   1,067	74%   90%
<b>CC Portfolio</b>	8.78	3,516 \$64.6	430 \$9.3	56.8	24%   21%	10.7%   -26.5%	1,111   763		993   1,528	74%   86%
<b>No Wind Portfolio</b>	7.65	3,755 \$68.4	684 \$12.6	48.9	5%   -45%	10.6%   -37.1%	1,111   660		1,178   2,088	74%   94%



**Figure 79. 2022 IRP Scorecard Portfolio Results**

Note - Levelized Rates and CPW metrics are for generation component only. Metrics are for comparison only and do not represent the final costs which will apply to ratepayers.



## **7.5 Preferred Plan**

The IRP Scorecard does not select a Preferred Plan (PP) on its own, rather it provides a way of systematically comparing how each of the portfolios perform across the four IRP objectives. Each resource portfolio considered in the 2022 IRP represents a trade-off between the objectives defined by Kentucky Power. The CETA portfolio, for example, provides the greatest level of seasonal reliability, but has the highest expected short-term costs to customers. Meanwhile, the ECR portfolio has the most positive local and sustainability impacts, but has low rankings in reliability, rate stability, and long-term cost. The purpose of the Scorecard is to provide Kentucky Power management with a tool that illustrates these trade-offs and enables the selection of the best path forward for Kentucky Power’s customers and stakeholders.

After consideration of the portfolio needs and risks, Kentucky Power identified a PP that is informed by the scorecard results, scoring competitively across all scorecard elements and provides a “least regrets” portfolio for the near and mid-terms. The objective of the PP was to strike a balance of reliability, affordability, and sustainability for customers without overreliance on any one resource while also providing optionality to Kentucky Power for the type and timing of resources based on future RFP results. The PP includes a combination of supply- and demand-side resources to meet Kentucky Power’s future customer needs. The portfolio maintains affordable and stable rates for Kentucky Power customers, is expected to maintain reliability across seasons, provides sufficient capacity to meet PJM obligations and allow for some margin of uncertainty in the future related to these obligations, and creates opportunities for local development all while significantly reducing greenhouse gas emissions. The rest of this section will review the detailed outputs of the PP and discuss its performance relative to the other portfolios considered as part of the 2022 IRP.

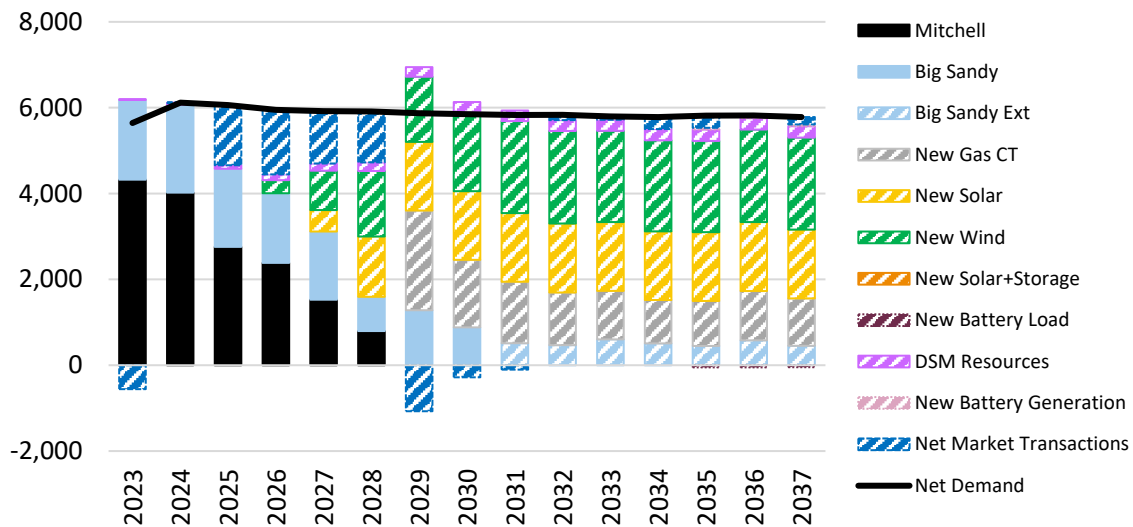
### **7.5.1 Details of the Preferred Plan**

The Preferred Plan pre-selects the 480 MW frame CT build identified in the optimized portfolios along with the renewable and intermittent resource selections from the CC portfolio represented by 700 MW of new wind and 800 MW of new solar, along with 50MW of storage by 2037. The Preferred Plan also includes the extension of the Big Sandy gas unit to 2041. Short-Term Market Purchases (STMP) are utilized with up to 78 MW annually through 2026 and 407 MW in 2028 to fully satisfy near-term adequacy.

On the demand side, the summer peak contribution from incremental demand-side resources is 3 MW in 2023, rising to a peak of 48 MW in 2034 before declining to 46 MW by 2037. Details of the annual capacity additions in the PP are displayed in Figure 80 and annual energy position in Figure 81 below.

Utility Scale Incremental New Build (Nameplate MW)									Demand Side Additions by Year (MW)	
Year	Gas CT	Gas CC	Solar (T1.T2)	Wind (T1.T2)	Li-Ion 4hr Battery Storage	Solar + Storage	Big Sandy Extension	Capacity Purchase	Year	DSM Programs
2023								73	2023	3
2024								78	2024	8
2025								78	2025	14
2026				100				78	2026	24
2027			250	100/100					2027	32
2028			150/300	100/100				407	2028	38
2029	480		100						2029	43
2030				100					2030	47
2031				100			295		2031	47
2032									2032	48
2033									2033	48
2034									2034	48
2035					50				2035	48
2036									2036	47
2037									2037	46
<b>Total</b>	<b>480</b>	<b>0</b>	<b>800</b>	<b>700</b>	<b>50</b>	<b>0</b>	<b>295</b>			

**Figure 80. Annual Capacity Additions in the 2022 IRP Preferred Plan**



**Figure 81. Kentucky Power Annual Energy Position (GWh) under Preferred Plan**

Under the Preferred Plan, the Mitchell coal unit leaves the portfolio in 2028, while operations at the Big Sandy gas unit are extended to 2041. On the demand side, Kentucky Power projects approximately 48 MW of demand-side resources between 2023 and 2030. In addition to demand-side programs, Kentucky Power proposes to add 800 MW of new solar, 700 MW of new

wind, and 50MW of storage by 2037. All of the solar and wind resources are added in the 2026-2031 time frame to take advantage of the production tax credit and contribute to accredited capacity replacement. The Preferred Plan also proposes to add 480 MW of new gas CT in 2029 as the Mitchell coal unit leaves the portfolio. The Preferred Plan relies on market capacity purchases through 2026 and again in 2028 to bridge shortfalls as Kentucky Power works to acquire firm resources.<sup>48</sup>

The Preferred Plan is informed by an analysis of the optimized portfolios discussed in section 7.3 to meet PJM minimum reserve margins given assumptions about resource availability and constraints on portfolio energy sales. However, this plan is based on an uncertain future regarding events that can impact the Company's capacity position, including uncertainty around intermittent resource availability, their contribution to reserve margins, load growth, new environmental and tax policy, and existing unit performance. The Preferred Plan includes resources to meet the Company's current PJM capacity obligations while allowing for optionality if customers' capacity and energy needs requirements change. This includes a natural gas resource, currently identified as a natural gas combustion turbine in place of a combined cycle unit. The analyses of portfolios with NGCTs vs. NGCCs were similar in costs although the NGCT portfolio scored better in several non-cost scorecard metrics, including, in part, an increased capacity towards the Company's minimum PJM capacity obligation. The final decision to select a natural gas resource that is critical to the portfolio will be subject to results of an all-source RFP and analysis. Consequently, the Company will continue to evaluate its capacity position relative to these risks and may consider adding additional resources to the Plan in the future to ensure a capacity position in compliance with PJM's capacity reserve requirements. Furthermore, the Preferred Plan provides Kentucky Power flexibility and optionality with respect to uncertainty related to winter capacity needs. As described in section 7.3.2, a portfolio optimized to meet winter peak would add to the foundational gas and renewable resources already included in the Preferred Plan, providing the potential to integrate incremental storage resources to satisfy adequacy requirements.

<sup>48</sup> Depending on the results of the RFP, the Company may pursue different quantities or types of resources from those identified in the Preferred Plan.

## 7.5.2 The Preferred Plan Best Achieves Kentucky Power’s IRP Objectives

### Introduction

For this IRP, seven portfolios were analyzed which informed the Company’s identification of its Preferred Plan. The complete Scorecard with the Preferred Plan is shown below in Figure 82. A discussion of the Preferred Plan scorecard metrics follows.

	Customer Affordability		Rate Stability			Maintaining Reliability			Local Impacts & Sustainability	
Portfolio	Short Term: 5-yr Cost CAGR, Reference Case	Long Term: 15-yr CPW, Reference Case	Scenario Range: High Minus Low Scenario Range, 15-yr CPW	Cost Risk: RR Increase in Reference Case (95th minus 50th Percentile)	Market Exposure: Net Sales as % of Portfolio Load, Scenario Average	Planning Reserves: % Reserve Margin, Scenario Average	Operational Flexibility: Dispatchable Capacity	Resource Diversity: Generation Mix (MWh) by Technology Type - Reference Case	Local Impacts: New Nameplate MW & Total CAPEX Installed Inside Service Territory	CO2 Emissions: Percent Reduction from 2005 Baseline - Reference Case
Year Ref.	2023-2028	2023-2037	2023-2037	2037	2037	2023-2037	2027   2037	2037	2023-2037	2027   2037
Units	%	\$MM Levelized Rate	\$MM Levelized Rate	\$MM	Summer   Winter	Summer   Winter	MW	%	MW   \$MM	% Reduction
<b>Reference Portfolio</b>	7.52	3,395 \$62.1	438 \$8.9	77.6	14%   30%	11.3%   -22.7%	1,111   775		893   1,146	74%   90%
<b>Reference – High Cost Portfolio</b>	8.53	3,435 \$62.3	432 \$8.7	72.2	10%   26%	10.6%   -23.1%	1,111   775		855   1,134	74%   90%
<b>CETA Portfolio</b>	9.16	3,504 \$64.0	565 \$11.6	87.1	31%   39%	20.2%   -19.9%	1,111   825		1,205   1,511	74%   90%
<b>ECR Portfolio</b>	8.21	3,605 \$65.6	886 \$15.1	95.8	28%   26%	3.4%   -37.4%	1,111   490		1,465   1,942	74%   96%
<b>NCR Portfolio</b>	7.91	3,517 \$64.1	497 \$13.3	37.9	-25%   -20%	10.2%   -20.8%	1,111   925		855   1,067	74%   90%
<b>CC Portfolio</b>	8.78	3,516 \$64.6	430 \$9.3	56.8	24%   21%	10.7%   -26.5%	1,111   763		993   1,528	74%   86%
<b>No Wind Portfolio</b>	7.65	3,755 \$68.4	684 \$12.6	48.9	5%   -45%	10.6%   -37.1%	1,111   660		1,178   2,088	74%   94%
<b>Preferred Plan</b>	8.81	3,522 \$64.8	501 \$9.4	58.3	6%   0%	14.6%   -23.5%	1,111   825		1,055   1,355	74%   90%

**Figure 82. 2022 IRP Scorecard Preferred Plan Results**

Note - Levelized Rates and CPW metrics are for generation component only. Metrics are for comparison only and do not represent the final costs which will apply to ratepayers

### **7.5.2.1 Customer Affordability**

When measured against the customer affordability objective, the Preferred Plan is among the most affordable resource plans evaluated in the 2022 IRP. In the short-term, costs rise relatively sharply compared to most other portfolios in order to support the substantial renewable development program. In the long-term, the Preferred Plan is near the mid-tier in terms of overall cost, and within a half-percent of the three next lowest cost plans evaluated in the 2022 IRP. The Preferred Plan is within \$127 million in CPW or about \$2.70/MWh in levelized rates of the lowest cost plan, representing about a 3.6% increase. Two portfolios evaluated are more than \$83 million higher under the 15-year CPW, so the Preferred Plan serves to protect customers from higher costs seen in some of the other portfolios.

### **7.5.2.2 Rate Stability**

When measured against the rate stability objective, the Scenario Range metric shows that expected costs under the Preferred Plan varied by near average levels across the fundamental market scenarios when compared to other plans. The cost risk measure shows that the Preferred Plan is able to withstand price and renewable output volatility nearly as well as those plans ranked at the top of this category. The Preferred Plan has more cost risk than the NCR, CC, and No Wind portfolios, but lower cost risk than the Reference, REF-HC, ECR, and CETA portfolios. The Preferred plan was among the lowest-risk portfolios in 2037.

The seasonal market exposure of the Preferred Plan is limited with only a 6% net sales position needed to balance customer loads during summer, and no net exposure during winter. The Preferred Plan performs best of all portfolios on this metric.

### **7.5.2.3 Maintaining Reliability**

In the Planning Reserves metric, the Preferred Plan performs adequately to maintain a greater than 9% reserve margin in both the summer and winter seasons. While PJM currently only enforces summer planning requirements, it is possible a seasonal requirement could be implemented in the future. The Preferred Plan has the highest planning reserves of all portfolios except CETA, which is optimized under higher native load conditions.

The Preferred Plan has operational flexibility rankings second only to the NCR portfolio, tied with CETA and ranking better than all others.

The resource diversity indicator shows the Preferred Plan ranks highest in terms of generation diversity. Most portfolios have a high concentration in either wind or solar although the Preferred Plan has roughly similar quantities of wind, solar, and gas generation, helping it score well based on this metric.

#### **7.5.2.4 Local Impacts & Sustainability**

The Preferred Plan scores near the middle of the pack on the Local Impact indicator when compared to the other portfolio alternatives. The MW installed are the fourth highest behind ECR, CETA, and No Wind portfolios, while the dollar investment in the Kentucky Power territory is fifth highest. Since new resources have yet to be selected or sited, an action item in the three-year plan is to refine estimates for resources that can be integrated into the Kentucky Power territory.

In the Sustainability metric, the Preferred Plan puts Kentucky Power on a pathway for significant CO<sub>2</sub> emissions relative to the 2005 baseline. By 2037, all plans are on track to achieve reductions around 90% relative to the 2005 baseline. In the Preferred Plan, Kentucky Power would seek opportunities for further reduction or offset during the 2040s.

### 7.5.3 Estimated Bill Impacts of the Preferred Plan

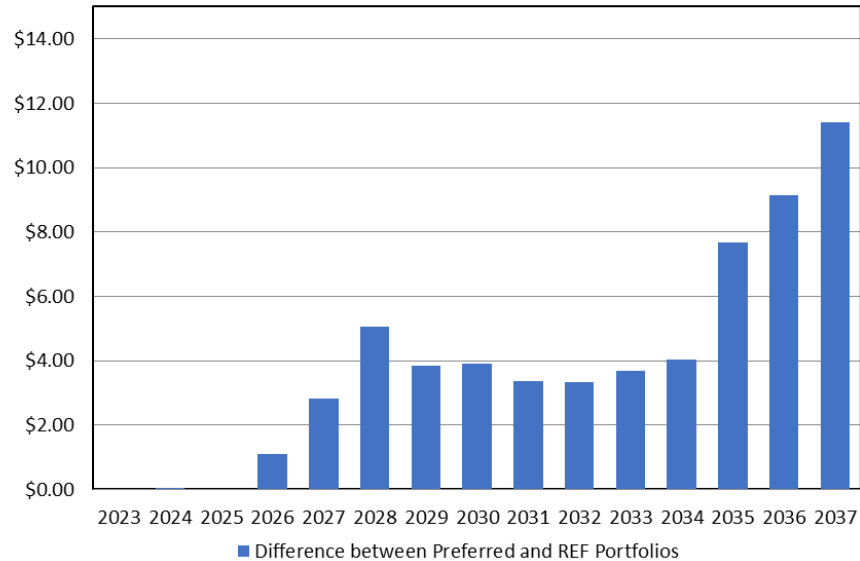
The Company compared the estimated bill impact of the Preferred Plan, which includes the continued operation of Big Sandy through 2041. All portfolios modeled included significant investments in natural gas, solar and wind resources, and energy efficiency savings. To estimate the bill impact of the Preferred Plan over the planning period, the Company compared the total annual cost and sales of electricity (kWh) of the lowest cost plan, Reference Plan and the Preferred Plan. This calculated estimate assumed an average residential usage/month of 1,229 kWh and does not take into consideration rate design or differences in customer classes. The Company also assumed that transmission and distribution related costs will be incurred at the same rate under all plans, and therefore have no impact to the calculation of bill impacts comparing plans. Keep in mind that the cost assumptions used in this comparison are indicative in nature in that any investment decision and the associated rate changes are subject to regulatory approval.

For purposes of this comparison, the annual net cost from the PERFORM model was divided by the Kentucky Power load, net of energy efficiency savings to get a cost per kilowatt-hour. The PERFORM model annual costs include the incremental fixed and all variable costs of the Company's generation resources, the incremental costs related to capital spending on new generation resources, EE Programs, a credit for the revenue received from the PJM market for the energy produced, and the cost of energy from PJM to serve the Company's load. In equation form, this looks like:

$$\begin{aligned} \text{Net Cost} &= \text{Energy Requirement (Load)} * \text{PJM Market Energy Cost} \\ &+ \text{Incremental Fixed and All Variable Costs from Kentucky Power's existing and} \\ &\quad \text{new Generation Resources} \\ &+ \text{Carrying cost on capital} \\ &+ \text{Cost of EE Programs} \\ &- \text{PJM Market Energy Revenues (including credit for energy savings from EE)} \end{aligned}$$

As stated earlier, the monthly bill for all portfolios increased. When comparing the increased bill impact between the Reference portfolio and Preferred Plan, the Preferred Plan realizes a slightly higher increase in 2027 and 2028 compared to the Reference portfolio due to the

increased investment in more solar resources. After increases through 2028, the difference in rate impacts in future years of the Preferred Plan declines to approximately \$3.30/month through 2034.



**Figure 83. Bill Impacts (\$/Month) of Preferred Plan Compared to Reference Portfolio**

#### 7.5.4 Rate Impacts of the Preferred Plan

The average “real” rate per kWh expected to be paid by Kentucky Power customers from 2023 to 2037 that results directly from the costs and energy consumption impacts associated with the Preferred Plan is shown in Table 23 below. As previously stated, Kentucky Power does not expect to add any major new baseload generation during this period; however, renewable projects, new EE programs, and peaking unit additions will require investments and/or purchase obligations. On a real (2023) dollar basis as reflected in Table 23, this Preferred Plan is anticipated to result in relatively steady customer-estimated rates. These projected rates show Kentucky Power’s projected success in mitigating the impact of carbon regulation on customer rates through its development of a well-diversified, renewable-centric portfolio.



**Table 23. Approximate Rate Impacts of Preferred Plan**

<b>Year</b>	<b>Nominal (\$/kWh)</b>	<b>Real (\$2023/kWh)</b>
2023	\$0.165	\$0.165
2024	\$0.170	\$0.166
2025	\$0.171	\$0.164
2026	\$0.172	\$0.161
2027	\$0.178	\$0.163
2028	\$0.190	\$0.171
2029	\$0.196	\$0.174
2030	\$0.198	\$0.173
2031	\$0.196	\$0.168
2032	\$0.193	\$0.163
2033	\$0.192	\$0.158
2034	\$0.190	\$0.154
2035	\$0.191	\$0.152
2036	\$0.190	\$0.149
2037	\$0.196	\$0.150

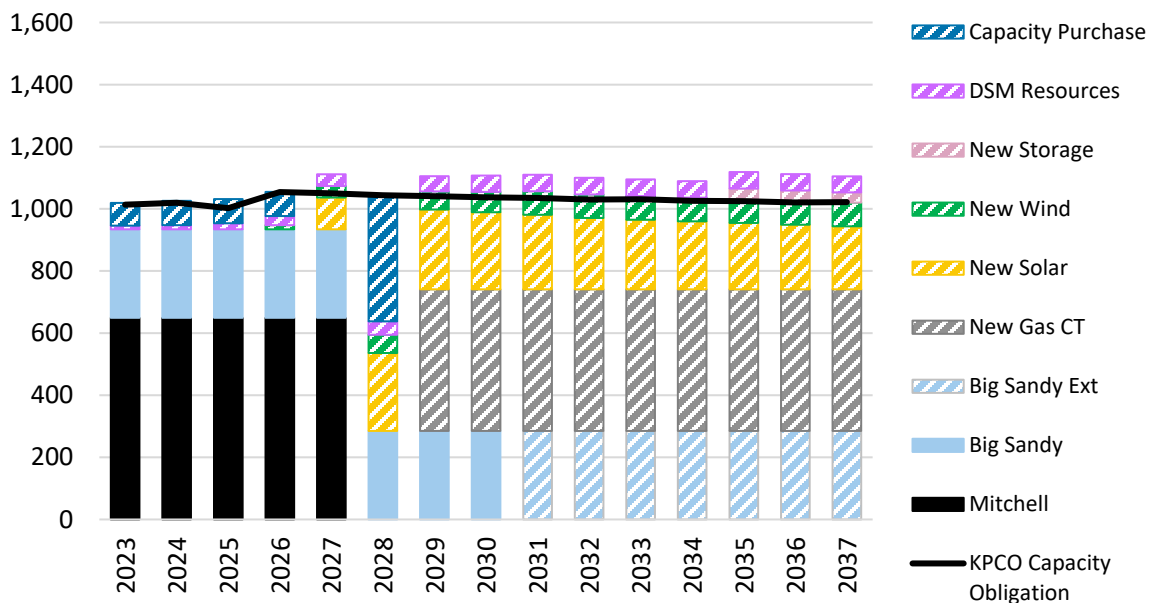
\* Note: The rate impacts presented in this table do not consider the prospect of increases in Kentucky Power’s transmission and distribution-related costs over this period, as well as increases in base generation-related costs not uniquely incorporated into the planning/modeling process.

## 8.0 Conclusion

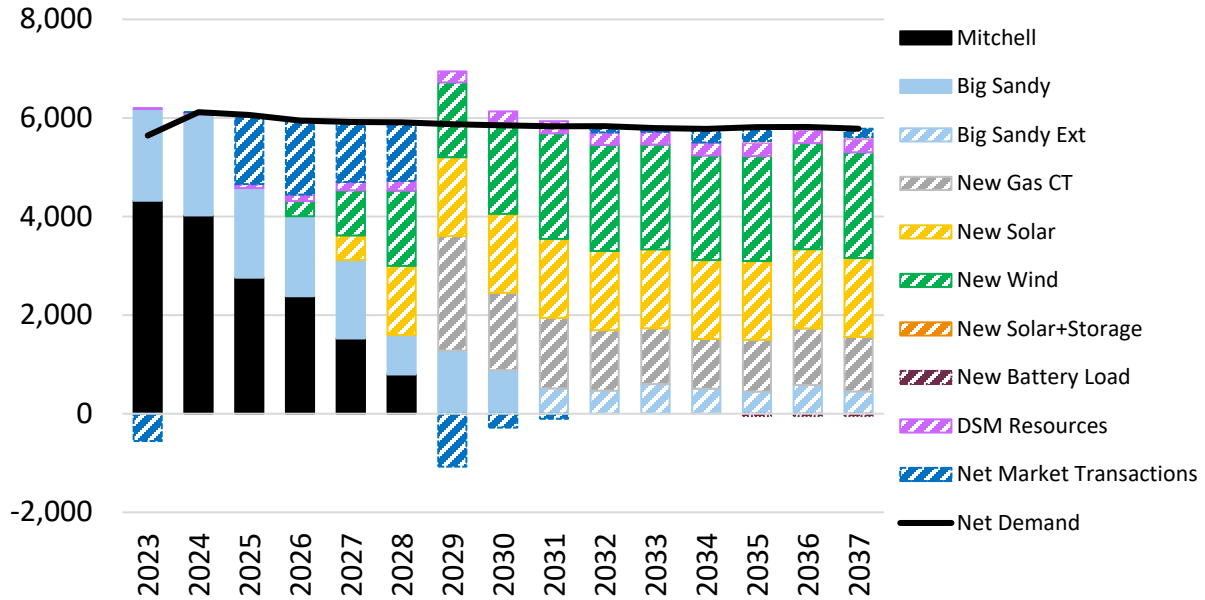
Kentucky Power selected the Preferred Plan for the 2022 IRP because it best meets the objectives of providing affordable, reliable electricity for customers while also maintaining rate stability and achieving excellent sustainability performance. The Preferred Plan scored competitively across all scorecard elements and provides a “least regrets” portfolio for the near and mid-terms without an overreliance on any one resource while also providing optionality to Kentucky Power for the type and timing of resources based on future RFP results.

### 8.1 Plan Summary

Figure 84 summarizes the additions to the Kentucky Power portfolio over the 2023-2037 time period under the Preferred Plan. It shows how a combination of new supply- and demand-side resources meets expected customer needs and maintains or exceeds the 9% planning reserve margin required by PJM. The Preferred Plan retains the 295 MW Big Sandy gas unit for an additional 10 years past the original retirement date, adds 480 MW NGCT, 800 MW of new solar PV, 700 MW of new wind, 50 MW of stand-alone storage, and adds energy efficiency resources over the next 15 years.



**Figure 84. Kentucky Power Annual PJM Capacity Position under Preferred Plan (MW-UCAP)**



**Figure 85. Kentucky Power Annual Energy Position under Preferred Plan (GWh)**

## 8.2 Three-Year Action Plan

Steps to be taken by Kentucky Power in the near future as part of its Three-Year Action Plan include:

1. Pursue economic development opportunities to increase and diversify its industrial and commercial load.
2. Initiate an All-Source Request for Proposal (RFP) to add cost-effective market capacity purchases and firm resources in the near future.
3. Further examine opportunities to increase cost effective levels of EE in alignment with the Preferred Plan.
4. Monitor this action plan and future IRPs to address changing circumstances.
5. Seek to refine cost estimates and develop plans for a Big Sandy life extension.

## **Appendix**

**Exhibit A**    Cross Reference Table of Responses to Staff Comments from 2019 Final IRP Report

**Exhibit B**    Cross Reference Table of Rule 807 KAR 5:058

**Exhibit C**    Load Forecast Tables

**Exhibit D**    New Generation Technologies

**Exhibit E**    Case and Scenario Results

**Exhibit F**    Transmission Maps

**Exhibit G**    Supplemental Data and Details

**Exhibit H**    Load Forecast Model Details and Input Data

**Exhibit I**    Load Forecast Model Details and Input Data

**Exhibit J**    PJM Capacity Market Analysis

**Exhibit K**    Organization of the 2022 Kentucky Power IRP

**Exhibit A** – Cross Reference Table of Staff Comments from 2019 Final IRP Report

Topic	Staff Comment	Reference
Load Forecast	Provide a more detailed description and explanation of the county level historical, and forecast data obtained from Moody’s Analytics (or any other source) and the process employed to tailor data to specific counties and to Kentucky Power’s service territory. The explanation should also include a description of any alternative forecast scenarios provided by Moody’s Analytics, such as optimistic and pessimistic growth scenarios reflecting different economic and demographic assumptions, which may influence the ultimate forecast data used by Kentucky Power.	Section 2.13
	Provide a more detailed description of the different load forecast scenarios including how the base case assumptions were changed, how they differ from the base case, and a table depicting the all the various results.	Section 2.13
	Continue to provide an update on Kentucky Power’s economic development efforts including the impact on its load and employment in its service territory.	Section 2.13
	Provide a comparison of the annual and seasonal peak forecasts of the residential, commercial, and large commercial and industrial sales classes with actual results for the period following the 2019 IRP.	Sections 2.12.1, 2.12.2, 2.12.3, 2.12.4
	Include discussion and analysis of the potential for and any increases in distributed energy resources on the load forecasts. This should include behind the meter generation at residential, commercial and industrial customer locations. These should be evaluated separately and cumulatively including discussion of drivers encouraging and discouraging such development.	Section 2.13
DSM/EE	As required by the IRP regulation, 807 KAR 5:058, Kentucky Power should continue to define and improve procedures to evaluate, measure, and verify both actual costs and benefits of energy savings based on the actual dollar savings and energy savings. With the expiration of the Rockport UPA, the potential impact of new DSM programs will be much greater in the next IRP.	Section 4.0
	Continue to scrutinize the results of each existing DSM program measure's cost-effectiveness test and provide those results in future DSM cases, along with detailed support for future DSM program expansions and additions after the Rockport UPA capacity is no longer available.	Section 4.0
	Evaluate the marginal benefits and costs, including opportunity costs of VVO and DR programs.	Section 3.4 Section 3.5
	Examine additional low-income programs that allow for more participants and easier access to EE alternatives.	Section 4.0 Section 3.5
	Continue to monitor the DG additions.	Section 2.6.1 Section 2.13

Supply-Side Modeling	Provide a detailed cost benefit study demonstrating why it should continue to participate in PJM as an FRR versus RPM, and discussing the advantages of remaining an FRR company.	Section 5.9
	If not already included in the prior study, conduct a separate FRR versus RPM cost benefit study similar to the first, except that the analyses should explicitly assume the Mitchell station will continue generating beyond 2028 and then assume the Mitchell station will retire in 2028.	Section 5.9
	Explicitly discuss how and demonstrate that its winter capacity requirements are being satisfied over the forecast horizon. The discussion should include the role the PCA plays in the satisfaction of Kentucky Power’s seasonal capacity and energy requirements.	Sections 3.2, 5.9, 7.2.2, 7.2.3
	Explicitly describe its evaluation of the inclusion of Kentucky base generation merchant plants and how those costs compare to other alternate supply-side resources.	Section 5.9
	Explain the costs and benefits of acquiring renewables through purchased power contracts or through the construction of the facility itself generally and specifically in support of any renewable capacity additions.	Section 5.9
	Explain the costs associated with upgrading the transmission system so to accommodate any renewable generation capacity.	Sections 3.6.1, 3.6.2, 3.6.5, 5.9
	Model the impact to the Mitchell Plant due to the publication of the final ELG rule along with any impacts to Kentucky Power’s preferred supply side plan to meet its PJM reserve margin requirements and its anticipated winter capacity and demand requirements.	N/A
	Model scenarios of differing renewable constraints and no constraints on the size or addition.	Section 5.9
	If Kentucky Power has not pursued any of the preferred plan options or has pursued another option by the next IRP, provide a detailed explanation of why and a detailed explanation and modeling of any alternate course taken.	Section 5.9

**Exhibit B** – Cross Reference Table of Rule 807 KAR 5:058



Section	Requirement	Report Section
5	<p><u>Plan Summary.</u> The plan shall contain a summary which discusses the utility's projected load growth and the resources planned to meet that growth. The summary shall include at a minimum:</p> <ol style="list-style-type: none"> <li>(1) Description of the utility, its customers, service territory, current facilities, and planning objectives;</li> <li>(2) Description of models, methods, data, and key assumptions used to develop the results contained in the plan;</li> <li>(3) Summary of forecasts of energy and peak demand, and key economic and demographic assumptions or projections underlying these forecasts;</li> <li>(4) Summary of the utility's planned resource acquisitions including improvements in operating efficiency of existing facilities, demand-side programs, nonutility sources of generation, new power plants, transmission improvements, bulk power purchases and sales, and interconnections with other utilities;</li> <li>(5) Steps to be taken during the next three (3) years to implement the plan;</li> <li>(6) Discussion of key issues or uncertainties that could affect successful implementation of the plan.</li> </ol>	Executive Summary
6	<p><u>Significant Changes.</u> All integrated resource plans, shall have a summary of significant changes since the plan most recently filed. This summary shall describe, in narrative and tabular form, changes in load forecasts, resource plans, assumptions, or methodologies from the previous plan. Where appropriate, the utility may also use graphic displays to illustrate changes.</p>	Section 1.5
7	<p><u>Load Forecasts.</u> The plan shall include historical and forecasted information regarding loads.</p> <ol style="list-style-type: none"> <li>(1) The information shall be provided for the total system and, where available, disaggregated by the following customer classes: <ol style="list-style-type: none"> <li>(a) Residential heating;</li> <li>(b) Residential nonheating;</li> <li>(c) Total residential (total of paragraphs (a) and (b) of this subsection);</li> <li>(d) Commercial;</li> <li>(e) Industrial;</li> <li>(f) Sales for resale;</li> <li>(g) Utility use and other.</li> </ol> </li> </ol> <p>The utility shall also provide data at any greater level of disaggregation available.</p>	
	<ol style="list-style-type: none"> <li>(2) The utility shall provide the following historical information for the base year, which shall be the most recent calendar year for which actual energy sales and system peak demand data are available, and the four (4) years preceding the base year:</li> </ol>	

	<ul style="list-style-type: none"> <li>(a) Average annual number of customers by class as defined in subsection (1) of this section;</li> <li>(b) Recorded and weather-normalized annual energy sales and generation for the system, and sales disaggregated by class as defined in subsection (1) of this section;</li> <li>(c) Recorded and weather-normalized coincident peak demand in summer and winter for the system;</li> <li>(d) Total energy sales and coincident peak demand to retail and wholesale customers for which the utility has firm, contractual commitments;</li> <li>(e) Total energy sales and coincident peak demand to retail and wholesale customers for which service is provided under an interruptible or curtailable contract or tariff or under some other nonfirm basis;</li> <li>(f) Annual energy losses for the system;</li> <li>(g) Identification and description of existing demand-side programs and an estimate of their impact on utility sales and coincident peak demands including utility or government sponsored conservation and load management programs;</li> <li>(h) Any other data or exhibits, such as load duration curves or average energy usage per customer, which illustrate historical changes in load or load characteristics.</li> </ul>	<p>Exhibit C-14</p> <p>Exhibit C-18</p> <p>Exhibit C-17</p> <p>Exhibit C-16</p> <p>N/A</p> <p>Exhibit C-15 Section 3.4</p> <p>Exhibits C-5, C-10</p>
	<p>(3) For each of the fifteen (15) years succeeding the base year, the utility shall provide a base load forecast it considers most likely to occur and, to the extent available, alternate forecasts representing lower and upper ranges of expected future growth of the load on its system. Forecasts shall not include load impacts of additional, future demand-side programs or customer generation included as part of planned resource acquisitions estimated separately and reported in Section 8 (4) of this administrative regulation. Forecasts shall include the utility's estimates of existing and continuing demand side programs as described in subsection (5) of this section.</p>	<p>Exhibits C-1, C-2A, C-2B, C-5, C-6, C-9, C-10</p>
	<p>(4) The following information shall be filed for each forecast:</p> <ul style="list-style-type: none"> <li>(a) Annual energy sales and generation for the system and sales disaggregated by class as defined in subsection (1) of this section;</li> <li>(b) Summer and winter coincident peak demand for the system;</li> <li>(c) If available for the first two (2) years of the forecast, monthly forecasts of energy sales and generation for the system and disaggregated by class as defined in subsection (1) of this section and system peak demand;</li> <li>(d) The impact of existing and continuing demand-side programs on both energy sales and system peak demands, including utility and government sponsored conservation and load management programs;</li> </ul>	<p>Exhibits C-2A, C2-B</p> <p>Exhibits C-2A, C-2B</p> <p>Exhibits C-3, C-4</p> <p>Exhibit C-6, Section 3.4.1</p>

	(e) Any other data or exhibits which illustrate projected changes in load or load characteristics.	Exhibit C-1
	<p>(5) The additional following data shall be provided for the integrated system, when the utility is part of a multistate integrated utility system, and for the selling company, when the utility purchases fifty (50) percent of its energy from another company:</p> <p>(a) For the base year and the four (4) years preceding the base year:</p> <ol style="list-style-type: none"> <li>1. Recorded and weather normalized annual energy sales and generation;</li> <li>2. Recorded and weather-normalized coincident peak demand in summer and winter.</li> </ol> <p>(b) For each of the fifteen (15) years succeeding the base year:</p> <ol style="list-style-type: none"> <li>1. Forecasted annual energy sales and generation;</li> <li>2. Forecasted summer and winter coincident peak demand.</li> </ol>	
	(6) A utility shall file all updates of load forecasts with the commission when they are adopted by the utility.	
	<p>(7) The plan shall include a complete description and discussion of:</p> <p>(a) All data sets used in producing the forecasts;</p> <p>(b) Key assumptions and judgments used in producing forecasts and determining their reasonableness;</p> <p>(c) The general methodological approach taken to load forecasting (for example, econometric, or structural) and the model design, model specification, and estimation of key model parameters (for example, price elasticities of demand or average energy usage per type of appliance);</p> <p>(d) The utility's treatment and assessment of load forecast uncertainty;</p> <p>(e) The extent to which the utility's load forecasting methods and models explicitly address and incorporate the following factors:</p> <ol style="list-style-type: none"> <li>1. Changes in prices of electricity and prices of competing fuels;</li> <li>2. Changes in population and economic conditions in the utility's service territory and general region;</li> <li>3. Development and potential market penetration of new appliances, equipment, and technologies that use electricity or competing fuels; and</li> <li>4. Continuation of existing company and government sponsored conservation and load management or other demand-side programs.</li> </ol> <p>(f) Research and development efforts underway or planned to improve performance, efficiency, or capabilities of the utility's load forecasting methods; and</p> <p>(g) Description of and schedule for efforts underway or planned to develop end-use load and market data for</p>	<p style="text-align: center;">Section 2.2</p> <p style="text-align: center;">Sections 2.3, 2.4</p> <p style="text-align: center;">Section 2.7</p> <p style="text-align: center;">Section 2.8</p> <p style="text-align: center;">Section 2.4.4</p> <p style="text-align: center;">Section 2.6.1</p> <p style="text-align: center;">Section 2.6.2</p> <p style="text-align: center;">Section 2.9.3</p> <p style="text-align: center;">Section 2.6.1</p>

	analyzing demand-side resource options including load research and market research studies, customer appliance saturation studies, and conservation and load management program pilot or demonstration projects.	
8	<p><u>Resource Assessment and Acquisition Plan.</u> (1) The plan shall include the utility's resource assessment and acquisition plan for providing an adequate and reliable supply of electricity to meet forecasted electricity requirements at the lowest possible cost. The plan shall consider the potential impacts of selected, key uncertainties and shall include assessment of potentially cost effective resource options available to the utility.</p>	
	<p>(2) The utility shall describe and discuss all options considered for inclusion in the plan including:</p> <ul style="list-style-type: none"> <li>(a) Improvements to and more efficient utilization of existing utility generation, transmission, and distribution facilities;</li> <li>(b) Conservation and load management or other demand-side programs not already in place;</li> <li>(c) Expansion of generating facilities, including assessment of economic opportunities for coordination with other utilities in constructing and operating new units; and</li> <li>(d) Assessment of nonutility generation, including generating capacity provided by cogeneration, technologies relying on renewable resources, and other nonutility sources.</li> </ul>	<p>Section 3.2</p> <p>Section 4.0</p> <p>Section 5.2.1</p> <p>Sections 3.4, 5.4, 5.7</p>
	<p>(3) The following information regarding the utility's existing and planned resources shall be provided. A utility which operates as part of a multistate integrated system shall submit the following information for its operations within Kentucky and for the multistate utility system of which it is a part. A utility which purchases fifty (50) percent or more of its energy needs from another company shall submit the following information for its operations within Kentucky and for the Company from which it purchases its energy needs.</p> <ul style="list-style-type: none"> <li>(a) A map of existing and planned generating facilities, transmission facilities with a voltage rating of sixty-nine (69) kilovolts or greater, indicating their type and capacity, and locations and capacities of all interconnections with other utilities. The utility shall discuss any known, significant conditions which restrict transfer capabilities with other utilities.</li> <li>(b) A list of all existing and planned electric generating facilities which the utility plans to have in service in the base year or during any of the fifteen (15) years of the forecast period, including for each facility: <ol style="list-style-type: none"> <li>1. Plant name;</li> <li>2. Unit number(s);</li> <li>3. Existing or proposed location;</li> <li>4. Status (existing, planned, under construction, etc.);</li> <li>5. Actual or projected commercial operation date;</li> </ol> </li> </ul>	<p>Exhibit F</p> <p>Exhibit G-1  Exhibit G-1  Exhibit G-1</p>

	<p>6. Type of facility;</p> <p>7. Net dependable capability, summer and winter;</p> <p>8. Entitlement if jointly owned or unit purchase;</p> <p>9. Primary and secondary fuel types, by unit;</p> <p>10. Fuel storage capacity;</p> <p>11. Scheduled upgrades, deratings, and retirement dates;</p> <p>12. Actual and projected cost and operating information for the base year (for existing units) or first full year of operations (for new units) and the basis for projecting the information to each of the fifteen (15) forecast years (for example, cost escalation rates). All cost data shall be expressed in nominal and real base year dollars.</p> <p style="padding-left: 40px;">a. Capacity and availability factors;</p> <p style="padding-left: 40px;">b. Anticipated annual average heat rate;</p> <p style="padding-left: 40px;">c. Costs of fuel(s) per millions of British thermal units (MMBtu);</p> <p style="padding-left: 40px;">d. Estimate of capital costs for planned units (total and per kilowatt of rated capacity);</p> <p style="padding-left: 40px;">e. Variable and fixed operating and maintenance costs;</p> <p style="padding-left: 40px;">f. Capital and operating and maintenance cost escalation factors;</p> <p style="padding-left: 40px;">g. Projected average variable and total electricity production costs (in cents per kilowatt-hour).</p> <p>(c) Description of purchases, sales, or exchanges of electricity during the base year or which the utility expects to enter during any of the fifteen (15) forecast years of the plan.</p> <p>(d) Description of existing and projected amounts of electric energy and generating capacity from cogeneration, self-generation, technologies relying on renewable resources, and other nonutility sources available for purchase by the utility during the base year or during any of the fifteen (15) forecast years of the plan.</p> <p>(e) For each existing and new conservation and load management or other demand-side programs included in the plan:</p> <p style="padding-left: 40px;">1. Targeted classes and end-uses;</p> <p style="padding-left: 40px;">2. Expected duration of the program;</p> <p style="padding-left: 40px;">3. Projected energy changes by season, and summer and winter peak demand changes;</p> <p style="padding-left: 40px;">4. Projected cost, including any incentive payments and program administrative costs; and</p> <p style="padding-left: 40px;">5. Projected cost savings, including savings in utility's generation, transmission and distribution costs.</p>	<p>Exhibit G-1</p> <p>Exhibit G-1</p> <p>Exhibit G-1</p> <p>Exhibit G-1</p> <p>Exhibit G-1</p> <p>Exhibit G-1</p> <p>Exhibit G-1</p> <p>Exhibit G-2</p> <p>Exhibit G-3</p> <p>Exhibit G-4</p> <p>Exhibit G-5</p> <p>Exhibit G-6</p> <p>Exhibit G-7</p> <p>Exhibit G-7</p> <p>Exhibit G-8</p> <p>Exhibit G-9</p> <p>Exhibit G-9</p> <p>Exhibit G-10</p>
	<p>(4) The utility shall describe and discuss its resource assessment and acquisition plan which shall consist of resource options which</p>	



	<p>(b) Key assumption and judgments used in the assessment and how uncertainties in those assumptions and judgments were incorporated into analyses;</p> <p>(c) Criteria (for example, present value of revenue requirements, capital requirements, environmental impacts, flexibility, diversity) used to screen each resource alternative including demand-side programs, and criteria used to select the final mix of resources presented in the acquisition plan;</p> <p>(d) Criteria used in determining the appropriate level of reliability and the required reserve or capacity margin, and discussion of how these determinations have influenced selection of options;</p> <p>(e) Existing and projected research efforts and programs which are directed at developing data for future assessments and refinements of analyses;</p> <p>(f) Actions to be undertaken during the fifteen (15) years covered by the plan to meet the requirements of the Clean Air Act amendments of 1990, and how these actions affect the utility's resource assessment; and</p> <p>(g) Consideration given by the utility to market forces and competition in the development of the plan. Technical discussion, descriptions and supporting documentation shall be contained in a technical appendix.</p>	<p>Sections 2.7, 6.2, 6.3, 6.4, 6.6, 7.5.2</p> <p>Section 7.1, 7.2</p> <p>Section 3.1</p> <p>Sections 4.1 5.1, 5.4</p> <p>Section 3.3</p> <p>Sections 5.4, 5.5, 5.6, 6.0, Exhibit D</p>
9	<p><u>Financial Information.</u> The integrated resource plan shall, at a minimum, include and discuss the following financial information:</p> <p>(1) Present (base year) value of revenue requirements stated in dollar terms;</p> <p>(2) Discount rate used in present value calculations;</p> <p>(3) Nominal and real revenue requirements by year; and</p> <p>(4) Average system rates (revenues per kilowatt hour) by year.</p>	<p>Exhibit G-12</p> <p>Exhibit G-12</p> <p>Exhibit G-12</p> <p>Section 7.5.4</p>

**Exhibit C – Load Forecast Tables**



Exhibit C-1

Kentucky Power Company												
Annual Internal Energy Requirements and Growth Rates												
2017-2037												
	Residential Sales		Commercial Sales		Industrial Sales		Other Internal Sales		Losses		Total Internal Energy Requirements	
	GWH	% Growth	GWH	% Growth	GWH	% Growth	GWH	% Growth	GWH	% Growth	GWH	% Growth
<b>Actual</b>												
2017	1,933	--	1,240	--	2,407	--	90	--	390	--	6,060	--
2018	2,159	11.7	1,276	2.9	2,402	-0.2	96	6.0	413	5.8	6,346	4.7
2019	2,051	-5.0	1,251	-2.0	2,319	-3.5	91	-4.8	379	-8.2	6,091	-4.0
2020	1,990	-3.0	1,153	-7.8	1,964	-15.3	86	-5.3	378	-0.2	5,571	-8.5
2021	1,979	-0.6	1,144	-0.7	1,960	-0.2	88	1.9	437	15.5	5,609	0.7
<b>Forecast</b>												
2022 (1)	1,976	-0.2	1,213	6.0	2,032	3.6	88	-0.2	432	-1.1	5,740	2.3
2023	1,959	-0.9	1,220	0.6	1,992	-2.0	87	-0.9	386	-10.6	5,643	-1.7
2024	1,929	-1.5	1,657	35.8	1,988	-0.2	87	-0.6	437	13.2	6,098	8.1
2025	1,909	-1.0	1,654	-0.2	1,978	-0.5	42	-51.3	476	9.0	6,060	-0.6
2026	1,890	-1.0	1,650	-0.3	1,968	-0.5	9	-77.7	431	-9.6	5,948	-1.8
2027	1,873	-0.9	1,644	-0.3	1,958	-0.5	9	0.0	433	0.6	5,918	-0.5
2028	1,862	-0.6	1,641	-0.2	1,953	-0.3	9	0.0	426	-1.6	5,892	-0.4
2029	1,848	-0.7	1,637	-0.2	1,951	-0.1	9	0.0	427	0.1	5,872	-0.3
2030	1,832	-0.8	1,633	-0.3	1,950	0.0	9	0.0	425	-0.4	5,850	-0.4
2031	1,821	-0.6	1,629	-0.2	1,950	0.0	9	0.0	423	-0.5	5,832	-0.3
2032	1,810	-0.6	1,625	-0.2	1,947	-0.1	9	0.0	422	-0.1	5,814	-0.3
2033	1,800	-0.6	1,622	-0.2	1,944	-0.2	9	0.0	420	-0.5	5,795	-0.3
2034	1,791	-0.5	1,619	-0.2	1,942	-0.1	9	0.0	419	-0.3	5,780	-0.3
2035	1,782	-0.5	1,617	-0.2	1,940	-0.1	9	0.0	418	-0.3	5,765	-0.3
2036	1,773	-0.5	1,614	-0.1	1,937	-0.1	9	0.0	417	-0.3	5,750	-0.3
2037	1,765	-0.5	1,612	-0.1	1,933	-0.2	9	0.0	415	-0.3	5,734	-0.3
<b>Average Annual Growth Rates:</b>												
2017-2021		0.6		-2.0		-5.0		-0.7		2.9		-1.9
2022-2037		-0.7		2.0		-0.2		-14.7		0.5		0.1

Note: (1) Data for 2022 are six months actual and six months forecast.

Exhibit C-2A

<b>Kentucky Power Company</b>										
<b>Annual Internal Load</b>										
<b>2023-2032</b>										
	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>	<b>2029</b>	<b>2030</b>	<b>2031</b>	<b>2032</b>
<b>Internal Energy (GWH)</b>										
<b>Residential</b>	1,959	1,929	1,909	1,890	1,873	1,862	1,848	1,832	1,821	1,810
<b>Commercial</b>	1,220	1,657	1,654	1,650	1,644	1,641	1,637	1,633	1,629	1,625
<b>Industrial</b>	1,992	1,988	1,978	1,968	1,958	1,953	1,951	1,950	1,950	1,947
<b>Total Other Ultimate</b>	9	9	9	9	9	9	9	9	9	9
<b>Total Ultimate Sales</b>	5,180	5,584	5,551	5,518	5,485	5,466	5,446	5,425	5,409	5,392
<b>Municipals</b>	78	77	33	0	0	0	0	0	0	0
<b>Total Sales-for-Resale</b>	78	77	33	0	0	0	0	0	0	0
<b>Total Internal Sales</b>	5,257	5,661	5,583	5,518	5,485	5,466	5,446	5,425	5,409	5,392
<b>Total Losses</b>	386	437	476	431	433	426	427	425	423	422
<b>Total Internal Energy</b>	5,643	6,098	6,060	5,948	5,918	5,892	5,872	5,850	5,832	5,814
<b>Internal Peak Demand (MW)</b>										
<b>Summer</b>	952	1,033	1,030	1,010	1,006	1,000	997	994	992	987
<b>Preceding Winter</b>	1,289	1,283	1,256	1,247	1,235	1,231	1,223	1,217	1,206	1,205

Exhibit C-2B

<b>Kentucky Power Company</b>					
<b>Annual Internal Load</b>					
<b>2033-2037</b>					
	<b><u>2033</u></b>	<b><u>2034</u></b>	<b><u>2035</u></b>	<b><u>2036</u></b>	<b><u>2037</u></b>
<b><u>Internal Energy (GWH)</u></b>					
<b>Residential</b>	1,800	1,791	1,782	1,773	1,765
<b>Commercial</b>	1,622	1,619	1,617	1,614	1,612
<b>Industrial</b>	1,944	1,942	1,940	1,937	1,933
<b>Total Other Ultimate</b>	9	9	9	9	9
<b>Total Ultimate Sales</b>	5,375	5,361	5,347	5,333	5,319
<b>Municipals</b>	0	0	0	0	0
<b>Total Sales-for-Resale</b>	0	0	0	0	0
<b>Total Internal Sales</b>	5,375	5,361	5,347	5,333	5,319
<b>Total Losses</b>	420	419	418	417	415
<b>Total Internal Energy</b>	5,795	5,780	5,765	5,750	5,734
<b><u>Internal Peak Demand (MW)</u></b>					
<b>Summer</b>	988	983	982	978	979
<b>Preceding Winter</b>	1,198	1,193	1,185	1,183	1,178

Exhibit C-3

Kentucky Power Company													
<u>Monthly Internal Load</u>													
2023													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
<b>Internal Energy (GWH)</b>													
Residential	260.3	205.0	173.4	122.3	115.1	132.8	173.7	161.7	125.1	107.9	157.1	224.1	1,959
Commercial	117.9	98.5	97.9	84.7	97.3	104.0	114.8	108.9	99.8	96.5	102.6	97.2	1,220
Industrial	168.6	150.6	168.4	162.6	173.0	165.9	168.6	167.6	157.4	167.2	176.6	165.3	1,992
Total Other Ultimate	1.0	0.8	0.8	0.7	0.6	0.6	0.6	0.7	0.7	0.9	1.0	1.0	9
Total Ultimate Sales	547.8	454.9	440.6	370.3	386.0	403.2	457.6	438.9	383.0	372.6	437.3	487.6	5,180
Municipals	8.5	7.4	6.6	5.3	5.3	6.0	6.9	6.9	5.5	5.3	6.2	7.7	78
Total Sales-for-Resale	8.5	7.4	6.6	5.3	5.3	6.0	6.9	6.9	5.5	5.3	6.2	7.7	78
Total Internal Sales	556.3	462.2	447.3	375.6	391.3	409.2	464.5	445.9	388.5	377.9	443.5	495.3	5,257
Total Losses	46.5	38.6	37.2	31.3	22.3	34.1	18.2	37.1	32.4	31.5	7.3	49.6	386
Total Internal Energy	602.9	500.8	484.5	406.9	413.5	443.3	482.7	483.0	420.9	409.4	450.7	544.9	5,643
<b>Internal Peak Demand (MW)</b>	1,230	1,159	887	759	768	860	817	952	846	719	874	1,063	1,230

Exhibit C-4

Kentucky Power Company													
<u>Monthly Internal Load</u>													
2024													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
<b>Internal Energy (GWH)</b>													
Residential	259.9	211.1	162.8	118.2	110.3	131.6	169.9	160.5	122.3	105.9	166.3	209.9	1,929
Commercial	155.3	139.0	131.5	120.8	132.5	140.9	150.0	146.1	136.0	132.9	146.6	125.6	1,657
Industrial	169.1	152.6	167.4	162.6	172.0	165.7	167.5	167.6	156.9	166.7	180.9	159.3	1,988
Total Other Ultimate	1.0	0.8	0.8	0.7	0.6	0.5	0.6	0.7	0.7	0.9	1.0	1.0	9
Total Ultimate Sales	585.4	503.5	462.6	402.3	415.4	438.9	488.0	474.9	415.9	406.4	494.8	495.7	5,584
Municipals	8.5	7.3	6.6	5.3	5.3	6.0	6.8	6.9	5.4	5.2	6.1	7.6	77
Total Sales-for-Resale	8.5	7.3	6.6	5.3	5.3	6.0	6.8	6.9	5.4	5.2	6.1	7.6	77
Total Internal Sales	593.9	510.8	469.2	407.6	420.6	444.8	494.8	481.8	421.3	411.7	500.9	503.3	5,661
Total Losses	49.5	42.6	47.3	34.0	29.3	33.8	28.7	40.2	35.1	34.3	-16.6	78.9	437
Total Internal Energy	643.4	553.4	516.5	441.6	449.9	478.6	523.5	521.9	456.5	446.0	484.3	582.2	6,098
<b>Internal Peak Demand (MW)</b>	1,289	1,214	918	801	839	935	1,029	1,033	919	772	919	1,096	1,289

Exhibit C-5

<b>Kentucky Power Company</b>											
<b>Seasonal and Annual Peak Demands, Energy Requirements and Load Factor</b>											
<b>2017-2037</b>											
<b>Annual Peak, Energy and Load Factor</b>											
	<b>Summer Peak</b>			<b>Winter Peak (1)</b>							
	<b>Date</b>	<b>MW</b>	<b>% Growth</b>	<b>Date</b>	<b>MW</b>	<b>% Growth</b>	<b>MW</b>	<b>% Growth</b>	<b>GWH</b>	<b>% Growth</b>	<b>Load Factor %</b>
<b>Actual</b>											
<b>2017</b>	07/19/17	1,006	--	01/02/18	1,446	--	1,217	--	6,060	--	56.8
<b>2018</b>	06/19/18	999	-0.7	01/31/19	1,297	-10.3	1,446	18.8	6,346	4.7	50.1
<b>2019</b>	08/19/19	993	-0.6	01/22/20	1,166	-10.0	1,297	-10.3	6,091	-4.0	53.5
<b>2020</b>	07/21/20	961	-3.2	02/08/21	1,065	-8.7	1,166	-10.0	5,571	-8.5	54.5
<b>2021</b>	08/24/21	958	-0.3	01/27/22	1,187	11.4	1,065	-8.7	5,609	0.7	60.1
<b>Forecast</b>											
<b>2022 (2)</b>		996	4.0		1,230	3.6	1,187	11.4	5,740	2.3	55.2
<b>2023</b>		952	-4.4		1,289	4.8	1,230	3.6	5,643	-1.7	52.4
<b>2024</b>		1,033	8.5		1,283	-0.5	1,289	4.8	6,098	8.1	54.0
<b>2025</b>		1,030	-0.3		1,256	-2.2	1,283	-0.5	6,060	-0.6	53.9
<b>2026</b>		1,010	-1.9		1,247	-0.7	1,256	-2.2	5,948	-1.8	54.1
<b>2027</b>		1,006	-0.4		1,235	-1.0	1,247	-0.7	5,918	-0.5	54.2
<b>2028</b>		1,000	-0.6		1,231	-0.3	1,235	-1.0	5,892	-0.4	54.5
<b>2029</b>		997	-0.3		1,223	-0.7	1,231	-0.3	5,872	-0.3	54.4
<b>2030</b>		994	-0.3		1,217	-0.5	1,223	-0.7	5,850	-0.4	54.6
<b>2031</b>		992	-0.2		1,206	-0.9	1,217	-0.5	5,832	-0.3	54.7
<b>2032</b>		987	-0.5		1,205	-0.1	1,206	-0.9	5,814	-0.3	55.0
<b>2033</b>		988	0.0		1,198	-0.5	1,205	-0.1	5,795	-0.3	54.9
<b>2034</b>		983	-0.4		1,193	-0.4	1,198	-0.5	5,780	-0.3	55.1
<b>2035</b>		982	-0.1		1,185	-0.7	1,193	-0.4	5,765	-0.3	55.1
<b>2036</b>		978	-0.3		1,183	-0.2	1,185	-0.7	5,750	-0.3	55.4
<b>2037</b>		979	0.1		1,178	-0.4	1,183	-0.2	5,734	-0.3	55.3
<b>Average Annual Growth Rates:</b>											
	<b>2017-2021</b>		-1.2			-4.8				-3.3	-1.9
	<b>2023-2037</b>		0.2			-0.6				-0.3	0.1
<b>Notes: (1) Actual winter peak for year may occur in the 4th quarter of that year or in the 1st quarter of the following year.</b>											
<b>(2) Data for 2022 are six months actual and six months forecast.</b>											

Exhibit C-6

<b>Kentucky Power Jurisdiction</b>			
<b>DSM/Energy Efficiency Included in Load Forecast</b>			
<b>Energy (GWh) and Coincident Peak Demand (MW)</b>			
<b>Kentucky Power DSM/EE</b>			
<b>Year</b>	<b>Energy</b>	<b>Summer* Demand</b>	<b>Winter* Demand</b>
2023	0.0	0.0	0.0
2024	0.0	0.0	0.0
2025	0.0	0.0	0.0
2026	0.0	0.0	0.0
2027	0.0	0.0	0.0
2028	0.0	0.0	0.0
2029	0.0	0.0	0.0
2030	0.0	0.0	0.0
2031	0.0	0.0	0.0
2032	0.0	0.0	0.0
2033	0.0	0.0	0.0
2034	0.0	0.0	0.0
2035	0.0	0.0	0.0
2036	0.0	0.0	0.0
2037	0.0	0.0	0.0

**\*Demand coincident with Company's seasonal peak demand.**

**Note: Winter demand may occur in the fourth quarter of the year or the first quarter of the following year.**

Exhibit C-7

<b>Kentucky Power Company</b>		
<b>Short-Term Load Forecast</b>		
<b>Blended Forecast vs. Long-Term Model Results</b>		
<b>Class</b>	<b>Sales</b>	<b>Customers</b>
<b>Residential</b>	<b>Long-Term</b>	<b>Long-Term</b>
<b>Commercial</b>	<b>Long-Term</b>	<b>Long-Term</b>
<b>Industrial</b>	<b>Long-Term</b>	<b>Long-Term</b>
<b>Other Retail</b>	<b>Long-Term</b>	<b>Long-Term</b>

Exhibit C-8

Blending Illustration					
	Short-term		Long-term		Blended
Month	Forecast	Weight	Forecast	Weight	Forecast
1	1,000	100%	1,150	0%	1,000
2	1,010	100%	1,160	0%	1,010
3	1,020	100%	1,170	0%	1,020
4	1,030	100%	1,180	0%	1,030
5	1,040	83%	1,190	17%	1,065
6	1,050	67%	1,200	33%	1,100
7	1,060	50%	1,210	50%	1,135
8	1,070	33%	1,220	67%	1,170
9	1,080	17%	1,230	83%	1,205
10	1,090	0%	1,240	100%	1,240
11	1,100	0%	1,250	100%	1,250
12	1,110	0%	1,260	100%	1,260

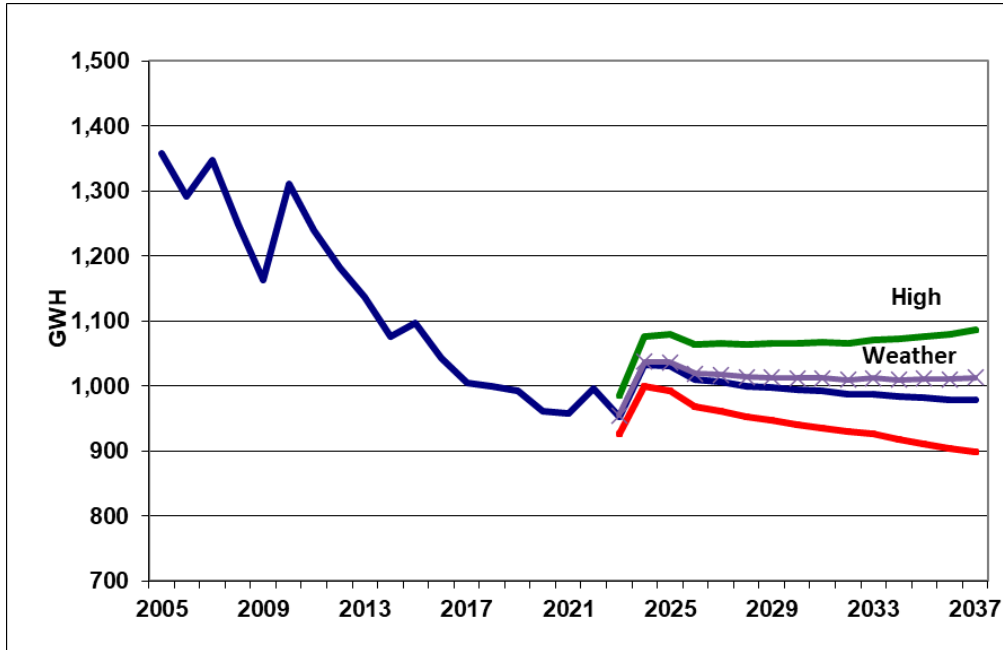
Exhibit C-9

Kentucky Power Company											
Low, Base and High Case for											
Forecasted Seasonal Peak Demands and Internal Energy Requirements											
2023-2037											
Year	Summer Peak			Winter (Following) Peak			Internal Energy				
	Internal Demands (MW)			Internal Demands (MW)			Requirements (GWH)				
	Low Case	Base Case	High Case	Low Case	Base Case	High Case	Low Case	Base Case	High Case		
2023	926	952	986	1,248	1,289	1,343	5,488	5,643	5,841		
2024	1,000	1,033	1,077	1,236	1,283	1,345	5,903	6,098	6,353		
2025	992	1,030	1,080	1,203	1,256	1,323	5,835	6,060	6,351		
2026	968	1,010	1,064	1,190	1,247	1,320	5,698	5,948	6,266		
2027	961	1,006	1,065	1,176	1,235	1,313	5,649	5,918	6,263		
2028	953	1,000	1,064	1,170	1,231	1,315	5,613	5,892	6,265		
2029	947	997	1,065	1,158	1,223	1,311	5,578	5,872	6,271		
2030	941	994	1,066	1,148	1,217	1,309	5,536	5,850	6,270		
2031	935	992	1,067	1,135	1,206	1,303	5,500	5,832	6,275		
2032	929	987	1,066	1,130	1,205	1,307	5,472	5,814	6,277		
2033	927	988	1,071	1,118	1,198	1,306	5,437	5,795	6,286		
2034	917	983	1,072	1,107	1,193	1,308	5,393	5,780	6,300		
2035	911	982	1,076	1,094	1,185	1,307	5,349	5,765	6,319		
2036	903	978	1,079	1,086	1,183	1,313	5,308	5,750	6,340		
2037	899	979	1,086	1,077	1,178	1,317	5,265	5,734	6,363		
<b>Average Annual Growth Rate %</b>											
<b>2023-2037</b>											
	-0.2	0.2	0.7	-1.0	-0.6	-0.1	-0.3	0.1	0.6		

Exhibit C-10

**Kentucky Power Company  
 Peak Demand and Weather Range of Forecasts**

**Summer Peak Demand**



**Winter Peak Demand**

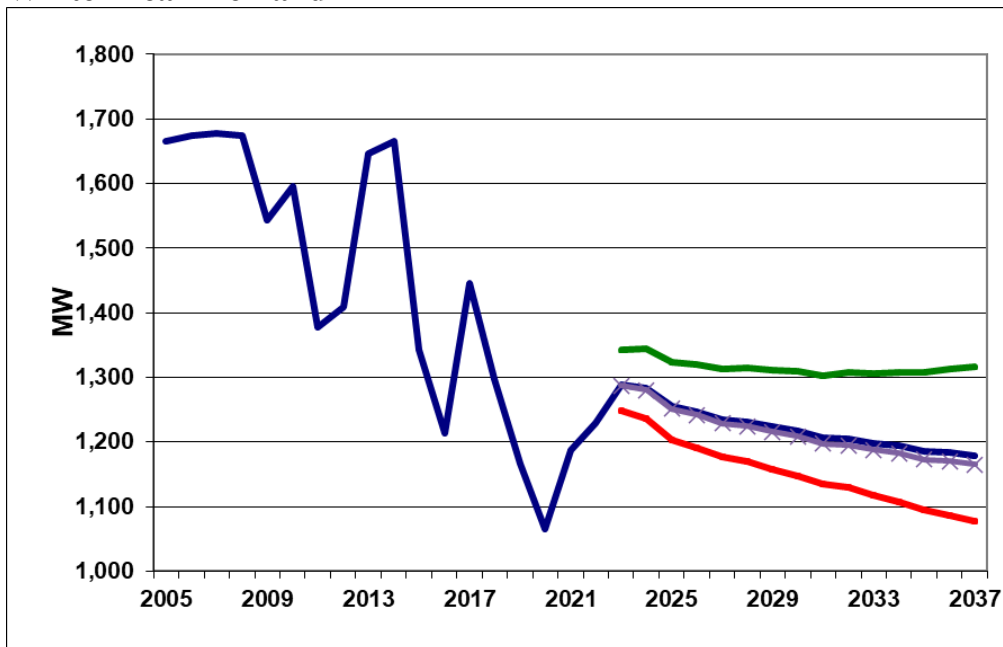




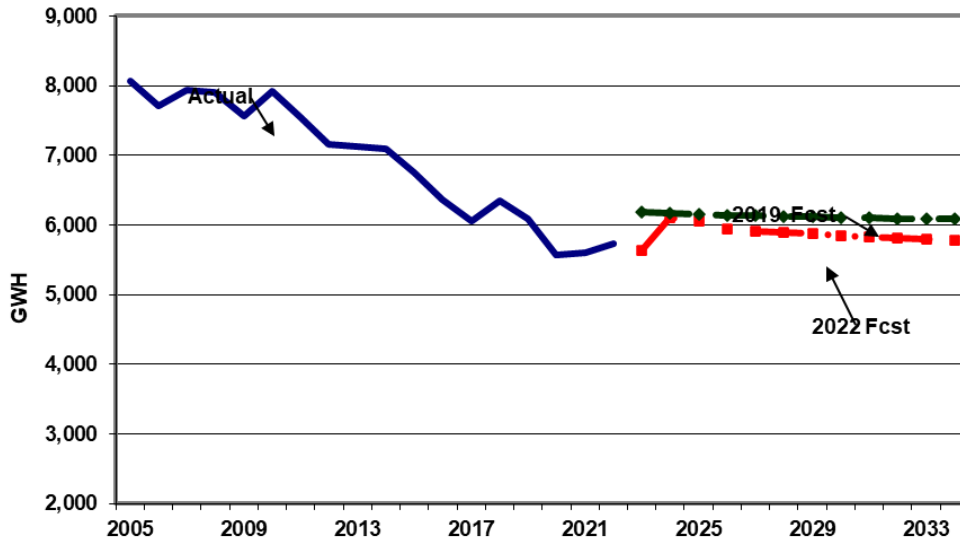
Exhibit C-11

<b>Kentucky Power Company</b>					
<b>Total Internal Energy Requirements</b>					
<b>Comparison of 2019 and 2022 Forecasts</b>					
	<b>2022</b>	<b>2019</b>	<b>Change From</b>		
<b>Forecast</b>	<b>Forecast</b>	<b>Forecast</b>	<b>2016 Forecast</b>		
<b>Year</b>	<b>GWH</b>	<b>GWH</b>	<b>GWH</b>	<b>Percent</b>	
<b>2020</b>	-	6,060	-	-	
<b>2021</b>	-	6,037	-	-	
<b>2022</b>	-	6,155	-	-	
<b>2023</b>	5,643	6,194	-550	-8.9	
<b>2024</b>	6,098	6,175	-77	-1.3	
<b>2025</b>	6,060	6,161	-102	-1.6	
<b>2026</b>	5,948	6,145	-197	-3.2	
<b>2027</b>	5,918	6,132	-214	-3.5	
<b>2028</b>	5,892	6,121	-229	-3.7	
<b>2029</b>	5,872	6,120	-247	-4.0	
<b>2030</b>	5,850	6,108	-259	-4.2	
<b>2031</b>	5,832	6,101	-269	-4.4	
<b>2032</b>	5,814	6,092	-279	-4.6	
<b>2033</b>	5,795	6,089	-294	-4.8	
<b>2034</b>	5,780	6,084	-304	-5.0	
<b>2023-2034</b>					
<b>Growth</b>					
<b>Rate (%)</b>	0.2	-0.2			

Exhibit C-12

### Kentucky Power Company Comparison of Forecasts

#### Internal Energy Requirements



#### Winter Peak Demand

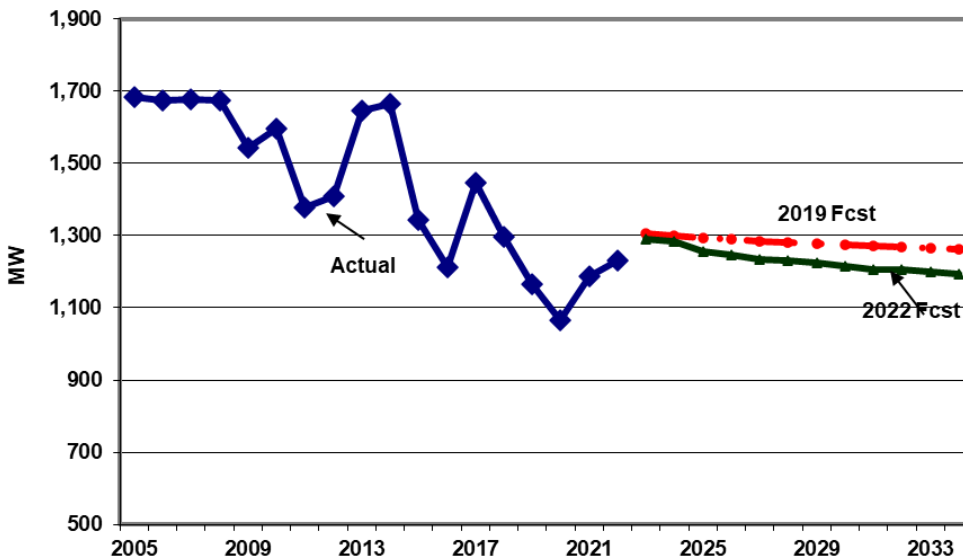


Exhibit C-13

Kentucky Power Company									
Summer and Winter Following Peak Internal Demands									
Comparison of 2019 and 2022 Forecasts									
Forecast Year	Winter Following Peak				Summer Peak				
	2022 Forecast	2019 Forecast	Change From 2019 Forecast		2022 Forecast	2019 Forecast	Change From 2019 Forecast		
	MW	MW	MW	Percent	MW	MW	MW	Percent	
2020	-	1,303	-	-	-	1,012	-	-	
2021	-	1,296	-	-	-	1,010	-	-	
2022	-	1,311	-	-	-	1,031	-	-	
2023	1,289	1,305	-15	-1.2	952	1,027	-75	-7.3	
2024	1,283	1,299	-16	-1.2	1,033	1,025	9	0.8	
2025	1,256	1,293	-38	-2.9	1,030	1,022	8	0.8	
2026	1,247	1,289	-42	-3.3	1,010	1,020	-9	-0.9	
2027	1,235	1,285	-50	-3.9	1,006	1,018	-12	-1.2	
2028	1,231	1,282	-50	-3.9	1,000	1,017	-17	-1.7	
2029	1,223	1,278	-54	-4.3	997	1,017	-20	-2.0	
2030	1,217	1,274	-58	-4.5	994	1,017	-22	-2.2	
2031	1,206	1,272	-65	-5.1	992	1,017	-25	-2.4	
2032	1,205	1,269	-64	-5.0	987	1,017	-29	-2.9	
2033	1,198	1,265	-67	-5.3	988	1,016	-29	-2.8	
2034	1,193	1,263	-70	-5.5	983	1,017	-34	-3.3	
2023-2034									
Growth									
Rate (%)	-0.7	-0.3			0.3	-0.1			

Exhibit C-14

<b>Kentucky Power Company</b>						
<b>Average Annual Number of Customers by Class</b>						
<b>2017-2021</b>						
	<b><u>2017</u></b>	<b><u>2018</u></b>	<b><u>2019</u></b>	<b><u>2020</u></b>	<b><u>2021</u></b>	
<b>A. Residential</b>						
<b>1. Heating Customers</b>	84,501	84,220	83,852	84,288	84,283	
<b>2. Nonheating Customers</b>	51,389	50,739	50,135	49,997	49,522	
<b>3. Total</b>	135,890	134,959	133,987	134,284	133,805	
<b>B. Commercial</b>	30,143	30,088	29,967	30,042	30,222	
<b>C. Industrial</b>						
<b>1. Manufacturing</b>	939	943	928	907	889	
<b>2. Mine Power</b>	274	266	259	213	190	
<b>3. Total</b>	1,213	1,209	1,187	1,120	1,079	
<b>D. Other Ultimate Customers</b>						
<b>1. Street Lighting</b>	346	339	329	317	310	
<b>2. Other</b>	0	0	0	0	0	
<b>3. Total</b>	346	339	329	317	310	
<b>E. Total Ultimate Sales</b>	167,592	166,594	165,470	165,762	165,416	
<b>F. Internal Sales for Resale</b>						
<b>1. Municipals</b>	2	2	2	2	2	
<b>2. Other</b>	0	0	0	0	0	
<b>3. Total</b>	2	2	2	2	2	
<b>G. Total Internal Sales</b>	167,594	166,596	165,472	165,764	165,418	

Exhibit C-15

<b>Kentucky Power Company</b>						
<b>Annual Internal Load by Class (GWH)</b>						
<b>2017-2021</b>						
	<b><u>2017</u></b>	<b><u>2018</u></b>	<b><u>2019</u></b>	<b><u>2020</u></b>	<b><u>2021</u></b>	
<b>A. Residential</b>						
<b>1. Heating Customers</b>	1,338	1,506	1,426	1,379	1,383	
<b>2. Nonheating Customers</b>	595	653	626	611	596	
<b>3. Total</b>	1,933	2,159	2,051	1,990	1,979	
<b>B. Commercial</b>	1,240	1,276	1,251	1,153	1,144	
<b>C. Industrial</b>						
<b>1. Manufacturing</b>	2,036	2,052	1,994	1,755	1,752	
<b>2. Mine Power</b>	371	351	325	209	209	
<b>3. Total</b>	2,407	2,402	2,319	1,964	1,960	
<b>D. Other Ultimate Sales</b>						
<b>1. Street Lighting</b>	11	11	10	10	9	
<b>2. Other</b>	0	0	0	0	0	
<b>3. Total</b>	11	11	10	10	9	
<b>E. Total Ultimate Sales</b>	5,590	5,848	5,632	5,116	5,093	
<b>F. Internal Sales for Resale</b>						
<b>1. Municipals</b>	80	85	81	77	79	
<b>2. Other</b>	0	0	0	0	0	
<b>3. Total</b>	80	85	81	77	79	
<b>G. Total Internal Sales</b>	5,670	5,933	5,712	5,193	5,172	
<b>H. Losses</b>	390	413	379	378	437	
<b>I. Total Internal Load</b>	6,060	6,346	6,091	5,571	5,609	

Exhibit C-16

Kentucky Power Company							
Wholesale Customers							
Coincident Seasonal Demand (MW) and Annual Energy (MWh)							
2014-2018							
	Summer		Winter		Following		
	Coincident Demand		Coincident Demand		Energy		
Year	Vanceburg	Olive Hill	Vanceburg	Olive Hill	Vanceburg	Olive Hill	
2017	10.5	4.5	13.8	6.3	57,209.1	23,217.2	
2018	10.2	3.9	14.0	6.2	61,131.8	24,887.7	
2019	10.6	4.5	11.3	4.9	57,842.9	23,393.9	
2020	10.7	4.6	10.6	4.4	55,640.3	22,147.1	
2021	10.8	4.5	12.0	5.3	56,022.9	22,186.0	

Exhibit C-17

Kentucky Power Company						
Recorded and Weather-Normalized Peak Load (MW) and Energy (GWH)						
2017-2021						
		2017	2018	2019	2020	2021
<b>Kentucky Power Company</b>						
<b>A. Peak Load - Summer</b>						
1. Recorded		1,006	999	993	961	958
2. Weather-Normalized		1,035	1,027	1,021	953	971
<b>B. Peak Load - Winter</b>						
1. Recorded		1,446	1,297	1,166	1,065	1,187
2. Weather-Normalized		1,355	1,315	1,279	1,217	1,244
<b>C. Energy</b>						
1. Recorded		6,060	6,346	6,091	5,571	5,609
2. Weather-Normalized		6,220	6,195	6,074	5,681	5,672

Exhibit C-18

Kentucky Power Company						
Normalized Annual Internal Sales by Class (GWH)						
2017-2021						
	2017	2018	2019	2020	2021	
A. Residential	2,042	2,056	2,042	2,069	2,026	
B. Commercial	1,268	1,248	1,242	1,167	1,153	
C. Industrial	2,403	2,399	2,319	1,964	1,960	
D. Other Ultimate Sales	10	10	10	10	9	
E. Total Ultimate Sales	5,723	5,712	5,614	5,209	5,149	
F. Internal Sales for Resale	82	84	80	78	79	
G. Total Internal Sales	5,804	5,796	5,694	5,287	5,228	

Exhibit C-19

**Kentucky Power Company  
 Profiles of Monthly Peak Internal Demands  
 2016 and 2021 (Actual)  
 2031 and 2036 (Forecast)**

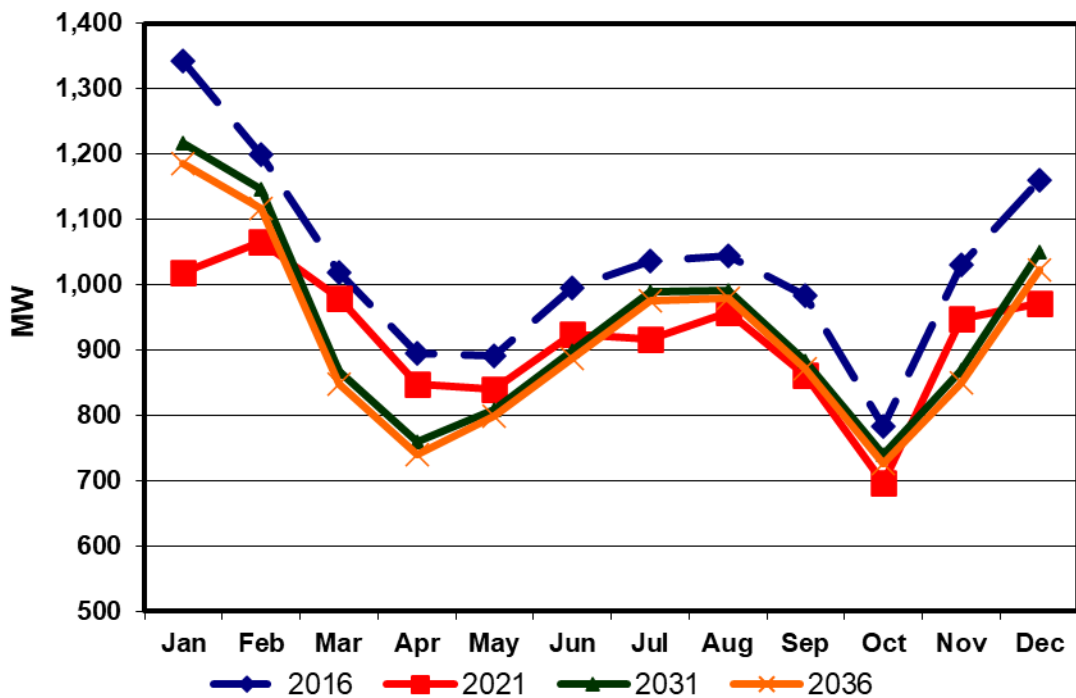


Exhibit C-20

KENTUCKY POWER COMPANY LOAD FORECAST DATA SOURCES OUTSIDE THE COMPANY					
DATA SERIES	FREQUENCY	GEOGRAPHIC	INTERVAL	SOURCE	ADJUSTMENT
Average Daily Temperatures at time of Daily Peak Load	Daily	Selected weather stations throughout the AEP System	1982-2021	NOAA (1)	None
Heating and Cooling Degree-Days	Monthly	Selected weather stations throughout the AEP System	1/82-01/22	NOAA (1)	None
Implicit GDP Price Deflator	Monthly	U. S.	1984:1-2057:12	Moody's Analytics (2)	None
Kentucky Natural Gas Prices by Sector	Monthly	U. S., Kentucky	1973-2021	DOE/EIA (3)	None
U.S. Natural Gas Prices Forecast by Sector	Annually	U. S., East North Central Region	2017-2050	DOE/EIA (4)	None
U.S. Electric Prices Forecast by Sector	Annually	U. S., East North Central Region	2017-2050	DOE/EIA (4)	None
U. S. Coal Production and Consumption	Annually	U. S., Central Appalachia	1975-2050	DOE/EIA (4)	None
Eastern Kentucky Coal Production	Monthly	Eastern Kentucky DOE Region	1991-2021	DOE/EIA	None
Employment (Total and Selected Sectors), Gross Regional Product, Personal Income and Population	Montly	Selected Kentucky Counties	1980-2057	Moody's Analytics (2)	None

Source Citations:

- (1) "Local Climatological Data," National Oceanographic and Atmospheric Administration.
- (2) December 2021 Forecast, Moody's Analytics.
- (3) U. S. Department of Energy/Energy Information Administration "Natural Gas Monthly", Selected Issues.
- (4) U. S. Department of Energy/Energy Information Administration "2022 Annual Energy Outlook" and "Weekly and Monthly Coal Production," Selected Issues.

Exhibit C-21

Kentucky Power Company Residential Energy Sales 2019-2021 Actual vs. 2019 IRP				
Residential Energy Sales -GWH				
Year	Actual	2019 Forecast	GWH Difference	% Difference
2019	2,051	2,034	17	0.9
2020	1,990	1,951	39	2.0
2021	1,979	1,928	51	2.7
Year	Weather Normalized	2019 Forecast	GWH Difference	% Difference
2019	2,042	2,034	8	0.4
2020	2,069	1,951	118	6.0
2021	2,026	1,928	99	5.1



Exhibit C-22

<b>Kentucky Power Company</b>				
<b>Commercial Energy Sales</b>				
<b>2019-2021</b>				
<b>Actual vs. 2019 IRP</b>				
<b>Commercial Energy Sales -GWH</b>				
<b>Year</b>	<b>Actual</b>	<b>2019 Forecast</b>	<b>GWH Difference</b>	<b>% Difference</b>
2019	1,251	1,256	-5	-0.4
2020	1,153	1,231	-78	-6.3
2021	1,144	1,228	-84	-6.8
<b>Year</b>	<b>Weather Normalized</b>	<b>2019 Forecast</b>	<b>GWH Difference</b>	<b>% Difference</b>
2019	1,242	1,256	-14	-1.1
2020	1,167	1,231	-64	-5.2
2021	1,153	1,228	-76	-6.2

Exhibit C-23

<b>Kentucky Power Company</b>				
<b>Industrial Energy Sales</b>				
<b>2019-2021</b>				
<b>Actual vs. 2019 IRP</b>				
<b>Industrial Energy Sales -GWH</b>				
<b>Year</b>	<b>Actual</b>	<b>2019 Forecast</b>	<b>GWH Difference</b>	<b>% Difference</b>
2019	2,319	2,384	-65	-2.7
2020	1,964	2,391	-427	-17.9
2021	1,960	2,393	-432	-18.1
<b>Year</b>	<b>Weather Normalized</b>	<b>2019 Forecast</b>	<b>GWH Difference</b>	<b>% Difference</b>
2019	2,319	2,384	-65	-2.7
2020	1,964	2,391	-427	-17.9
2021	1,960	2,393	-432	-18.1

Exhibit C-24

Kentucky Power Company									
Seasonal Peak Demands									
2019-2021									
Actual vs. 2019 Forecast									
Summer Peak Demand - MW					Winter Peak Demand - MW				
Summer	Actual	2019 Forecast	MW Difference	% Difference	Winter	Actual	2019 Forecast	MW Difference	% Difference
2019	993	993	0	0.0	2019/20	1,166	1,304	-138	-10.6
2020	961	1,012	-51	-5.0	2020/21	1,065	1,303	-238	-18.2
2021	958	1,010	-52	-5.1	2021/22	1,187	1,296	-109	-8.4
Summer	Weather Normalized	2019 Forecast	MW Difference	% Difference	Winter	Weather Normalized	2019 Forecast	MW Difference	% Difference
2019	1,021	993	28	2.8	2019/20	1,279	1,304	-25	-1.9
2020	953	1,012	-58	-5.8	2020/21	1,217	1,303	-86	-6.6
2021	971	1,010	-39	-3.8	2021/22	1,244	1,296	-52	-4.0

Exhibit C-25

Kentucky Power Company	
Counties Included in Service Area	
Economic and Demographic Data	
1	Boyd County
2	Breathitt County
3	Carter County
4	Floyd County
5	Greenup County
6	Johnson County
7	Knott County
8	Lawrence County
9	Leslie County
10	Letcher County
11	Lewis County
12	Magoffin County
13	Martin County
14	Morgan County
15	Perry County
16	Pike County
17	Rowan County

Exhibit C-26

Kenrucky Power Company							
Internal Energy Requirements (GWh)							
Base Forecast and Scenarios Considered							
Scenarios							
Year	Base	Efficiencies 2022	Efficiencies Extended	No DSM	Economic High	Economic Low	Weather
2008	7,910						
2009	7,557						
2010	7,924						
2011	7,548						
2012	7,155						
2013	7,129						
2014	7,091						
2015	6,754						
2016	6,367						
2017	6,060						
2018	6,346						
2019	6,091						
2020	5,571						
2021	5,609						
2022	5,740						
2023	5,643	5,655	5,639	5,643	5,841	5,488	5,645
2024	6,098	6,118	6,090	6,098	6,353	5,903	6,101
2025	6,060	6,089	6,049	6,060	6,351	5,835	6,065
2026	5,948	5,985	5,930	5,948	6,266	5,698	5,956
2027	5,918	5,963	5,893	5,918	6,263	5,649	5,927
2028	5,892	5,944	5,862	5,892	6,265	5,613	5,903
2029	5,872	5,930	5,838	5,872	6,271	5,578	5,886
2030	5,850	5,914	5,813	5,850	6,270	5,536	5,865
2031	5,832	5,902	5,793	5,832	6,275	5,500	5,850
2032	5,814	5,889	5,772	5,814	6,277	5,472	5,834
2033	5,795	5,874	5,751	5,795	6,286	5,437	5,818
2034	5,780	5,863	5,734	5,780	6,300	5,393	5,806
2035	5,765	5,850	5,717	5,765	6,319	5,349	5,793
2036	5,750	5,838	5,701	5,750	6,340	5,308	5,781
2037	5,734	5,824	5,684	5,734	6,363	5,265	5,769

Exhibit C-27

**Kentucky Power Company Service Area  
 Electric Vehicles**

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	CAGR 2017-30
Actual	132	144	86	117	197										
High	132	144	86	113	156	279	379	511	685	903	1,167	1,470	1,852	2,312	26.9%
Base	132	144	86	105	134	235	295	369	458	559	668	776	901	1,037	18.7%
Low	132	144	86	99	119	207	245	290	341	397	455	513	582	660	14.4%

Exhibit C-28

<b>Kentucky Power Company</b>			
<b>Distributed Energy Resources (Solar DG) and Capacity (kW)</b>			
		<b>Distributed</b>	
		<b>Energy</b>	
<b>Year</b>		<b>Resource</b>	<b>Capacity</b>
2010		2	25
2011		3	30
2012		4	60
2013		5	66
2014		10	121
2015		11	141
2016		15	163
2017		20	209
2018		25	431
2019		46	710
2020		62	968
2021		153	1,751
2022		172	1,960
2023		190	2,174
2024		207	2,360
2025		220	2,510
2026		234	2,673
2027		248	2,826
2028		259	2,961
2029		273	3,116
2030		284	3,244
2031		298	3,403
2032		310	3,542
2033		326	3,716
2034		341	3,889
2035		353	4,028
2036		370	4,217
2037		387	4,413

## **Exhibit D – New Generation Technologies**

New Generation Technologies  
Key Supply-Side Resource Option Assumption (a)(b)

Type	Capacity (MW)	Installed Cost (c)	Full Load Heat Rate	Fuel Cost (d)	Variable O&M	Fixed O&M	SO2	Emission Rates NOx	CO2	Levelized Capacity Factor	LCOE (e)
	Summer	(\$/kW)	(HHV,Btu/kWh)	(\$/MBtu)	(\$/MWh)	(\$/kW-yr)	(Lb/mmBtu)	(Lb/mmBtu)	(Lb/mmBtu)	(%)	(\$/MWh)
<b>Base Load</b>											
Small Modular Reactor	600	6,875	10,443	0.69	3.14	99.46	0.00	0.00	0.00	87%	159
Coal USC with 90% Carbon Capture	650	6,601	12,507	2.47	11.49	62.34	0.42700	0.00730	20.57	52%	265
NGCC H-Class Single Shaft with 90% Carbon Capture	377	3,000	7,124	2.88	6.11	28.89	0.00515	0.01400	11.70	34%	193
NGCC H-Class Single-Shaft	418	1,194	6,431	2.88	2.67	14.76	0.00752	0.00056	122.00	72%	70
NGCC H-Class Multi-Shaft	1083	1,037	6,370	2.88	1.96	12.77	0.00752	0.00056	122.00	75%	64
<b>Peaking</b>											
NGCT F-Class 240 MW (f)	240	753	9,905	2.88	0.62	7.33	0.00752	0.00056	122.00	31%	100
Aero-Derivative	105	1,242	9,124	2.88	4.92	17.06	0.00752	0.00056	122.00	27%	141
Recip Engine Farm	21	1,980	8,295	2.88	5.96	36.81	0.00752	0.00056	122.00	43%	154
Hydrogen Electrolyzer + Hydrogen Gas CT (f)	240	3,295	30% (g)	n/a (h)	1.12	54.16	0.00	0.00	0.00	n/a (i)	n/a
Hydrogen Gas Combustion Turbine (f)	240	1,576	9,655	10.77	0.62	7.33	0.00	0.00	0.00	n/a (i)	n/a
4-Hour Duration Lithium-Ion Battery	50	1,432	85% (g)	n/a	n/a	25.57	0.00	0.00	0.00	n/a	n/a
20-Hour Duration Pumped Thermal Energy Storage	50	3,336	65% (g)	n/a	n/a	51.72	0.00	0.00	0.00	n/a	n/a
20-Hour Duration Vanadium Flow Battery Storage	50	3,844	70% (g)	n/a	n/a	11.45	0.00	0.00	0.00	n/a	n/a
20-Hour Duration Compressed Air Energy Storage	50	1,788	52% (g)	n/a	n/a	17.37	0.00	0.00	0.00	n/a	n/a
<b>Renewable</b>											
Utility-scale Onshore Wind Tier 1	100	1,411	n/a	n/a	n/a	27.57	0.00	0.00	0.00	35%	46
Utility-scale Onshore Wind Tier 2	100	1,552	n/a	n/a	n/a	27.57	0.00	0.00	0.00	35%	52
Utility-scale Solar Photovoltaic Tier 1	50	1,320	n/a	n/a	n/a	14.81	0.00	0.00	0.00	23%	69
Utility-scale Solar Photovoltaic Tier 2	50	1,452	n/a	n/a	n/a	14.81	0.00	0.00	0.00	23%	77
Utility-scale Solar + Storage (3:1)	50	1,721	n/a	n/a	n/a	33.67	0.00	0.00	0.00	16%	114

Notes:

- (a) Installed cost, capability and heat rate numbers have been rounded
- (b) All costs in 2021 dollars
- (c) Total Plant Investment Cost
- (d) Average fuel price across study horizon
- (e) First year levelized cost of energy based on capacity factors shown in table. Not shown for storage as LCOE is dependent on charging. Not shown for low dispatch.
- (f) Start cost of \$79/MW additional to VOM
- (g) Denotes efficiency, (w/ power electronics)
- (h) Fuel input is dependent on electricity price for electrolyzer
- (i) Capacity factor not show due to low dispatch

**Exhibit E1** – Case and Scenario Results – Resource Capacity Additions

## Reference Portfolio

Utility Scale Incremental New Build (Nameplate MW)									Demand Side Additions by Year (MW)	
Year	Gas CT	Gas CC	Solar (T1.T2)	Wind (T1.T2)	Li-Ion 4hr Battery Storage	Solar + Storage	Big Sandy Extension	Capacity Purchase	Year	DSM Programs
2023								73	2023	3
2024								78	2024	8
2025								78	2025	14
2026				100				82	2026	21
2027			200	100					2027	26
2028			150/100	100/100				495	2028	31
2029	480		100	100/100					2029	34
2030				100					2030	37
2031				100			295		2031	36
2032				100					2032	36
2033				100					2033	35
2034				100					2034	34
2035				100					2035	33
2036									2036	32
2037			50						2037	31
<b>Total</b>	<b>480</b>	<b>0</b>	<b>650</b>	<b>700</b>	<b>0</b>	<b>0</b>	<b>295</b>			

## RE- HC Portfolio

Utility Scale Incremental New Build (Nameplate MW)									Demand Side Additions by Year (MW)	
Year	Gas CT	Gas CC	Solar (T1.T2)	Wind (T1.T2)	Li-Ion 4hr Battery Storage	Solar + Storage	Big Sandy Extension	Capacity Purchase	Year	DSM Programs
2023								73	2023	2
2024								78	2024	5
2025								78	2025	9
2026				100/100				79	2026	14
2027			200	100/100					2027	18
2028			150/250	100/100				461	2028	21
2029	480			100					2029	24
2030				100					2030	26
2031				100			295		2031	24
2032				100					2032	24
2033				100					2033	23
2034									2034	22
2035									2035	21
2036									2036	20
2037				100					2037	19
<b>Total</b>	<b>480</b>	<b>0</b>	<b>600</b>	<b>1200</b>	<b>0</b>	<b>0</b>	<b>295</b>			



## CETA Portfolio

Utility Scale Incremental New Build (Nameplate MW)									Demand Side Additions by Year (MW)	
Year	Gas CT	Gas CC	Solar (T1.T2)	Wind (T1.T2)	Li-Ion 4hr Battery Storage	Solar + Storage	Big Sandy Extension	Capacity Purchase	Year	DSM Programs
2023								105	2023	2
2024								118	2024	5
2025								103	2025	9
2026				100/100				133	2026	16
2027			250	100/100				4	2027	22
2028			150/300	100/100				488	2028	28
2029	480		100	100/100					2029	32
2030			50	100					2030	35
2031				100			295		2031	36
2032			50	100					2032	35
2033				100					2033	35
2034									2034	34
2035					50				2035	33
2036									2036	32
2037			100						2037	31
<b>Total</b>	<b>480</b>	<b>0</b>	<b>1000</b>	<b>700</b>	<b>50</b>	<b>0</b>	<b>295</b>			

## ECR Portfolio

Utility Scale Incremental New Build (Nameplate MW)									Demand Side Additions by Year (MW)	
Year	Gas CT	Gas CC	Solar (T1.T2)	Wind (T1.T2)	Li-Ion 4hr Battery Storage	Solar + Storage	Big Sandy Extension	Capacity Purchase	Year	DSM Programs
2023								73	2023	
2024								78	2024	
2025								78	2025	
2026				100/100				43	2026	5
2027			100	100/100					2027	10
2028			150/300	100/100		200		339	2028	14
2029	240		150/150	100/100					2029	17
2030				100					2030	20
2031			150	100			295	206	2031	25
2032			150	100	200				2032	29
2033				100					2033	33
2034									2034	36
2035									2035	38
2036			50						2036	40
2037									2037	41
<b>Total</b>	<b>240</b>	<b>0</b>	<b>1200</b>	<b>1200</b>	<b>200</b>	<b>200</b>	<b>295</b>			

## NCR Portfolio

Utility Scale Incremental New Build (Nameplate MW)									Demand Side Additions by Year (MW)	
Year	Gas CT	Gas CC	Solar (T1.T2)	Wind (T1.T2)	Li-Ion 4hr Battery Storage	Solar + Storage	Big Sandy Extension	Capacity Purchase	Year	DSM Programs
2023								73	2023	3
2024								78	2024	8
2025								78	2025	14
2026				100/100				60	2026	24
2027			150	100/100					2027	32
2028			150/100	100/100				494	2028	38
2029	480				100				2029	43
2030									2030	47
2031							295		2031	47
2032									2032	48
2033									2033	48
2034									2034	48
2035					50				2035	48
2036									2036	47
2037									2037	46
<b>Total</b>	<b>480</b>	<b>0</b>	<b>400</b>	<b>600</b>	<b>150</b>	<b>0</b>	<b>295</b>			

## CC Portfolio

Utility Scale Incremental New Build (Nameplate MW)									Demand Side Additions by Year (MW)	
Year	Gas CT	Gas CC	Solar (T1.T2)	Wind (T1.T2)	Li-Ion 4hr Battery Storage	Solar + Storage	Big Sandy Extension	Capacity Purchase	Year	DSM Programs
2023								73	2023	3
2024								78	2024	8
2025								78	2025	14
2026				100				78	2026	24
2027			250	100/100					2027	32
2028			150/300	100/100				407	2028	38
2029		418	100						2029	43
2030				100					2030	47
2031				100			295		2031	47
2032									2032	48
2033									2033	48
2034									2034	48
2035					50				2035	48
2036									2036	47
2037									2037	46
<b>Total</b>	<b>0</b>	<b>418</b>	<b>800</b>	<b>700</b>	<b>50</b>	<b>0</b>	<b>295</b>			

## No Wind Portfolio

Utility Scale Incremental New Build (Nameplate MW)									Demand Side Additions by Year (MW)	
Year	Gas CT	Gas CC	Solar (T1.T2)	Wind (T1.T2)	Li-Ion 4hr Battery Storage	Solar + Storage	Big Sandy Extension	Capacity Purchase	Year	DSM Programs
2023								73	2023	
2024								78	2024	
2025								78	2025	
2026			100					78	2026	6
2027			250						2027	11
2028			150/300			300		407	2028	15
2029	240		150/100		50				2029	18
2030			50						2030	21
2031			50				295		2031	25
2032			50						2032	29
2033									2033	33
2034									2034	36
2035			50						2035	38
2036									2036	40
2037			100						2037	41
<b>Total</b>	<b>240</b>	<b>0</b>	<b>1350</b>	<b>0</b>	<b>50</b>	<b>300</b>	<b>295</b>			

## Preferred Plan

Utility Scale Incremental New Build (Nameplate MW)									Demand Side Additions by Year (MW)	
Year	Gas CT	Gas CC	Solar (T1.T2)	Wind (T1.T2)	Li-Ion 4hr Battery Storage	Solar + Storage	Big Sandy Extension	Capacity Purchase	Year	DSM Programs
2023								73	2023	3
2024								78	2024	8
2025								78	2025	14
2026				100				78	2026	24
2027			250	100/100					2027	32
2028			150/300	100/100				407	2028	38
2029	480		100						2029	43
2030				100					2030	47
2031				100			295		2031	47
2032									2032	48
2033									2033	48
2034									2034	48
2035					50				2035	48
2036									2036	47
2037									2037	46
<b>Total</b>	<b>480</b>	<b>0</b>	<b>800</b>	<b>700</b>	<b>50</b>	<b>0</b>	<b>295</b>			

**Exhibit E2 – Case and Scenario Results – Costs & Energy Positions**

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**Reference Portfolio Under Reference Scenario**

Utility Costs (Nominal\$000)											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)=(1)thru(8)-(9)+(10)
	Existing Depreciation	New Depreciation	Capital Charge	Fixed O&M	Fuel Costs	Emission Costs	Other VOM Costs	Market Purchases Costs	Less: Market Sales Revenue	Taxes	GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	17,559	182,415	494	15,187	33,411	77,510	12,112	261,440
2024	38,764	0	37,615	22,756	177,860	486	15,629	38,345	49,808	11,299	292,946
2025	39,081	0	35,747	24,449	132,576	357	13,010	71,863	28,426	10,679	299,336
2026	39,553	8,416	46,138	29,437	114,062	316	12,501	72,413	27,105	3,491	299,222
2027	39,856	35,081	80,785	37,287	91,791	228	8,759	68,032	25,579	-13,045	323,195
2028	39,988	70,883	124,024	46,117	50,214	81	4,212	110,739	25,583	-37,817	382,857
2029	40,015	114,661	181,265	57,811	119,684	63	4,554	22,566	70,696	-45,306	424,616
2030	40,042	122,562	176,929	61,551	85,951	20,125	5,686	41,622	63,894	-57,102	433,472
2031	40,070	130,911	174,341	63,644	70,342	16,506	4,009	45,604	56,419	-68,400	420,607
2032	40,099	139,212	172,829	67,627	62,279	14,885	4,714	47,741	61,450	-80,001	407,935
2033	40,128	147,715	172,457	71,647	68,128	15,755	4,854	43,424	76,935	-89,473	397,700
2034	40,158	156,425	172,685	75,800	61,372	14,272	4,496	40,118	77,495	-100,134	387,697
2035	40,188	165,370	172,820	80,076	61,457	14,566	5,389	33,412	85,420	-111,627	376,231
2036	40,219	165,370	159,755	81,130	71,248	17,397	5,289	31,962	101,412	-105,280	365,677
2037	40,250	169,488	153,631	82,862	65,115	16,254	3,988	33,458	98,824	-77,309	388,911
Cumulative Present Worth 2023-2037	380,430	754,055	1,091,259	469,468	990,199	67,794	80,774	487,981	551,963	(374,603)	3,395,396

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 Reference Portfolio Under Reference Scenario

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output				
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)=(24)+(25)+(26)	(28)	(29)	(30)=(29)-(28)	(31)=(30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)		
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)	(Current and Planned) Interruptible Load and Demand Response	(Increment) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Increment) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions				
		Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW														Ann MW	Cum MW	GWh	GWh
2023	73	934	2	9	3	3	0	0	0	0	0	0	0	6,180	0	0	6,180	5,643	19	5,624	556	1,019	1,014	5	9.5	5,566,682
2024	78	934	(3)	5	5	8	0	0	0	0	0	0	0	6,070	0	0	6,070	6,118	46	6,072	(1)	1,026	1,019	6	9.6	5,363,049
2025	78	934	0	5	6	14	0	0	0	0	0	0	0	4,578	0	0	4,578	6,060	79	5,980	(1,402)	1,032	1,002	29	12.1	3,918,387
2026	82	934	0	5	7	21	0	0	13	13	0	0	0	4,007	0	307	4,314	5,948	118	5,830	(1,516)	1,056	1,054	1	9.1	3,421,880
2027	0	934	0	5	6	26	0	0	12	25	102	102	0	3,116	0	1,112	4,227	5,918	151	5,767	(1,540)	1,093	1,050	43	13.4	2,510,535
2028	495	285	0	5	4	31	0	0	22	47	78	181	0	1,596	0	2,224	3,820	5,911	179	5,733	(1,913)	1,044	1,044	0	8.9	1,292,745
2029	0	285	0	5	4	34	0	0	23	70	13	194	0	3,603	0	3,023	6,626	5,872	200	5,673	953	1,045	1,040	4	9.4	2,164,524
2030	0	285	0	5	3	37	0	0	6	76	-8	186	0	2,456	0	3,341	5,797	5,850	217	5,633	164	1,046	1,037	9	9.8	1,476,018
2031	0	285	0	5	(0)	36	0	0	11	87	-8	179	0	1,944	0	3,653	5,597	5,832	220	5,612	(15)	1,049	1,035	14	10.4	1,171,067
2032	0	285	0	5	(1)	36	0	0	11	98	-9	170	0	1,696	0	3,972	5,669	5,832	221	5,612	57	1,050	1,030	20	11.1	1,020,594
2033	0	285	0	5	(1)	35	0	0	11	109	-4	166	0	1,734	0	4,239	5,972	5,795	219	5,576	396	1,056	1,031	25	11.6	1,042,420
2034	0	285	0	5	(1)	34	0	0	11	120	-4	163	0	1,518	0	4,535	6,053	5,780	216	5,564	488	1,063	1,026	37	12.8	912,447
2035	0	285	0	5	(1)	33	0	0	11	131	-4	159	0	1,499	0	4,846	6,345	5,765	213	5,552	793	1,069	1,025	44	13.6	900,594
2036	0	285	0	5	(1)	32	0	0	0	131	-4	155	0	1,730	0	4,895	6,625	5,768	209	5,559	1,066	1,064	1,021	43	13.6	1,039,084
2037	0	285	0	5	(1)	31	0	0	0	131	9	164	0	1,558	0	4,979	6,538	5,734	203	5,531	1,007	1,072	1,022	50	14.3	937,435

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**REF-HC Portfolio Under Reference Scenario**

Utility Costs (Nominal\$000)											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)=(1)thru(8)-(9)+(10)
	Existing Depreciation	New Depreciation	Capital Charge	Fixed O&M	Fuel Costs	Emission Costs	Other VOM Costs	Market Purchases Costs	Less: Market Sales Revenue	Taxes	GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	16,188	182,415	494	15,187	33,517	77,246	12,112	260,439
2024	38,764	0	37,615	20,887	177,860	486	15,629	38,642	49,396	11,299	291,786
2025	39,081	0	35,747	22,030	132,576	357	13,010	72,367	27,965	10,679	297,882
2026	39,553	17,673	59,336	30,019	114,062	316	12,501	66,153	32,446	-2,707	304,460
2027	39,856	49,813	100,219	40,244	91,791	228	8,759	57,157	32,917	-24,264	330,887
2028	39,988	97,450	158,287	51,396	50,214	81	4,212	90,368	36,195	-54,421	401,380
2029	40,015	125,352	189,386	58,558	119,684	63	4,554	19,806	78,642	-51,657	427,120
2030	40,042	133,253	184,979	62,310	85,951	20,125	5,686	36,540	71,188	-63,541	434,158
2031	40,070	141,602	182,298	63,316	70,342	16,506	4,009	40,570	63,109	-74,882	420,722
2032	40,099	149,903	180,468	67,453	62,279	14,885	4,714	43,041	68,243	-86,584	408,014
2033	40,128	158,406	180,300	71,683	68,128	15,755	4,854	39,513	84,163	-95,884	398,720
2034	40,158	158,406	167,612	72,781	61,372	14,272	4,496	41,904	75,172	-98,502	387,326
2035	40,188	158,406	155,972	73,879	61,457	14,566	5,389	40,518	72,613	-101,510	376,252
2036	40,219	158,406	144,976	74,994	71,248	17,397	5,289	38,734	87,334	-83,254	380,674
2037	40,250	167,833	147,792	79,535	65,115	16,254	3,988	36,504	92,270	-49,088	415,913
Cumulative Present Worth 2023-2037	380,430	816,118	1,144,185	463,218	990,199	67,794	80,774	457,377	573,355	(391,825)	3,434,916

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 REF-HC Portfolio Under Reference Scenario

Resource (Capacity) Additions												Energy & Capacity Positions											Carbon Output	
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Incr) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Incr) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	73	934	2	9	2	2	0	0	0	0	0	6,180	0	0	6,180	5,643	13	5,630	550	1,017	1,014	4	9.3	5,566,682
2024	78	934	(3)	5	3	5	0	0	0	0	0	6,070	0	0	6,070	6,118	33	6,085	(14)	1,022	1,019	3	9.2	5,363,049
2025	78	934	0	5	4	9	0	0	0	0	0	4,578	0	0	4,578	6,060	58	6,001	(1,423)	1,026	1,002	24	11.5	3,918,387
2026	79	934	0	5	5	14	0	0	27	27	0	4,007	0	613	4,620	5,948	97	5,851	(1,230)	1,059	1,054	5	9.5	3,421,880
2027	0	934	0	5	4	18	0	0	23	50	83	3,116	0	1,623	4,739	5,918	124	5,794	(1,055)	1,090	1,050	40	13.1	2,510,535
2028	461	285	0	5	3	21	0	0	20	70	133	1,596	0	3,035	4,631	5,911	146	5,765	(1,134)	1,059	1,044	15	10.5	1,292,745
2029	0	285	0	5	3	24	0	0	12	82	-22	3,603	0	3,327	6,930	5,872	164	5,709	1,221	1,046	1,040	6	9.5	2,164,524
2030	0	285	0	5	2	26	0	0	5	87	-8	2,456	0	3,647	6,103	5,850	178	5,672	431	1,046	1,037	8	9.8	1,476,018
2031	0	285	0	5	(1)	24	0	0	11	98	-8	1,944	0	3,959	5,903	5,832	160	5,672	232	1,048	1,035	13	10.3	1,171,067
2032	0	285	0	5	(1)	24	0	0	11	109	-9	1,696	0	4,280	5,976	5,832	151	5,681	295	1,049	1,030	19	11.0	1,020,594
2033	0	285	0	5	(1)	23	0	0	11	120	-4	1,734	0	4,543	6,276	5,795	141	5,654	622	1,056	1,031	25	11.5	1,042,420
2034	0	285	0	5	(1)	22	0	0	0	120	-4	1,518	0	4,535	6,053	5,780	130	5,650	403	1,051	1,026	25	11.6	912,447
2035	0	285	0	5	(1)	21	0	0	0	120	-4	1,499	0	4,542	6,041	5,765	120	5,645	396	1,046	1,025	21	11.2	900,594
2036	0	285	0	5	(1)	20	0	0	0	120	-4	1,730	0	4,587	6,317	5,768	110	5,658	659	1,041	1,021	21	11.2	1,039,084
2037	0	285	0	5	(1)	19	0	0	11	131	-4	1,558	0	4,879	6,438	5,734	100	5,634	803	1,047	1,022	26	11.7	937,435



**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**CETA Portfolio Under Reference Scenario**

Utility Costs (Nominal\$000)											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)=(1)thru(8)-(9)+(10)
	Existing Depreciation	New Depreciation	Capital Charge	Fixed O&M	Fuel Costs	Emission Costs	Other VOM Costs	Market Purchases Costs	Less: Market Sales Revenue	Taxes	GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	16,188	182,415	494	15,187	33,888	77,246	12,112	260,809
2024	38,764	0	37,615	20,887	177,860	486	15,629	39,358	49,396	11,299	292,502
2025	39,081	0	35,747	22,030	132,576	357	13,010	73,225	27,965	10,679	298,740
2026	39,553	17,673	59,336	32,478	114,062	316	12,501	68,113	32,487	-2,707	308,837
2027	39,856	53,484	105,452	43,421	91,791	228	8,759	54,626	34,616	-26,003	336,998
2028	39,988	105,065	168,522	55,227	50,214	81	4,212	87,339	40,383	-57,983	412,281
2029	40,015	148,842	221,144	66,913	119,684	63	4,554	15,236	102,706	-66,317	447,427
2030	40,042	160,166	218,116	71,344	85,951	20,125	5,686	27,722	100,037	-81,114	448,002
2031	40,070	168,515	212,251	73,546	70,342	16,506	4,009	29,947	91,726	-93,163	430,296
2032	40,099	180,421	213,175	78,361	62,279	14,885	4,714	31,532	100,584	-107,631	417,250
2033	40,128	188,923	210,288	82,503	68,128	15,755	4,854	29,094	117,905	-117,282	404,486
2034	40,158	188,923	195,760	83,504	61,372	14,272	4,496	30,619	108,721	-120,265	390,117
2035	40,188	193,762	188,013	85,596	61,457	14,566	5,389	28,553	107,299	-121,548	388,677
2036	40,219	193,762	174,733	86,710	71,248	17,397	5,289	27,373	124,003	-104,014	388,715
2037	40,250	201,998	173,917	89,269	65,115	16,254	3,988	28,677	125,498	-64,650	429,319
Cumulative Present Worth 2023-2037	380,430	964,565	1,299,239	518,370	990,199	67,794	80,774	411,247	724,568	(484,377)	3,503,672

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 CETA Portfolio Under Reference Scenario

Resource (Capacity) Additions													Energy & Capacity Positions											Carbon Output
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned Supply-Side + Purchased Unforced Capacity (UCAP))		(Current and Planned Interruptible Load and Demand Response)		(Increment Energy Efficiency)		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Increment) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	105	934	2	9	2	2	0	0	0	0	0	6,180	0	0	6,180	5,643	13	5,630	550	1,049	1,014	36	12.8	5,566,682
2024	118	934	(3)	5	3	5	0	0	0	0	0	6,070	0	0	6,070	6,118	33	6,085	(14)	1,062	1,019	43	13.5	5,363,049
2025	103	934	0	5	4	9	0	0	0	0	0	4,578	0	0	4,578	6,060	58	6,001	(1,423)	1,051	1,002	49	14.2	3,918,387
2026	133	934	0	5	7	16	0	0	27	27	0	4,007	0	613	4,620	5,948	100	5,848	(1,228)	1,115	1,054	61	15.2	3,421,880
2027	4	934	0	5	6	22	0	0	23	50	102	3,116	0	1,723	4,839	5,918	136	5,782	(943)	1,118	1,050	68	16.0	2,510,535
2028	488	285	0	5	5	28	0	0	20	70	149	1,596	0	3,235	4,831	5,911	167	5,745	(913)	1,127	1,044	84	17.7	1,292,745
2029	0	285	0	5	4	32	0	0	23	94	6	3,603	0	4,031	7,634	5,872	191	5,681	1,952	1,129	1,040	88	18.2	2,164,524
2030	0	285	0	5	3	35	0	0	4	98	7	2,456	0	4,453	6,909	5,850	211	5,639	1,270	1,143	1,037	106	20.1	1,476,018
2031	0	285	0	5	0	36	0	0	11	109	-9	1,944	0	4,766	6,710	5,832	216	5,615	1,094	1,146	1,035	110	20.6	1,171,067
2032	0	285	0	5	(0)	35	0	0	11	120	4	1,696	0	5,190	6,886	5,832	219	5,613	1,273	1,160	1,030	130	22.7	1,020,594
2033	0	285	0	5	(1)	35	0	0	11	131	-6	1,734	0	5,447	7,180	5,795	218	5,577	1,603	1,165	1,031	134	23.1	1,042,420
2034	0	285	0	5	(1)	34	0	0	0	131	-6	1,518	0	5,438	6,956	5,780	216	5,564	1,392	1,158	1,026	132	22.9	912,447
2035	0	285	0	5	(1)	33	50	50	0	131	-6	1,499	41	5,446	6,986	5,814	213	5,601	1,385	1,186	1,025	161	26.0	900,594
2036	0	285	0	5	(1)	32	0	50	0	131	-6	1,730	41	5,497	7,268	5,817	209	5,608	1,660	1,178	1,021	157	25.7	1,039,084
2037	0	285	0	5	(1)	31	0	50	0	131	20	1,558	39	5,679	7,277	5,781	203	5,578	1,699	1,195	1,022	174	27.5	937,435

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**ECR Portfolio Under Reference Scenario**

Utility Costs (Nominal\$000)											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)=(1)thru(8)-(9)+(10)
	Existing Depreciation	New Depreciation	Capital Charge	Fixed O&M	Fuel Costs	Emission Costs	Other VOM Costs	Market Purchases Costs	Less: Market Sales Revenue	Taxes	GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	13,974	182,415	494	15,187	33,702	76,742	12,112	258,914
2024	38,764	0	37,615	16,905	177,860	486	15,629	39,369	48,429	11,299	289,498
2025	39,081	0	35,747	16,564	132,576	357	13,010	73,763	26,798	10,679	294,979
2026	39,553	17,673	59,336	29,403	114,062	316	12,501	66,132	31,250	-2,707	305,019
2027	39,856	42,473	89,753	38,087	91,791	228	8,759	63,339	29,404	-20,786	324,096
2028	39,988	112,490	180,976	56,407	50,214	81	4,212	81,104	37,921	-91,689	395,860
2029	40,015	161,437	235,501	68,742	82,473	63	3,409	21,585	70,430	-74,700	468,096
2030	40,042	169,339	224,606	72,246	59,460	13,579	3,672	34,301	73,057	-88,040	456,148
2031	40,054	187,991	232,469	82,587	37,035	8,558	2,026	51,055	73,293	-106,627	461,855
2032	40,054	225,216	260,958	93,043	21,852	5,476	1,850	38,740	79,104	-249,336	358,750
2033	40,054	233,719	252,236	97,345	21,500	5,225	1,727	34,814	87,512	-119,510	479,596
2034	40,054	233,719	233,902	98,564	19,753	4,824	1,629	36,551	87,667	-123,309	458,020
2035	40,054	233,719	217,347	99,811	20,848	5,184	2,127	35,356	88,739	-127,398	438,310
2036	40,054	237,724	207,597	101,862	23,009	5,886	1,920	33,220	97,155	-111,547	442,570
2037	40,054	237,724	192,948	103,102	22,488	5,854	1,410	32,943	96,987	-83,759	455,777
Cumulative Present Worth 2023-2037	380,095	1,108,151	1,423,288	551,378	806,750	30,435	69,046	449,776	597,706	(615,698)	3,605,514

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 ECR Portfolio Under Reference Scenario

Resource (Capacity) Additions												Energy & Capacity Positions											Carbon Output	
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Increment) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Increment) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	70	934	2	9	0	0	0	0	0	0	0	6,180	0	0	6,180	5,643	1	5,642	538	1,013	1,014	-1	8.8	5,566,682
2024	78	934	(3)	5	0	0	0	0	0	0	0	6,070	0	0	6,070	6,118	1	6,117	(46)	1,017	1,019	-2	8.7	5,363,049
2025	78	934	0	5	0	0	0	0	0	0	0	4,578	0	0	4,578	6,060	1	6,058	(1,480)	1,018	1,002	15	10.6	3,918,387
2026	43	934	0	5	5	5	0	0	27	27	0	4,007	0	613	4,620	5,948	36	5,912	(1,292)	1,014	1,054	-40	4.8	3,421,880
2027	0	934	0	5	5	10	0	0	23	50	44	3,116	0	1,423	4,539	5,918	67	5,851	(1,312)	1,043	1,050	-7	8.3	2,510,535
2028	339	285	0	5	4	14	0	0	20	70	207	1,596	0	2,934	4,530	5,911	94	5,817	(1,287)	1,005	1,044	-38	5.0	1,292,745
2029	0	285	0	5	3	17	0	0	23	94	69	2,442	0	4,131	6,573	5,872	117	5,755	818	990	1,040	-51	3.6	1,454,253
2030	0	285	0	5	3	20	0	0	4	98	-10	1,670	0	4,453	6,123	5,850	137	5,713	410	986	1,037	-51	3.6	994,779
2031	206	0	0	5	5	25	0	0	11	109	36	1,009	0	5,066	6,075	5,832	164	5,667	408	958	1,035	-78	0.8	607,417
2032	0	0	0	5	4	29	200	200	11	120	31	614	164	5,692	6,471	6,030	188	5,842	629	945	1,030	-85	-0.1	375,725
2033	0	0	0	5	4	33	0	200	11	131	-9	566	165	5,947	6,678	5,993	207	5,786	891	943	1,031	-88	-0.4	346,234
2034	0	0	0	5	3	36	0	200	0	131	-9	505	164	5,938	6,607	5,977	222	5,754	853	933	1,026	-93	-0.9	308,834
2035	0	0	0	5	2	38	0	200	0	131	-9	525	165	5,946	6,636	5,963	235	5,728	908	926	1,025	-99	-1.6	320,893
2036	0	0	0	5	2	40	0	200	0	131	4	575	163	6,100	6,838	5,964	245	5,719	1,119	928	1,021	-93	-0.9	352,005
2037	0	0	0	5	1	41	0	200	0	131	-10	553	158	6,079	6,790	5,923	250	5,673	1,117	915	1,022	-106	-2.4	337,995

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**NCR Portfolio Under Reference Scenario**

Utility Costs (Nominal\$000)											
	(1) Existing Depreciation	(2) New Depreciation	(3) Capital Charge	(4) Fixed O&M	(5) Fuel Costs	(6) Emission Costs	(7) Other VOM Costs	(8) Market Purchases Costs	(9) Less: Market Sales Revenue	(10) Taxes	(11)=(1)thru(8)-(9)+(10) GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	20,030	182,415	494	15,187	33,376	77,607	12,112	263,779
2024	38,764	0	37,615	25,977	177,860	486	15,629	38,240	49,960	11,299	295,911
2025	39,081	0	35,747	28,492	132,576	357	13,010	71,693	28,610	10,679	303,025
2026	39,553	17,673	59,336	38,577	114,062	316	12,501	64,557	33,375	-2,707	310,492
2027	39,856	46,143	94,986	48,192	91,791	228	8,759	58,289	32,397	-22,525	333,321
2028	39,988	81,945	136,805	57,246	50,214	81	4,212	99,857	31,576	-47,510	391,262
2029	40,015	110,510	168,732	63,626	119,684	63	4,554	25,902	60,876	-100,764	371,447
2030	40,042	110,510	154,921	64,456	85,951	20,125	5,686	54,236	47,520	-36,749	451,660
2031	40,070	110,753	143,481	49,752	70,342	16,506	4,009	68,968	33,585	-39,539	430,757
2032	40,099	110,753	133,404	50,485	62,279	14,885	4,714	81,343	32,624	-42,242	423,096
2033	40,128	110,753	124,956	51,236	68,128	15,755	4,854	83,810	38,762	-43,328	417,530
2034	40,158	110,753	116,855	51,999	61,372	14,272	4,496	89,628	31,728	-45,110	412,695
2035	40,188	115,592	114,265	53,821	61,457	14,566	5,389	91,416	30,156	-45,118	421,420
2036	40,219	115,592	105,531	54,633	71,248	17,397	5,289	86,938	38,732	-25,580	432,534
2037	40,250	115,592	96,991	55,458	65,115	16,254	3,988	93,973	34,138	6,794	460,278
Cumulative Present Worth 2023-2037	380,430	632,242	934,721	432,471	990,199	67,794	80,774	628,566	400,210	(229,969)	3,517,018

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 NCR Portfolio Under Reference Scenario

	Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)+(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
	(Current and Planned Supply-Side + Purchased Unforced Capacity (UCAP))		(Current and Planned Interruptible Load and Demand Response)		(Incram) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Incram) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	73	934	2	9	5	5	0	0	0	0	0	0	6,180	0	0	6,180	5,643	21	5,622	558	1,020	1,014	6	9.6	5,566,682
2024	78	934	(3)	5	6	11	0	0	0	0	0	0	6,070	0	0	6,070	6,118	51	6,067	3	1,028	1,019	9	9.9	5,363,049
2025	78	934	0	5	7	18	0	0	0	0	0	0	4,578	0	0	4,578	6,060	87	5,973	(1,395)	1,036	1,002	33	12.6	3,918,387
2026	60	934	0	5	10	28	0	0	27	27	0	0	4,007	0	613	4,620	5,948	141	5,807	(1,187)	1,054	1,054	0	9.0	3,421,880
2027	0	934	0	5	7	36	0	0	23	50	63	63	3,116	0	1,523	4,639	5,918	178	5,740	(1,101)	1,088	1,050	39	12.9	2,510,535
2028	494	285	0	5	6	42	0	0	20	70	82	146	1,596	0	2,633	4,229	5,911	209	5,702	(1,473)	1,042	1,044	-2	8.7	1,292,745
2029	0	285	0	5	5	46	100	100	0	70	-14	131	3,603	80	2,623	6,306	5,968	233	5,735	570	1,076	1,040	36	12.7	2,164,524
2030	0	285	0	5	4	50	0	100	(5)	65	-7	125	2,456	81	2,636	5,172	5,947	252	5,694	(522)	1,066	1,037	28	11.9	1,476,018
2031	0	285	0	5	(8)	42	0	100	0	65	-7	118	1,944	81	2,639	4,665	5,929	207	5,722	(1,058)	1,049	1,035	13	10.3	1,171,067
2032	0	285	0	5	(6)	36	0	100	0	65	-7	111	1,696	82	2,648	4,427	5,931	178	5,753	(1,326)	1,032	1,030	2	9.2	1,020,594
2033	1	285	0	5	(6)	30	0	100	0	65	-2	109	1,734	83	2,623	4,440	5,894	150	5,745	(1,305)	1,023	1,031	-8	8.0	1,042,420
2034	4	285	0	5	(6)	25	0	100	0	65	-2	106	1,518	82	2,619	4,219	5,878	123	5,756	(1,537)	1,016	1,026	-10	7.9	912,447
2035	0	285	0	5	(5)	20	50	150	0	65	-2	104	1,499	124	2,623	4,246	5,913	98	5,815	(1,569)	1,040	1,025	15	10.5	900,594
2036	0	285	0	5	(5)	15	0	150	0	65	-2	102	1,730	122	2,648	4,501	5,915	76	5,839	(1,338)	1,030	1,021	10	10.0	1,039,084
2037	0	285	0	5	(4)	11	0	150	0	65	-2	99	1,558	118	2,640	4,316	5,876	56	5,820	(1,504)	1,021	1,022	0	8.9	937,435

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**CC Portfolio Under Reference Scenario**

Utility Costs (Nominal\$000)											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)=(1)thru(8)-(9)+(10)
	Existing Depreciation	New Depreciation	Capital Charge	Fixed O&M	Fuel Costs	Emission Costs	Other VOM Costs	Market Purchases Costs	Less: Market Sales Revenue	Taxes	GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	17,559	182,415	494	15,187	33,411	77,510	12,112	261,440
2024	38,764	0	37,615	22,756	177,860	486	15,629	38,398	49,808	11,299	292,999
2025	39,081	0	35,747	24,449	132,576	357	13,010	71,863	28,426	10,679	299,336
2026	39,553	8,416	46,138	35,043	114,062	316	12,501	71,575	27,379	3,491	303,715
2027	39,856	44,227	93,824	45,934	91,791	228	8,759	60,570	30,294	-19,496	335,398
2028	39,988	95,807	158,008	57,720	50,214	81	4,212	85,957	36,181	-51,268	404,539
2029	40,015	131,624	203,425	66,312	106,430	63	11,653	8,429	78,407	-39,074	450,471
2030	40,042	139,525	198,511	70,031	94,515	22,309	10,871	11,538	87,145	-50,911	449,285
2031	40,070	147,874	195,001	69,820	83,802	19,823	10,303	14,175	84,808	-62,380	433,680
2032	40,099	147,874	180,658	70,729	82,028	19,737	10,278	16,954	83,943	-66,156	418,258
2033	40,128	147,874	169,294	71,611	89,524	21,029	10,502	16,334	89,481	-67,591	409,225
2034	40,158	147,874	158,537	72,614	86,967	20,625	10,433	17,218	85,001	-69,911	399,515
2035	40,188	152,713	153,656	74,678	86,756	20,951	10,594	16,531	83,657	-70,440	401,970
2036	40,219	152,713	143,006	75,754	93,136	23,035	11,221	14,091	93,196	-62,870	397,107
2037	40,250	152,713	132,553	76,767	89,775	22,614	11,162	14,897	88,981	-23,233	428,517
Cumulative Present Worth 2023-2037	380,430	792,329	1,135,766	495,665	1,060,009	87,493	109,022	353,366	613,160	(284,611)	3,516,310

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 CC Portfolio Under Reference Scenario

Resource (Capacity) Additions													Energy & Capacity Positions											Carbon Output
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)+(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Incr) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Incr) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	73	934	2	9	3	3	0	0	0	0	0	6,180	0	0	6,180	5,643	19	5,624	556	1,019	1,014	5	9.5	5,566,682
2024	81	934	(3)	5	5	8	0	0	0	0	0	6,070	0	0	6,070	6,118	46	6,072	(1)	1,029	1,019	9	9.9	5,363,049
2025	78	934	0	5	6	14	0	0	0	0	0	4,578	0	0	4,578	6,060	79	5,980	(1,402)	1,032	1,002	29	12.1	3,918,387
2026	67	934	0	5	10	24	0	0	13	13	0	4,007	0	307	4,314	5,948	131	5,817	(1,503)	1,044	1,054	-10	7.9	3,421,880
2027	0	934	0	5	8	32	0	0	24	38	102	3,116	0	1,418	4,533	5,918	167	5,750	(1,217)	1,111	1,050	61	15.3	2,510,535
2028	313	285	0	5	6	38	0	0	21	59	149	1,596	0	2,930	4,526	5,911	198	5,713	(1,186)	951	1,044	-93	-0.7	1,292,745
2029	0	285	0	5	5	43	0	0	0	59	6	4,227	0	3,119	7,346	5,872	222	5,650	1,696	1,046	1,040	5	9.5	1,904,945
2030	0	285	0	5	4	47	0	0	7	65	-9	3,728	0	3,436	7,164	5,850	241	5,608	1,556	1,048	1,037	11	10.1	1,636,545
2031	0	285	0	5	0	47	0	0	11	76	-9	3,327	0	3,746	7,073	5,832	244	5,588	1,486	1,051	1,035	15	10.6	1,406,610
2032	0	285	0	5	1	48	0	0	0	76	-10	3,211	0	3,759	6,970	5,832	254	5,579	1,391	1,041	1,030	11	10.1	1,353,546
2033	0	285	0	5	0	48	0	0	0	76	-5	3,235	0	3,727	6,962	5,795	259	5,536	1,426	1,036	1,031	5	9.4	1,391,901
2034	0	285	0	5	(0)	48	0	0	0	76	-5	3,096	0	3,722	6,818	5,780	263	5,517	1,301	1,030	1,026	5	9.4	1,319,188
2035	0	285	0	5	(0)	48	50	50	0	76	-5	3,069	41	3,727	6,837	5,814	266	5,548	1,289	1,060	1,025	35	12.6	1,295,843
2036	0	285	0	5	(1)	47	0	50	0	76	-5	3,211	41	3,759	7,010	5,817	267	5,550	1,461	1,053	1,021	32	12.4	1,376,217
2037	0	285	0	5	(1)	46	0	50	0	76	-5	3,090	39	3,746	6,876	5,781	265	5,516	1,360	1,046	1,022	24	11.5	1,304,653



**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**No Wind Portfolio Under Reference Scenario**

Utility Costs (Nominal\$000)											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)=(1)thru(8)-(9)+(10)
	Existing Depreciation	New Depreciation	Capital Charge	Fixed O&M	Fuel Costs	Emission Costs	Other VOM Costs	Market Purchases Costs	Less: Market Sales Revenue	Taxes	GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	13,974	182,415	494	15,187	33,737	76,742	12,112	258,949
2024	38,764	0	37,615	16,905	177,860	486	15,629	39,422	48,429	11,299	289,552
2025	39,081	0	35,747	16,564	132,576	357	13,010	73,763	26,798	10,679	294,979
2026	39,553	7,469	44,788	25,451	114,062	316	12,501	76,007	24,021	6,884	303,009
2027	39,856	25,820	67,742	30,210	91,791	228	8,759	80,360	19,565	-2,741	322,460
2028	39,988	87,901	149,971	45,464	50,214	81	4,212	113,657	27,099	-79,140	385,248
2029	40,015	120,441	182,870	51,651	82,473	63	3,409	71,993	45,422	-57,620	449,873
2030	40,042	123,864	170,950	52,432	59,460	13,579	3,672	108,526	48,800	-29,669	494,057
2031	40,070	127,622	161,979	57,534	45,327	10,331	2,518	124,181	44,100	-34,845	490,616
2032	40,099	131,227	154,035	58,985	40,427	9,409	2,864	128,188	43,545	-25,948	495,740
2033	40,128	131,227	143,385	59,693	46,629	10,530	3,127	123,157	44,919	-28,085	484,871
2034	40,158	131,227	134,000	60,519	41,619	9,447	2,868	131,610	45,280	-30,309	475,859
2035	40,188	135,124	130,446	62,110	40,609	9,381	3,263	135,884	48,680	-34,675	473,649
2036	40,219	135,124	120,846	63,003	48,240	11,511	3,370	127,703	49,620	-29,951	470,443
2037	40,250	143,360	123,341	65,361	42,627	10,400	2,578	134,453	53,380	-13,098	495,893
Cumulative Present Worth 2023-2037	380,430	698,340	996,152	390,739	873,498	44,808	72,834	883,499	410,070	(175,557)	3,754,675

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 No Wind Portfolio Under Reference Scenario

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Incr) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Incr) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	73	934	2	9	0	0	0	0	0	0	0	6,180	0	0	6,180	5,643	1	5,642	538	1,016	1,014	2	9.1	5,566,682
2024	78	934	(3)	5	0	0	0	0	0	0	0	6,070	0	0	6,070	6,118	1	6,117	(46)	1,017	1,019	-2	8.7	5,363,049
2025	78	934	0	5	0	0	0	0	0	0	0	4,578	0	0	4,578	6,060	1	6,058	(1,480)	1,018	1,002	15	10.6	3,918,387
2026	78	934	0	5	6	6	0	0	0	43	43	4,007	0	200	4,207	5,948	45	5,903	(1,696)	1,066	1,054	12	10.2	3,421,880
2027	0	934	0	5	5	11	0	0	0	99	141	3,116	0	700	3,816	5,918	76	5,842	(2,026)	1,092	1,050	42	13.3	2,510,535
2028	407	285	0	5	4	15	0	0	0	224	365	1,596	0	1,606	3,202	5,911	104	5,807	(2,605)	1,139	1,044	95	18.9	1,292,745
2029	0	285	0	5	3	18	50	50	0	41	406	2,442	40	2,100	4,582	5,920	127	5,793	(1,211)	1,045	1,040	5	9.4	1,454,253
2030	0	285	0	5	3	21	0	50	0	5	410	1,670	40	2,200	3,910	5,898	147	5,752	(1,841)	1,049	1,037	12	10.2	994,779
2031	0	285	0	5	4	25	0	50	0	4	414	1,228	41	2,300	3,569	5,880	164	5,716	(2,147)	1,054	1,035	18	10.9	732,720
2032	0	285	0	5	4	29	0	50	0	0	415	1,082	41	2,410	3,533	5,882	188	5,694	(2,161)	1,055	1,030	25	11.5	644,869
2033	0	285	0	5	4	33	0	50	0	-10	405	1,168	41	2,400	3,609	5,845	207	5,638	(2,028)	1,045	1,031	14	10.4	696,186
2034	0	285	0	5	3	36	0	50	0	-10	395	1,013	41	2,400	3,454	5,829	222	5,607	(2,153)	1,036	1,026	10	10.0	603,613
2035	0	285	0	5	2	38	0	50	0	4	398	974	41	2,500	3,516	5,814	235	5,579	(2,064)	1,042	1,025	17	10.7	579,701
2036	0	285	0	5	2	40	0	50	0	-10	388	1,155	41	2,510	3,706	5,817	245	5,572	(1,866)	1,031	1,021	10	10.0	687,078
2037	0	285	0	5	1	41	0	50	0	15	403	1,006	39	2,700	3,746	5,781	250	5,531	(1,786)	1,045	1,022	23	11.4	599,440

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**Preferred Plan Under Reference Scenario**

Utility Costs (Nominal\$000)											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)=(1)thru(8)-(9)+(10)
	Existing Depreciation	New Depreciation	Capital Charge	Fixed O&M	Fuel Costs	Emission Costs	Other VOM Costs	Market Purchases Costs	Less: Market Sales Revenue	Taxes	GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	17,559	182,415	494	15,187	33,411	77,510	12,112	261,440
2024	38,764	0	37,615	22,756	177,860	486	15,629	38,398	49,808	11,299	292,999
2025	39,081	0	35,747	24,449	132,576	357	13,010	71,863	28,426	10,679	299,336
2026	39,553	8,416	46,138	35,043	114,062	316	12,501	71,575	27,379	3,491	303,715
2027	39,856	44,227	93,824	45,934	91,791	228	8,759	60,570	30,294	-19,496	335,398
2028	40,133	95,807	158,269	57,720	50,214	81	4,212	85,957	36,181	-51,188	405,025
2029	40,160	122,683	187,624	63,164	119,684	63	4,554	23,919	76,144	-45,052	440,655
2030	40,187	130,585	183,412	66,826	85,951	20,125	5,686	44,145	70,849	-56,738	449,331
2031	40,215	138,933	180,583	66,556	70,342	16,506	4,009	47,921	62,925	-68,061	434,080
2032	40,244	138,933	166,901	67,405	62,279	14,885	4,714	56,802	59,746	-71,696	420,721
2033	40,273	138,933	156,179	68,225	68,128	15,755	4,854	58,441	66,433	-72,994	411,362
2034	40,303	138,933	146,047	69,164	61,372	14,272	4,496	61,795	58,726	-75,180	402,476
2035	40,333	143,772	141,774	71,162	61,457	14,566	5,389	60,584	56,464	-75,579	406,995
2036	40,364	143,772	131,717	72,171	71,248	17,397	5,289	56,800	68,082	-67,882	402,796
2037	40,395	143,772	121,855	73,115	65,115	16,254	3,988	61,114	62,203	-28,118	435,288
Cumulative Present Worth 2023-2037	381,214	750,264	1,072,782	479,824	990,199	67,794	80,774	526,023	516,726	(310,287)	3,521,863

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 Preferred Plan Under Reference Scenario

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Increment) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Increment) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	73	934	2	9	3	3	0	0	0	0	0	6,180	0	0	6,180	5,643	19	5,624	556	1,019	1,014	5	9.5	5,566,682
2024	81	934	(3)	5	5	8	0	0	0	0	0	6,070	0	0	6,070	6,118	46	6,072	(1)	1,029	1,019	9	9.9	5,363,049
2025	78	934	0	5	6	14	0	0	0	0	0	4,578	0	0	4,578	6,060	79	5,980	(1,402)	1,032	1,002	29	12.1	3,918,387
2026	76	934	0	5	10	24	0	0	13	13	0	4,007	0	307	4,314	5,948	131	5,817	(1,503)	1,053	1,054	-1	8.8	3,421,880
2027	0	934	0	5	8	32	0	0	24	38	102	3,116	0	1,418	4,533	5,918	167	5,750	(1,217)	1,111	1,050	61	15.3	2,510,535
2028	448	285	0	5	6	38	0	0	21	59	149	1,596	0	2,930	4,526	5,911	198	5,713	(1,186)	1,086	1,044	42	13.4	1,292,745
2029	0	285	0	5	5	43	0	0	0	59	6	3,603	0	3,119	6,722	5,872	222	5,650	1,072	1,105	1,040	64	15.7	2,164,524
2030	0	285	0	5	4	47	0	0	7	65	-9	2,456	0	3,436	5,891	5,850	241	5,608	283	1,107	1,037	70	16.3	1,476,018
2031	0	285	0	5	0	47	0	0	11	76	-9	1,944	0	3,746	5,690	5,832	244	5,588	102	1,110	1,035	74	16.8	1,171,067
2032	0	285	0	5	1	48	0	0	0	76	-10	1,696	0	3,759	5,455	5,832	254	5,579	(124)	1,100	1,030	70	16.3	1,020,594
2033	0	285	0	5	0	48	0	0	0	76	-5	1,734	0	3,727	5,461	5,795	259	5,536	(75)	1,095	1,031	64	15.7	1,042,420
2034	0	285	0	5	(0)	48	0	0	0	76	-5	1,518	0	3,722	5,240	5,780	263	5,517	(277)	1,089	1,026	63	15.7	912,447
2035	0	285	0	5	(0)	48	50	50	0	76	-5	1,499	41	3,727	5,267	5,814	266	5,548	(281)	1,119	1,025	94	18.9	900,594
2036	0	285	0	5	(1)	47	0	50	0	76	-5	1,730	41	3,759	5,530	5,817	267	5,550	(20)	1,112	1,021	91	18.7	1,039,084
2037	0	285	0	5	(1)	46	0	50	0	76	-5	1,558	39	3,746	5,344	5,781	265	5,516	(172)	1,105	1,022	83	17.8	937,435

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
Reference Portfolio Under REF-HC Scenario

Utility Costs (Nominal\$000)											
	(1) Existing Depreciation	(2) New Depreciation	(3) Capital Charge	(4) Fixed O&M	(5) Fuel Costs	(6) Emission Costs	(7) Other VOM Costs	(8) Market Purchases Costs	(9) Less: Market Sales Revenue	(10) Taxes	(11)=(1)thru(8)-(9)+(10) GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	17,559	182,424	495	15,188	33,410	77,526	12,112	261,433
2024	38,764	0	37,615	22,756	176,268	482	15,522	39,340	48,452	11,299	293,594
2025	39,081	0	35,747	24,449	130,001	349	12,710	73,819	27,202	10,679	299,632
2026	39,553	8,499	46,257	29,498	107,482	295	11,818	77,317	23,592	3,537	300,664
2027	39,856	38,918	86,241	37,937	79,931	190	7,634	80,412	22,862	-10,955	337,301
2028	39,988	79,947	136,285	47,802	58,287	113	4,510	96,700	23,576	-33,015	407,040
2029	40,015	126,527	196,176	60,502	116,167	62	4,686	23,790	67,379	-39,264	461,282
2030	40,042	134,714	190,795	64,973	77,094	18,061	4,355	46,984	54,722	-51,215	471,081
2031	40,070	143,398	187,479	67,388	73,629	17,352	5,220	46,594	64,687	-62,589	453,854
2032	40,099	152,088	185,520	71,738	68,391	16,285	5,400	43,787	67,529	-74,192	441,587
2033	40,128	161,033	184,971	76,171	55,618	12,972	5,547	47,800	63,194	-83,596	437,451
2034	40,158	170,247	185,185	80,786	57,065	13,351	4,611	42,514	74,808	-94,139	424,969
2035	40,188	179,759	185,358	85,576	59,565	14,092	5,048	34,432	83,564	-105,487	414,965
2036	40,219	179,759	171,479	86,872	63,771	15,614	3,273	34,090	91,973	-99,315	403,788
2037	40,250	185,202	166,491	89,002	62,982	15,720	4,238	33,748	96,388	-70,783	430,463
Cumulative Present Worth 2023-2037	380,430	825,711	1,165,494	491,744	962,282	64,655	79,102	501,188	529,561	(341,502)	3,599,542

**Kentucky POWER COMPANY**  
**2022 INTEGRATED RESOURCE PLAN**  
 Reference Portfolio Under REF-HC Scenario

	Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
	(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Increment) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Increment) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons	
2023	73	934	2	9	3	3	0	0	0	0	0	0	6,181	0	0	6,181	5,643	19	5,624	556	1,019	1,014	5	9.5	5,567,084
2024	78	934	(3)	5	5	8	0	0	0	0	0	0	6,014	0	0	6,014	6,118	46	6,072	(57)	1,026	1,019	6	9.6	5,309,903
2025	78	934	0	5	6	14	0	0	0	0	0	0	4,484	0	0	4,484	6,060	79	5,980	(1,496)	1,032	1,002	29	12.1	3,827,239
2026	82	934	0	5	7	21	0	0	11	11	0	0	3,778	0	307	4,085	5,948	118	5,830	(1,746)	1,054	1,054	-1	8.9	3,199,395
2027	0	934	0	5	6	26	0	0	11	23	101	101	2,701	0	1,112	3,813	5,918	151	5,767	(1,954)	1,089	1,050	39	13.0	2,235,789
2028	495	285	0	5	4	31	0	0	23	45	71	172	1,841	0	2,224	4,065	5,911	179	5,733	(1,668)	1,033	1,044	-11	7.8	1,410,393
2029	0	285	0	5	4	34	0	0	21	66	27	199	3,491	0	3,023	6,514	5,872	200	5,673	842	1,046	1,040	6	9.5	2,099,562
2030	0	285	0	5	3	37	0	0	16	83	-9	190	2,206	0	3,341	5,547	5,850	217	5,633	(86)	1,056	1,037	19	10.9	1,326,218
2031	0	285	0	5	(0)	36	0	0	10	92	-4	187	2,042	0	3,653	5,695	5,832	220	5,612	83	1,062	1,035	27	11.7	1,229,266
2032	0	285	0	5	(1)	36	0	0	6	98	-13	174	1,857	0	3,972	5,829	5,832	221	5,612	218	1,054	1,030	24	11.5	1,115,577
2033	0	285	0	5	(1)	35	0	0	11	109	-5	169	1,429	0	4,239	5,667	5,795	219	5,576	91	1,059	1,031	28	11.9	859,173
2034	0	285	0	5	(1)	34	0	0	11	120	-3	167	1,420	0	4,535	5,954	5,780	216	5,564	390	1,066	1,026	41	13.3	853,531
2035	0	285	0	5	(1)	33	0	0	11	131	0	167	1,449	0	4,846	6,295	5,765	213	5,552	743	1,076	1,025	52	14.4	871,321
2036	0	285	0	5	(1)	32	0	0	0	131	-1	165	1,550	0	4,895	6,445	5,768	209	5,559	886	1,074	1,021	54	14.7	932,709
2037	0	285	0	5	(1)	31	0	0	0	131	13	178	1,509	0	4,979	6,488	5,734	203	5,531	957	1,086	1,022	64	15.8	906,576

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**REF-HC Portfolio Under REF-HC Scenario**

Utility Costs (Nominal\$000)											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)=(1)thru(8)-(9)+(10)
	Existing Depreciation	New Depreciation	Capital Charge	Fixed O&M	Fuel Costs	Emission Costs	Other VOM Costs	Market Purchases Costs	Less: Market Sales Revenue	Taxes	GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	16,188	182,424	495	15,188	33,517	77,263	12,112	260,432
2024	38,764	0	37,615	20,887	176,268	482	15,522	39,638	48,045	11,299	292,430
2025	39,081	0	35,747	22,030	130,001	349	12,710	74,330	26,761	10,679	298,165
2026	39,553	17,848	59,586	30,141	107,482	295	11,818	70,752	28,427	-2,612	306,436
2027	39,856	53,159	104,960	40,987	79,931	190	7,634	69,076	29,438	-22,446	343,909
2028	39,988	109,103	174,313	53,569	58,287	113	4,510	77,505	34,936	-48,191	434,260
2029	40,015	137,235	203,933	61,410	116,167	62	4,686	20,854	74,992	-45,688	463,680
2030	40,042	145,421	198,590	65,927	77,094	18,061	4,355	41,391	61,376	-57,704	471,802
2031	40,070	154,106	195,260	67,276	73,629	17,352	5,220	41,707	71,362	-69,104	454,152
2032	40,099	162,795	192,959	71,800	68,391	16,285	5,400	39,456	74,547	-80,814	441,824
2033	40,128	171,741	192,728	76,465	55,618	12,972	5,547	43,607	70,012	-90,021	438,773
2034	40,158	171,741	179,308	77,767	57,065	13,351	4,611	44,385	72,546	-92,796	423,044
2035	40,188	171,741	166,982	79,077	59,565	14,092	5,048	41,596	70,895	-95,951	411,442
2036	40,219	171,741	155,327	80,410	63,771	15,614	3,273	41,338	78,510	-77,836	415,349
2037	40,250	181,877	158,513	85,526	62,982	15,720	4,238	36,888	89,761	-43,421	452,813
Cumulative Present Worth 2023-2037	380,430	887,484	1,217,412	486,225	962,282	64,655	79,102	470,853	550,151	(359,009)	3,639,283

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 REF-HC Portfolio Under REF-HC Scenario

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Increm) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Increm) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	73	934	2	9	2	2	0	0	0	0	0	6,181	0	0	6,181	5,643	13	5,630	550	1,017	1,014	4	9.3	5,567,084
2024	78	934	(3)	5	3	5	0	0	0	0	0	6,014	0	0	6,014	6,118	33	6,085	(71)	1,022	1,019	3	9.2	5,309,903
2025	78	934	0	5	4	9	0	0	0	0	0	4,484	0	0	4,484	6,060	58	6,001	(1,517)	1,026	1,002	24	11.5	3,827,239
2026	79	934	0	5	5	14	0	0	23	23	0	3,778	0	613	4,391	5,948	97	5,851	(1,460)	1,055	1,054	1	9.0	3,199,395
2027	0	934	0	5	4	18	0	0	23	45	82	2,701	0	1,623	4,324	5,918	124	5,794	(1,470)	1,084	1,050	34	12.5	2,235,789
2028	461	285	0	5	3	21	0	0	23	68	123	1,841	0	3,035	4,875	5,911	146	5,765	(890)	1,045	1,044	1	9.1	1,410,393
2029	0	285	0	5	3	24	0	0	10	77	-6	3,491	0	3,327	6,818	5,872	164	5,709	1,109	1,047	1,040	6	9.6	2,099,562
2030	0	285	0	5	2	26	0	0	17	94	-9	2,206	0	3,647	5,853	5,850	178	5,672	181	1,057	1,037	20	11.0	1,326,218
2031	0	285	0	5	(1)	24	0	0	10	104	-4	2,042	0	3,959	6,001	5,832	160	5,672	330	1,061	1,035	26	11.7	1,229,266
2032	0	285	0	5	(1)	24	0	0	5	109	-13	1,857	0	4,280	6,137	5,832	151	5,681	456	1,053	1,030	23	11.4	1,115,577
2033	0	285	0	5	(1)	23	0	0	11	120	-5	1,429	0	4,543	5,971	5,795	141	5,654	317	1,058	1,031	27	11.8	859,173
2034	0	285	0	5	(1)	22	0	0	0	120	-3	1,420	0	4,535	5,954	5,780	130	5,650	305	1,055	1,026	29	12.0	853,531
2035	0	285	0	5	(1)	21	0	0	0	120	0	1,449	0	4,542	5,991	5,765	120	5,645	346	1,054	1,025	29	12.0	871,321
2036	0	285	0	5	(1)	20	0	0	0	120	-1	1,550	0	4,587	6,138	5,768	110	5,658	480	1,052	1,021	31	12.2	932,709
2037	0	285	0	5	(1)	19	0	0	11	131	-1	1,509	0	4,879	6,388	5,734	100	5,634	754	1,060	1,022	38	13.0	906,576



**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**CETA Portfolio Under REF-HC Scenario**

Utility Costs (Nominal\$000)											
	(1) Existing Depreciation	(2) New Depreciation	(3) Capital Charge	(4) Fixed O&M	(5) Fuel Costs	(6) Emission Costs	(7) Other VOM Costs	(8) Market Purchases Costs	(9) Less: Market Sales Revenue	(10) Taxes	(11)=(1)thru(8)-(9)+(10) GRAND TOTAL, Net Utility Costs
	<u>\$000</u>	<u>\$000</u>	<u>\$000</u>	<u>\$000</u>	<u>\$000</u>	<u>\$000</u>	<u>\$000</u>	<u>\$000</u>	<u>\$000</u>	<u>\$000</u>	<u>\$000</u>
2023	38,400	0	39,371	16,188	182,424	495	15,188	33,887	77,263	12,112	260,803
2024	38,764	0	37,615	20,887	176,268	482	15,522	40,354	48,045	11,299	293,146
2025	39,081	0	35,747	22,030	130,001	349	12,710	75,188	26,761	10,679	299,023
2026	39,553	17,848	59,586	32,599	107,482	295	11,818	72,709	28,464	-2,612	310,816
2027	39,856	57,554	111,226	44,257	79,931	190	7,634	66,481	31,002	-23,789	352,337
2028	39,988	118,469	186,922	57,636	58,287	113	4,510	75,636	40,178	-50,824	450,558
2029	40,015	165,049	241,472	70,501	116,167	62	4,686	16,078	98,579	-58,073	497,377
2030	40,042	178,059	238,878	76,012	77,094	18,061	4,355	31,535	89,156	-72,372	502,510
2031	40,070	186,743	231,658	78,562	73,629	17,352	5,220	31,488	100,236	-84,631	479,856
2032	40,099	200,426	233,562	83,937	68,391	16,285	5,400	29,024	108,087	-98,462	470,574
2033	40,128	209,372	229,933	88,517	55,618	12,972	5,547	32,120	103,233	-108,165	462,810
2034	40,158	209,372	214,177	89,725	57,065	13,351	4,611	32,506	106,420	-111,411	443,133
2035	40,188	215,839	207,193	92,381	59,565	14,092	5,048	29,551	106,135	-112,222	445,499
2036	40,219	215,839	192,625	93,737	63,771	15,614	3,273	29,609	115,344	-94,963	444,381
2037	40,250	226,726	194,446	96,842	62,982	15,720	4,238	28,855	123,846	-54,399	491,815
Cumulative Present Worth 2023-2037	380,430	1,070,554	1,409,169	547,336	962,282	64,655	79,102	424,409	702,391	(435,494)	3,800,051

**Kentucky POWER COMPANY**  
**2022 INTEGRATED RESOURCE PLAN**  
**CETA Portfolio Under REF-HC Scenario**

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Incrém) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Incrém) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	105	934	2	9	2	2	0	0	0	0	0	6,181	0	0	6,181	5,643	13	5,630	550	1,049	1,014	36	12.8	5,567,084
2024	118	934	(3)	5	3	5	0	0	0	0	0	6,014	0	0	6,014	6,118	33	6,085	(71)	1,062	1,019	43	13.5	5,309,903
2025	103	934	0	5	4	9	0	0	0	0	0	4,484	0	0	4,484	6,060	58	6,001	(1,517)	1,051	1,002	49	14.2	3,827,239
2026	133	934	0	5	7	16	0	0	23	23	0	3,778	0	613	4,391	5,948	100	5,848	(1,457)	1,111	1,054	57	14.8	3,199,395
2027	4	934	0	5	6	22	0	0	23	45	101	2,701	0	1,723	4,424	5,918	136	5,782	(1,358)	1,112	1,050	62	15.4	2,235,789
2028	488	285	0	5	5	28	0	0	23	68	137	1,841	0	3,235	5,076	5,911	167	5,745	(668)	1,111	1,044	68	16.0	1,410,393
2029	0	285	0	5	4	32	0	0	21	88	26	3,491	0	4,031	7,522	5,872	191	5,681	1,841	1,131	1,040	90	18.4	2,099,562
2030	0	285	0	5	3	35	0	0	18	106	6	2,206	0	4,453	6,659	5,850	211	5,639	1,020	1,158	1,037	120	21.6	1,326,218
2031	0	285	0	5	0	36	0	0	9	116	-3	2,042	0	4,766	6,808	5,832	216	5,615	1,193	1,164	1,035	129	22.5	1,229,266
2032	0	285	0	5	(0)	35	0	0	4	120	-1	1,857	0	5,190	7,047	5,832	219	5,613	1,434	1,167	1,030	137	23.4	1,115,577
2033	0	285	0	5	(1)	35	0	0	11	131	-8	1,429	0	5,447	6,875	5,795	218	5,577	1,298	1,169	1,031	138	23.5	859,173
2034	0	285	0	5	(1)	34	0	0	0	131	-4	1,420	0	5,438	6,858	5,780	216	5,564	1,294	1,164	1,026	138	23.6	853,531
2035	0	285	0	5	(1)	33	50	50	0	131	0	1,449	40	5,446	6,935	5,813	213	5,600	1,335	1,203	1,025	178	27.9	871,321
2036	0	285	0	5	(1)	32	0	50	0	131	-2	1,550	39	5,497	7,087	5,815	209	5,606	1,481	1,197	1,021	177	27.8	932,709
2037	0	285	0	5	(1)	31	0	50	0	131	26	1,509	40	5,679	7,228	5,782	203	5,578	1,650	1,221	1,022	200	30.2	906,576

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**ECR Portfolio Under REF-HC Scenario**

Utility Costs (Nominal\$000)											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)=(1)thru(8)-(9)+(10)
	Existing Depreciation	New Depreciation	Capital Charge	Fixed O&M	Fuel Costs	Emission Costs	Other VOM Costs	Market Purchases Costs	Less: Market Sales Revenue	Taxes	GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	13,974	182,424	495	15,188	33,701	76,758	12,112	258,908
2024	38,764	0	37,615	16,905	176,268	482	15,522	40,368	47,092	11,299	290,131
2025	39,081	0	35,747	16,564	130,001	349	12,710	75,744	25,645	10,679	295,229
2026	39,553	17,848	59,586	29,525	107,482	295	11,818	70,814	27,357	-2,612	306,952
2027	39,856	44,369	92,427	38,644	79,931	190	7,634	75,464	26,293	-19,758	332,464
2028	39,988	128,199	203,030	59,535	58,287	113	4,510	68,987	37,342	-90,429	434,876
2029	40,015	184,937	266,097	73,762	80,366	61	3,467	22,279	68,309	-62,506	540,169
2030	40,042	193,124	252,453	78,407	52,265	11,886	2,876	40,374	67,216	-76,366	527,845
2031	40,054	216,302	264,361	89,602	33,241	7,757	2,438	53,542	71,102	-92,999	543,195
2032	40,054	263,243	302,329	102,106	21,950	5,495	2,057	38,437	79,846	-271,686	424,138
2033	40,054	272,189	290,707	106,908	19,878	4,851	2,303	36,146	88,072	-102,293	582,672
2034	40,054	272,189	269,672	108,398	18,948	4,636	1,772	37,186	89,566	-106,671	556,619
2035	40,054	272,189	250,707	109,926	20,004	4,985	1,943	36,732	90,775	-111,276	534,486
2036	40,054	277,537	240,675	112,417	21,122	5,422	1,039	34,706	97,752	-95,164	540,057
2037	40,054	277,537	223,986	113,949	21,728	5,655	1,514	33,128	98,242	-67,813	551,495
Cumulative Present Worth 2023-2037	380,095	1,277,689	1,598,856	593,547	784,141	28,239	67,384	464,364	586,842	(565,160)	4,042,311

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 ECR Portfolio Under REF-HC Scenario

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Incrém) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Incrém) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	70	934	2	9	0	0	0	0	0	0	0	6,181	0	0	6,181	5,643	1	5,642	538	1,013	1,014	-1	8.8	5,567,084
2024	78	934	(3)	5	0	0	0	0	0	0	0	6,014	0	0	6,014	6,118	1	6,117	(103)	1,017	1,019	-2	8.7	5,309,903
2025	78	934	0	5	0	0	0	0	0	0	0	4,484	0	0	4,484	6,060	1	6,058	(1,574)	1,018	1,002	15	10.6	3,827,239
2026	43	934	0	5	5	5	0	0	23	23	0	3,778	0	613	4,391	5,948	36	5,912	(1,521)	1,010	1,054	-44	4.4	3,199,395
2027	0	934	0	5	5	10	0	0	23	45	44	2,701	0	1,423	4,124	5,918	67	5,851	(1,727)	1,038	1,050	-12	7.7	2,235,789
2028	339	285	0	5	4	14	0	0	23	68	194	1,841	0	2,934	4,775	5,911	94	5,817	(1,042)	990	1,044	-54	3.3	1,410,393
2029	0	285	0	5	3	17	0	0	21	88	91	2,375	0	4,131	6,505	5,872	117	5,755	751	994	1,040	-47	4.1	1,416,193
2030	0	285	0	5	3	20	0	0	18	106	-12	1,465	0	4,453	5,918	5,850	137	5,713	206	1,003	1,037	-35	5.3	872,262
2031	206	0	0	5	5	25	0	0	9	116	45	913	0	5,066	5,979	5,832	164	5,667	311	983	1,035	-52	3.5	550,570
2032	0	0	0	5	4	29	200	200	4	120	25	616	164	5,692	6,472	6,029	188	5,841	631	974	1,030	-56	3.1	376,999
2033	0	0	0	5	4	33	0	200	11	131	-12	526	165	5,947	6,637	5,993	207	5,786	851	977	1,031	-54	3.2	321,488
2034	0	0	0	5	3	36	0	200	0	131	-6	486	161	5,938	6,585	5,974	222	5,751	834	967	1,026	-58	2.7	296,804
2035	0	0	0	5	2	38	0	200	0	131	0	504	161	5,946	6,612	5,958	235	5,723	889	970	1,025	-55	3.1	308,521
2036	0	0	0	5	2	40	0	200	0	131	11	529	158	6,100	6,786	5,957	245	5,713	1,074	970	1,021	-50	3.6	324,255
2037	0	0	0	5	1	41	0	200	0	131	-3	535	158	6,079	6,772	5,924	250	5,674	1,098	962	1,022	-59	2.6	326,522

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**NCR Portfolio Under REF-HC Scenario**

Utility Costs (Nominal\$000)											
	(1) Existing Depreciation	(2) New Depreciation	(3) Capital Charge	(4) Fixed O&M	(5) Fuel Costs	(6) Emission Costs	(7) Other VOM Costs	(8) Market Purchases Costs	(9) Less: Market Sales Revenue	(10) Taxes	(11)=(1)thru(8)-(9)+(10) GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	20,030	182,424	495	15,188	33,375	77,624	12,112	263,772
2024	38,764	0	37,615	25,977	176,268	482	15,522	39,235	48,602	11,299	296,560
2025	39,081	0	35,747	28,492	130,001	349	12,710	73,646	27,379	10,679	303,325
2026	39,553	17,848	59,586	38,698	107,482	295	11,818	69,094	29,264	-2,612	312,499
2027	39,856	48,764	98,693	48,842	79,931	190	7,634	70,234	28,976	-21,102	344,066
2028	39,988	89,793	147,528	58,947	58,287	113	4,510	85,533	29,013	-43,329	412,357
2029	40,015	120,384	180,551	66,221	116,167	62	4,686	27,261	57,752	-111,700	385,893
2030	40,042	120,384	165,579	67,509	77,094	18,061	4,355	60,150	38,892	-32,197	482,085
2031	40,070	120,627	153,219	52,937	73,629	17,352	5,220	69,231	41,397	-35,184	455,704
2032	40,099	120,627	142,379	53,808	68,391	16,285	5,400	75,524	37,045	-38,051	447,416
2033	40,128	120,627	133,399	54,699	55,618	12,972	5,547	91,699	28,441	-39,250	446,998
2034	40,158	120,627	124,838	55,608	57,065	13,351	4,611	94,100	30,537	-41,132	438,689
2035	40,188	127,094	123,629	57,930	59,565	14,092	5,048	92,714	28,142	-40,534	451,583
2036	40,219	127,094	114,198	58,918	63,771	15,614	3,273	92,546	32,639	-21,145	461,849
2037	40,250	127,094	105,027	59,925	62,982	15,720	4,238	95,314	32,379	11,093	489,265
Cumulative Present Worth 2023-2037	380,430	688,359	989,625	450,593	962,282	64,655	79,102	644,824	379,853	(215,656)	3,664,361

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 NCR Portfolio Under REF-HC Scenario

Resource (Capacity) Additions												Energy & Capacity Positions											Carbon Output	
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Incrum) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Incrum) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	73	934	2	9	5	5	0	0	0	0	0	6,181	0	0	6,181	5,643	21	5,622	558	1,020	1,014	6	9.6	5,567,084
2024	78	934	(3)	5	6	11	0	0	0	0	0	6,014	0	0	6,014	6,118	51	6,067	(53)	1,028	1,019	9	9.9	5,309,903
2025	78	934	0	5	7	18	0	0	0	0	0	4,484	0	0	4,484	6,060	87	5,973	(1,489)	1,036	1,002	33	12.6	3,827,239
2026	60	934	0	5	10	28	0	0	23	23	0	3,778	0	613	4,391	5,948	141	5,807	(1,416)	1,050	1,054	-4	8.5	3,199,395
2027	0	934	0	5	7	36	0	0	23	45	63	2,701	0	1,523	4,224	5,918	178	5,740	(1,516)	1,083	1,050	33	12.4	2,235,789
2028	494	285	0	5	6	42	0	0	23	68	76	1,841	0	2,633	4,474	5,911	209	5,702	(1,229)	1,033	1,044	-11	7.8	1,410,393
2029	0	285	0	5	5	46	100	100	(2)	66	-5	3,491	80	2,623	6,194	5,969	233	5,736	459	1,075	1,040	35	12.6	2,099,562
2030	0	285	0	5	4	50	0	100	5	71	-7	2,206	81	2,636	4,922	5,947	252	5,694	(772)	1,076	1,037	39	13.0	1,326,218
2031	0	285	0	5	(8)	42	0	100	(2)	69	-4	2,042	81	2,639	4,762	5,929	207	5,722	(960)	1,063	1,035	27	11.8	1,229,266
2032	0	285	0	5	(6)	36	0	100	(4)	65	-10	1,857	82	2,648	4,587	5,931	178	5,753	(1,165)	1,043	1,030	13	10.3	1,115,577
2033	1	285	0	5	(6)	30	0	100	0	65	-3	1,429	82	2,623	4,134	5,894	150	5,744	(1,610)	1,035	1,031	4	9.4	859,173
2034	4	285	0	5	(6)	25	0	100	0	65	-2	1,420	81	2,619	4,119	5,877	123	5,754	(1,635)	1,029	1,026	3	9.2	853,531
2035	0	285	0	5	(5)	20	50	150	0	65	0	1,449	121	2,623	4,193	5,910	98	5,811	(1,619)	1,059	1,025	34	12.6	871,321
2036	0	285	0	5	(5)	15	0	150	0	65	-1	1,550	118	2,648	4,317	5,910	76	5,834	(1,517)	1,046	1,021	26	11.7	932,709
2037	0	285	0	5	(4)	11	0	150	0	65	-1	1,509	119	2,640	4,267	5,877	56	5,821	(1,553)	1,038	1,022	16	10.7	906,576

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**CC Portfolio Under REF-HC Scenario**

Utility Costs (Nominal\$000)											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)=(1)thru(8)-(9)+(10)
	Existing Depreciation	New Depreciation	Capital Charge	Fixed O&M	Fuel Costs	Emission Costs	Other VOM Costs	Market Purchases Costs	Less: Market Sales Revenue	Taxes	GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	17,559	182,424	495	15,188	33,410	77,526	12,112	261,433
2024	38,764	0	37,615	22,756	176,268	482	15,522	39,394	48,452	11,299	293,647
2025	39,081	0	35,747	24,449	130,001	349	12,710	73,819	27,202	10,679	299,632
2026	39,553	8,499	46,257	35,104	107,482	295	11,818	76,462	23,840	3,537	305,167
2027	39,856	48,205	99,483	46,677	79,931	190	7,634	72,717	27,144	-17,329	350,220
2028	39,988	109,120	176,304	60,004	58,287	113	4,510	74,184	36,063	-44,153	442,293
2029	40,015	147,257	222,969	69,420	105,676	61	11,596	8,429	76,683	-31,135	497,605
2030	40,042	155,444	216,583	73,941	88,949	20,986	10,607	15,378	81,047	-43,219	497,662
2031	40,070	164,128	212,017	74,021	88,076	20,923	10,680	12,807	91,254	-54,834	476,634
2032	40,099	164,128	196,338	75,030	87,466	21,005	10,473	14,737	90,584	-58,896	459,795
2033	40,128	164,128	184,077	76,013	80,797	19,135	10,098	19,873	80,679	-60,523	453,046
2034	40,158	164,128	172,535	77,120	85,313	20,364	10,317	17,389	84,616	-63,012	439,696
2035	40,188	170,595	168,723	79,639	87,250	21,047	10,703	15,742	84,402	-63,002	446,484
2036	40,219	170,595	157,079	80,846	89,841	22,310	10,965	15,240	89,937	-55,645	441,511
2037	40,250	170,595	145,697	81,993	89,582	22,614	11,191	14,910	89,466	-16,207	471,159
Cumulative Present Worth 2023-2037	380,430	882,587	1,228,089	518,178	1,043,078	86,601	107,328	362,922	602,643	(243,276)	3,763,295

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 CC Portfolio Under REF-HC Scenario

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Increment) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Increment) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	73	934	2	9	3	3	0	0	0	0	0	6,181	0	0	6,181	5,643	19	5,624	556	1,019	1,014	5	9.5	5,567,084
2024	81	934	(3)	5	5	8	0	0	0	0	0	6,014	0	0	6,014	6,118	46	6,072	(57)	1,029	1,019	9	9.9	5,309,903
2025	78	934	0	5	6	14	0	0	0	0	0	4,484	0	0	4,484	6,060	79	5,980	(1,496)	1,032	1,002	29	12.1	3,827,239
2026	67	934	0	5	10	24	0	0	11	11	0	3,778	0	307	4,085	5,948	131	5,817	(1,733)	1,042	1,054	-12	7.7	3,199,395
2027	0	934	0	5	8	32	0	0	23	34	101	2,701	0	1,418	4,119	5,918	167	5,750	(1,632)	1,106	1,050	56	14.8	2,235,789
2028	313	285	0	5	6	38	0	0	23	57	137	1,841	0	2,930	4,771	5,911	198	5,713	(942)	936	1,044	-108	-2.3	1,410,393
2029	0	285	0	5	5	43	0	0	(1)	55	26	4,198	0	3,119	7,318	5,872	222	5,650	1,668	1,050	1,040	9	9.9	1,892,290
2030	0	285	0	5	4	47	0	0	16	71	-10	3,568	0	3,436	7,004	5,850	241	5,608	1,396	1,059	1,037	22	11.2	1,541,284
2031	0	285	0	5	0	47	0	0	10	81	-3	3,434	0	3,746	7,180	5,832	244	5,588	1,592	1,066	1,035	31	12.2	1,482,748
2032	0	285	0	5	1	48	0	0	(5)	76	-16	3,352	0	3,759	7,112	5,832	254	5,579	1,533	1,046	1,030	16	10.7	1,439,409
2033	0	285	0	5	0	48	0	0	0	76	-7	3,035	0	3,727	6,763	5,795	259	5,536	1,227	1,040	1,031	8	9.8	1,267,557
2034	0	285	0	5	(0)	48	0	0	0	76	-4	3,084	0	3,722	6,806	5,780	263	5,517	1,289	1,036	1,026	10	10.0	1,302,516
2035	0	285	0	5	(0)	48	50	50	0	76	0	3,089	40	3,727	6,856	5,813	266	5,547	1,309	1,076	1,025	51	14.3	1,301,857
2036	0	285	0	5	(1)	47	0	50	0	76	-2	3,145	39	3,759	6,944	5,815	267	5,548	1,395	1,071	1,021	50	14.3	1,333,084
2037	0	285	0	5	(1)	46	0	50	0	76	-2	3,098	40	3,746	6,884	5,782	265	5,517	1,367	1,067	1,022	45	13.7	1,304,644



**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**No Wind Portfolio Under REF-HC Scenario**

Utility Costs (Nominal\$000)											
	(1) Existing Depreciation	(2) New Depreciation	(3) Capital Charge	(4) Fixed O&M	(5) Fuel Costs	(6) Emission Costs	(7) Other VOM Costs	(8) Market Purchases Costs	(9) Less: Market Sales Revenue	(10) Taxes	(11)=(1)thru(8)-(9)+(10) GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	13,974	182,424	495	15,188	33,736	76,758	12,112	258,943
2024	38,764	0	37,615	16,905	176,268	482	15,522	40,422	47,092	11,299	290,184
2025	39,081	0	35,747	16,564	130,001	349	12,710	75,744	25,645	10,679	295,229
2026	39,553	8,520	46,287	25,588	107,482	295	11,818	81,003	20,715	7,458	307,290
2027	39,856	30,496	74,229	30,861	79,931	190	7,634	93,062	17,468	-229	338,561
2028	39,988	108,255	178,071	48,964	58,287	113	4,510	103,666	29,382	-79,086	433,387
2029	40,015	147,840	217,526	56,849	80,366	61	3,467	72,758	44,635	-51,539	522,707
2030	40,042	152,663	204,119	58,689	52,265	11,886	2,876	114,471	44,200	-15,701	577,109
2031	40,070	157,818	194,265	63,919	49,856	11,477	3,316	118,897	49,768	-20,732	569,119
2032	40,099	162,812	185,621	65,492	46,441	10,790	3,342	119,908	47,432	-11,652	575,422
2033	40,128	162,812	172,862	66,150	35,739	8,121	3,244	134,468	43,310	-14,241	565,973
2034	40,158	162,812	161,778	66,923	38,117	8,715	2,839	134,820	47,499	-16,828	551,833
2035	40,188	168,065	158,563	68,612	39,561	9,107	3,105	136,043	50,699	-20,796	551,750
2036	40,219	168,065	147,200	69,441	42,649	10,192	2,235	134,038	51,289	-16,450	546,299
2037	40,250	178,953	151,841	72,028	41,254	10,065	2,725	134,656	55,961	1,500	577,311
Cumulative Present Worth 2023-2037	380,430	862,976	1,165,698	423,255	850,943	42,720	71,145	899,260	410,388	(112,696)	4,173,343

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 No Wind Portfolio Under REF-HC Scenario

Resource (Capacity) Additions												Energy & Capacity Positions											Carbon Output	
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Incram) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Incram) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	73	934	2	9	0	0	0	0	0	0	0	6,181	0	0	6,181	5,643	1	5,642	538	1,016	1,014	2	9.1	5,567,084
2024	78	934	(3)	5	0	0	0	0	0	0	0	6,014	0	0	6,014	6,118	1	6,117	(103)	1,017	1,019	-2	8.7	5,309,903
2025	78	934	0	5	0	0	0	0	0	0	0	4,484	0	0	4,484	6,060	1	6,058	(1,574)	1,018	1,002	15	10.6	3,827,239
2026	78	934	0	5	6	6	0	0	0	0	47	3,778	0	200	3,978	5,948	45	5,903	(1,925)	1,071	1,054	17	10.7	3,199,395
2027	0	934	0	5	5	11	0	0	0	0	91	2,701	0	700	3,401	5,918	76	5,842	(2,441)	1,089	1,050	39	13.0	2,235,789
2028	407	285	0	5	4	15	0	0	0	0	206	1,841	0	1,606	3,447	5,911	104	5,807	(2,360)	1,118	1,044	75	16.8	1,410,393
2029	0	285	0	5	3	18	50	50	0	0	73	2,375	40	2,100	4,515	5,920	127	5,793	(1,279)	1,057	1,040	17	10.7	1,416,193
2030	0	285	0	5	3	21	0	50	0	0	2	1,465	40	2,200	3,706	5,898	147	5,751	(2,046)	1,062	1,037	25	11.5	872,262
2031	0	285	0	5	4	25	0	50	0	0	14	1,361	40	2,300	3,701	5,880	164	5,716	(2,014)	1,080	1,035	45	13.6	812,236
2032	0	285	0	5	4	29	0	50	0	0	-9	1,241	41	2,410	3,691	5,882	188	5,694	(2,002)	1,075	1,030	45	13.7	738,578
2033	0	285	0	5	4	33	0	50	0	0	-13	903	41	2,400	3,344	5,844	207	5,638	(2,293)	1,065	1,031	34	12.6	537,685
2034	0	285	0	5	3	36	0	50	0	0	-7	934	40	2,400	3,375	5,828	222	5,606	(2,232)	1,059	1,026	33	12.4	556,727
2035	0	285	0	5	2	38	0	50	0	0	14	944	40	2,500	3,485	5,813	235	5,578	(2,093)	1,075	1,025	51	14.3	562,800
2036	0	285	0	5	2	40	0	50	0	0	-3	1,022	39	2,510	3,571	5,815	245	5,571	(1,999)	1,067	1,021	47	13.9	608,454
2037	0	285	0	5	1	41	0	50	0	0	25	974	40	2,700	3,714	5,782	250	5,532	(1,817)	1,091	1,022	69	16.3	580,054

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**Preferred Plan Under REF-HC Scenario**

Utility Costs (Nominal\$000)											
	(1) Existing Depreciation	(2) New Depreciation	(3) Capital Charge	(4) Fixed O&M	(5) Fuel Costs	(6) Emission Costs	(7) Other VOM Costs	(8) Market Purchases Costs	(9) Less: Market Sales Revenue	(10) Taxes	(11)=(1)thru(8)-(9)+(10) GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	17,559	182,424	495	15,188	33,410	77,526	12,112	261,433
2024	38,764	0	37,615	22,756	176,268	482	15,522	39,394	48,452	11,299	293,647
2025	39,081	0	35,747	24,449	130,001	349	12,710	73,819	27,202	10,679	299,632
2026	39,553	8,499	46,257	35,104	107,482	295	11,818	76,462	23,840	3,537	305,167
2027	39,856	48,205	99,483	46,677	79,931	190	7,634	72,717	27,144	-17,329	350,220
2028	40,133	109,120	176,564	60,004	58,287	113	4,510	74,184	36,063	-44,074	442,779
2029	40,160	138,316	207,167	66,271	116,167	62	4,686	25,298	73,062	-37,113	487,951
2030	40,187	146,503	201,484	70,736	77,094	18,061	4,355	49,656	62,055	-49,046	496,975
2031	40,215	155,187	197,599	70,758	73,629	17,352	5,220	48,938	71,443	-60,515	476,940
2032	40,244	155,187	182,581	71,705	68,391	16,285	5,400	52,331	65,816	-64,436	461,872
2033	40,273	155,187	170,962	72,626	55,618	12,972	5,547	64,024	54,714	-65,926	456,569
2034	40,303	155,187	160,045	73,670	57,065	13,351	4,611	65,088	57,850	-68,280	443,188
2035	40,333	161,654	156,841	76,124	59,565	14,092	5,048	61,673	55,594	-68,140	451,595
2036	40,364	161,654	145,791	77,263	63,771	15,614	3,273	61,553	62,380	-60,656	446,248
2037	40,395	161,654	135,000	78,341	62,982	15,720	4,238	61,841	61,142	-21,091	477,937
Cumulative Present Worth 2023-2037	381,214	840,523	1,165,106	502,337	962,282	64,655	79,102	542,950	500,377	(268,951)	3,768,841

**Kentucky POWER COMPANY**  
**2022 INTEGRATED RESOURCE PLAN**  
 Preferred Plan Under REF-HC Scenario

	Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
	(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Increment) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Increment) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	73	934	2	9	3	3	0	0	0	0	0	0	6,181	0	0	6,181	5,643	19	5,624	556	1,019	1,014	5	9.5	5,567,084
2024	81	934	(3)	5	5	8	0	0	0	0	0	0	6,014	0	0	6,014	6,118	46	6,072	(57)	1,029	1,019	9	9.9	5,309,903
2025	78	934	0	5	6	14	0	0	0	0	0	0	4,484	0	0	4,484	6,060	79	5,980	(1,496)	1,032	1,002	29	12.1	3,827,239
2026	76	934	0	5	10	24	0	0	11	11	0	0	3,778	0	307	4,085	5,948	131	5,817	(1,733)	1,051	1,054	-3	8.6	3,199,395
2027	0	934	0	5	8	32	0	0	23	34	101	101	2,701	0	1,418	4,119	5,918	167	5,750	(1,632)	1,106	1,050	56	14.8	2,235,789
2028	448	285	0	5	6	38	0	0	23	57	137	238	1,841	0	2,930	4,771	5,911	198	5,713	(942)	1,071	1,044	27	11.8	1,410,393
2029	0	285	0	5	5	43	0	0	(1)	55	26	264	3,491	0	3,119	6,610	5,872	222	5,650	960	1,109	1,040	68	16.1	2,099,562
2030	0	285	0	5	4	47	0	0	16	71	-10	254	2,206	0	3,436	5,641	5,850	241	5,608	33	1,118	1,037	81	17.4	1,326,218
2031	0	285	0	5	0	47	0	0	10	81	-3	250	2,042	0	3,746	5,788	5,832	244	5,588	201	1,125	1,035	90	18.4	1,229,266
2032	0	285	0	5	1	48	0	0	(5)	76	-16	235	1,857	0	3,759	5,616	5,832	254	5,579	37	1,105	1,030	75	16.9	1,115,577
2033	0	285	0	5	0	48	0	0	0	76	-7	228	1,429	0	3,727	5,156	5,795	259	5,536	(380)	1,098	1,031	67	16.1	859,173
2034	0	285	0	5	(0)	48	0	0	0	76	-4	224	1,420	0	3,722	5,142	5,780	263	5,517	(375)	1,095	1,026	69	16.3	853,531
2035	0	285	0	5	(0)	48	50	50	0	76	0	224	1,449	40	3,727	5,216	5,813	266	5,547	(331)	1,134	1,025	110	20.6	871,321
2036	0	285	0	5	(1)	47	0	50	0	76	-2	223	1,550	39	3,759	5,349	5,815	267	5,548	(199)	1,130	1,021	109	20.6	932,709
2037	0	285	0	5	(1)	46	0	50	0	76	-2	221	1,509	40	3,746	5,295	5,782	265	5,517	(222)	1,126	1,022	104	20.0	906,576

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
 Reference Portfolio Under CETA Scenario

Utility Costs (Nominal\$000)											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)=(1)thru(8)-(9)+(10)
	Existing Depreciation	New Depreciation	Capital Charge	Fixed O&M	Fuel Costs	Emission Costs	Other VOM Costs	Market Purchases Costs	Less: Market Sales Revenue	Taxes	GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	17,559	185,781	499	15,389	35,006	72,439	12,112	271,680
2024	38,764	0	37,615	22,756	185,375	509	16,206	36,747	47,336	11,299	301,935
2025	39,081	0	35,747	24,449	141,255	386	13,920	72,733	27,312	10,679	310,936
2026	39,553	7,955	45,482	29,363	123,988	346	13,296	71,730	25,662	3,240	309,291
2027	39,856	32,536	77,234	36,849	102,325	265	9,226	69,890	27,181	-14,417	326,583
2028	39,988	64,442	115,327	44,967	54,736	85	4,408	121,667	25,540	-41,227	378,854
2029	40,015	104,675	168,469	55,858	119,418	67	4,654	27,145	58,851	-50,444	411,007
2030	40,042	111,000	163,188	58,959	95,378	22,223	5,227	46,996	61,054	-62,821	419,138
2031	40,070	117,716	159,530	60,582	86,299	20,225	5,666	48,890	63,284	-74,740	400,954
2032	40,099	124,327	156,871	64,036	80,779	19,089	4,914	44,485	63,551	-86,992	384,056
2033	40,128	131,081	155,254	67,467	71,018	16,585	4,872	54,891	68,176	-97,151	375,968
2034	40,158	137,981	154,158	70,967	65,264	15,205	4,796	49,901	67,718	-108,530	362,182
2035	40,188	145,047	152,972	74,522	67,384	15,888	5,311	42,175	74,072	-120,756	348,660
2036	40,219	145,047	141,371	75,186	74,085	18,202	4,839	40,250	83,958	-114,096	341,146
2037	40,250	148,440	135,456	76,420	69,547	17,438	4,816	44,820	82,795	-86,254	368,137
Cumulative Present Worth 2023-2037	380,430	673,571	1,005,465	449,412	1,060,261	75,984	84,463	526,597	511,183	(412,300)	3,332,702

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 Reference Portfolio Under CETA Scenario

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Increment) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Increment) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	73	934	2	9	3	3	0	0	0	0	0	6,276	0	0	6,276	5,841	19	5,822	454	1,019	1,049	-30	5.8	5,641,945
2024	78	934	(3)	5	5	8	0	0	0	0	0	6,335	0	0	6,335	6,354	46	6,307	28	1,026	1,062	-36	5.2	5,611,650
2025	78	934	0	5	6	14	0	0	0	0	0	4,882	0	0	4,882	6,351	79	6,272	(1,390)	1,032	1,050	-19	7.0	4,202,431
2026	82	934	0	5	7	21	0	0	11	11	0	4,363	0	307	4,670	6,265	118	6,147	(1,477)	1,054	1,110	-57	3.4	3,746,467
2027	0	934	0	5	6	26	0	0	11	23	101	3,486	0	1,112	4,598	6,261	151	6,110	(1,512)	1,089	1,111	-22	6.8	2,852,818
2028	495	285	0	5	4	31	0	0	23	45	70	1,745	0	2,224	3,969	6,266	179	6,087	(2,118)	1,032	1,110	-77	1.4	1,398,718
2029	0	285	0	5	4	34	0	0	21	66	26	3,610	0	3,023	6,634	6,270	200	6,070	563	1,044	1,111	-67	2.3	2,170,889
2030	0	285	0	5	3	37	0	0	16	83	-12	2,719	0	3,341	6,060	6,270	217	6,053	8	1,051	1,112	-61	3.0	1,630,661
2031	0	285	0	5	(0)	36	0	0	10	92	-9	2,386	0	3,653	6,038	6,275	220	6,056	(17)	1,051	1,114	-63	2.8	1,433,118
2032	0	285	0	5	(1)	36	0	0	6	98	-13	2,172	0	3,972	6,145	6,277	221	6,056	89	1,043	1,112	-69	2.2	1,307,254
2033	0	285	0	5	(1)	35	0	0	11	109	-9	1,822	0	4,239	6,061	6,286	219	6,068	(7)	1,044	1,119	-74	1.7	1,096,953
2034	0	285	0	5	(1)	34	0	0	11	120	-9	1,616	0	4,535	6,151	6,299	216	6,083	68	1,045	1,118	-73	1.8	971,917
2035	0	285	0	5	(1)	33	0	0	11	131	0	1,631	0	4,846	6,478	6,319	213	6,106	371	1,055	1,123	-68	2.4	982,179
2036	0	285	0	5	(1)	32	0	0	0	131	-3	1,806	0	4,895	6,701	6,340	209	6,131	570	1,052	1,126	-74	1.8	1,087,151
2037	0	285	0	5	(1)	31	0	0	0	131	5	1,665	0	4,979	6,645	6,363	203	6,160	485	1,056	1,134	-78	1.5	1,005,219

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**REF-HC Portfolio Under CETA Scenario**

Utility Costs (Nominal\$000)											
	(1) Existing Depreciation	(2) New Depreciation	(3) Capital Charge	(4) Fixed O&M	(5) Fuel Costs	(6) Emission Costs	(7) Other VOM Costs	(8) Market Purchases Costs	(9) Less: Market Sales Revenue	(10) Taxes	(11)=(1)thru(8)-(9)+(10) GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	16,188	185,781	499	15,389	35,125	72,179	12,112	270,687
2024	38,764	0	37,615	20,887	185,375	509	16,206	37,078	46,938	11,299	300,795
2025	39,081	0	35,747	22,030	141,255	386	13,920	73,275	26,858	10,679	309,513
2026	39,553	16,706	57,958	29,870	123,988	346	13,296	65,354	31,271	-3,235	312,565
2027	39,856	46,251	95,304	39,621	102,325	265	9,226	59,361	35,450	-26,172	330,584
2028	39,988	88,825	146,712	49,831	54,736	85	4,408	100,423	36,086	-58,971	389,951
2029	40,015	115,458	177,260	56,409	119,418	67	4,654	23,829	66,572	-56,629	413,910
2030	40,042	121,783	171,754	59,478	95,378	22,223	5,227	41,912	68,701	-69,127	419,969
2031	40,070	128,498	167,906	59,989	86,299	20,225	5,666	44,095	70,410	-81,110	401,228
2032	40,099	135,110	164,874	63,572	80,779	19,089	4,914	40,176	70,944	-93,475	384,192
2033	40,128	141,863	163,357	67,186	71,018	16,585	4,872	50,429	74,989	-103,484	376,965
2034	40,158	141,863	151,921	67,948	65,264	15,205	4,796	51,906	65,612	-105,833	367,616
2035	40,188	141,863	141,329	68,698	67,384	15,888	5,311	50,533	62,549	-108,618	360,027
2036	40,219	141,863	131,255	69,453	74,085	18,202	4,839	48,292	71,333	-90,163	366,711
2037	40,250	149,268	132,036	73,190	69,547	17,438	4,816	48,610	77,574	-56,920	400,661
Cumulative Present Worth 2023-2037	380,430	738,522	1,062,897	442,304	1,060,261	75,984	84,463	496,857	535,753	(427,862)	3,378,104

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 REF-HC Portfolio Under CETA Scenario

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Incrém) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Incrém) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	73	934	2	9	2	2	0	0	0	0	0	6,276	0	0	6,276	5,841	13	5,828	448	1,017	1,049	-32	5.6	5,641,945
2024	78	934	(3)	5	3	5	0	0	0	0	0	6,335	0	0	6,335	6,354	33	6,321	15	1,022	1,062	-40	4.8	5,611,650
2025	78	934	0	5	4	9	0	0	0	0	0	4,882	0	0	4,882	6,351	58	6,293	(1,411)	1,026	1,050	-24	6.4	4,202,431
2026	79	934	0	5	5	14	0	0	23	23	0	4,363	0	613	4,976	6,265	97	6,168	(1,191)	1,055	1,110	-55	3.5	3,746,467
2027	0	934	0	5	4	18	0	0	23	45	82	3,486	0	1,623	5,110	6,261	124	6,137	(1,027)	1,084	1,111	-27	6.3	2,852,818
2028	461	285	0	5	3	21	0	0	23	68	122	1,745	0	3,035	4,780	6,266	146	6,119	(1,340)	1,044	1,110	-66	2.5	1,398,718
2029	0	285	0	5	3	24	0	0	10	77	-7	3,610	0	3,327	6,937	6,270	164	6,106	831	1,044	1,111	-67	2.4	2,170,889
2030	0	285	0	5	2	26	0	0	17	94	-12	2,719	0	3,647	6,366	6,270	178	6,092	274	1,052	1,112	-60	3.0	1,630,661
2031	0	285	0	5	(1)	24	0	0	10	104	-9	2,386	0	3,959	6,345	6,275	160	6,115	230	1,051	1,114	-63	2.8	1,433,118
2032	0	285	0	5	(1)	24	0	0	5	109	-13	2,172	0	4,280	6,452	6,277	151	6,126	327	1,042	1,112	-70	2.1	1,307,254
2033	0	285	0	5	(1)	23	0	0	11	120	-9	1,822	0	4,543	6,364	6,286	141	6,146	219	1,044	1,119	-75	1.6	1,096,953
2034	0	285	0	5	(1)	22	0	0	0	120	-9	1,616	0	4,535	6,151	6,299	130	6,169	(18)	1,034	1,118	-84	0.7	971,917
2035	0	285	0	5	(1)	21	0	0	0	120	0	1,631	0	4,542	6,174	6,319	120	6,199	(26)	1,033	1,123	-90	0.2	982,179
2036	0	285	0	5	(1)	20	0	0	0	120	-3	1,806	0	4,587	6,393	6,340	110	6,230	164	1,029	1,126	-96	-0.4	1,087,151
2037	0	285	0	5	(1)	19	0	0	11	131	-6	1,665	0	4,879	6,545	6,363	100	6,263	282	1,033	1,134	-101	-0.7	1,005,219



**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**CETA Portfolio Under CETA Scenario**

Utility Costs (Nominal\$000)											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)=(1)thru(8)-(9)+(10)
	Existing Depreciation	New Depreciation	Capital Charge	Fixed O&M	Fuel Costs	Emission Costs	Other VOM Costs	Market Purchases Costs	Less: Market Sales Revenue	Taxes	GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	16,188	185,781	499	15,389	35,495	72,179	12,112	271,057
2024	38,764	0	37,615	20,887	185,375	509	16,206	37,794	46,938	11,299	301,511
2025	39,081	0	35,747	22,030	141,255	386	13,920	74,133	26,858	10,679	310,371
2026	39,553	16,706	57,958	32,329	123,988	346	13,296	67,311	31,312	-3,235	316,940
2027	39,856	49,647	100,146	42,756	102,325	265	9,226	56,996	37,419	-28,061	335,735
2028	39,988	95,777	156,048	53,556	54,736	85	4,408	96,842	39,895	-62,884	398,661
2029	40,015	136,011	204,975	64,309	119,418	67	4,654	18,149	90,188	-72,861	424,550
2030	40,042	145,229	200,551	67,893	95,378	22,223	5,227	31,985	97,105	-88,462	422,960
2031	40,070	151,944	193,942	69,561	86,299	20,225	5,666	33,378	99,094	-101,063	400,929
2032	40,099	161,582	193,158	73,701	80,779	19,089	4,914	29,020	103,621	-116,441	382,278
2033	40,128	168,335	189,305	77,184	71,018	16,585	4,872	38,028	106,300	-126,718	372,436
2034	40,158	168,335	176,284	77,803	65,264	15,205	4,796	38,345	96,574	-129,378	360,239
2035	40,188	172,046	168,523	79,259	67,384	15,888	5,311	35,833	93,567	-130,879	359,987
2036	40,219	172,046	156,543	79,964	74,085	18,202	4,839	34,309	103,487	-113,066	363,654
2037	40,250	178,831	154,815	81,908	69,547	17,438	4,816	38,319	105,097	-74,246	406,579
Cumulative Present Worth 2023-2037	380,430	867,463	1,197,556	493,550	1,060,261	75,984	84,463	443,669	678,096	(529,393)	3,395,888

**Kentucky POWER COMPANY**  
**2022 INTEGRATED RESOURCE PLAN**  
**CETA Portfolio Under CETA Scenario**

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Increment) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Increment) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	105	934	2	9	2	2	0	0	0	0	0	6,276	0	0	6,276	5,841	13	5,828	448	1,049	1,049	0	9.0	5,641,945
2024	118	934	(3)	5	3	5	0	0	0	0	0	6,335	0	0	6,335	6,354	33	6,321	15	1,062	1,062	0	9.0	5,611,650
2025	103	934	0	5	4	9	0	0	0	0	0	4,882	0	0	4,882	6,351	58	6,293	(1,411)	1,051	1,050	1	9.0	4,202,431
2026	133	934	0	5	7	16	0	0	23	23	0	4,363	0	613	4,976	6,265	100	6,165	(1,189)	1,111	1,110	1	9.0	3,746,467
2027	4	934	0	5	6	22	0	0	23	45	101	3,486	0	1,723	5,210	6,261	136	6,125	(915)	1,112	1,111	1	9.0	2,852,818
2028	488	285	0	5	5	28	0	0	23	68	136	1,745	0	3,235	4,980	6,266	167	6,099	(1,119)	1,110	1,110	1	9.0	1,398,718
2029	0	285	0	5	4	32	0	0	21	88	24	3,610	0	4,031	7,641	6,270	191	6,079	1,562	1,127	1,111	16	10.5	2,170,889
2030	0	285	0	5	3	35	0	0	18	106	1	2,719	0	4,453	7,172	6,270	211	6,059	1,114	1,150	1,112	38	12.6	1,630,661
2031	0	285	0	5	0	36	0	0	9	116	-11	2,386	0	4,766	7,152	6,275	216	6,059	1,092	1,148	1,114	34	12.2	1,433,118
2032	0	285	0	5	(0)	35	0	0	4	120	-3	2,172	0	5,190	7,362	6,277	219	6,058	1,305	1,149	1,112	37	12.5	1,307,254
2033	0	285	0	5	(1)	35	0	0	11	131	-14	1,822	0	5,447	7,268	6,286	218	6,068	1,200	1,145	1,119	27	11.5	1,096,953
2034	0	285	0	5	(1)	34	0	0	0	131	-14	1,616	0	5,438	7,054	6,299	216	6,083	971	1,130	1,118	12	10.1	971,917
2035	0	285	0	5	(1)	33	50	50	0	131	0	1,631	41	5,446	7,118	6,368	213	6,155	963	1,162	1,123	39	12.7	982,179
2036	0	285	0	5	(1)	32	0	50	0	131	-4	1,806	41	5,497	7,344	6,389	209	6,180	1,165	1,157	1,126	32	12.0	1,087,151
2037	0	285	0	5	(1)	31	0	50	0	131	13	1,665	40	5,679	7,385	6,411	203	6,208	1,177	1,167	1,134	33	12.2	1,005,219

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**ECR Portfolio Under CETA Scenario**

Utility Costs (Nominal\$000)											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)=(1)thru(8)-(9)+(10)
	Existing Depreciation	New Depreciation	Capital Charge	Fixed O&M	Fuel Costs	Emission Costs	Other VOM Costs	Market Purchases Costs	Less: Market Sales Revenue	Taxes	GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	13,974	185,781	499	15,389	35,332	71,680	12,112	269,179
2024	38,764	0	37,615	16,905	185,375	509	16,206	37,871	45,992	11,299	298,550
2025	39,081	0	35,747	16,564	141,255	386	13,920	74,764	25,702	10,679	306,693
2026	39,553	16,706	57,958	29,254	123,988	346	13,296	65,385	30,045	-3,235	313,207
2027	39,856	39,458	85,620	37,548	102,325	265	9,226	65,081	31,233	-22,395	325,749
2028	39,988	102,068	166,745	54,345	54,736	85	4,408	90,858	37,673	-91,958	383,602
2029	40,015	145,585	215,117	65,417	79,961	67	3,332	30,720	59,931	-82,872	437,411
2030	40,042	151,910	204,063	68,012	65,837	14,956	3,536	41,377	67,525	-96,624	425,584
2031	40,054	167,266	209,051	77,518	40,248	9,337	2,680	61,582	65,839	-116,618	425,279
2032	40,054	196,842	229,935	86,154	25,497	6,335	1,726	46,628	69,230	-229,792	334,149
2033	40,054	203,596	221,431	89,756	22,220	5,444	1,709	46,044	73,740	-133,128	423,385
2034	40,054	203,596	205,434	90,552	21,070	5,137	1,781	47,803	73,790	-136,426	405,211
2035	40,054	203,596	190,859	91,362	22,092	5,485	2,032	47,373	71,801	-140,091	390,961
2036	40,054	206,909	181,904	92,868	24,516	6,307	1,700	45,148	76,621	-124,236	398,549
2037	40,054	206,909	168,853	93,640	23,009	6,004	1,702	46,997	72,673	-96,106	418,389
Cumulative Present Worth 2023-2037	380,095	979,247	1,289,709	518,481	851,202	32,960	71,839	506,787	529,668	(652,984)	3,447,668

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 ECR Portfolio Under CETA Scenario

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Incrém) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Incrém) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	Tons
2023	70	934	2	9	0	0	0	0	0	0	0	6,276	0	0	6,276	5,841	1	5,840	436	1,013	1,049	-37	5.1	5,641,945
2024	78	934	(3)	5	0	0	0	0	0	0	0	6,335	0	0	6,335	6,354	1	6,353	(17)	1,017	1,062	-45	4.4	5,611,650
2025	78	934	0	5	0	0	0	0	0	0	0	4,882	0	0	4,882	6,351	1	6,350	(1,468)	1,018	1,050	-33	5.5	4,202,431
2026	43	934	0	5	5	5	0	0	23	23	0	4,363	0	613	4,976	6,265	36	6,229	(1,253)	1,010	1,110	-100	-0.9	3,746,467
2027	0	934	0	5	5	10	0	0	23	45	44	3,486	0	1,423	4,910	6,261	67	6,194	(1,284)	1,038	1,111	-73	1.8	2,852,818
2028	339	285	0	5	4	14	0	0	23	68	193	1,745	0	2,934	4,679	6,266	94	6,171	(1,492)	983	1,110	-127	-3.5	1,398,718
2029	0	285	0	5	3	17	0	0	21	88	88	2,379	0	4,131	6,510	6,270	117	6,153	357	983	1,111	-128	-3.6	1,418,705
2030	0	285	0	5	3	20	0	0	18	106	-17	1,846	0	4,453	6,299	6,270	137	6,133	166	987	1,112	-125	-3.3	1,096,436
2031	206	0	0	5	5	25	0	0	9	116	32	1,102	0	5,066	6,168	6,275	164	6,111	57	954	1,114	-160	-6.7	662,704
2032	0	0	0	5	4	29	200	200	4	120	21	710	162	5,692	6,564	6,471	188	6,283	281	915	1,112	-197	-10.3	434,666
2033	0	0	0	5	4	33	0	200	11	131	-21	589	162	5,947	6,697	6,480	207	6,273	424	909	1,119	-210	-11.5	360,736
2034	0	0	0	5	3	36	0	200	0	131	-21	537	163	5,938	6,638	6,494	222	6,272	366	883	1,118	-235	-14.0	328,825
2035	0	0	0	5	2	38	0	200	0	131	0	554	163	5,946	6,663	6,514	235	6,279	384	886	1,123	-238	-14.1	339,510
2036	0	0	0	5	2	40	0	200	0	131	6	615	164	6,100	6,879	6,536	245	6,291	588	893	1,126	-232	-13.5	377,161
2037	0	0	0	5	1	41	0	200	0	131	-16	566	161	6,079	6,807	6,556	250	6,306	501	868	1,134	-266	-16.6	346,687

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**NCR Portfolio Under CETA Scenario**

Utility Costs (Nominal\$000)											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)=(1)thru(8)-(9)+(10)
	Existing Depreciation	New Depreciation	Capital Charge	Fixed O&M	Fuel Costs	Emission Costs	Other VOM Costs	Market Purchases Costs	Less: Market Sales Revenue	Taxes	GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	20,030	185,781	499	15,389	34,966	72,534	12,112	274,015
2024	38,764	0	37,615	25,977	185,375	509	16,206	36,627	47,478	11,299	304,893
2025	39,081	0	35,747	28,492	141,255	386	13,920	72,543	27,489	10,679	314,613
2026	39,553	16,706	57,958	38,428	123,988	346	13,296	63,712	32,215	-3,235	318,537
2027	39,856	42,855	90,462	47,611	102,325	265	9,226	60,375	34,786	-24,284	333,903
2028	39,988	74,761	127,235	55,894	54,736	85	4,408	110,584	31,912	-51,284	384,494
2029	40,015	101,649	158,295	61,534	119,418	67	4,654	31,080	49,431	-92,026	375,256
2030	40,042	101,649	145,495	61,939	95,378	22,223	5,227	60,558	45,170	-40,811	446,530
2031	40,070	101,892	134,842	47,061	86,299	20,225	5,666	71,949	39,833	-43,433	424,739
2032	40,099	101,892	125,410	47,616	80,779	19,089	4,914	76,805	32,988	-45,997	417,618
2033	40,128	101,892	117,434	48,182	71,018	16,585	4,872	98,386	33,083	-46,982	418,431
2034	40,158	101,892	109,746	48,755	65,264	15,205	4,796	104,002	26,352	-48,676	414,790
2035	40,188	105,603	106,292	50,138	67,384	15,888	5,311	106,065	25,653	-49,083	422,133
2036	40,219	105,603	98,134	50,744	74,085	18,202	4,839	101,568	30,236	-29,422	433,738
2037	40,250	105,603	90,127	51,359	69,547	17,438	4,816	111,321	28,570	3,066	464,958
Cumulative Present Worth 2023-2037	380,430	580,887	884,537	416,723	1,060,261	75,984	84,463	678,851	374,720	(244,029)	3,543,388

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 NCR Portfolio Under CETA Scenario

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Increment) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Increment) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	73	934	2	9	5	5	0	0	0	0	0	6,276	0	0	6,276	5,841	21	5,820	456	1,020	1,049	-29	5.9	5,641,945
2024	78	934	(3)	5	6	11	0	0	0	0	0	6,335	0	0	6,335	6,354	51	6,303	32	1,028	1,062	-34	5.5	5,611,650
2025	78	934	0	5	7	18	0	0	0	0	0	4,882	0	0	4,882	6,351	87	6,264	(1,383)	1,036	1,050	-15	7.4	4,202,431
2026	60	934	0	5	10	28	0	0	23	23	0	4,363	0	613	4,976	6,265	141	6,124	(1,148)	1,050	1,110	-60	3.0	3,746,467
2027	0	934	0	5	7	36	0	0	23	45	63	3,486	0	1,523	5,010	6,261	178	6,083	(1,073)	1,083	1,111	-28	6.2	2,852,818
2028	494	285	0	5	6	42	0	0	23	68	75	1,745	0	2,633	4,378	6,266	209	6,057	(1,679)	1,032	1,110	-78	1.3	1,398,718
2029	0	285	0	5	5	46	100	100	(2)	66	-5	3,610	78	2,623	6,312	6,364	233	6,131	180	1,061	1,111	-50	4.0	2,170,889
2030	0	285	0	5	4	50	0	100	5	71	-9	2,719	79	2,636	5,433	6,364	252	6,112	(679)	1,060	1,112	-52	3.9	1,630,661
2031	0	285	0	5	(8)	42	0	100	(2)	69	-8	2,386	80	2,639	5,105	6,371	207	6,164	(1,059)	1,043	1,114	-71	2.0	1,433,118
2032	0	285	0	5	(6)	36	0	100	(4)	65	-10	2,172	81	2,648	4,902	6,374	178	6,196	(1,294)	1,023	1,112	-89	0.2	1,307,254
2033	1	285	0	5	(6)	30	0	100	0	65	-5	1,822	81	2,623	4,526	6,383	150	6,234	(1,708)	1,013	1,119	-105	-1.3	1,096,953
2034	4	285	0	5	(6)	25	0	100	0	65	-5	1,616	82	2,619	4,317	6,397	123	6,274	(1,957)	1,002	1,118	-116	-2.3	971,917
2035	0	285	0	5	(5)	20	50	150	0	65	0	1,631	122	2,623	4,377	6,466	98	6,367	(1,991)	1,026	1,123	-97	-0.5	982,179
2036	0	285	0	5	(5)	15	0	150	0	65	-2	1,806	123	2,648	4,577	6,487	76	6,411	(1,834)	1,020	1,126	-105	-1.2	1,087,151
2037	0	285	0	5	(4)	11	0	150	0	65	-4	1,665	121	2,640	4,426	6,508	56	6,452	(2,026)	1,006	1,134	-128	-3.4	1,005,219

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**CC Portfolio Under CETA Scenario**

Utility Costs (Nominal\$000)											
	(1) Existing Depreciation	(2) New Depreciation	(3) Capital Charge	(4) Fixed O&M	(5) Fuel Costs	(6) Emission Costs	(7) Other VOM Costs	(8) Market Purchases Costs	(9) Less: Market Sales Revenue	(10) Taxes	(11)=(1)thru(8)-(9)+(10) GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	17,559	185,781	499	15,389	35,006	72,439	12,112	271,680
2024	38,764	0	37,615	22,756	185,375	509	16,206	36,801	47,336	11,299	301,989
2025	39,081	0	35,747	24,449	141,255	386	13,920	72,733	27,312	10,679	310,936
2026	39,553	7,955	45,482	34,968	123,988	346	13,296	70,873	25,936	3,240	313,766
2027	39,856	40,896	89,154	45,382	102,325	265	9,226	62,739	32,581	-21,296	335,966
2028	39,988	87,027	146,109	56,204	54,736	85	4,408	95,745	35,668	-55,925	392,709
2029	40,015	121,966	191,586	64,299	102,433	67	11,486	15,705	65,254	-43,928	438,374
2030	40,042	128,291	185,533	67,375	98,872	23,215	11,202	16,279	78,007	-56,388	436,414
2031	40,070	135,006	180,845	66,708	94,153	22,161	11,036	16,334	82,239	-68,501	415,573
2032	40,099	135,006	167,699	67,394	92,854	22,115	10,671	16,770	78,128	-72,021	402,459
2033	40,128	135,006	157,164	68,045	91,204	21,450	10,634	22,946	74,080	-73,278	399,218
2034	40,158	135,006	147,148	68,810	88,238	20,932	10,470	25,047	69,114	-75,440	391,255
2035	40,188	138,717	141,663	70,385	88,538	21,230	10,635	25,575	65,865	-76,312	394,753
2036	40,219	138,717	131,776	71,205	89,752	22,169	11,177	25,254	68,043	-68,579	393,647
2037	40,250	138,717	122,042	71,954	89,965	22,622	11,158	24,892	63,848	-28,787	428,964
Cumulative Present Worth 2023-2037	380,430	724,491	1,065,925	477,958	1,108,808	90,947	112,415	391,167	541,594	(315,782)	3,494,766

**Kentucky POWER COMPANY**  
**2022 INTEGRATED RESOURCE PLAN**  
**CC Portfolio Under CETA Scenario**

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Increment) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Increment) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	73	934	2	9	3	3	0	0	0	0	0	6,276	0	0	6,276	5,841	19	5,822	454	1,019	1,049	-30	5.8	5,641,945
2024	81	934	(3)	5	5	8	0	0	0	0	0	6,335	0	0	6,335	6,354	46	6,307	28	1,029	1,062	-33	5.5	5,611,650
2025	78	934	0	5	6	14	0	0	0	0	0	4,882	0	0	4,882	6,351	79	6,272	(1,390)	1,032	1,050	-19	7.0	4,202,431
2026	67	934	0	5	10	24	0	0	11	11	0	4,363	0	307	4,670	6,265	131	6,134	(1,464)	1,042	1,110	-69	2.2	3,746,467
2027	0	934	0	5	8	32	0	0	23	34	101	3,486	0	1,418	4,904	6,261	167	6,093	(1,189)	1,106	1,111	-5	8.4	2,852,818
2028	313	285	0	5	6	38	0	0	23	57	136	1,745	0	2,930	4,675	6,266	198	6,067	(1,392)	934	1,110	-175	-8.3	1,398,718
2029	0	285	0	5	5	43	0	0	(1)	55	24	4,128	0	3,119	7,247	6,270	222	6,048	1,199	1,047	1,111	-64	2.6	1,840,809
2030	0	285	0	5	4	47	0	0	16	71	-14	3,865	0	3,436	7,300	6,270	241	6,028	1,272	1,052	1,112	-60	3.1	1,703,601
2031	0	285	0	5	0	47	0	0	10	81	-11	3,593	0	3,746	7,339	6,275	244	6,031	1,308	1,051	1,114	-63	2.8	1,570,545
2032	0	285	0	5	1	48	0	0	(5)	76	-16	3,476	0	3,759	7,235	6,277	254	6,023	1,212	1,031	1,112	-81	1.0	1,514,889
2033	0	285	0	5	0	48	0	0	0	76	-12	3,281	0	3,727	7,009	6,286	259	6,027	981	1,019	1,119	-100	-0.8	1,419,370
2034	0	285	0	5	(0)	48	0	0	0	76	-12	3,129	0	3,722	6,851	6,299	263	6,036	815	1,006	1,118	-112	-1.9	1,338,563
2035	0	285	0	5	(0)	48	50	50	0	76	0	3,072	41	3,727	6,840	6,368	266	6,102	738	1,039	1,123	-84	0.8	1,312,835
2036	0	285	0	5	(1)	47	0	50	0	76	-4	3,080	41	3,759	6,880	6,389	267	6,122	758	1,035	1,126	-90	0.2	1,324,351
2037	0	285	0	5	(1)	46	0	50	0	76	-9	3,037	40	3,746	6,823	6,411	265	6,146	677	1,023	1,134	-111	-1.7	1,304,559



**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**No Wind Portfolio Under CETA Scenario**

Utility Costs (Nominal\$000)											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)=(1)thru(8)-(9)+(10)
	Existing Depreciation	New Depreciation	Capital Charge	Fixed O&M	Fuel Costs	Emission Costs	Other VOM Costs	Market Purchases Costs	Less: Market Sales Revenue	Taxes	GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	13,974	185,781	499	15,389	35,366	71,680	12,112	269,214
2024	38,764	0	37,615	16,905	185,375	509	16,206	37,925	45,992	11,299	298,604
2025	39,081	0	35,747	16,564	141,255	386	13,920	74,764	25,702	10,679	306,693
2026	39,553	7,071	44,220	25,388	123,988	346	13,296	75,368	22,359	6,667	313,539
2027	39,856	24,051	65,287	29,916	102,325	265	9,226	82,200	20,540	-3,691	328,894
2028	39,988	79,805	138,777	43,789	54,736	85	4,408	123,416	25,304	-75,559	384,140
2029	40,015	109,225	168,748	49,114	79,961	67	3,332	89,330	40,561	-56,787	442,443
2030	40,042	112,118	157,504	49,354	65,837	14,956	3,536	118,882	43,340	-35,326	483,562
2031	40,070	115,322	148,914	54,217	59,014	13,489	3,670	127,049	44,227	-40,555	476,963
2032	40,099	118,348	141,235	55,488	55,282	12,754	3,188	129,555	41,579	-31,740	482,630
2033	40,128	118,348	131,452	56,094	48,798	11,141	3,163	140,912	38,414	-33,691	477,931
2034	40,158	118,348	122,757	56,817	44,194	10,069	3,015	149,465	39,047	-35,766	470,009
2035	40,188	121,583	118,911	58,210	45,292	10,403	3,280	152,371	40,278	-40,354	469,605
2036	40,219	121,583	110,049	58,992	49,569	11,895	3,140	148,936	38,452	-35,473	470,458
2037	40,250	128,368	111,155	61,043	46,538	11,433	3,114	154,682	40,633	-19,264	496,686
Cumulative Present Worth 2023-2037	380,430	631,162	927,337	372,953	934,434	51,109	76,334	955,203	372,579	(196,426)	3,759,958

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 No Wind Portfolio Under CETA Scenario

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Increment) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Increment) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	73	934	2	9	0	0	0	0	0	0	0	6,276	0	0	6,276	5,841	1	5,840	436	1,016	1,049	-34	5.5	5,641,945
2024	78	934	(3)	5	0	0	0	0	0	0	0	6,335	0	0	6,335	6,354	1	6,353	(17)	1,017	1,062	-45	4.4	5,611,650
2025	78	934	0	5	0	0	0	0	0	0	0	4,882	0	0	4,882	6,351	1	6,350	(1,468)	1,018	1,050	-33	5.5	4,202,431
2026	78	934	0	5	6	6	0	0	0	0	47	4,363	0	200	4,563	6,265	45	6,220	(1,657)	1,071	1,110	-39	5.1	3,746,467
2027	0	934	0	5	5	11	0	0	0	0	92	3,486	0	700	4,186	6,261	76	6,185	(1,998)	1,089	1,111	-22	6.8	2,852,818
2028	407	285	0	5	4	15	0	0	0	0	204	1,745	0	1,606	3,351	6,266	104	6,162	(2,810)	1,108	1,110	-1	8.8	1,398,718
2029	0	285	0	5	3	18	50	50	0	0	69	2,379	39	2,100	4,518	6,317	127	6,190	(1,672)	1,036	1,111	-76	1.5	1,418,705
2030	0	285	0	5	3	21	0	50	0	0	-5	1,846	39	2,200	4,086	6,317	147	6,170	(2,085)	1,033	1,112	-79	1.2	1,096,436
2031	0	285	0	5	4	25	0	50	0	0	-1	1,604	40	2,300	3,944	6,323	164	6,159	(2,215)	1,036	1,114	-78	1.4	954,927
2032	0	285	0	5	4	29	0	50	0	0	-11	1,462	41	2,410	3,912	6,325	188	6,137	(2,225)	1,030	1,112	-83	0.8	872,588
2033	0	285	0	5	4	33	0	50	0	0	-23	1,233	40	2,400	3,674	6,335	207	6,128	(2,454)	1,010	1,119	-109	-1.6	736,217
2034	0	285	0	5	3	36	0	50	0	0	-23	1,079	41	2,400	3,520	6,348	222	6,125	(2,605)	986	1,118	-132	-4.0	643,092
2035	0	285	0	5	2	38	0	50	0	0	12	1,077	41	2,500	3,618	6,368	235	6,133	(2,515)	1,001	1,123	-123	-3.0	642,669
2036	0	285	0	5	2	40	0	50	0	0	-7	1,191	41	2,510	3,742	6,389	245	6,144	(2,402)	996	1,126	-130	-3.6	709,990
2037	0	285	0	5	1	41	0	50	0	0	6	1,099	40	2,700	3,840	6,411	250	6,161	(2,321)	997	1,134	-137	-4.2	658,532

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**Preferred Plan Under CETA Scenario**

Utility Costs (Nominal\$000)											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)=(1)thru(8)-(9)+(10)
	Existing	New	Capital	Fixed O&M	Fuel Costs	Emission	Other	Market Purchases	Less:	Taxes	GRAND TOTAL,
	Depreciation	Depreciation	Charge			Costs	VOM Costs	Costs	Market Sales		Net Utility
									Revenue		Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	17,559	185,781	499	15,389	35,006	72,439	12,112	271,680
2024	38,764	0	37,615	22,756	185,375	509	16,206	36,801	47,336	11,299	301,989
2025	39,081	0	35,747	24,449	141,255	386	13,920	72,733	27,312	10,679	310,936
2026	39,553	7,955	45,482	34,968	123,988	346	13,296	70,873	25,936	3,240	313,766
2027	39,856	40,896	89,154	45,382	102,325	265	9,226	62,739	32,581	-21,296	335,966
2028	40,133	87,027	146,370	56,204	54,736	85	4,408	95,745	35,668	-55,845	393,195
2029	40,160	113,025	175,785	61,150	119,418	67	4,654	28,699	64,416	-49,906	428,636
2030	40,187	119,350	170,434	64,171	95,378	22,223	5,227	48,646	66,945	-62,215	436,455
2031	40,215	126,065	166,427	63,445	86,299	20,225	5,666	50,590	68,876	-74,183	415,874
2032	40,244	126,065	153,942	64,069	80,779	19,089	4,914	52,005	59,655	-77,561	403,891
2033	40,273	126,065	144,049	64,658	71,018	16,585	4,872	70,237	57,198	-78,681	401,877
2034	40,303	126,065	134,658	65,360	65,264	15,205	4,796	72,899	49,544	-80,708	394,297
2035	40,333	129,776	129,781	66,869	67,384	15,888	5,311	71,726	46,866	-81,451	398,752
2036	40,364	129,776	120,487	67,622	74,085	18,202	4,839	67,773	52,659	-73,590	396,898
2037	40,395	129,776	111,344	68,302	69,547	17,438	4,816	75,158	48,866	-33,672	434,237
Cumulative Present Worth 2023-2037	381,214	682,427	1,002,942	462,116	1,060,261	75,984	84,463	566,597	476,624	(341,457)	3,497,924

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 Preferred Plan Under CETA Scenario

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Increment) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Increment) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	73	934	2	9	3	3	0	0	0	0	0	6,276	0	0	6,276	5,841	19	5,822	454	1,019	1,049	-30	5.8	5,641,945
2024	81	934	(3)	5	5	8	0	0	0	0	0	6,335	0	0	6,335	6,354	46	6,307	28	1,029	1,062	-33	5.5	5,611,650
2025	78	934	0	5	6	14	0	0	0	0	0	4,882	0	0	4,882	6,351	79	6,272	(1,390)	1,032	1,050	-19	7.0	4,202,431
2026	76	934	0	5	10	24	0	0	11	11	0	4,363	0	307	4,670	6,265	131	6,134	(1,464)	1,051	1,110	-60	3.1	3,746,467
2027	0	934	0	5	8	32	0	0	23	34	101	3,486	0	1,418	4,904	6,261	167	6,093	(1,189)	1,106	1,111	-5	8.4	2,852,818
2028	448	285	0	5	6	38	0	0	23	57	136	1,745	0	2,930	4,675	6,266	198	6,067	(1,392)	1,069	1,110	-40	5.0	1,398,718
2029	0	285	0	5	5	43	0	0	(1)	55	24	3,610	0	3,119	6,730	6,270	222	6,048	682	1,106	1,111	-6	8.4	2,170,889
2030	0	285	0	5	4	47	0	0	16	71	-14	2,719	0	3,436	6,155	6,270	241	6,028	126	1,111	1,112	-1	8.8	1,630,661
2031	0	285	0	5	0	47	0	0	10	81	-11	2,386	0	3,746	6,132	6,275	244	6,031	100	1,110	1,114	-4	8.5	1,433,118
2032	0	285	0	5	1	48	0	0	(5)	76	-16	2,172	0	3,759	5,931	6,277	254	6,023	(92)	1,090	1,112	-22	6.8	1,307,254
2033	0	285	0	5	0	48	0	0	0	76	-12	1,822	0	3,727	5,549	6,286	259	6,027	(478)	1,078	1,119	-41	5.0	1,096,953
2034	0	285	0	5	(0)	48	0	0	0	76	-12	1,616	0	3,722	5,338	6,299	263	6,036	(697)	1,065	1,118	-53	3.8	971,917
2035	0	285	0	5	(0)	48	50	50	0	76	0	1,631	41	3,727	5,399	6,368	266	6,102	(703)	1,098	1,123	-25	6.5	982,179
2036	0	285	0	5	(1)	47	0	50	0	76	-4	1,806	41	3,759	5,606	6,389	267	6,122	(516)	1,094	1,126	-31	5.9	1,087,151
2037	0	285	0	5	(1)	46	0	50	0	76	-9	1,665	40	3,746	5,452	6,411	265	6,146	(694)	1,082	1,134	-52	4.0	1,005,219

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**Reference Portfolio Under ECR Scenario**

Utility Costs (Nominal\$000)											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)=(1)thru(8)-(9)+(10)
	Existing	New	Capital	Fixed O&M	Fuel Costs	Emission	Other	Market Purchases	Less:	Taxes	GRAND TOTAL,
	Depreciation	Depreciation	Charge			Costs	VOM Costs	Costs	Market Sales		Net Utility
									Revenue		Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	17,559	181,071	492	15,135	31,007	81,685	12,112	253,463
2024	38,764	0	37,615	22,756	185,889	506	16,000	28,844	61,186	11,299	280,487
2025	39,081	0	35,747	24,449	154,029	424	14,344	63,989	41,300	10,679	301,442
2026	39,553	7,955	45,482	29,363	149,262	426	14,672	58,161	49,962	3,240	298,152
2027	39,856	32,536	77,234	36,849	109,259	322	11,217	68,487	48,482	-14,417	312,862
2028	39,988	64,442	115,327	44,967	64,197	136	5,678	113,709	38,112	-41,227	369,107
2029	40,015	104,675	168,469	55,858	61,629	25,461	4,351	115,696	48,279	-50,444	477,431
2030	40,042	111,000	163,188	58,959	46,541	19,377	4,148	116,334	47,685	-62,821	449,084
2031	40,070	117,716	159,530	60,582	46,563	19,177	4,239	103,745	52,849	-74,740	424,033
2032	40,099	124,327	156,871	64,036	34,137	14,178	4,398	98,672	53,232	-86,992	396,495
2033	40,128	131,081	155,254	67,467	29,316	12,123	4,183	91,863	56,794	-97,151	377,471
2034	40,158	137,981	154,158	70,967	31,457	12,940	4,342	79,990	71,836	-108,530	351,627
2035	40,188	145,047	152,972	74,522	28,984	12,090	4,179	73,805	85,805	-120,756	325,227
2036	40,219	145,047	141,371	75,186	34,540	14,535	4,690	71,966	98,515	-114,096	314,944
2037	40,250	148,440	135,456	76,420	37,614	16,361	4,742	67,128	106,455	-86,254	333,701
Cumulative Present Worth 2023-2037	380,430	673,571	1,005,465	449,412	896,075	80,598	84,667	724,936	577,947	(412,300)	3,304,908

**Kentucky POWER COMPANY**  
**2022 INTEGRATED RESOURCE PLAN**  
 Reference Portfolio Under ECR Scenario

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Incrém) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Incrém) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	Tons
2023	73	934	2	9	3	3	0	0	0	0	0	6,142	0	0	6,142	5,488	19	5,469	673	1,019	986	33	12.6	5,542,263
2024	78	934	(3)	5	5	8	0	0	0	0	0	6,278	0	0	6,278	5,903	46	5,857	420	1,026	987	39	13.2	5,577,639
2025	78	934	0	5	6	14	0	0	0	0	0	4,962	0	0	4,962	5,835	79	5,756	(793)	1,032	965	66	16.4	4,541,279
2026	82	934	0	5	7	21	0	0	11	11	0	4,748	0	307	5,055	5,699	118	5,581	(527)	1,054	1,010	44	13.7	4,503,874
2027	0	934	0	5	6	26	0	0	11	23	96	3,468	0	1,112	4,580	5,649	151	5,498	(918)	1,084	1,002	82	17.8	3,338,222
2028	495	285	0	5	4	31	0	0	23	45	80	1,833	0	2,224	4,057	5,613	179	5,434	(1,378)	1,037	994	43	13.6	1,667,341
2029	0	285	0	5	4	34	0	0	21	66	25	1,159	0	3,023	4,183	5,578	200	5,378	(1,195)	1,047	988	59	15.4	701,012
2030	0	285	0	5	3	37	0	0	16	83	-5	847	0	3,341	4,188	5,536	217	5,319	(1,131)	1,061	982	79	17.8	508,081
2031	0	285	0	5	(0)	36	0	0	10	92	-11	788	0	3,653	4,441	5,500	220	5,281	(840)	1,059	976	83	18.2	478,999
2032	0	285	0	5	(1)	36	0	0	6	98	-10	563	0	3,972	4,535	5,472	221	5,251	(716)	1,054	969	85	18.4	337,462
2033	0	285	0	5	(1)	35	0	0	11	109	-5	458	0	4,239	4,697	5,435	219	5,216	(520)	1,059	967	92	19.3	274,798
2034	0	285	0	5	(1)	34	0	0	11	120	-1	463	0	4,535	4,998	5,392	216	5,176	(178)	1,068	957	111	21.5	279,395
2035	0	285	0	5	(1)	33	0	0	11	131	-3	411	0	4,846	5,257	5,350	213	5,137	120	1,075	951	124	23.2	248,503
2036	0	285	0	5	(1)	32	0	0	0	131	-5	475	0	4,895	5,370	5,307	209	5,098	272	1,069	942	127	23.6	284,555
2037	0	285	0	5	(1)	31	0	0	0	131	10	504	0	4,979	5,483	5,266	203	5,062	421	1,078	938	140	25.2	305,074

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**REF-HC Portfolio Under ECR Scenario**

Utility Costs (Nominal\$000)											
	(1) Existing Depreciation	(2) New Depreciation	(3) Capital Charge	(4) Fixed O&M	(5) Fuel Costs	(6) Emission Costs	(7) Other VOM Costs	(8) Market Purchases Costs	(9) Less: Market Sales Revenue	(10) Taxes	(11)=(1)thru(8)-(9)+(10) GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	16,188	181,071	492	15,135	31,106	81,420	12,112	252,455
2024	38,764	0	37,615	20,887	185,889	506	16,000	29,083	60,703	11,299	279,340
2025	39,081	0	35,747	22,030	154,029	424	14,344	64,504	40,729	10,679	300,110
2026	39,553	16,706	57,958	29,870	149,262	426	14,672	52,390	58,242	-3,235	299,362
2027	39,856	46,251	95,304	39,621	109,259	322	11,217	57,055	59,040	-26,172	313,673
2028	39,988	88,825	146,712	49,831	64,197	136	5,678	91,462	54,374	-58,971	373,485
2029	40,015	115,458	177,260	56,409	61,629	25,461	4,351	104,179	54,863	-56,629	473,268
2030	40,042	121,783	171,754	59,478	46,541	19,377	4,148	104,315	54,356	-69,127	443,956
2031	40,070	128,498	167,906	59,989	46,563	19,177	4,239	93,307	60,343	-81,110	418,296
2032	40,099	135,110	164,874	63,572	34,137	14,178	4,398	88,870	61,389	-93,475	390,374
2033	40,128	141,863	163,357	67,186	29,316	12,123	4,183	83,607	66,153	-103,484	372,127
2034	40,158	141,863	151,921	67,948	31,457	12,940	4,342	83,589	68,757	-105,833	359,628
2035	40,188	141,863	141,329	68,698	28,984	12,090	4,179	88,153	67,996	-108,618	348,870
2036	40,219	141,863	131,255	69,453	34,540	14,535	4,690	86,626	79,013	-90,163	354,005
2037	40,250	149,268	132,036	73,190	37,614	16,361	4,742	73,284	96,553	-56,920	373,273
Cumulative Present Worth 2023-2037	380,430	738,522	1,062,897	442,304	896,075	80,598	84,667	683,581	602,497	(427,862)	3,338,716

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 REF-HC Portfolio Under ECR Scenario

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Incrém) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Incrém) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	Tons
2023	73	934	2	9	2	2	0	0	0	0	0	6,142	0	0	6,142	5,488	13	5,475	667	1,017	986	32	12.4	5,542,263
2024	78	934	(3)	5	3	5	0	0	0	0	0	6,278	0	0	6,278	5,903	33	5,870	407	1,022	987	35	12.8	5,577,639
2025	78	934	0	5	4	9	0	0	0	0	0	4,962	0	0	4,962	5,835	58	5,777	(814)	1,026	965	61	15.8	4,541,279
2026	79	934	0	5	5	14	0	0	23	23	0	4,748	0	613	5,361	5,699	97	5,602	(241)	1,055	1,010	45	13.8	4,503,874
2027	0	934	0	5	4	18	0	0	23	45	78	3,468	0	1,623	5,092	5,649	124	5,526	(434)	1,081	1,002	79	17.5	3,338,222
2028	461	285	0	5	3	21	0	0	23	68	131	1,833	0	3,035	4,867	5,613	146	5,466	(599)	1,050	994	56	15.0	1,667,341
2029	0	285	0	5	3	24	0	0	10	77	-9	1,159	0	3,327	4,486	5,578	164	5,414	(928)	1,048	988	60	15.5	701,012
2030	0	285	0	5	2	26	0	0	17	94	-5	847	0	3,647	4,494	5,536	178	5,359	(864)	1,062	982	80	17.8	508,081
2031	0	285	0	5	(1)	24	0	0	10	104	-11	788	0	3,959	4,748	5,500	160	5,340	(593)	1,059	976	82	18.1	478,999
2032	0	285	0	5	(1)	24	0	0	5	109	-10	563	0	4,280	4,843	5,472	151	5,320	(478)	1,053	969	84	18.3	337,462
2033	0	285	0	5	(1)	23	0	0	11	120	-5	458	0	4,543	5,000	5,435	141	5,294	(294)	1,058	967	91	19.2	274,798
2034	0	285	0	5	(1)	22	0	0	0	120	-1	463	0	4,535	4,998	5,392	130	5,262	(264)	1,056	957	99	20.2	279,395
2035	0	285	0	5	(1)	21	0	0	0	120	-3	411	0	4,542	4,953	5,350	120	5,230	(277)	1,053	951	102	20.6	248,503
2036	0	285	0	5	(1)	20	0	0	0	120	-5	475	0	4,587	5,062	5,307	110	5,197	(135)	1,047	942	104	21.0	284,555
2037	0	285	0	5	(1)	19	0	0	11	131	-4	504	0	4,879	5,383	5,266	100	5,166	217	1,053	938	114	22.2	305,074



**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**CETA Portfolio Under ECR Scenario**

Utility Costs (Nominal\$000)											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)=(1)thru(8)-(9)+(10)
	Existing Depreciation	New Depreciation	Capital Charge	Fixed O&M	Fuel Costs	Emission Costs	Other VOM Costs	Market Purchases Costs	Less: Market Sales Revenue	Taxes	GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	16,188	181,071	492	15,135	31,476	81,420	12,112	252,826
2024	38,764	0	37,615	20,887	185,889	506	16,000	29,799	60,703	11,299	280,057
2025	39,081	0	35,747	22,030	154,029	424	14,344	65,362	40,729	10,679	300,968
2026	39,553	16,706	57,958	32,329	149,262	426	14,672	54,355	58,309	-3,235	303,718
2027	39,856	49,647	100,146	42,756	109,259	322	11,217	54,615	61,649	-28,061	318,107
2028	39,988	95,777	156,048	53,556	64,197	136	5,678	88,781	60,927	-62,884	380,351
2029	40,015	136,011	204,975	64,309	61,629	25,461	4,351	84,043	83,443	-72,861	464,490
2030	40,042	145,229	200,551	67,893	46,541	19,377	4,148	82,020	89,274	-88,462	428,065
2031	40,070	151,944	193,942	69,561	46,563	19,177	4,239	71,529	99,210	-101,063	396,752
2032	40,099	161,582	193,158	73,701	34,137	14,178	4,398	65,798	108,120	-116,441	362,489
2033	40,128	168,335	189,305	77,184	29,316	12,123	4,183	61,823	116,066	-126,718	339,613
2034	40,158	168,335	176,284	77,803	31,457	12,940	4,342	61,437	120,635	-129,378	322,743
2035	40,188	172,046	168,523	79,259	28,984	12,090	4,179	64,077	120,486	-130,879	317,981
2036	40,219	172,046	156,543	79,964	34,540	14,535	4,690	62,351	134,322	-113,066	317,501
2037	40,250	178,831	154,815	81,908	37,614	16,361	4,742	57,763	149,914	-74,246	348,124
Cumulative Present Worth 2023-2037	380,430	867,463	1,197,556	493,550	896,075	80,598	84,667	580,966	818,279	(529,393)	3,233,634

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 CETA Portfolio Under ECR Scenario

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Increment) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Increment) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	Tons
2023	105	934	2	9	2	2	0	0	0	0	0	6,142	0	0	6,142	5,488	13	5,475	667	1,049	986	64	16.0	5,542,263
2024	118	934	(3)	5	3	5	0	0	0	0	0	6,278	0	0	6,278	5,903	33	5,870	407	1,062	987	75	17.3	5,577,639
2025	103	934	0	5	4	9	0	0	0	0	0	4,962	0	0	4,962	5,835	58	5,777	(814)	1,051	965	86	18.6	4,541,279
2026	133	934	0	5	7	16	0	0	23	23	0	4,748	0	613	5,361	5,699	100	5,600	(238)	1,111	1,010	101	19.9	4,503,874
2027	4	934	0	5	6	22	0	0	23	45	96	3,468	0	1,723	5,192	5,649	136	5,514	(322)	1,107	1,002	104	20.3	3,338,222
2028	488	285	0	5	5	28	0	0	23	68	148	1,833	0	3,235	5,068	5,613	167	5,446	(378)	1,117	994	123	22.4	1,667,341
2029	0	285	0	5	4	32	0	0	21	88	22	1,159	0	4,031	5,190	5,578	191	5,387	(196)	1,132	988	144	24.8	701,012
2030	0	285	0	5	3	35	0	0	18	106	11	847	0	4,453	5,300	5,536	211	5,325	(25)	1,165	982	183	29.3	508,081
2031	0	285	0	5	0	36	0	0	9	116	-14	788	0	4,766	5,554	5,500	216	5,284	270	1,160	976	183	29.4	478,999
2032	0	285	0	5	(0)	35	0	0	4	120	3	563	0	5,190	5,753	5,472	219	5,252	500	1,167	969	197	31.1	337,462
2033	0	285	0	5	(1)	35	0	0	11	131	-8	458	0	5,447	5,904	5,435	218	5,217	688	1,169	967	201	31.6	274,798
2034	0	285	0	5	(1)	34	0	0	0	131	-2	463	0	5,438	5,901	5,392	216	5,176	725	1,166	957	209	32.7	279,395
2035	0	285	0	5	(1)	33	50	50	0	131	-4	411	39	5,446	5,896	5,397	213	5,184	712	1,202	951	251	37.7	248,503
2036	0	285	0	5	(1)	32	0	50	0	131	-8	475	40	5,497	6,012	5,355	209	5,145	867	1,192	942	250	37.8	284,555
2037	0	285	0	5	(1)	31	0	50	0	131	21	504	40	5,679	6,223	5,314	203	5,110	1,113	1,212	938	273	40.7	305,074

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**ECR Portfolio Under ECR Scenario**

Utility Costs (Nominal\$000)											
	(1) Existing Depreciation	(2) New Depreciation	(3) Capital Charge	(4) Fixed O&M	(5) Fuel Costs	(6) Emission Costs	(7) Other VOM Costs	(8) Market Purchases Costs	(9) Less: Market Sales Revenue	(10) Taxes	(11)=(1)thru(8)-(9)+(10) GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	13,974	181,071	492	15,135	31,274	80,911	12,112	250,919
2024	38,764	0	37,615	16,905	185,889	506	16,000	29,676	59,569	11,299	277,085
2025	39,081	0	35,747	16,564	154,029	424	14,344	65,931	39,260	10,679	297,539
2026	39,553	16,706	57,958	29,254	149,262	426	14,672	52,276	56,421	-3,235	300,451
2027	39,856	39,458	85,620	37,548	109,259	322	11,217	62,982	53,386	-22,395	310,481
2028	39,988	102,068	166,745	54,345	64,197	136	5,678	82,350	57,644	-91,958	365,905
2029	40,015	145,585	215,117	65,417	43,485	17,599	2,798	84,224	73,735	-82,872	457,633
2030	40,042	151,910	204,063	68,012	32,049	13,105	2,539	82,864	79,475	-96,624	418,484
2031	40,054	167,266	209,051	77,518	24,079	9,804	2,190	84,789	100,671	-116,618	397,461
2032	40,054	196,842	229,935	86,154	12,747	5,444	1,977	62,936	123,609	-229,792	282,689
2033	40,054	203,596	221,431	89,756	12,000	5,067	1,958	56,528	139,006	-133,128	358,256
2034	40,054	203,596	205,434	90,552	12,459	5,268	1,993	57,372	146,366	-136,426	333,936
2035	40,054	203,596	190,859	91,362	11,358	4,865	1,882	58,501	148,267	-140,091	314,119
2036	40,054	206,909	181,904	92,868	13,004	5,615	2,127	55,042	162,678	-124,236	310,609
2037	40,054	206,909	168,853	93,640	14,707	6,536	2,146	52,774	165,075	-96,106	324,439
Cumulative Present Worth 2023-2037	380,095	979,247	1,289,709	518,481	805,515	42,781	74,626	575,565	858,063	(652,984)	3,154,972

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 ECR Portfolio Under ECR Scenario

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Increment) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Increment) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	Tons
2023	70	934	2	9	0	0	0	0	0	0	0	6,142	0	0	6,142	5,488	1	5,487	655	1,013	986	27	11.9	5,542,263
2024	78	934	(3)	5	0	0	0	0	0	0	0	6,278	0	0	6,278	5,903	1	5,902	375	1,017	987	31	12.3	5,577,639
2025	78	934	0	5	0	0	0	0	0	0	0	4,962	0	0	4,962	5,835	1	5,834	(871)	1,018	965	52	14.9	4,541,279
2026	43	934	0	5	5	5	0	0	23	23	0	4,748	0	613	5,361	5,699	36	5,664	(303)	1,010	1,010	1	9.0	4,503,874
2027	0	934	0	5	5	10	0	0	23	45	44	3,468	0	1,423	4,892	5,649	67	5,583	(691)	1,038	1,002	36	12.9	3,338,222
2028	339	285	0	5	4	14	0	0	23	68	199	1,833	0	2,934	4,767	5,613	94	5,518	(751)	995	994	1	9.1	1,667,341
2029	0	285	0	5	3	17	0	0	21	88	87	805	0	4,131	4,936	5,578	117	5,460	(524)	996	988	8	9.8	484,358
2030	0	285	0	5	3	20	0	0	18	106	-5	576	0	4,453	5,030	5,536	137	5,399	(370)	1,012	982	30	12.2	343,451
2031	206	0	0	5	5	25	0	0	9	116	31	399	0	5,066	5,465	5,500	164	5,336	129	978	976	1	9.1	244,979
2032	0	0	0	5	4	29	200	200	4	120	30	213	161	5,692	6,066	5,665	188	5,477	589	974	969	5	9.5	129,622
2033	0	0	0	5	4	33	0	200	11	131	-12	190	159	5,947	6,295	5,626	207	5,419	876	977	967	9	10.0	114,881
2034	0	0	0	5	3	36	0	200	0	131	-3	187	157	5,938	6,282	5,580	222	5,357	924	976	957	19	11.1	113,746
2035	0	0	0	5	2	38	0	200	0	131	-6	165	157	5,946	6,268	5,539	235	5,304	965	973	951	22	11.4	100,022
2036	0	0	0	5	2	40	0	200	0	131	2	181	159	6,100	6,440	5,497	245	5,253	1,187	970	942	28	12.2	109,960
2037	0	0	0	5	1	41	0	200	0	131	-9	201	161	6,079	6,441	5,458	250	5,208	1,233	962	938	24	11.7	121,915

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**NCR Portfolio Under ECR Scenario**

Utility Costs (Nominal\$000)											
	(1) Existing Depreciation	(2) New Depreciation	(3) Capital Charge	(4) Fixed O&M	(5) Fuel Costs	(6) Emission Costs	(7) Other VOM Costs	(8) Market Purchases Costs	(9) Less: Market Sales Revenue	(10) Taxes	(11)=(1)thru(8)-(9)+(10) GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	20,030	181,071	492	15,135	30,975	81,783	12,112	255,804
2024	38,764	0	37,615	25,977	185,889	506	16,000	28,761	61,364	11,299	283,447
2025	39,081	0	35,747	28,492	154,029	424	14,344	63,810	41,519	10,679	305,087
2026	39,553	16,706	57,958	38,428	149,262	426	14,672	50,866	59,620	-3,235	305,017
2027	39,856	42,855	90,462	47,611	109,259	322	11,217	58,120	58,151	-24,284	317,267
2028	39,988	74,761	127,235	55,894	64,197	136	5,678	101,134	46,949	-51,284	370,790
2029	40,015	101,649	158,295	61,534	61,629	25,461	4,351	128,531	38,458	-92,026	450,981
2030	40,042	101,649	145,495	61,939	46,541	19,377	4,148	144,411	31,503	-40,811	491,289
2031	40,070	101,892	134,842	47,061	46,563	19,177	4,239	150,171	27,795	-43,433	472,787
2032	40,099	101,892	125,410	47,616	34,137	14,178	4,398	166,837	22,509	-45,997	466,061
2033	40,128	101,892	117,434	48,182	29,316	12,123	4,183	178,095	16,822	-46,982	467,549
2034	40,158	101,892	109,746	48,755	31,457	12,940	4,342	180,192	16,895	-48,676	463,911
2035	40,188	105,603	106,292	50,138	28,984	12,090	4,179	188,577	16,235	-49,083	470,733
2036	40,219	105,603	98,134	50,744	34,540	14,535	4,690	189,427	22,362	-29,422	486,110
2037	40,250	105,603	90,127	51,359	37,614	16,361	4,742	190,782	23,265	3,066	516,639
Cumulative Present Worth 2023-2037	380,430	580,887	884,537	416,723	896,075	80,598	84,667	1,039,467	405,521	(244,029)	3,713,835

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 NCR Portfolio Under ECR Scenario

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Incrmem) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Incrmem) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	73	934	2	9	5	5	0	0	0	0	0	6,142	0	0	6,142	5,488	21	5,467	675	1,020	986	34	12.7	5,542,263
2024	78	934	(3)	5	6	11	0	0	0	0	0	6,278	0	0	6,278	5,903	51	5,853	425	1,028	987	41	13.5	5,577,639
2025	78	934	0	5	7	18	0	0	0	0	0	4,962	0	0	4,962	5,835	87	5,748	(786)	1,036	965	71	16.9	4,541,279
2026	60	934	0	5	10	28	0	0	23	23	0	4,748	0	613	5,361	5,699	141	5,559	(198)	1,050	1,010	40	13.3	4,503,874
2027	0	934	0	5	7	36	0	0	23	45	61	3,468	0	1,523	4,992	5,649	178	5,472	(480)	1,081	1,002	79	17.5	3,338,222
2028	494	285	0	5	6	42	0	0	23	68	81	1,833	0	2,633	4,466	5,613	209	5,404	(938)	1,035	994	41	13.5	1,667,341
2029	0	285	0	5	5	46	100	100	(2)	66	-7	1,159	81	2,623	3,864	5,675	233	5,442	(1,579)	1,076	988	88	18.6	701,012
2030	0	285	0	5	4	50	0	100	5	71	-5	847	81	2,636	3,563	5,633	252	5,381	(1,818)	1,079	982	98	19.8	508,081
2031	0	285	0	5	(8)	42	0	100	(2)	69	-9	788	80	2,639	3,508	5,596	207	5,390	(1,882)	1,061	976	85	18.4	478,999
2032	0	285	0	5	(6)	36	0	100	(4)	65	-8	563	80	2,648	3,292	5,568	178	5,390	(2,098)	1,043	969	73	17.2	337,462
2033	1	285	0	5	(6)	30	0	100	0	65	-3	458	80	2,623	3,161	5,530	150	5,381	(2,220)	1,035	967	68	16.6	274,798
2034	4	285	0	5	(6)	25	0	100	0	65	-1	463	78	2,619	3,161	5,486	123	5,363	(2,202)	1,032	957	75	17.4	279,395
2035	0	285	0	5	(5)	20	50	150	0	65	-2	411	118	2,623	3,152	5,492	98	5,393	(2,241)	1,062	951	111	21.7	248,503
2036	0	285	0	5	(5)	15	0	150	0	65	-3	475	119	2,648	3,242	5,450	76	5,374	(2,131)	1,051	942	109	21.5	284,555
2037	0	285	0	5	(4)	11	0	150	0	65	-2	504	120	2,640	3,264	5,410	56	5,354	(2,090)	1,045	938	106	21.3	305,074

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**CC Portfolio Under ECR Scenario**

Utility Costs (Nominal\$000)											
	(1) Existing Depreciation	(2) New Depreciation	(3) Capital Charge	(4) Fixed O&M	(5) Fuel Costs	(6) Emission Costs	(7) Other VOM Costs	(8) Market Purchases Costs	(9) Less: Market Sales Revenue	(10) Taxes	(11)=(1)thru(8)-(9)+(10) GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	17,559	181,071	492	15,135	31,007	81,685	12,112	253,463
2024	38,764	0	37,615	22,756	185,889	506	16,000	28,897	61,186	11,299	280,540
2025	39,081	0	35,747	24,449	154,029	424	14,344	63,989	41,300	10,679	301,442
2026	39,553	7,955	45,482	34,968	149,262	426	14,672	57,341	50,368	3,240	302,532
2027	39,856	40,896	89,154	45,382	109,259	322	11,217	60,770	55,431	-21,296	320,130
2028	39,988	87,027	146,109	56,204	64,197	136	5,678	88,158	54,786	-55,925	376,788
2029	40,015	121,966	191,586	64,299	112,834	47,588	9,866	34,292	99,479	-43,928	479,039
2030	40,042	128,291	185,533	67,375	106,828	45,444	9,376	32,791	108,969	-56,388	450,322
2031	40,070	135,006	180,845	66,708	111,683	47,099	9,561	26,215	126,768	-68,501	421,916
2032	40,099	135,006	167,699	67,394	107,829	45,570	9,280	28,375	123,133	-72,021	406,097
2033	40,128	135,006	157,164	68,045	104,607	43,884	9,074	34,165	116,814	-73,278	401,980
2034	40,158	135,006	147,148	68,810	106,731	44,752	8,984	36,466	119,972	-75,440	392,643
2035	40,188	138,717	141,663	70,385	108,283	46,232	9,143	35,152	119,831	-76,312	393,620
2036	40,219	138,717	131,776	71,205	113,162	48,365	9,381	35,614	130,045	-68,579	389,815
2037	40,250	138,717	122,042	71,954	113,630	49,592	9,720	34,192	129,434	-28,787	421,875
Cumulative Present Worth 2023-2037	380,430	724,491	1,065,925	477,958	1,221,956	220,341	108,403	414,220	840,899	(315,782)	3,457,044

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 CC Portfolio Under ECR Scenario

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Increm) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Increm) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	73	934	2	9	3	3	0	0	0	0	0	6,142	0	0	6,142	5,488	19	5,469	673	1,019	986	33	12.6	5,542,263
2024	81	934	(3)	5	5	8	0	0	0	0	0	6,278	0	0	6,278	5,903	46	5,857	420	1,029	987	42	13.6	5,577,639
2025	78	934	0	5	6	14	0	0	0	0	0	4,962	0	0	4,962	5,835	79	5,756	(793)	1,032	965	66	16.4	4,541,279
2026	67	934	0	5	10	24	0	0	11	11	0	4,748	0	307	5,055	5,699	131	5,568	(514)	1,042	1,010	32	12.4	4,503,874
2027	0	934	0	5	8	32	0	0	23	34	96	3,468	0	1,418	4,886	5,649	167	5,482	(596)	1,101	1,002	98	19.6	3,338,222
2028	313	285	0	5	6	38	0	0	23	57	148	1,833	0	2,930	4,763	5,613	198	5,414	(651)	941	994	-53	3.1	1,667,341
2029	0	285	0	5	5	43	0	0	(1)	55	22	3,098	0	3,119	6,217	5,578	222	5,355	862	1,051	988	63	15.9	1,310,805
2030	0	285	0	5	4	47	0	0	16	71	-5	2,875	0	3,436	6,310	5,536	241	5,295	1,015	1,066	982	84	18.3	1,192,226
2031	0	285	0	5	0	47	0	0	10	81	-14	2,834	0	3,746	6,580	5,500	244	5,257	1,324	1,062	976	86	18.5	1,176,859
2032	0	285	0	5	1	48	0	0	(5)	76	-12	2,685	0	3,759	6,444	5,472	254	5,218	1,226	1,046	969	77	17.6	1,084,832
2033	0	285	0	5	0	48	0	0	0	76	-7	2,485	0	3,727	6,213	5,435	259	5,176	1,037	1,039	967	72	17.1	994,832
2034	0	285	0	5	(0)	48	0	0	0	76	-2	2,404	0	3,722	6,127	5,392	263	5,129	998	1,038	957	80	18.1	966,297
2035	0	285	0	5	(0)	48	50	50	0	76	-4	2,365	39	3,727	6,132	5,397	266	5,131	1,000	1,075	951	124	23.1	950,528
2036	0	285	0	5	(1)	47	0	50	0	76	-7	2,348	40	3,759	6,147	5,355	267	5,087	1,059	1,066	942	124	23.3	947,027
2037	0	285	0	5	(1)	46	0	50	0	76	-5	2,294	40	3,746	6,080	5,314	265	5,049	1,032	1,060	938	122	23.1	924,883



**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**No Wind Portfolio Under ECR Scenario**

Utility Costs (Nominal\$000)											
	(1) Existing Depreciation	(2) New Depreciation	(3) Capital Charge	(4) Fixed O&M	(5) Fuel Costs	(6) Emission Costs	(7) Other VOM Costs	(8) Market Purchases Costs	(9) Less: Market Sales Revenue	(10) Taxes	(11)=(1)thru(8)-(9)+(10) GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	13,974	181,071	492	15,135	31,308	80,911	12,112	250,953
2024	38,764	0	37,615	16,905	185,889	506	16,000	29,730	59,569	11,299	277,138
2025	39,081	0	35,747	16,564	154,029	424	14,344	65,931	39,260	10,679	297,539
2026	39,553	7,071	44,220	25,388	149,262	426	14,672	61,635	45,190	6,667	303,704
2027	39,856	24,051	65,287	29,916	109,259	322	11,217	81,791	39,606	-3,691	318,402
2028	39,988	79,805	138,777	43,789	64,197	136	5,678	123,199	43,020	-75,559	376,992
2029	40,015	109,225	168,748	49,114	43,485	17,599	2,798	193,877	56,268	-56,787	511,805
2030	40,042	112,118	157,504	49,354	32,049	13,105	2,539	213,123	61,329	-35,326	523,177
2031	40,070	115,322	148,914	54,217	32,144	12,983	2,561	218,360	67,183	-40,555	516,834
2032	40,099	118,348	141,235	55,488	21,390	8,734	2,421	229,313	66,196	-31,740	519,093
2033	40,128	118,348	131,452	56,094	17,316	7,056	2,225	240,046	65,074	-33,691	513,901
2034	40,158	118,348	122,757	56,817	18,997	7,673	2,349	244,423	70,938	-35,766	504,817
2035	40,188	121,583	118,911	58,210	17,626	7,225	2,297	251,465	77,488	-40,354	499,663
2036	40,219	121,583	110,049	58,992	21,536	8,920	2,564	250,199	76,989	-35,473	501,598
2037	40,250	128,368	111,155	61,043	22,907	9,825	2,596	251,302	86,559	-19,264	521,622
Cumulative Present Worth 2023-2037	380,430	631,162	927,337	372,953	830,761	52,477	75,958	1,386,041	578,986	(196,426)	3,881,707

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 No Wind Portfolio Under ECR Scenario

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Incr) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Incr) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	73	934	2	9	0	0	0	0	0	0	0	6,142	0	0	6,142	5,488	1	5,487	655	1,016	986	30	12.2	5,542,263
2024	78	934	(3)	5	0	0	0	0	0	0	0	6,278	0	0	6,278	5,903	1	5,902	375	1,017	987	31	12.3	5,577,639
2025	78	934	0	5	0	0	0	0	0	0	0	4,962	0	0	4,962	5,835	1	5,834	(871)	1,018	965	52	14.9	4,541,279
2026	78	934	0	5	6	6	0	0	0	49	49	4,748	0	200	4,948	5,699	45	5,654	(707)	1,072	1,010	63	15.7	4,503,874
2027	0	934	0	5	5	11	0	0	0	81	130	3,468	0	700	4,168	5,649	76	5,573	(1,405)	1,080	1,002	78	17.4	3,338,222
2028	407	285	0	5	4	15	0	0	0	224	354	1,833	0	1,606	3,439	5,613	104	5,509	(2,070)	1,127	994	133	23.5	1,667,341
2029	0	285	0	5	3	18	50	50	0	67	421	805	41	2,100	2,946	5,627	127	5,499	(2,554)	1,060	988	72	16.8	484,358
2030	0	285	0	5	3	21	0	50	0	11	432	576	40	2,200	2,817	5,585	147	5,438	(2,621)	1,074	982	92	19.2	343,451
2031	0	285	0	5	4	25	0	50	0	-5	427	534	40	2,300	2,874	5,548	164	5,384	(2,510)	1,073	976	97	19.7	324,200
2032	0	285	0	5	4	29	0	50	0	-3	425	349	40	2,410	2,799	5,520	188	5,332	(2,533)	1,075	969	105	20.8	207,840
2033	0	285	0	5	4	33	0	50	0	-13	411	268	40	2,400	2,708	5,483	207	5,276	(2,568)	1,065	967	98	20.0	159,917
2034	0	285	0	5	3	36	0	50	0	-3	408	276	39	2,400	2,715	5,439	222	5,217	(2,501)	1,065	957	108	21.2	165,649
2035	0	285	0	5	2	38	0	50	0	8	416	246	39	2,500	2,786	5,397	235	5,162	(2,377)	1,075	951	124	23.1	148,481
2036	0	285	0	5	2	40	0	50	0	-14	402	294	40	2,510	2,843	5,355	245	5,110	(2,266)	1,060	942	118	22.5	174,595
2037	0	285	0	5	1	41	0	50	0	17	419	303	40	2,700	3,044	5,314	250	5,064	(2,020)	1,078	938	139	25.1	183,159

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**Preferred Plan Under ECR Scenario**

Utility Costs (Nominal\$000)											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)=(1)thru(8)-(9)+(10)
	Existing Depreciation	New Depreciation	Capital Charge	Fixed O&M	Fuel Costs	Emission Costs	Other VOM Costs	Market Purchases Costs	Less: Market Sales Revenue	Taxes	GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	17,559	181,071	492	15,135	31,007	81,685	12,112	253,463
2024	38,764	0	37,615	22,756	185,889	506	16,000	28,897	61,186	11,299	280,540
2025	39,081	0	35,747	24,449	154,029	424	14,344	63,989	41,300	10,679	301,442
2026	39,553	7,955	45,482	34,968	149,262	426	14,672	57,341	50,368	3,240	302,532
2027	39,856	40,896	89,154	45,382	109,259	322	11,217	60,770	55,431	-21,296	320,130
2028	40,133	87,027	146,370	56,204	64,197	136	5,678	88,158	54,786	-55,845	377,273
2029	40,160	113,025	175,785	61,150	61,629	25,461	4,351	119,938	59,744	-49,906	491,848
2030	40,187	119,350	170,434	64,171	46,541	19,377	4,148	121,226	59,537	-62,215	463,683
2031	40,215	126,065	166,427	63,445	46,563	19,177	4,239	108,594	64,592	-74,183	435,950
2032	40,244	126,065	153,942	64,069	34,137	14,178	4,398	118,026	56,509	-77,561	420,990
2033	40,273	126,065	144,049	64,658	29,316	12,123	4,183	125,101	50,617	-78,681	416,470
2034	40,303	126,065	134,658	65,360	31,457	12,940	4,342	124,924	52,931	-80,708	406,409
2035	40,333	129,776	129,781	66,869	28,984	12,090	4,179	128,708	51,086	-81,451	408,183
2036	40,364	129,776	120,487	67,622	34,540	14,535	4,690	127,185	59,320	-73,590	406,289
2037	40,395	129,776	111,344	68,302	37,614	16,361	4,742	125,407	59,387	-33,672	440,882
Cumulative Present Worth 2023-2037	381,214	682,427	1,002,942	462,116	896,075	80,598	84,667	831,718	554,223	(341,457)	3,526,078

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 Preferred Plan Under ECR Scenario

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Incrmem) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Incrmem) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	73	934	2	9	3	3	0	0	0	0	0	6,142	0	0	6,142	5,488	19	5,469	673	1,019	986	33	12.6	5,542,263
2024	81	934	(3)	5	5	8	0	0	0	0	0	6,278	0	0	6,278	5,903	46	5,857	420	1,029	987	42	13.6	5,577,639
2025	78	934	0	5	6	14	0	0	0	0	0	4,962	0	0	4,962	5,835	79	5,756	(793)	1,032	965	66	16.4	4,541,279
2026	76	934	0	5	10	24	0	0	11	11	0	4,748	0	307	5,055	5,699	131	5,568	(514)	1,051	1,010	41	13.4	4,503,874
2027	0	934	0	5	8	32	0	0	23	34	96	3,468	0	1,418	4,886	5,649	167	5,482	(596)	1,101	1,002	98	19.6	3,338,222
2028	448	285	0	5	6	38	0	0	23	57	148	1,833	0	2,930	4,763	5,613	198	5,414	(651)	1,076	994	82	17.9	1,667,341
2029	0	285	0	5	5	43	0	0	(1)	55	22	1,159	0	3,119	4,279	5,578	222	5,355	(1,077)	1,110	988	122	22.4	701,012
2030	0	285	0	5	4	47	0	0	16	71	-5	847	0	3,436	4,282	5,536	241	5,295	(1,012)	1,125	982	143	24.8	508,081
2031	0	285	0	5	0	47	0	0	10	81	-14	788	0	3,746	4,535	5,500	244	5,257	(722)	1,121	976	145	25.1	478,999
2032	0	285	0	5	1	48	0	0	(5)	76	-12	563	0	3,759	4,322	5,472	254	5,218	(896)	1,105	969	136	24.2	337,462
2033	0	285	0	5	0	48	0	0	0	76	-7	458	0	3,727	4,185	5,435	259	5,176	(991)	1,098	967	131	23.7	274,798
2034	0	285	0	5	(0)	48	0	0	0	76	-2	463	0	3,722	4,185	5,392	263	5,129	(943)	1,096	957	139	24.8	279,395
2035	0	285	0	5	(0)	48	50	50	0	76	-4	411	39	3,727	4,177	5,397	266	5,131	(954)	1,134	951	183	29.9	248,503
2036	0	285	0	5	(1)	47	0	50	0	76	-7	475	40	3,759	4,274	5,355	267	5,087	(814)	1,125	942	183	30.1	284,555
2037	0	285	0	5	(1)	46	0	50	0	76	-5	504	40	3,746	4,290	5,314	265	5,049	(758)	1,119	938	181	29.9	305,074

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
Reference Portfolio Under NCR Scenario

Utility Costs (Nominal\$000)											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)=(1)thru(8)-(9)+(10)
	Existing Depreciation	New Depreciation	Capital Charge	Fixed O&M	Fuel Costs	Emission Costs	Other VOM Costs	Market Purchases Costs	Less: Market Sales Revenue	Taxes	GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	17,559	181,960	494	15,192	33,926	77,475	12,112	261,540
2024	38,764	0	37,615	22,756	171,979	474	15,916	37,288	47,303	11,299	288,788
2025	39,081	0	35,747	24,449	117,868	325	12,086	71,165	22,323	10,679	289,077
2026	39,553	8,416	46,138	29,437	86,530	247	10,709	78,206	15,317	3,491	287,411
2027	39,856	35,081	80,785	37,287	70,987	183	7,204	62,986	12,376	-13,045	308,948
2028	39,988	70,883	124,024	46,117	31,411	40	3,163	106,445	10,996	-37,817	373,257
2029	40,015	114,661	181,265	57,811	93,339	12	4,045	13,343	56,765	-45,306	402,418
2030	40,042	122,562	176,929	61,551	116,647	83	5,575	6,881	92,430	-57,102	380,739
2031	40,070	130,911	174,341	63,644	102,990	41	4,927	8,417	85,549	-68,400	371,391
2032	40,099	139,212	172,829	67,627	103,960	49	4,695	7,838	98,383	-80,001	357,925
2033	40,128	147,715	172,457	71,647	96,083	12	4,091	12,135	95,710	-89,473	359,084
2034	40,158	156,425	172,685	75,800	107,485	60	4,997	9,300	118,152	-100,134	348,623
2035	40,188	165,370	172,820	80,076	111,887	49	5,110	5,875	133,911	-111,627	335,837
2036	40,219	165,370	159,755	81,130	110,761	49	4,784	5,198	136,918	-105,280	325,067
2037	40,250	169,488	153,631	82,862	115,188	43	5,068	4,742	144,956	-77,309	349,005
Cumulative Present Worth 2023-2037	380,430	754,055	1,091,259	469,468	1,063,009	1,722	77,034	346,708	646,852	(374,603)	3,162,230

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 Reference Portfolio Under NCR Scenario

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Incrém) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Incrém) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	73	934	2	9	3	3	0	0	0	0	0	6,171	0	0	6,171	5,643	19	5,624	547	1,019	1,014	5	9.5	5,561,729
2024	78	934	(3)	5	5	8	0	0	0	0	0	6,043	0	0	6,043	6,118	46	6,072	(29)	1,026	1,019	6	9.6	5,266,459
2025	78	934	0	5	6	14	0	0	0	0	0	4,368	0	0	4,368	6,060	79	5,980	(1,612)	1,032	1,002	29	12.1	3,607,786
2026	82	934	0	5	7	21	0	0	14	14	0	3,416	0	307	3,722	5,948	118	5,830	(2,108)	1,056	1,054	2	9.1	2,739,741
2027	0	934	0	5	6	26	0	0	14	27	96	2,841	0	1,112	3,953	5,918	151	5,767	(1,814)	1,088	1,050	39	12.9	2,063,800
2028	495	285	0	5	4	31	0	0	24	51	80	1,151	0	2,224	3,375	5,911	179	5,733	(2,358)	1,043	1,044	-1	8.9	843,911
2029	0	285	0	5	4	34	0	0	20	71	25	3,802	0	3,023	6,825	5,872	200	5,673	1,153	1,052	1,040	11	10.1	2,282,491
2030	0	285	0	5	3	37	0	0	12	83	-5	4,569	0	3,341	7,910	5,850	217	5,633	2,277	1,061	1,037	24	11.4	2,727,966
2031	0	285	0	5	(0)	36	0	0	10	92	-13	3,960	0	3,653	7,613	5,832	220	5,612	2,001	1,058	1,035	22	11.3	2,371,115
2032	0	285	0	5	(1)	36	0	0	6	98	-11	3,937	0	3,972	7,910	5,832	221	5,612	2,298	1,051	1,030	21	11.2	2,357,608
2033	0	285	0	5	(1)	35	0	0	11	109	-4	3,399	0	4,239	7,637	5,795	219	5,576	2,061	1,057	1,031	26	11.7	2,041,863
2034	0	285	0	5	(1)	34	0	0	11	120	-4	3,662	0	4,535	8,196	5,780	216	5,564	2,632	1,063	1,026	38	12.9	2,202,487
2035	0	285	0	5	(1)	33	0	0	11	131	0	3,814	0	4,846	8,660	5,765	213	5,552	3,108	1,073	1,025	49	14.1	2,282,504
2036	0	285	0	5	(1)	32	0	0	0	131	0	3,818	0	4,895	8,713	5,768	209	5,559	3,154	1,072	1,021	52	14.5	2,288,623
2037	0	285	0	5	(1)	31	0	0	0	131	13	3,892	0	4,979	8,871	5,734	203	5,531	3,340	1,084	1,022	62	15.6	2,336,246

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**REF-HC Portfolio Under NCR Scenario**

Utility Costs (Nominal\$000)											
	(1) Existing Depreciation	(2) New Depreciation	(3) Capital Charge	(4) Fixed O&M	(5) Fuel Costs	(6) Emission Costs	(7) Other VOM Costs	(8) Market Purchases Costs	(9) Less: Market Sales Revenue	(10) Taxes	(11)=(1)thru(8)-(9)+(10) GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	16,188	181,960	494	15,192	34,033	77,211	12,112	260,539
2024	38,764	0	37,615	20,887	171,979	474	15,916	37,583	46,900	11,299	287,617
2025	39,081	0	35,747	22,030	117,868	325	12,086	71,676	21,937	10,679	287,556
2026	39,553	17,673	59,336	30,019	86,530	247	10,709	71,401	18,855	-2,707	293,907
2027	39,856	49,813	100,219	40,244	70,987	183	7,204	51,168	16,743	-24,264	318,667
2028	39,988	97,450	158,287	51,396	31,411	40	3,163	86,596	18,628	-54,421	395,281
2029	40,015	125,352	189,386	58,558	93,339	12	4,045	11,550	64,337	-51,657	406,262
2030	40,042	133,253	184,979	62,310	116,647	83	5,575	5,981	101,034	-63,541	384,296
2031	40,070	141,602	182,298	63,316	102,990	41	4,927	7,478	93,535	-74,882	374,305
2032	40,099	149,903	180,468	67,453	103,960	49	4,695	7,073	106,392	-86,584	360,724
2033	40,128	158,406	180,300	71,683	96,083	12	4,091	11,166	103,341	-95,884	362,643
2034	40,158	158,406	167,612	72,781	107,485	60	4,997	9,825	115,510	-98,502	347,311
2035	40,188	158,406	155,972	73,879	111,887	49	5,110	7,414	120,110	-101,510	331,286
2036	40,219	158,406	144,976	74,994	110,761	49	4,784	6,627	122,443	-83,254	335,118
2037	40,250	167,833	147,792	79,535	115,188	43	5,068	5,409	138,324	-49,088	373,706
Cumulative Present Worth 2023-2037	380,430	816,118	1,144,185	463,218	1,063,009	1,722	77,034	318,195	663,998	(391,825)	3,208,088

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 REF-HC Portfolio Under NCR Scenario

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output						
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)				
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)	Cum MW	(Current and Planned) Interruptible Load and Demand Response		(Incrom) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Incrom) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions				
		Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons			
2023	73	934	2	9	2	2	0	0	0	0	0	0	0	0	0	6,171	0	0	6,171	5,643	13	5,630	541	1,017	1,014	4	9.3	5,561,729
2024	78	934	(3)	5	3	5	0	0	0	0	0	0	0	0	0	6,043	0	0	6,043	6,118	33	6,085	(42)	1,022	1,019	3	9.2	5,266,459
2025	78	934	0	5	4	9	0	0	0	0	0	0	0	0	0	4,368	0	0	4,368	6,060	58	6,001	(1,633)	1,026	1,002	24	11.5	3,607,786
2026	79	934	0	5	5	14	0	0	27	27	0	0	0	0	0	3,416	0	613	4,029	5,948	97	5,851	(1,822)	1,060	1,054	5	9.5	2,739,741
2027	0	934	0	5	4	18	0	0	27	54	78	78	0	0	0	2,841	0	1,623	4,465	5,918	124	5,794	(1,330)	1,090	1,050	40	13.1	2,063,800
2028	461	285	0	5	3	21	0	0	23	77	131	210	0	0	0	1,151	0	3,035	4,185	5,911	146	5,765	(1,579)	1,059	1,044	15	10.5	843,911
2029	0	285	0	5	3	24	0	0	6	83	-9	200	0	0	0	3,802	0	3,327	7,129	5,872	164	5,709	1,420	1,053	1,040	12	10.2	2,282,491
2030	0	285	0	5	2	26	0	0	12	94	-5	195	0	0	0	4,569	0	3,647	8,216	5,850	178	5,672	2,544	1,062	1,037	24	11.5	2,727,966
2031	0	285	0	5	(1)	24	0	0	10	104	-13	182	0	0	0	3,960	0	3,959	7,919	5,832	160	5,672	2,248	1,057	1,035	22	11.2	2,371,115
2032	0	285	0	5	(1)	24	0	0	5	109	-11	171	0	0	0	3,937	0	4,280	8,217	5,832	151	5,681	2,536	1,050	1,030	20	11.1	2,357,608
2033	0	285	0	5	(1)	23	0	0	11	120	-4	167	0	0	0	3,399	0	4,543	7,941	5,795	141	5,654	2,287	1,057	1,031	25	11.6	2,041,863
2034	0	285	0	5	(1)	22	0	0	0	120	-4	163	0	0	0	3,662	0	4,535	8,196	5,780	130	5,650	2,547	1,052	1,026	26	11.7	2,202,487
2035	0	285	0	5	(1)	21	0	0	0	120	0	163	0	0	0	3,814	0	4,542	8,356	5,765	120	5,645	2,711	1,051	1,025	26	11.7	2,282,504
2036	0	285	0	5	(1)	20	0	0	0	120	0	163	0	0	0	3,818	0	4,587	8,406	5,768	110	5,658	2,747	1,050	1,021	29	12.1	2,288,623
2037	0	285	0	5	(1)	19	0	0	11	131	-1	162	0	0	0	3,892	0	4,879	8,771	5,734	100	5,634	3,137	1,058	1,022	37	12.8	2,336,246



**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**CETA Portfolio Under NCR Scenario**

Utility Costs (Nominal\$000)											
	(1) Existing Depreciation	(2) New Depreciation	(3) Capital Charge	(4) Fixed O&M	(5) Fuel Costs	(6) Emission Costs	(7) Other VOM Costs	(8) Market Purchases Costs	(9) Less: Market Sales Revenue	(10) Taxes	(11)=(1)thru(8)-(9)+(10) GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	16,188	181,960	494	15,192	34,403	77,211	12,112	260,910
2024	38,764	0	37,615	20,887	171,979	474	15,916	38,299	46,900	11,299	288,333
2025	39,081	0	35,747	22,030	117,868	325	12,086	72,534	21,937	10,679	288,414
2026	39,553	17,673	59,336	32,478	86,530	247	10,709	73,360	18,884	-2,707	298,295
2027	39,856	53,484	105,452	43,421	70,987	183	7,204	48,716	18,013	-26,003	325,286
2028	39,988	105,065	168,522	55,227	31,411	40	3,163	83,807	22,021	-57,983	407,218
2029	40,015	148,842	221,144	66,913	93,339	12	4,045	8,375	86,081	-66,317	430,284
2030	40,042	160,166	218,116	71,344	116,647	83	5,575	4,301	127,976	-81,114	407,184
2031	40,070	168,515	212,251	73,546	102,990	41	4,927	5,086	120,622	-93,163	393,640
2032	40,099	180,421	213,175	78,361	103,960	49	4,695	4,791	137,043	-107,631	380,876
2033	40,128	188,923	210,288	82,503	96,083	12	4,091	7,657	133,557	-117,282	378,846
2034	40,158	188,923	195,760	83,504	107,485	60	4,997	6,848	147,118	-120,265	360,352
2035	40,188	193,762	188,013	85,596	111,887	49	5,110	4,741	153,169	-121,548	354,629
2036	40,219	193,762	174,733	86,710	110,761	49	4,784	4,214	156,562	-104,014	354,656
2037	40,250	201,998	173,917	89,269	115,188	43	5,068	3,790	167,954	-64,650	396,919
Cumulative Present Worth 2023-2037	380,430	964,565	1,299,239	518,370	1,063,009	1,722	77,034	305,723	803,738	(484,377)	3,321,975

**Kentucky POWER COMPANY**  
**2022 INTEGRATED RESOURCE PLAN**  
**CETA Portfolio Under NCR Scenario**

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Incrém) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Incrém) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	105	934	2	9	2	2	0	0	0	0	0	6,171	0	0	6,171	5,643	13	5,630	541	1,049	1,014	36	12.8	5,561,729
2024	118	934	(3)	5	3	5	0	0	0	0	0	6,043	0	0	6,043	6,118	33	6,085	(42)	1,062	1,019	43	13.5	5,266,459
2025	103	934	0	5	4	9	0	0	0	0	0	4,368	0	0	4,368	6,060	58	6,001	(1,633)	1,051	1,002	49	14.2	3,607,786
2026	133	934	0	5	7	16	0	0	27	27	0	3,416	0	613	4,029	5,948	100	5,848	(1,819)	1,115	1,054	61	15.3	2,739,741
2027	4	934	0	5	6	22	0	0	27	54	96	2,841	0	1,723	4,565	5,918	136	5,782	(1,218)	1,116	1,050	66	15.8	2,063,800
2028	488	285	0	5	5	28	0	0	23	77	148	1,151	0	3,235	4,386	5,911	167	5,745	(1,358)	1,126	1,044	83	17.6	843,911
2029	0	285	0	5	4	32	0	0	18	94	22	3,802	0	4,031	7,833	5,872	191	5,681	2,152	1,138	1,040	98	19.2	2,282,491
2030	0	285	0	5	3	35	0	0	12	106	11	4,569	0	4,453	9,022	5,850	211	5,639	3,383	1,165	1,037	127	22.3	2,727,966
2031	0	285	0	5	0	36	0	0	9	116	-17	3,960	0	4,766	8,726	5,832	216	5,615	3,111	1,158	1,035	122	21.8	2,371,115
2032	0	285	0	5	(0)	35	0	0	4	120	0	3,937	0	5,190	9,127	5,832	219	5,613	3,514	1,162	1,030	132	22.9	2,357,608
2033	0	285	0	5	(1)	35	0	0	11	131	-6	3,399	0	5,447	8,845	5,795	218	5,577	3,268	1,166	1,031	135	23.2	2,041,863
2034	0	285	0	5	(1)	34	0	0	0	131	-6	3,662	0	5,438	9,100	5,780	216	5,564	3,536	1,159	1,026	133	23.1	2,202,487
2035	0	285	0	5	(1)	33	50	50	0	131	0	3,814	41	5,446	9,301	5,814	213	5,601	3,700	1,198	1,025	173	27.3	2,282,504
2036	0	285	0	5	(1)	32	0	50	0	131	0	3,818	41	5,497	9,356	5,817	209	5,608	3,749	1,197	1,021	176	27.8	2,288,623
2037	0	285	0	5	(1)	31	0	50	0	131	26	3,892	40	5,679	9,611	5,782	203	5,579	4,032	1,221	1,022	199	30.2	2,336,246

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**ECR Portfolio Under NCR Scenario**

Utility Costs (Nominal\$000)											
	(1) Existing Depreciation	(2) New Depreciation	(3) Capital Charge	(4) Fixed O&M	(5) Fuel Costs	(6) Emission Costs	(7) Other VOM Costs	(8) Market Purchases Costs	(9) Less: Market Sales Revenue	(10) Taxes	(11)=(1)thru(8)-(9)+(10) GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	13,974	181,960	494	15,192	34,217	76,707	12,112	259,015
2024	38,764	0	37,615	16,905	171,979	474	15,916	38,304	45,955	11,299	285,300
2025	39,081	0	35,747	16,564	117,868	325	12,086	73,095	20,973	10,679	284,473
2026	39,553	17,673	59,336	29,403	86,530	247	10,709	71,513	18,066	-2,707	294,192
2027	39,856	42,473	89,753	38,087	70,987	183	7,204	57,402	14,442	-20,786	310,716
2028	39,988	112,490	180,976	56,407	31,411	40	3,163	77,827	20,155	-91,689	390,455
2029	40,015	161,437	235,501	68,742	59,161	11	2,812	20,222	55,604	-74,700	457,598
2030	40,042	169,339	224,606	72,246	82,023	82	4,282	8,388	86,478	-88,040	426,490
2031	40,054	187,991	232,469	82,587	49,546	3	2,329	28,859	72,046	-106,627	445,166
2032	40,054	225,216	260,958	93,043	34,505	1	1,253	18,306	73,947	-249,336	350,053
2033	40,054	233,719	252,236	97,345	34,809	0	1,227	17,123	82,605	-119,510	474,396
2034	40,054	233,719	233,902	98,564	34,333	0	1,324	17,873	83,849	-123,309	452,611
2035	40,054	233,719	217,347	99,811	35,599	0	1,289	17,126	85,670	-127,398	431,877
2036	40,054	237,724	207,597	101,862	37,111	1	1,240	15,467	92,140	-111,547	437,370
2037	40,054	237,724	192,948	103,102	39,049	1	1,353	14,330	94,677	-83,759	450,124
Cumulative Present Worth 2023-2037	380,095	1,108,151	1,423,288	551,378	785,054	1,577	63,969	363,458	542,884	(615,698)	3,518,388

**Kentucky POWER COMPANY**  
**2022 INTEGRATED RESOURCE PLAN**  
**ECR Portfolio Under NCR Scenario**

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Incrém) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Incrém) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	70	934	2	9	0	0	0	0	0	0	0	6,171	0	0	6,171	5,643	1	5,642	529	1,013	1,014	-1	8.8	5,561,729
2024	78	934	(3)	5	0	0	0	0	0	0	0	6,043	0	0	6,043	6,118	1	6,117	(74)	1,017	1,019	-2	8.7	5,266,459
2025	78	934	0	5	0	0	0	0	0	0	0	4,368	0	0	4,368	6,060	1	6,058	(1,690)	1,018	1,002	15	10.6	3,607,786
2026	43	934	0	5	5	5	0	0	27	27	0	3,416	0	613	4,029	5,948	36	5,912	(1,884)	1,015	1,054	-39	4.9	2,739,741
2027	0	934	0	5	5	10	0	0	27	54	44	2,841	0	1,423	4,265	5,918	67	5,851	(1,587)	1,047	1,050	-3	8.7	2,063,800
2028	339	285	0	5	4	14	0	0	23	77	200	1,151	0	2,934	4,085	5,911	94	5,817	(1,732)	1,003	1,044	-40	4.7	843,911
2029	0	285	0	5	3	17	0	0	18	94	87	2,348	0	4,131	6,479	5,872	117	5,755	724	1,001	1,040	-40	4.8	1,396,091
2030	0	285	0	5	3	20	0	0	12	106	-5	3,148	0	4,453	7,602	5,850	137	5,713	1,889	1,010	1,037	-27	6.1	1,862,004
2031	206	0	0	5	5	25	0	0	9	116	28	1,888	0	5,066	6,954	5,832	164	5,667	1,287	973	1,035	-62	2.4	1,132,136
2032	0	0	0	5	4	29	200	200	4	120	26	1,363	165	5,692	7,220	6,030	188	5,842	1,377	961	1,030	-69	1.6	831,729
2033	0	0	0	5	4	33	0	200	11	131	-9	1,276	164	5,947	7,386	5,991	207	5,785	1,602	966	1,031	-65	2.1	779,618
2034	0	0	0	5	3	36	0	200	0	131	-9	1,219	165	5,938	7,321	5,977	222	5,755	1,566	960	1,026	-66	1.9	744,667
2035	0	0	0	5	2	38	0	200	0	131	0	1,265	163	5,946	7,374	5,961	235	5,726	1,649	962	1,025	-62	2.3	772,228
2036	0	0	0	5	2	40	0	200	0	131	14	1,324	163	6,100	7,587	5,964	245	5,719	1,868	978	1,021	-42	4.4	809,084
2037	0	0	0	5	1	41	0	200	0	131	-3	1,371	160	6,079	7,610	5,926	250	5,675	1,934	970	1,022	-52	3.4	837,310

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**NCR Portfolio Under NCR Scenario**

Utility Costs (Nominal\$000)											
	(1) Existing Depreciation	(2) New Depreciation	(3) Capital Charge	(4) Fixed O&M	(5) Fuel Costs	(6) Emission Costs	(7) Other VOM Costs	(8) Market Purchases Costs	(9) Less: Market Sales Revenue	(10) Taxes	(11)=(1)thru(8)-(9)+(10) GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	20,030	181,960	494	15,192	33,891	77,572	12,112	263,879
2024	38,764	0	37,615	25,977	171,979	474	15,916	37,185	47,452	11,299	291,757
2025	39,081	0	35,747	28,492	117,868	325	12,086	70,991	22,481	10,679	292,789
2026	39,553	17,673	59,336	38,577	86,530	247	10,709	69,696	19,481	-2,707	300,133
2027	39,856	46,143	94,986	48,192	70,987	183	7,204	52,177	16,317	-22,525	320,886
2028	39,988	81,945	136,805	57,246	31,411	40	3,163	95,712	15,221	-47,510	383,578
2029	40,015	110,510	168,732	63,626	93,339	12	4,045	15,500	47,533	-100,764	347,481
2030	40,042	110,510	154,921	64,456	116,647	83	5,575	9,837	73,354	-36,749	391,970
2031	40,070	110,753	143,481	49,752	102,990	41	4,927	14,783	57,074	-39,539	370,184
2032	40,099	110,753	133,404	50,485	103,960	49	4,695	15,768	59,113	-42,242	357,858
2033	40,128	110,753	124,956	51,236	96,083	12	4,091	26,187	49,437	-43,328	360,681
2034	40,158	110,753	116,855	51,999	107,485	60	4,997	24,192	59,141	-45,110	352,248
2035	40,188	115,592	114,265	53,821	111,887	49	5,110	21,655	62,379	-45,118	355,070
2036	40,219	115,592	105,531	54,633	110,761	49	4,784	19,637	61,489	-25,580	364,137
2037	40,250	115,592	96,991	55,458	115,188	43	5,068	18,098	62,812	6,794	390,671
Cumulative Present Worth 2023-2037	380,430	632,242	934,721	432,471	1,063,009	1,722	77,034	368,940	449,088	(229,969)	3,211,511

**Kentucky POWER COMPANY**  
**2022 INTEGRATED RESOURCE PLAN**  
**NCR Portfolio Under NCR Scenario**

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output				
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)		
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)	(Current and Planned) Interruptible Load and Demand Response	(Increment) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Increment) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units	CO2 Emissions			
		Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW															Ann MW	Cum MW	GWh
2023	73	934	2	9	5	5	0	0	0	0	0	0	0	6,171	0	0	6,171	5,643	21	5,622	549	1,020	1,014	6	9.6	5,561,729
2024	78	934	(3)	5	6	11	0	0	0	0	0	0	0	6,043	0	0	6,043	6,118	51	6,067	(24)	1,028	1,019	9	9.9	5,266,459
2025	78	934	0	5	7	18	0	0	0	0	0	0	0	4,368	0	0	4,368	6,060	87	5,973	(1,605)	1,036	1,002	33	12.6	3,607,786
2026	60	934	0	5	10	28	0	0	27	27	0	0	0	3,416	0	613	4,029	5,948	141	5,807	(1,779)	1,055	1,054	1	9.0	2,739,741
2027	0	934	0	5	7	36	0	0	27	54	61	61	0	2,841	0	1,523	4,365	5,918	178	5,740	(1,376)	1,090	1,050	40	13.1	2,063,800
2028	494	285	0	5	6	42	0	0	23	77	81	142	0	1,151	0	2,633	3,784	5,911	209	5,702	(1,919)	1,045	1,044	1	9.0	843,911
2029	0	285	0	5	5	46	100	100	(6)	71	-7	135	0	3,802	80	2,623	6,505	5,968	233	5,735	769	1,078	1,040	38	12.9	2,282,491
2030	0	285	0	5	4	50	0	100	0	71	-5	130	0	4,569	81	2,636	7,285	5,947	252	5,695	1,591	1,077	1,037	39	13.1	2,727,966
2031	0	285	0	5	(8)	42	0	100	(2)	69	-10	120	0	3,960	81	2,639	6,681	5,929	207	5,723	958	1,058	1,035	22	11.3	2,371,115
2032	0	285	0	5	(6)	36	0	100	(4)	65	-9	111	0	3,937	82	2,648	6,668	5,931	178	5,753	915	1,039	1,030	9	9.8	2,357,608
2033	1	285	0	5	(6)	30	0	100	0	65	-2	109	0	3,399	82	2,623	6,104	5,893	150	5,744	360	1,032	1,031	0	9.0	2,041,863
2034	4	285	0	5	(6)	25	0	100	0	65	-2	107	0	3,662	82	2,619	6,363	5,879	123	5,756	607	1,027	1,026	1	9.0	2,202,487
2035	0	285	0	5	(5)	20	50	150	0	65	0	107	0	3,814	123	2,623	6,559	5,912	98	5,813	746	1,057	1,025	33	12.4	2,282,504
2036	0	285	0	5	(5)	15	0	150	0	65	0	107	0	3,818	122	2,648	6,589	5,915	76	5,839	750	1,053	1,021	32	12.4	2,288,623
2037	0	285	0	5	(4)	11	0	150	0	65	-1	106	0	3,892	120	2,640	6,651	5,878	56	5,822	830	1,044	1,022	23	11.3	2,336,246

**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**CC Portfolio Under NCR Scenario**

Utility Costs (Nominal\$000)											
	(1) Existing Depreciation	(2) New Depreciation	(3) Capital Charge	(4) Fixed O&M	(5) Fuel Costs	(6) Emission Costs	(7) Other VOM Costs	(8) Market Purchases Costs	(9) Less: Market Sales Revenue	(10) Taxes	(11)=(1)thru(8)-(9)+(10) GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	17,559	181,960	494	15,192	33,926	77,475	12,112	261,540
2024	38,764	0	37,615	22,756	171,979	474	15,916	37,342	47,303	11,299	288,841
2025	39,081	0	35,747	24,449	117,868	325	12,086	71,165	22,323	10,679	289,077
2026	39,553	8,416	46,138	35,043	86,530	247	10,709	77,333	15,497	3,491	291,963
2027	39,856	44,227	93,824	45,934	70,987	183	7,204	55,042	15,233	-19,496	322,527
2028	39,988	95,807	158,008	57,720	31,411	40	3,163	82,277	18,873	-51,268	398,273
2029	40,015	131,624	203,425	66,312	71,348	11	11,201	11,009	58,148	-39,074	437,723
2030	40,042	139,525	198,511	70,031	94,599	83	12,607	2,969	92,448	-50,911	415,006
2031	40,070	147,874	195,001	69,820	82,163	40	11,912	4,410	87,031	-62,380	401,879
2032	40,099	147,874	180,658	70,729	83,265	49	11,979	3,964	88,580	-66,156	383,880
2033	40,128	147,874	169,294	71,611	77,673	11	11,448	9,483	80,077	-67,591	379,853
2034	40,158	147,874	158,537	72,614	91,414	59	12,281	4,960	92,574	-69,911	365,413
2035	40,188	152,713	153,656	74,678	93,590	49	12,718	3,968	96,368	-70,440	364,752
2036	40,219	152,713	143,006	75,754	89,324	49	12,731	3,777	94,951	-62,870	359,751
2037	40,250	152,713	132,553	76,767	90,481	43	12,974	4,819	96,662	-23,233	390,705
Cumulative Present Worth 2023-2037	380,430	792,329	1,135,766	495,665	966,458	1,720	111,613	309,981	575,578	(284,611)	3,333,773

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 CC Portfolio Under NCR Scenario

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Incrém) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Incrém) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	tons
2023	73	934	2	9	3	3	0	0	0	0	0	6,171	0	0	6,171	5,643	19	5,624	547	1,019	1,014	5	9.5	5,561,729
2024	81	934	(3)	5	5	8	0	0	0	0	0	6,043	0	0	6,043	6,118	46	6,072	(29)	1,029	1,019	9	9.9	5,266,459
2025	78	934	0	5	6	14	0	0	0	0	0	4,368	0	0	4,368	6,060	79	5,980	(1,612)	1,032	1,002	29	12.1	3,607,786
2026	67	934	0	5	10	24	0	0	14	14	0	3,416	0	307	3,722	5,948	131	5,817	(2,095)	1,044	1,054	-10	7.9	2,739,741
2027	0	934	0	5	8	32	0	0	27	41	96	2,841	0	1,418	4,259	5,918	167	5,750	(1,492)	1,107	1,050	58	14.9	2,063,800
2028	313	285	0	5	6	38	0	0	23	64	148	1,151	0	2,930	4,081	5,911	198	5,713	(1,631)	949	1,044	-95	-0.9	843,911
2029	0	285	0	5	5	43	0	0	(5)	59	22	3,923	0	3,119	7,042	5,872	222	5,650	1,392	1,055	1,040	15	10.5	1,701,843
2030	0	285	0	5	4	47	0	0	12	71	-5	4,705	0	3,436	8,140	5,850	241	5,608	2,532	1,066	1,037	28	11.9	2,168,201
2031	0	285	0	5	0	47	0	0	10	81	-16	4,155	0	3,746	7,901	5,832	244	5,588	2,314	1,060	1,035	25	11.6	1,850,505
2032	0	285	0	5	1	48	0	0	(5)	76	-14	4,135	0	3,759	7,894	5,832	254	5,579	2,315	1,042	1,030	12	10.2	1,847,716
2033	0	285	0	5	0	48	0	0	0	76	-5	3,722	0	3,727	7,449	5,795	259	5,536	1,913	1,037	1,031	6	9.6	1,618,431
2034	0	285	0	5	(0)	48	0	0	0	76	-5	4,082	0	3,722	7,804	5,780	263	5,517	2,287	1,032	1,026	6	9.6	1,842,313
2035	0	285	0	5	(0)	48	50	50	0	76	0	4,160	41	3,727	7,928	5,814	266	5,548	2,380	1,071	1,025	46	13.9	1,873,912
2036	0	285	0	5	(1)	47	0	50	0	76	0	4,058	41	3,759	7,858	5,817	267	5,550	2,308	1,071	1,021	50	14.3	1,811,222
2037	0	285	0	5	(1)	46	0	50	0	76	-2	4,034	40	3,746	7,821	5,782	265	5,517	2,304	1,067	1,022	45	13.7	1,800,578



**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**No Wind Portfolio Under NCR Scenario**

Utility Costs (Nominal\$000)											
	(1) Existing Depreciation	(2) New Depreciation	(3) Capital Charge	(4) Fixed O&M	(5) Fuel Costs	(6) Emission Costs	(7) Other VOM Costs	(8) Market Purchases Costs	(9) Less: Market Sales Revenue	(10) Taxes	(11)=(1)thru(8)-(9)+(10) GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	13,974	181,960	494	15,192	34,252	76,707	12,112	259,049
2024	38,764	0	37,615	16,905	171,979	474	15,916	38,357	45,955	11,299	285,354
2025	39,081	0	35,747	16,564	117,868	325	12,086	73,095	20,973	10,679	284,473
2026	39,553	7,469	44,788	25,451	86,530	247	10,709	82,001	13,228	6,884	290,404
2027	39,856	25,820	67,742	30,210	70,987	183	7,204	76,165	9,231	-2,741	306,195
2028	39,988	87,901	149,971	45,464	31,411	40	3,163	111,143	15,131	-79,140	374,809
2029	40,015	120,441	182,870	51,651	59,161	11	2,812	64,809	34,108	-57,620	430,042
2030	40,042	123,864	170,950	52,432	82,023	82	4,282	46,355	48,497	-29,669	441,864
2031	40,070	127,622	161,979	57,534	68,511	40	3,550	57,999	43,611	-34,845	438,849
2032	40,099	131,227	154,035	58,985	69,455	49	3,441	55,456	44,939	-25,948	441,859
2033	40,128	131,227	143,385	59,693	61,274	11	2,864	67,495	39,624	-28,085	438,369
2034	40,158	131,227	134,000	60,519	73,152	59	3,673	60,180	46,618	-30,309	426,041
2035	40,188	135,124	130,446	62,110	76,288	49	3,822	56,553	49,762	-34,675	420,141
2036	40,219	135,124	120,846	63,003	73,650	49	3,544	57,824	49,442	-29,951	414,864
2037	40,250	143,360	123,341	65,361	76,139	42	3,716	55,507	53,450	-13,098	441,168
Cumulative Present Worth 2023-2037	380,430	698,340	996,152	390,739	897,286	1,719	70,982	598,684	369,714	(175,557)	3,489,061

**Kentucky POWER COMPANY**  
**2022 INTEGRATED RESOURCE PLAN**  
 No Wind Portfolio Under NCR Scenario

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Increment) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Increment) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	Tons
2023	73	934	2	9	0	0	0	0	0	0	0	6,171	0	0	6,171	5,643	1	5,642	529	1,016	1,014	2	9.1	5,561,729
2024	78	934	(3)	5	0	0	0	0	0	0	0	6,043	0	0	6,043	6,118	1	6,117	(74)	1,017	1,019	-2	8.7	5,266,459
2025	78	934	0	5	0	0	0	0	0	0	0	4,368	0	0	4,368	6,060	1	6,058	(1,690)	1,018	1,002	15	10.6	3,607,786
2026	78	934	0	5	6	6	0	0	0	44	44	3,416	0	200	3,616	5,948	45	5,903	(2,288)	1,068	1,054	14	10.4	2,739,741
2027	0	934	0	5	5	11	0	0	0	86	130	2,841	0	700	3,541	5,918	76	5,842	(2,300)	1,080	1,050	30	12.1	2,063,800
2028	407	285	0	5	4	15	0	0	0	224	354	1,151	0	1,606	2,757	5,911	104	5,807	(3,050)	1,126	1,044	82	17.5	843,911
2029	0	285	0	5	3	18	50	50	0	67	421	2,348	40	2,100	4,488	5,920	127	5,793	(1,305)	1,057	1,040	16	10.6	1,396,091
2030	0	285	0	5	3	21	0	50	0	11	432	3,148	41	2,200	5,389	5,898	147	5,752	(362)	1,071	1,037	33	12.4	1,862,004
2031	0	285	0	5	4	25	0	50	0	-8	423	2,576	41	2,300	4,917	5,880	164	5,716	(799)	1,066	1,035	31	12.2	1,526,991
2032	0	285	0	5	4	29	0	50	0	-6	417	2,574	41	2,410	5,025	5,882	188	5,694	(669)	1,064	1,030	34	12.5	1,525,878
2033	0	285	0	5	4	33	0	50	0	-10	407	2,123	41	2,400	4,564	5,844	207	5,637	(1,074)	1,057	1,031	26	11.7	1,262,246
2034	0	285	0	5	3	36	0	50	0	-10	397	2,443	41	2,400	4,885	5,829	222	5,607	(723)	1,050	1,026	25	11.5	1,457,820
2035	0	285	0	5	2	38	0	50	0	14	411	2,549	41	2,500	5,090	5,814	235	5,579	(489)	1,067	1,025	42	13.4	1,510,276
2036	0	285	0	5	2	40	0	50	0	0	411	2,494	41	2,510	5,045	5,817	245	5,572	(528)	1,069	1,021	48	14.1	1,479,539
2037	0	285	0	5	1	41	0	50	0	25	436	2,521	40	2,700	5,261	5,782	250	5,532	(271)	1,091	1,022	70	16.4	1,498,936

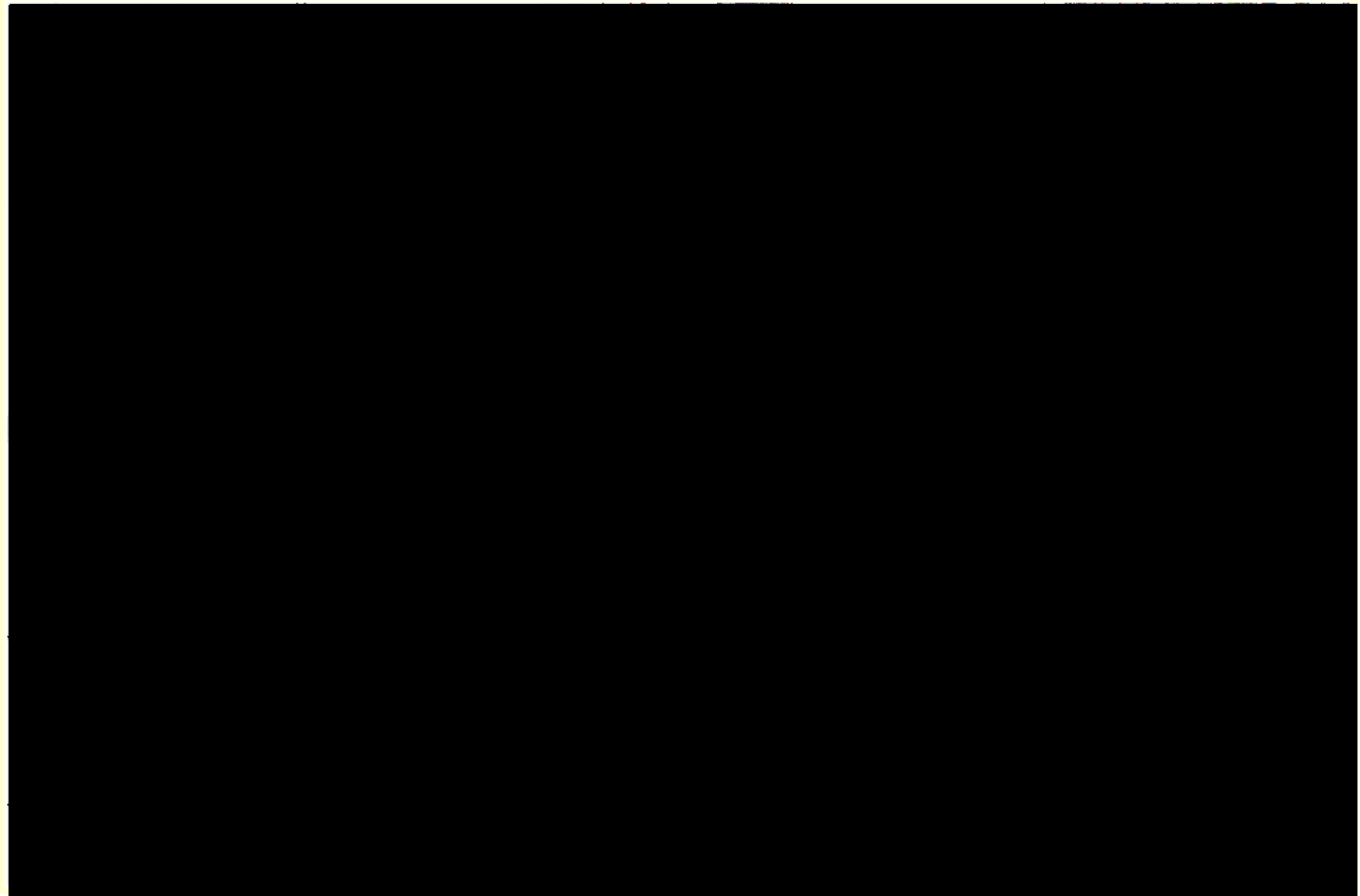
**KENTUCKY POWER COMPANY**  
**2023 INTEGRATED RESOURCE PLAN**  
**Preferred Plan Under NCR Scenario**

Utility Costs (Nominal\$000)											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)=(1)thru(8)-(9)+(10)
	Existing Depreciation	New Depreciation	Capital Charge	Fixed O&M	Fuel Costs	Emission Costs	Other VOM Costs	Market Purchases Costs	Less: Market Sales Revenue	Taxes	GRAND TOTAL, Net Utility Costs
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
2023	38,400	0	39,371	17,559	181,960	494	15,192	33,926	77,475	12,112	261,540
2024	38,764	0	37,615	22,756	171,979	474	15,916	37,342	47,303	11,299	288,841
2025	39,081	0	35,747	24,449	117,868	325	12,086	71,165	22,323	10,679	289,077
2026	39,553	8,416	46,138	35,043	86,530	247	10,709	77,333	15,497	3,491	291,963
2027	39,856	44,227	93,824	45,934	70,987	183	7,204	55,042	15,233	-19,496	322,527
2028	40,133	95,807	158,269	57,720	31,411	40	3,163	82,277	18,873	-51,188	398,758
2029	40,160	122,683	187,624	63,164	93,339	12	4,045	13,970	60,856	-45,052	419,087
2030	40,187	130,585	183,412	66,826	116,647	83	5,575	7,235	95,956	-56,738	397,856
2031	40,215	138,933	180,583	66,556	102,990	41	4,927	8,645	88,687	-68,061	386,143
2032	40,244	138,933	166,901	67,405	103,960	49	4,695	9,286	91,337	-71,696	368,440
2033	40,273	138,933	156,179	68,225	96,083	12	4,091	16,081	79,815	-72,994	367,069
2034	40,303	138,933	146,047	69,164	107,485	60	4,997	14,707	91,982	-75,180	354,534
2035	40,333	143,772	141,774	71,162	111,887	49	5,110	11,731	96,273	-75,579	353,968
2036	40,364	143,772	131,717	72,171	110,761	49	4,784	10,093	97,283	-67,882	348,547
2037	40,395	143,772	121,855	73,115	115,188	43	5,068	8,710	99,883	-28,118	380,146
Cumulative Present Worth 2023-2037	381,214	750,264	1,072,782	479,824	1,063,009	1,722	77,034	335,961	583,850	(310,287)	3,267,675

Kentucky POWER COMPANY  
 2022 INTEGRATED RESOURCE PLAN  
 Preferred Plan Under NCR Scenario

Resource (Capacity) Additions												Energy & Capacity Positions										Carbon Output		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27) = (24)+(25)+(26)	(28)	(29)	(30) = (29)-(28)	(31) = (30)-(27)	(32)	(33)	(34)=(33)-(32)	(35)	(36)
(Current and Planned) Supply-Side + Purchased Unforced Capacity (UCAP)		(Current and Planned) Interruptible Load and Demand Response		(Incrém) Energy Efficiency		Utility Storage		Generic Wind		Utility Solar		Thermal Generation	(New) Battery Energy	(New) Generic Wind + Utility Solar	= Market Sales	Load (Net of Embedded EE + Battery Load)	Less: (Incrém) Energy Efficiency	= Net Load Requirements	Energy Surplus	Capacity	Peak + Reserves	Capacity Surplus	Reserve Margin	Existing Units CO2 Emissions
Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	Ann MW	Cum MW	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	MW	MW	MW	%	Tons
2023	73	934	2	9	3	3	0	0	0	0	0	6,171	0	0	6,171	5,643	19	5,624	547	1,019	1,014	5	9.5	5,561,729
2024	81	934	(3)	5	5	8	0	0	0	0	0	6,043	0	0	6,043	6,118	46	6,072	(29)	1,029	1,019	9	9.9	5,266,459
2025	78	934	0	5	6	14	0	0	0	0	0	4,368	0	0	4,368	6,060	79	5,980	(1,612)	1,032	1,002	29	12.1	3,607,786
2026	76	934	0	5	10	24	0	0	14	14	0	3,416	0	307	3,722	5,948	131	5,817	(2,095)	1,053	1,054	-1	8.8	2,739,741
2027	0	934	0	5	8	32	0	0	27	41	96	2,841	0	1,418	4,259	5,918	167	5,750	(1,492)	1,107	1,050	58	14.9	2,063,800
2028	448	285	0	5	6	38	0	0	23	64	148	1,151	0	2,930	4,081	5,911	198	5,713	(1,631)	1,084	1,044	40	13.1	843,911
2029	0	285	0	5	5	43	0	0	(5)	59	22	3,802	0	3,119	6,921	5,872	222	5,650	1,271	1,114	1,040	74	16.6	2,282,491
2030	0	285	0	5	4	47	0	0	12	71	-5	4,569	0	3,436	8,004	5,850	241	5,608	2,396	1,125	1,037	87	18.1	2,727,966
2031	0	285	0	5	0	47	0	0	10	81	-16	3,960	0	3,746	7,706	5,832	244	5,588	2,119	1,119	1,035	84	17.8	2,371,115
2032	0	285	0	5	1	48	0	0	(5)	76	-14	3,937	0	3,759	7,696	5,832	254	5,579	2,117	1,101	1,030	71	16.4	2,357,608
2033	0	285	0	5	0	48	0	0	0	76	-5	3,999	0	3,727	7,126	5,795	259	5,536	1,590	1,096	1,031	65	15.8	2,041,863
2034	0	285	0	5	(0)	48	0	0	0	76	-5	3,662	0	3,722	7,384	5,780	263	5,517	1,867	1,091	1,026	65	15.8	2,202,487
2035	0	285	0	5	(0)	48	50	50	0	76	0	3,814	41	3,727	7,582	5,814	266	5,548	2,034	1,130	1,025	105	20.1	2,282,504
2036	0	285	0	5	(1)	47	0	50	0	76	0	3,818	41	3,759	7,618	5,817	267	5,550	2,068	1,130	1,021	109	20.6	2,288,623
2037	0	285	0	5	(1)	46	0	50	0	76	-2	3,892	40	3,746	7,678	5,782	265	5,517	2,161	1,126	1,022	104	20.0	2,336,246

**Exhibit F** – Transmission Maps



- Legend**
- Station
  - Service Territory
- AEP Transmission Lines**
- 69 kV
  - 88 kV
  - 115 kV
  - 138 kV
  - 161 kV
  - 230 kV
  - 345 kV
  - 500 kV
  - 765 kV



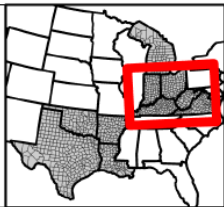
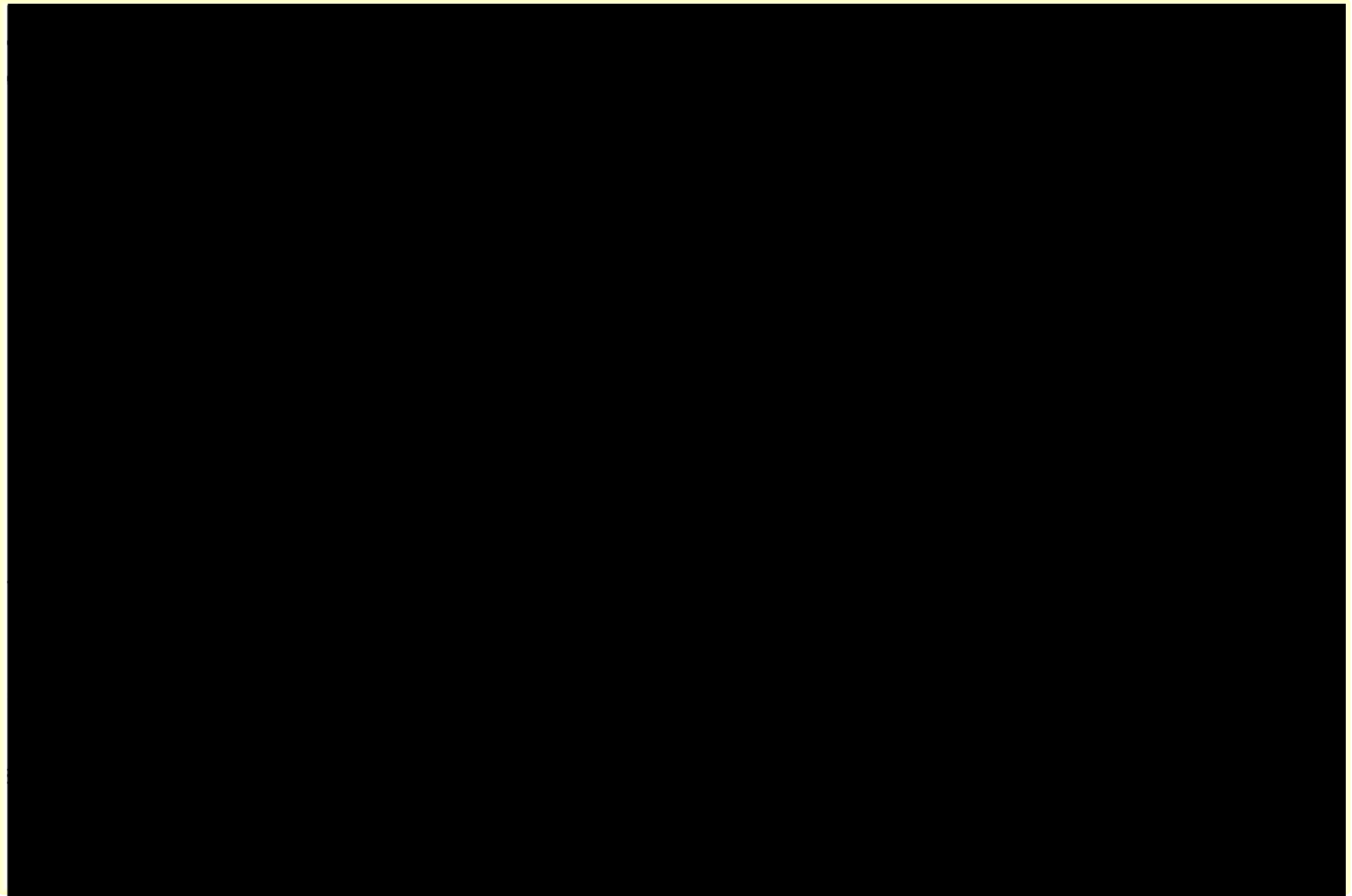
**Kentucky AEP Transmission Lines**

Transmission Line Engineering Group

Source: American Electric Power, ESRI  
 Projection: VA state plane South NAD83 Feet  
 Comments:

Drawn By: Matthew Lowe  
 Date: 11/01/2022  
 Approved By:

This drawing from the Transmission Line Projects Engineering Group of American Electric Power is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure, or distribution is prohibited. If you are not the intended recipient, please contact the sender and destroy all copies of the original document.



- Legend**
- Station
  - Service Territory
- AEP Transmission Lines**
- 69 kV
  - 88 kV
  - 115 kV
  - 138 kV
  - 161 kV
  - 230 kV
  - 345 kV
  - 500 kV
  - 765 kV



### AEP East Transmission System

Transmission Line Engineering Group

Source: American Electric Power, ESRI  
Projection: VA state plane South NAD83 Feet  
Comments:

Drawn By: Matthew Lowe  
Date: 11/01/2022  
Approved By:

This drawing from the Transmission Line Projects Engineering Group of American Electric Power is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure, or distribution is prohibited. If you are not the intended recipient, please contact the sender and destroy all copies of the original document.

**Exhibit G** – Supplemental Data and Details



**EXHIBIT G-1**

<b>KENTUCKY POWER COMPANY                  DETAILS OF EXISTING AND PLANNED FACILITIES                  (2023-2037)</b>										
Plant Name / Unit Number	Location	Status	COD <sup>(A)</sup>	Type	ICAP <sup>(C)</sup>	Entitlement	Fuel Storage Capacity <sup>(D)</sup>	Upgrades	Deratings	Retirement
Mitchell 1	Moundsville, WV	Existing	1971	Coal	385	50%	500,000 tons	--	--	--
Mitchell 2	Moundsville, WV	Existing	1971	Coal	395	50%	500,000 tons	--	--	--
Big Sandy 1 - Gas	Louisa, KY	Existing	1963 <sup>(B)</sup>	Natural Gas	295	100%	N/A	--	--	--

<sup>(A)</sup> COD = Commercial Operation Date

<sup>(B)</sup> Big Sandy Unit 1 entered commercial operation in 1963 as coal-fired steam unit. This unit was converted to fire on natural gas in 2016

<sup>(C)</sup> ICAP = PJM Installed Capacity. These values represent the Company's share of each units total ICAP

<sup>(D)</sup> Fuel storage capacities listed here represent each unit's share of the total capacity of the site, and not just the Company's share

**EXHIBIT G-2**

KENTUCKY POWER COMPANY Projected Capacity Factors (%) (2023-2037)															
Plant Name / Unit Number	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Mitchell 1	[REDACTED]														
Mitchell 2	[REDACTED]														
Big Sandy 1 - Gas	[REDACTED]														



**EXHIBIT G-4**

KENTUCKY POWER COMPANY															
Projected Average Heat Rate (Btu/kWh)															
(2023-2037)															
Plant Name / Unit Number	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Mitchell 1	[REDACTED]														
Mitchell 2	[REDACTED]														
Big Sandy 1 - Gas	[REDACTED]														

**EXHIBIT G-5**

KENTUCKY POWER COMPANY STEAM GENERATING CAPACITY															
<u>Projected Average Fuel Costs (c/MMBtu) - Nominal Dollars</u>															
(2023-2037)															
Plant Name / Unit Number	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Mitchell 1															
Mitchell 2															
Big Sandy 1 - Gas															

KENTUCKY POWER COMPANY STEAM GENERATING CAPACITY															
<u>Projected Average Fuel Costs (c/MMBtu) - 2023 Real Dollars</u>															
(2023-2037)															
Plant Name / Unit Number	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Mitchell 1															
Mitchell 2															
Big Sandy 1 - Gas															

EXHIBIT G-6

KENTUCKY POWER COMPANY															
Projected Capital Costs per kW of Rated Capacity (\$/kW) - Nominal Dollars															
(2023-2037)															
Unit	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Gas CT 240 MW							1,208								
Wind Tier 1				2,047	2,023	1,987		1,922	1,972						
Wind Tier 2					2,225	2,186									
Solar Tier 1					1,786	1,745	1,708								
Solar Tier 2						1,919									
Lithium Ion													1,884		

KENTUCKY POWER COMPANY															
Projected Capital Costs per kW of Rated Capacity (\$/kW) - 2023 Real Dollars															
(2023-2037)															
Unit	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Gas CT 240 MW							1,071								
Wind Tier 1				1,921	1,862	1,795		1,676	1,689						
Wind Tier 2					2,048	1,975									
Solar Tier 1					1,644	1,576	1,516								
Solar Tier 2						1,734									
Lithium Ion													1,499		

KENTUCKY POWER COMPANY															
Projected Capital Costs (\$000) - Nominal Dollars															
(2023-2037)															
Unit	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Gas CT 240 MW							579,615								
Wind Tier 1				204,739	202,266	198,736		192,222	197,202						
Wind Tier 2					222,493	218,610									
Solar Tier 1					446,473	261,731	170,839								
Solar Tier 2						575,808									
Lithium Ion													94,180		

KENTUCKY POWER COMPANY															
Projected Capital Costs (\$000) - 2023 Real Dollars															
(2023-2037)															
Unit	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Gas CT 240 MW							514,277								
Wind Tier 1				192,119	186,155	179,517		167,558	168,915						
Wind Tier 2					204,771	197,469									
Solar Tier 1					410,911	236,420	151,581								
Solar Tier 2						520,124									
Lithium Ion													74,926		

**EXHIBIT G-7**

KENTUCKY POWER COMPANY STEAM GENERATING CAPACITY															
Projected Non-Fuel Variable O&M (\$000) - Nominal Dollars															
(2023-2037)															
Plant Name / Unit Number	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Mitchell 1	[REDACTED]														
Mitchell 2	[REDACTED]														
Big Sandy 1 - Gas	[REDACTED]														

KENTUCKY POWER COMPANY STEAM GENERATING CAPACITY															
Projected Non-Fuel Variable O&M (\$000) - 2023 Real Dollars															
(2023-2037)															
Plant Name / Unit Number	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Mitchell 1	[REDACTED]														
Mitchell 2	[REDACTED]														
Big Sandy 1 - Gas	[REDACTED]														

**EXHIBIT G-8**

KENTUCKY POWER COMPANY STEAM GENERATING CAPACITY															
<u>Projected Average Variable Production Costs (¢/kWh) - Nominal Dollars</u>															
(2023-2037)															
Plant Name / Unit Number	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Mitchell 1															
Mitchell 2															
Big Sandy 1 - Gas															

KENTUCKY POWER COMPANY STEAM GENERATING CAPACITY															
<u>Projected Average Variable Production Costs (¢/kWh) - 2023 Real Dollars</u>															
(2023-2037)															
Plant Name / Unit Number	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Mitchell 1															
Mitchell 2															
Big Sandy 1 - Gas															



EXHIBIT G-9

KENTUCKY POWER COMPANY															
Annual Internal Energy Requirements, Energy Resources and Energy Inputs (2023-2037)															
Load and Energy Efficiency (GWh)				Energy Resources (GWh)						Net Energy Surplus (GWh)		Energy Inputs(By Primary Fuel Type)			
Energy Requirements (GWh)				Generation (By Primary Fuel Type)			Renewables/Purchases			Sales/(Purchases)		Coal-fired Generation		Gas-fired Generation	
Year	Base Forecast Internal Energy Requirements	Energy Efficiency <sup>(A)</sup>	Adjusted Energy	Coal	Gas	Total	Utility Solar	Distributed Solar	Wind	Total <sup>(B)</sup>	GWh	Tons (000) <sup>(C)</sup>	MMBtu (000)	MCF (000)	MMBtu (000)
2023	5,643	19	5,624	4,322	1,858	6,180	0	0	0	0	556	1,765	43,879	17,370	18,013
2024	6,118	46	6,072	4,022	2,048	6,070	0	0	0	0	(1)	1,643	40,848	19,152	19,861
2025	6,060	79	5,980	2,758	1,820	4,578	0	0	0	0	(1,402)	1,128	28,046	17,042	17,672
2026	5,948	131	5,817	2,385	1,623	4,007	0	0	0	0	(1,503)	978	24,302	15,206	15,768
2027	5,918	167	5,750	1,526	1,590	3,116	500	0	917	1,418	(1,217)	626	15,556	15,011	15,566
2028	5,911	198	5,713	796	799	1,596	1,406	0	1,525	2,930	(1,186)	328	8,155	7,484	7,761
2029	5,872	222	5,650	0	3,603	3,603	1,600	0	1,519	3,119	1,072	0	0	34,721	36,005
2030	5,850	241	5,608	0	2,456	2,456	1,600	0	1,835	3,436	283	0	0	23,681	24,557
2031	5,832	244	5,588	0	2,456	2,456	1,600	0	2,146	3,746	102	0	0	18,712	19,404
2032	5,832	254	5,579	0	2,164	2,164	1,606	0	2,153	3,759	(124)	0	0	16,316	16,920
2033	5,795	259	5,536	0	2,336	2,336	1,600	0	2,127	3,727	(75)	0	0	16,716	17,334
2034	5,780	263	5,517	0	2,026	2,026	1,600	0	2,122	3,722	(277)	0	0	14,624	15,165
2035	5,814	266	5,499	0	1,948	1,948	1,600	0	2,127	3,727	(281)	0	0	14,412	14,945
2036	5,817	267	5,501	0	2,310	2,310	1,606	0	2,153	3,759	(20)	0	0	16,653	17,269
2037	5,781	265	5,469	0	1,558	1,558	1,600	0	2,146	3,746	(172)	0	0	14,996	15,551

<sup>(A)</sup> Represents incremental EE from DSM programs  
<sup>(B)</sup> Total of generic solar additions and wind purchases  
<sup>(C)</sup> Baseline from 2021 average delivered coal mmbtu/ton

EXHIBIT G-10

KENTUCKY POWER COMPANY DEMAND SIDE PROGRAM DETAILS (2023-2037)															
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Residential Energy Efficiency Programs <sup>(A)(B)(C)</sup>															
Annual Energy Savings (GWh)	6.2	13.5	21.8	44.0	54.9	63.6	70.5	76.0	67.7	68.7	69.8	71.2	72.7	74.1	74.9
Peak Demand Savings (MW)	2	4	6	11	15	18	21	23	21	21	20	20	19	19	18
Cost (\$000)	1,581	2,137	2,757	8,444	8,315	8,185	8,111	8,038	3,431	3,456	3,483	3,554	3,601	3,640	3,694
Project Cost of Generation Savings (\$000)															
Commercial Energy Efficiency Programs <sup>(A)(E)(F)</sup>															
Annual Energy Savings (GWh)	12.0	31.9	57.1	86.6	112.1	133.8	151.4	165.0	175.8	183.6	188.6	191.3	192.7	191.7	189.5
Peak Demand Savings (MW)	2	5	8	13	16	20	22	24	26	27	28	28	28	28	28
Cost (\$000) <sup>(D)</sup>	2,090	3,685	4,954	6,214	5,948	5,890	5,695	5,613	5,469	5,331	5,156	5,021	4,906	4,814	4,649
Project Cost of Generation Savings (\$000)															

<sup>(A)</sup> Includes only Incremental EE programs

<sup>(B)</sup> Includes the following bundles: Residential Low/Medium 23-25, IQW 23-25, Residential Low/Medium 26-30, Residential High 26-30, Residential Behavior 26-30, IQW 26-30, Residential Low/Medium 31-42, IQW 31-42

<sup>(C)</sup> Program life ranges from 12-26 years. See Section 4.2 for details

<sup>(D)</sup> Aggregated annual cost of programs

<sup>(E)</sup> Includes the following bundles: C&I Low 23-25, C&I Low 26-30, C&I Low 31-42

<sup>(F)</sup> Program life ranges from 15-23 years. See Section 4.2 for details.

EXHIBIT G-11

KENTUCKY POWER COMPANY RESOURCE CAPACITY PJM MW RATINGS <sup>(A)</sup> (2023-2037)															
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
ICAP <sup>(B)</sup>															
Coal	780	780	780	780	780	780	0	0	0	0	0	0	0	0	0
Gas-Steam <sup>(C)</sup>	295	295	295	295	295	295	295	295	295	295	295	295	295	295	295
STMP	70	78	78												
Total ICAP	1,148	1,153	1,153	1,075	1,075	1,075	295	295	295	295	295	295	295	295	295
EFORd	9.96%	11.29%	10.79%	11.66%	11.42%	11.86%	2.67%	2.84%	2.67%	2.84%	2.61%	2.45%	2.84%	2.61%	2.67%
UCAP															
Coal	649	649	649	649	649	649	0	0	0	0	0	0	0	0	0
Gas-Steam	285	285	285	285	285	285	285	285	285	285	285	285	285	285	285
Existing EE	8.5	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
Total UCAP Resources															
Coincident Peak Load	930	936	920	968	964	958	955	952	950	946	946	942	941	937	938
FPR	1.089	1.089	1.089	1.089	1.089	1.089	1.089	1.089	1.089	1.089	1.089	1.089	1.089	1.089	1.089
Total Obligation	1,014	1,019	1,002	1,054	1,050	1,044	1,040	1,037	1,035	1,030	1,031	1,026	1,025	1,021	1,022
<b>Net Capacity Position before Additions</b> <sup>(F)</sup>	-1	-2	15	-115	-110	-104	-750	-747	-745	-740	-741	-735	-734	-730	-731
<b>Reserve Margin before Additions</b> <sup>(F)</sup>	9%	9%	11%	-3%	-3%	-2%	-70%	-70%	-69%	-69%	-69%	-69%	-69%	-69%	-69%
Incremental Resources															
Wind Tier 1	0	0	0	100	200	300	300	400	500	500	500	500	500	500	500
Wind Tier 2	0	0	0	0	100	200	200	200	200	200	200	200	200	200	200
Solar Tier 1	0	0	0	0	250	400	500	500	500	500	500	500	500	500	500
Solar Tier 2	0	0	0	0	0	300	300	300	300	300	300	300	300	300	300
New EE	12	14	20	30	37	43	49	53	53	53	53	53	53	53	52
New STMP	3	0	0	78	0	407									
Total Incremental Resources	15	14	20	208	587	1,650	1,349	1,453	1,553	1,553	1,553	1,553	1,553	1,553	1,552
<b>Net Capacity Position with Additions</b> <sup>(F)</sup>	5	6	29	1	61	1	64	70	74	70	64	63	94	91	83
<b>Reserve Margin with Additions</b> <sup>(F)</sup>	10%	10%	12%	9%	15%	9%	16%	16%	17%	16%	16%	16%	19%	19%	18%

<sup>(A)</sup> Net Capacity Positions are shown in terms of PJM capacities or UCAP values, where UCAP = Unforced Capacity

<sup>(B)</sup> ICAP = Installed Capacity

<sup>(C)</sup> Big Sandy is extended to operated until 2041

<sup>(D)</sup> EFORd = Equivalent Demand Forced Outage Rate

<sup>(E)</sup> FPR = Forecast Pool Requirement

<sup>(F)</sup> Net Capacity Positions and Reserve Margin shown represent the Company's position and margin above the obligation which accounts for PJM's FPR. PJM's FPR accounts for PJM's Installed Reserve Margin (IRM). See Section 3.2 of the Report for more details

EXHIBIT G-12

KENTUCKY POWER COMPANY															
ANNUAL REVENUE REQUIREMENTS OF PREFERRED PLAN (\$000s)															
(2023-2037)															
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Revenue Requirement (Nominal \$)	\$260,595	\$291,549	\$296,660	\$301,216	\$335,398	\$391,597	\$440,655	\$449,331	\$434,080	\$420,721	\$411,362	\$402,476	\$406,995	\$402,796	\$435,288
Revenue Requirement (\$2023)	\$260,595	\$284,995	\$284,175	\$282,648	\$308,683	\$353,727	\$390,981	\$391,678	\$371,814	\$353,861	\$339,645	\$326,203	\$323,789	\$314,464	\$333,440
Present Value of Revenue Requirements (\$000s)	\$3,506,215														
Discount Rate	6.19%														

**Exhibit H** – Load Forecast Model Details and Input Data

## LONG-TERM CUSTOMERS

The MEANS Procedure

Variable	Label	Mean
YEAR	YEAR	2029.00
MONTH	MONTH	6.500000
cr_kpc	Residential Customers	140527.00

Obs	YEAR	MONTH	cr_kpc
1	2001	1	144223
2	2001	2	144273
3	2001	3	144119
4	2001	4	143978
5	2001	5	143932
6	2001	6	143849
7	2001	7	143853
8	2001	8	143911
9	2001	9	144012
10	2001	10	144138
11	2001	11	144214
12	2001	12	144447
13	2002	1	144776
14	2002	2	144635
15	2002	3	144570
16	2002	4	144471
17	2002	5	144097
18	2002	6	144170
19	2002	7	144163
20	2002	8	144235
21	2002	9	144234
22	2002	10	144277
23	2002	11	144470
24	2002	12	144696
25	2003	1	144903
26	2003	2	144848
27	2003	3	144700
28	2003	4	144415
29	2003	5	144250
30	2003	6	144177
31	2003	7	144130
32	2003	8	144290
33	2003	9	144411
34	2003	10	144406
35	2003	11	144466
36	2003	12	144850
37	2004	1	145096
38	2004	2	144846
39	2004	3	144789
40	2004	4	144670
41	2004	5	144359
42	2004	6	144117
43	2004	7	144037
44	2004	8	144066
45	2004	9	144081
46	2004	10	144159
47	2004	11	144360
48	2004	12	144623
49	2005	1	144900
50	2005	2	144415



Obs	YEAR	MONTH	cr_kpc
51	2005	3	145259
52	2005	4	144955
53	2005	5	144302
54	2005	6	144342
55	2005	7	144274
56	2005	8	144231
57	2005	9	144191
58	2005	10	144223
59	2005	11	144419
60	2005	12	144641
61	2006	1	144830
62	2006	2	144530
63	2006	3	145013
64	2006	4	144560
65	2006	5	144258
66	2006	6	144120
67	2006	7	144118
68	2006	8	144248
69	2006	9	144269
70	2006	10	144313
71	2006	11	144545
72	2006	12	144554
73	2007	1	144815
74	2007	2	144843
75	2007	3	144494
76	2007	4	144179
77	2007	5	143841
78	2007	6	143743
79	2007	7	143666
80	2007	8	143970
81	2007	9	144118
82	2007	10	144087
83	2007	11	144181
84	2007	12	144542
85	2008	1	144825
86	2008	2	144690
87	2008	3	144365
88	2008	4	143988
89	2008	5	143799
90	2008	6	143710
91	2008	7	143789
92	2008	8	143832
93	2008	9	143855
94	2008	10	143884
95	2008	11	144121
96	2008	12	144407
97	2009	1	144472
98	2009	2	144302
99	2009	3	144126
100	2009	4	143754

Obs	YEAR	MONTH	cr_kpc
101	2009	5	143405
102	2009	6	143404
103	2009	7	143215
104	2009	8	143272
105	2009	9	143258
106	2009	10	143276
107	2009	11	143420
108	2009	12	143633
109	2010	1	143805
110	2010	2	143788
111	2010	3	143618
112	2010	4	143153
113	2010	5	142803
114	2010	6	142743
115	2010	7	142667
116	2010	8	142742
117	2010	9	142470
118	2010	10	142457
119	2010	11	142699
120	2010	12	142708
121	2011	1	143185
122	2011	2	142735
123	2011	3	142867
124	2011	4	142173
125	2011	5	141679
126	2011	6	141463
127	2011	7	141398
128	2011	8	141531
129	2011	9	141286
130	2011	10	141180
131	2011	11	141320
132	2011	12	141500
133	2012	1	141565
134	2012	2	141707
135	2012	3	141335
136	2012	4	140895
137	2012	5	140790
138	2012	6	140611
139	2012	7	140697
140	2012	8	140645
141	2012	9	140641
142	2012	10	140571
143	2012	11	140781
144	2012	12	140909
145	2013	1	141093
146	2013	2	140913
147	2013	3	140755
148	2013	4	140501
149	2013	5	140166
150	2013	6	139896

Obs	YEAR	MONTH	cr_kpc
151	2013	7	139651
152	2013	8	139694
153	2013	9	139623
154	2013	10	139665
155	2013	11	139889
156	2013	12	140119
157	2014	1	140271
158	2014	2	140091
159	2014	3	139931
160	2014	4	139255
161	2014	5	138875
162	2014	6	138595
163	2014	7	138447
164	2014	8	138262
165	2014	9	138304
166	2014	10	138245
167	2014	11	138492
168	2014	12	138726
169	2015	1	138726
170	2015	2	138781
171	2015	3	138747
172	2015	4	138064
173	2015	5	137608
174	2015	6	137535
175	2015	7	137529
176	2015	8	137572
177	2015	9	137565
178	2015	10	137600
179	2015	11	137679
180	2015	12	137921
181	2016	1	138019
182	2016	2	137998
183	2016	3	137583
184	2016	4	137293
185	2016	5	136978
186	2016	6	136721
187	2016	7	136599
188	2016	8	136648
189	2016	9	136648
190	2016	10	136374
191	2016	11	136515
192	2016	12	136781
193	2017	1	136772
194	2017	2	136525
195	2017	3	136455
196	2017	4	135945
197	2017	5	135797
198	2017	6	135604
199	2017	7	135510
200	2017	8	135496

Obs	YEAR	MONTH	cr_kpc
201	2017	9	135661
202	2017	10	135483
203	2017	11	135713
204	2017	12	135794
205	2018	1	135945
206	2018	2	135758
207	2018	3	135432
208	2018	4	135133
209	2018	5	134816
210	2018	6	134581
211	2018	7	134743
212	2018	8	134620
213	2018	9	134705
214	2018	10	134459
215	2018	11	134652
216	2018	12	134757
217	2019	1	134730
218	2019	2	134491
219	2019	3	134340
220	2019	4	134212
221	2019	5	133947
222	2019	6	133735
223	2019	7	133751
224	2019	8	133708
225	2019	9	133732
226	2019	10	133623
227	2019	11	133614
228	2019	12	133854
229	2020	1	133843
230	2020	2	133675
231	2020	3	133756
232	2020	4	133894
233	2020	5	134115
234	2020	6	134289
235	2020	7	134395
236	2020	8	134531
237	2020	9	134624
238	2020	10	134679
239	2020	11	134749
240	2020	12	134862
241	2021	1	134725
242	2021	2	133661
243	2021	3	134884
244	2021	4	133988
245	2021	5	133667
246	2021	6	133515
247	2021	7	133417
248	2021	8	133535
249	2021	9	133555
250	2021	10	133469

Obs	YEAR	MONTH	cr_kpc
251	2021	11	133616
252	2021	12	133624
253	2022	1	.
254	2022	2	.
255	2022	3	.
256	2022	4	.
257	2022	5	.
258	2022	6	.
259	2022	7	.
260	2022	8	.
261	2022	9	.
262	2022	10	.
263	2022	11	.
264	2022	12	.
265	2023	1	.
266	2023	2	.
267	2023	3	.
268	2023	4	.
269	2023	5	.
270	2023	6	.
271	2023	7	.
272	2023	8	.
273	2023	9	.
274	2023	10	.
275	2023	11	.
276	2023	12	.
277	2024	1	.
278	2024	2	.
279	2024	3	.
280	2024	4	.
281	2024	5	.
282	2024	6	.
283	2024	7	.
284	2024	8	.
285	2024	9	.
286	2024	10	.
287	2024	11	.
288	2024	12	.
289	2025	1	.
290	2025	2	.
291	2025	3	.
292	2025	4	.
293	2025	5	.
294	2025	6	.
295	2025	7	.
296	2025	8	.
297	2025	9	.
298	2025	10	.
299	2025	11	.
300	2025	12	.

Obs	YEAR	MONTH	cr_kpc
301	2026	1	.
302	2026	2	.
303	2026	3	.
304	2026	4	.
305	2026	5	.
306	2026	6	.
307	2026	7	.
308	2026	8	.
309	2026	9	.
310	2026	10	.
311	2026	11	.
312	2026	12	.
313	2027	1	.
314	2027	2	.
315	2027	3	.
316	2027	4	.
317	2027	5	.
318	2027	6	.
319	2027	7	.
320	2027	8	.
321	2027	9	.
322	2027	10	.
323	2027	11	.
324	2027	12	.
325	2028	1	.
326	2028	2	.
327	2028	3	.
328	2028	4	.
329	2028	5	.
330	2028	6	.
331	2028	7	.
332	2028	8	.
333	2028	9	.
334	2028	10	.
335	2028	11	.
336	2028	12	.
337	2029	1	.
338	2029	2	.
339	2029	3	.
340	2029	4	.
341	2029	5	.
342	2029	6	.
343	2029	7	.
344	2029	8	.
345	2029	9	.
346	2029	10	.
347	2029	11	.
348	2029	12	.
349	2030	1	.
350	2030	2	.

Obs	YEAR	MONTH	cr_kpc
351	2030	3	.
352	2030	4	.
353	2030	5	.
354	2030	6	.
355	2030	7	.
356	2030	8	.
357	2030	9	.
358	2030	10	.
359	2030	11	.
360	2030	12	.
361	2031	1	.
362	2031	2	.
363	2031	3	.
364	2031	4	.
365	2031	5	.
366	2031	6	.
367	2031	7	.
368	2031	8	.
369	2031	9	.
370	2031	10	.
371	2031	11	.
372	2031	12	.
373	2032	1	.
374	2032	2	.
375	2032	3	.
376	2032	4	.
377	2032	5	.
378	2032	6	.
379	2032	7	.
380	2032	8	.
381	2032	9	.
382	2032	10	.
383	2032	11	.
384	2032	12	.
385	2033	1	.
386	2033	2	.
387	2033	3	.
388	2033	4	.
389	2033	5	.
390	2033	6	.
391	2033	7	.
392	2033	8	.
393	2033	9	.
394	2033	10	.
395	2033	11	.
396	2033	12	.
397	2034	1	.
398	2034	2	.
399	2034	3	.
400	2034	4	.

Obs	YEAR	MONTH	cr_kpc
401	2034	5	.
402	2034	6	.
403	2034	7	.
404	2034	8	.
405	2034	9	.
406	2034	10	.
407	2034	11	.
408	2034	12	.
409	2035	1	.
410	2035	2	.
411	2035	3	.
412	2035	4	.
413	2035	5	.
414	2035	6	.
415	2035	7	.
416	2035	8	.
417	2035	9	.
418	2035	10	.
419	2035	11	.
420	2035	12	.
421	2036	1	.
422	2036	2	.
423	2036	3	.
424	2036	4	.
425	2036	5	.
426	2036	6	.
427	2036	7	.
428	2036	8	.
429	2036	9	.
430	2036	10	.
431	2036	11	.
432	2036	12	.
433	2037	1	.
434	2037	2	.
435	2037	3	.
436	2037	4	.
437	2037	5	.
438	2037	6	.
439	2037	7	.
440	2037	8	.
441	2037	9	.
442	2037	10	.
443	2037	11	.
444	2037	12	.
445	2038	1	.
446	2038	2	.
447	2038	3	.
448	2038	4	.
449	2038	5	.
450	2038	6	.



Obs	YEAR	MONTH	cr_kpc
451	2038	7	.
452	2038	8	.
453	2038	9	.
454	2038	10	.
455	2038	11	.
456	2038	12	.
457	2039	1	.
458	2039	2	.
459	2039	3	.
460	2039	4	.
461	2039	5	.
462	2039	6	.
463	2039	7	.
464	2039	8	.
465	2039	9	.
466	2039	10	.
467	2039	11	.
468	2039	12	.
469	2040	1	.
470	2040	2	.
471	2040	3	.
472	2040	4	.
473	2040	5	.
474	2040	6	.
475	2040	7	.
476	2040	8	.
477	2040	9	.
478	2040	10	.
479	2040	11	.
480	2040	12	.
481	2041	1	.
482	2041	2	.
483	2041	3	.
484	2041	4	.
485	2041	5	.
486	2041	6	.
487	2041	7	.
488	2041	8	.
489	2041	9	.
490	2041	10	.
491	2041	11	.
492	2041	12	.
493	2042	1	.
494	2042	2	.
495	2042	3	.
496	2042	4	.
497	2042	5	.
498	2042	6	.
499	2042	7	.
500	2042	8	.

Obs	YEAR	MONTH	cr_kpc
501	2042	9	.
502	2042	10	.
503	2042	11	.
504	2042	12	.
505	2043	1	.
506	2043	2	.
507	2043	3	.
508	2043	4	.
509	2043	5	.
510	2043	6	.
511	2043	7	.
512	2043	8	.
513	2043	9	.
514	2043	10	.
515	2043	11	.
516	2043	12	.
517	2044	1	.
518	2044	2	.
519	2044	3	.
520	2044	4	.
521	2044	5	.
522	2044	6	.
523	2044	7	.
524	2044	8	.
525	2044	9	.
526	2044	10	.
527	2044	11	.
528	2044	12	.
529	2045	1	.
530	2045	2	.
531	2045	3	.
532	2045	4	.
533	2045	5	.
534	2045	6	.
535	2045	7	.
536	2045	8	.
537	2045	9	.
538	2045	10	.
539	2045	11	.
540	2045	12	.
541	2046	1	.
542	2046	2	.
543	2046	3	.
544	2046	4	.
545	2046	5	.
546	2046	6	.
547	2046	7	.
548	2046	8	.
549	2046	9	.
550	2046	10	.

Obs	YEAR	MONTH	cr_kpc
551	2046	11	.
552	2046	12	.
553	2047	1	.
554	2047	2	.
555	2047	3	.
556	2047	4	.
557	2047	5	.
558	2047	6	.
559	2047	7	.
560	2047	8	.
561	2047	9	.
562	2047	10	.
563	2047	11	.
564	2047	12	.
565	2048	1	.
566	2048	2	.
567	2048	3	.
568	2048	4	.
569	2048	5	.
570	2048	6	.
571	2048	7	.
572	2048	8	.
573	2048	9	.
574	2048	10	.
575	2048	11	.
576	2048	12	.
577	2049	1	.
578	2049	2	.
579	2049	3	.
580	2049	4	.
581	2049	5	.
582	2049	6	.
583	2049	7	.
584	2049	8	.
585	2049	9	.
586	2049	10	.
587	2049	11	.
588	2049	12	.
589	2050	1	.
590	2050	2	.
591	2050	3	.
592	2050	4	.
593	2050	5	.
594	2050	6	.
595	2050	7	.
596	2050	8	.
597	2050	9	.
598	2050	10	.
599	2050	11	.
600	2050	12	.

Obs	YEAR	MONTH	cr_kpc
601	2051	1	.
602	2051	2	.
603	2051	3	.
604	2051	4	.
605	2051	5	.
606	2051	6	.
607	2051	7	.
608	2051	8	.
609	2051	9	.
610	2051	10	.
611	2051	11	.
612	2051	12	.
613	2052	1	.
614	2052	2	.
615	2052	3	.
616	2052	4	.
617	2052	5	.
618	2052	6	.
619	2052	7	.
620	2052	8	.
621	2052	9	.
622	2052	10	.
623	2052	11	.
624	2052	12	.
625	2053	1	.
626	2053	2	.
627	2053	3	.
628	2053	4	.
629	2053	5	.
630	2053	6	.
631	2053	7	.
632	2053	8	.
633	2053	9	.
634	2053	10	.
635	2053	11	.
636	2053	12	.
637	2054	1	.
638	2054	2	.
639	2054	3	.
640	2054	4	.
641	2054	5	.
642	2054	6	.
643	2054	7	.
644	2054	8	.
645	2054	9	.
646	2054	10	.
647	2054	11	.
648	2054	12	.
649	2055	1	.
650	2055	2	.

Obs	YEAR	MONTH	cr_kpc
651	2055	3	.
652	2055	4	.
653	2055	5	.
654	2055	6	.
655	2055	7	.
656	2055	8	.
657	2055	9	.
658	2055	10	.
659	2055	11	.
660	2055	12	.
661	2056	1	.
662	2056	2	.
663	2056	3	.
664	2056	4	.
665	2056	5	.
666	2056	6	.
667	2056	7	.
668	2056	8	.
669	2056	9	.
670	2056	10	.
671	2056	11	.
672	2056	12	.
673	2057	1	.
674	2057	2	.
675	2057	3	.
676	2057	4	.
677	2057	5	.
678	2057	6	.
679	2057	7	.
680	2057	8	.
681	2057	9	.
682	2057	10	.
683	2057	11	.
684	2057	12	.

The MEANS Procedure

Variable	Label	Mean
YEAR	YEAR	2029.00
MONTH	MONTH	6.5000000
N_kpc	Service Area Population	379.1024727
hh_kpc	Service Area Households	158.5021498
hs_kpc	Service Area Housing Stock	207.7119124
d1	Binary Variable-January	0.0833333
d2	Binary Variable-February	0.0833333
d3	Binary Variable-March	0.0833333
d4	Binary Variable-April	0.0833333
d5	Binary Variable-May	0.0833333
d6	Binary Variable-June	0.0833333
d7	Binary Variable-July	0.0833333
d8	Binary Variable-August	0.0833333
d9	Binary Variable-September	0.0833333
d10	Binary Variable-October	0.0833333
d11	Binary Variable-November	0.0833333
dmar06	Binary Variable-March 2006	0.0014620
dmar05	Binary Variable-March 2005	0.0014620
dmay05	Binary Variable-May 2005	0.0014620
aprjun20	Binary Variable-April through June 2020	0.0043860
janjul20	Binary Variable-January through July 2020	0.0102339
maroct20	Binary Variable-March through October 2020	0.0116959
feb21	Binary Variable-February 2021	0.0014620
mar21	Binary Variable-March 2021	0.0014620







































The SYSLIN Procedure  
 Ordinary Least Squares Estimation

Model cr\_kpc  
 Dependent Variable cr\_kpc  
 Label Residential Customers

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	22	4.06E9	1.8455E8	12086.6	<.0001
Error	229	3496531	15268.69		
Corrected Total	251	4.0635E9			

Root MSE 123.56656 R-Square 0.99914  
 Dependent Mean 140527.000 Adj R-Sq 0.99906  
 Coeff Var 0.08793

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t	Variable Label
Intercept	1	-1482.44	468.2726	-3.17	0.0018	Intercept
cr1	1	0.980891	0.015741	62.31	<.0001	Residential Customers, Lagged
hsnindx	1	1784.435	2406.993	0.74	0.4592	Service Area Housing Stock-Population Index
hh_kpc	1	15.48067	15.59328	0.99	0.3219	Service Area Households
d1	1	-50.9095	38.57739	-1.32	0.1883	Binary Variable-January
d2	1	-339.899	39.42089	-8.62	<.0001	Binary Variable-February
d3	1	-363.769	40.27146	-9.03	<.0001	Binary Variable-March
d4	1	-578.346	38.63416	-14.97	<.0001	Binary Variable-April
d5	1	-486.048	38.80240	-12.53	<.0001	Binary Variable-May
d6	1	-345.618	38.52097	-8.97	<.0001	Binary Variable-June
d7	1	-252.325	38.70501	-6.52	<.0001	Binary Variable-July
d8	1	-162.429	38.71883	-4.20	<.0001	Binary Variable-August
d9	1	-197.833	38.53241	-5.13	<.0001	Binary Variable-September

The SYSLIN Procedure  
 Ordinary Least Squares Estimation

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t	Variable Label
d10	1	-238.411	38.44807	-6.20	<.0001	Binary Variable-October
d11	1	-36.7858	38.26021	-0.96	0.3373	Binary Variable-November
dmay05	1	-389.585	127.7430	-3.05	0.0026	Binary Variable-May 2005
dmar05	1	975.5912	128.2558	7.61	<.0001	Binary Variable-March 2005
dmar06	1	625.4384	127.5118	4.90	<.0001	Binary Variable-March 2006
aprjun20	1	290.6242	102.1447	2.85	0.0048	Binary Variable-April through June 2020
janjul20	1	19.23164	72.03314	0.27	0.7897	Binary Variable-January through July 2020
maroct20	1	202.1433	65.55731	3.08	0.0023	Binary Variable-March through October 2020
feb21	1	-832.736	128.2676	-6.49	<.0001	Binary Variable-February 2021
mar21	1	1460.095	128.1648	11.39	<.0001	Binary Variable-March 2021

Durbin-Watson 2.318908  
 Number of Observations 252  
 First-Order Autocorrelation -0.16501



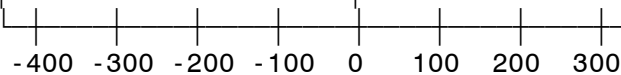
time		Residual Values
		Sum
2001.000000	*****	-165.0417
2001.0833333	*****	177.1492
2001.1666667		-2.0830
2001.2500000	*****	222.3705
2001.3333333	*****	221.9392
2001.4166667	**	42.8701
2001.5000000	**	33.9657
2001.5833333		-3.2189
2001.6666667	****	74.7350
2001.7500000	*****	140.3709
2001.8333333	*****	-110.8633
2001.9166667		8.6720
2002.0000000	*****	158.3693
2002.0833333	*	-18.4257
2002.1666667	****	76.6773
2002.2500000	*****	253.9547
2002.3333333	*****	-117.2675
2002.4166667	*****	180.2833
2002.5000000		6.6261
2002.5833333		-6.0310
2002.6666667	**	-43.6520
2002.7500000	**	39.6448
2002.8333333	*	-12.1909
2002.9166667	*	-13.2010
2003.0000000	*	23.0130
2003.0833333	***	53.6088
2003.1666667	*	-16.6972
2003.2500000	***	58.1355
2003.3333333	****	80.6464
2003.4166667	*	29.5564
2003.5000000	**	-38.4468
2003.5833333	****	78.6112
2003.6666667	****	79.0895
2003.7500000		-2.9610
2003.8333333	*****	-138.5057
2003.9166667	*****	150.9953
2004.0000000	****	72.9993
2004.0833333	*****	-128.1597
2004.1666667	****	84.9586
2004.2500000	*****	237.4158
2004.3333333	**	-48.4877
2004.4166667	*****	-125.4252
2004.5000000	***	-61.1910
2004.5833333	**	-43.7782
2004.6666667	*	-22.2567
2004.7500000	****	81.0292
2004.8333333		3.0892
2004.9166667	**	31.3063
2005.0000000	*****	100.9757

2005.0833333	*****	-367.3603
2005.1666667		0.0000
2005.2500000	***	57.8169
2005.3333333		-0.0000
2005.4166667	*****	150.4601
2005.5000000	**	-49.8358
2005.5833333	*****	-115.5830
2005.6666667	****	-77.1955
2005.7500000	**	35.5625
2005.8333333		-0.3675
2005.9166667		-6.1694
2006.0000000	*	17.8795
2006.0833333	*****	-177.0597
2006.1666667		0.0000
2006.2500000	****	-85.3333
2006.3333333	**	-34.0126
2006.4166667	*	-15.0220
2006.5000000	*	26.0168
2006.5833333	***	68.7986
2006.6666667		-1.7346
2006.7500000	***	62.6291
2006.8333333	***	50.0867
2006.9166667	*****	-205.1812
2007.0000000	*****	98.5408
2007.0833333	*****	159.5949
2007.1666667	*****	-192.9110
2007.2500000	**	49.0404
2007.3333333	****	-72.1856
2007.4166667	*	21.0085
2007.5000000	***	-53.0491
2007.5833333	*****	236.7468
2007.6666667	*****	122.1662
2007.7500000	*	-13.2053
2007.8333333	*****	-90.0425
2007.9166667	*****	142.3150
2008.0000000	*****	123.1138
2008.0833333		0.1478
2008.1666667	*****	-167.8695
2008.2500000	*	-10.7842
2008.3333333	****	78.4856
2008.4166667	**	35.3176
2008.5000000	*****	109.2366
2008.5833333	*	-14.1884
2008.6666667		2.9351
2008.7500000	***	50.9817
2008.8333333	***	58.9889
2008.9166667	****	76.8667
2009.0000000	****	-85.9556
2009.0833333	*	-29.3749
2009.1666667	*	-13.2814
2009.2500000		3.4989
2009.3333333	****	-71.2703

2009.4166667		*****	131.3321
2009.5000000	*****		-148.1877
2009.5833333			6.2065
2009.6666667	*		-26.4125
2009.7500000	**		47.7658
2009.8333333	*		-25.5986
2009.9166667	*		11.1364
2010.0000000	*		27.4593
2010.0833333		*****	132.4562
2010.1666667			4.5323
2010.2500000	****		-77.7055
2010.3333333	***		-62.6233
2010.4166667		****	81.2968
2010.5000000	*		-28.4447
2010.5833333	**		31.7174
2010.6666667	*****		-278.1944
2010.7500000	*		16.2535
2010.8333333	***		69.3847
2010.9166667	*****		-195.8501
2011.0000000		*****	323.8139
2011.0833333	*****		-304.9621
2011.1666667		*****	292.5267
2011.2500000	*****		-315.9388
2011.3333333	*****		-220.8678
2011.4166667	*****		-91.8428
2011.5000000	**		-37.0065
2011.5833333	****		71.3854
2011.6666667	*****		-266.8989
2011.7500000	****		-89.9857
2011.8333333	**		-45.4309
2011.9166667	**		-37.1552
2012.0000000	*****		-94.7277
2012.0833333		*****	275.1391
2012.1666667	*****		-209.6996
2012.2500000	***		-67.5932
2012.3333333		*****	169.2617
2012.4166667	**		-44.7200
2012.5000000		*****	125.8193
2012.5833333	*****		-98.3444
2012.6666667	*		-14.0137
2012.7500000	**		-37.8067
2012.8333333	**		40.7916
2012.9166667	****		-72.5481
2013.0000000	**		38.7376
2013.0833333	**		-31.4532
2013.1666667	*		12.2186
2013.2500000		*****	128.9562
2013.3333333	**		-48.0351
2013.4166667	*****		-128.7412
2013.5000000	*****		-201.1516
2013.5833333			-6.6835
2013.6666667	****		-83.4457

2013.7500000		***	69.7870
2013.8333333		***	51.9700
2013.9166667		*	26.5666
2014.0000000			5.5623
2014.0833333		**	-33.2295
2014.1666667			8.6221
2014.2500000	*****		-294.3222
2014.3333333	*****		-101.9118
2014.4166667	*****		-147.7443
2014.5000000	*****		-112.4457
2014.5833333	*****		-240.0716
2014.6666667		*	21.0199
2014.7500000		**	-36.2955
2014.8333333		***	69.3300
2014.9166667		*	26.6773
2015.0000000	*****		-148.8044
2015.0833333		*****	197.6662
2015.1666667		*****	136.1655
2015.2500000	*****		-296.3537
2015.3333333	*****		-172.1374
2015.4166667		***	64.1737
2015.5000000		**	38.8808
2015.5833333			0.1775
2015.6666667		*	-11.3810
2015.7500000		****	73.3008
2015.8333333		****	-81.4148
2015.9166667		**	48.6785
2016.0000000		**	-36.6453
2016.0833333		*****	137.9393
2016.1666667	*****		-229.5711
2016.2500000		*****	105.3822
2016.3333333		*	-13.7417
2016.4166667	*****		-98.1467
2016.5000000		***	-56.9019
2016.5833333		*	26.7882
2016.6666667		*	19.2306
2016.7500000	*****		-208.8813
2016.8333333			4.6927
2016.9166667		*****	101.0182
2017.0000000	*****		-112.0224
2017.0833333		***	-56.0929
2017.1666667		*****	144.8780
2017.2500000		****	-77.1966
2017.3333333		*****	186.9483
2017.4166667			2.3150
2017.5000000			7.2803
2017.5833333			-2.0978
2017.6666667		*****	213.7802
2017.7500000		****	-84.1719
2017.8333333		*****	119.7239
2017.9166667		***	-60.9240
2018.0000000		***	62.7298

2018.0833333		*	17.3356
2018.1666667	*****		-100.5096
2018.2500000		*****	135.9286
2018.3333333		*	21.3621
2018.4166667	**		-41.2451
2018.5000000		*****	260.4203
2018.5833333	*****		-108.3247
2018.6666667		*****	136.1537
2018.7500000	*****		-148.9734
2018.8333333		****	87.6264
2018.9166667		*	-29.4244
2019.0000000	*****		-104.0024
2019.0833333		*	-23.7382
2019.1666667		****	87.0646
2019.2500000		*****	325.0230
2019.3333333		*****	96.0135
2019.4166667			5.6252
2019.5000000		*****	137.6034
2019.5833333		*	-10.4505
2019.6666667		*****	91.0228
2019.7500000			-1.6100
2019.8333333	*****		-106.3630
2019.9166667		*****	104.2761
2020.0000000	*****		-111.5241
2020.0833333		*	18.8189
2020.1666667		****	84.9787
2020.2500000		***	66.2555
2020.3333333		***	58.7067
2020.4166667	*****		-124.9622
2020.5000000			7.7266
2020.5833333	**		-30.2480
2020.6666667	**		-34.1585
2020.7500000		*	-28.2987
2020.8333333			-9.9340
2020.9166667			-0.3009
2021.0000000	*****		-194.4706
2021.0833333			0.0000
2021.1666667			-0.0000
2021.2500000	*****		-418.5508
2021.3333333		**	49.1772
2021.4166667		****	73.6108
2021.5000000		**	33.0849
2021.5833333		*****	158.5883
2021.6666667		*****	99.2107
2021.7500000		**	34.8644
2021.8333333		***	65.0274
2021.9166667	*****		-107.7543



Residual Values

The SIMLIN Procedure

Inverse Coefficient Matrix for Endogenous Variables

Variable	cr_kpc
cr_kpc	1.0000

Reduced Form for Lagged Endogenous Variables

Variable	cr1
cr_kpc	0.9809

Reduced Form for Exogenous Variables

Variable	hsnindx	hh_kpc	d1	d2	d3	d4	d5	d6
cr_kpc	1784	15.4807	-50.9095	-339.8994	-363.7691	-578.3465	-486.0480	-345.6178

Reduced Form for Exogenous Variables

Variable	d7	d8	d9	d10	d11	dmay05	dmar05	dmar06
cr_kpc	-252.3254	-162.4287	-197.8329	-238.4109	-36.7858	-389.5849	975.5912	625.4384

Reduced Form for Exogenous Variables

Variable	aprjun20	janjul20	maroct20	feb21	mar21	Intercept
cr_kpc	290.6242	19.2316	202.1433	-832.7358	1460	-1482

The SIMLIN Procedure

Fit Statistics

Variable	N	Mean Error	Mean Pct Error	Mean Abs Error	Mean Abs Pct Error	RMS Error	RMS Pct Error	Label
cr_kpc	252	-1.3299	-0.008880	588.0602	0.41826	683.6332	0.4871	Residential Customers

Year	Residential Customers	Growth Rate
2001	144079.08	.
2002	144399.50	0.2
2003	144487.17	0.1
2004	144433.58	0.0
2005	144512.67	0.1
2006	144446.50	0.0
2007	144206.58	-0.2
2008	144105.42	-0.1
2009	143628.08	-0.3
2010	142971.08	-0.5
2011	141859.75	-0.8
2012	140928.92	-0.7
2013	140163.75	-0.5
2014	138957.83	-0.9
2015	137943.92	-0.7
2016	137013.08	-0.7
2017	135896.25	-0.8
2018	134966.75	-0.7
2019	133978.08	-0.7
2020	134284.33	0.2
2021	133906.34	-0.3
2022	132497.76	-1.1
2023	131195.02	-1.0
2024	130081.98	-0.8
2025	129098.53	-0.8
2026	128204.43	-0.7
2027	127373.09	-0.6
2028	126584.15	-0.6
2029	125827.50	-0.6
2030	125098.90	-0.6
2031	124390.56	-0.6
2032	123695.16	-0.6
2033	123009.89	-0.6
2034	122324.06	-0.6
2035	121634.28	-0.6
2036	120939.63	-0.6
2037	120229.26	-0.6
2038	119496.17	-0.6
2039	118737.93	-0.6
2040	117958.26	-0.7
2041	117159.83	-0.7
2042	116342.74	-0.7
2043	115506.83	-0.7
2044	114652.14	-0.7
2045	113784.86	-0.8
2046	112906.16	-0.8
2047	112015.50	-0.8
2048	111113.98	-0.8
2049	110203.79	-0.8



Year	Residential Customers	Growth Rate
2050	109289.96	-0.8
2051	108378.35	-0.8
2052	107474.50	-0.8
2053	106579.27	-0.8
2054	105692.14	-0.8
2055	104812.69	-0.8
2056	103940.56	-0.8
2057	103075.49	-0.8

The MEANS Procedure

Variable	Label	Mean
YEAR	YEAR	2028.50
MONTH	MONTH	6.500000
cc_kpc	Commercial Customers	29211.33

Obs	YEAR	MONTH	cc_kpc
1	2000	1	25331
2	2000	2	25282
3	2000	3	25311
4	2000	4	25327
5	2000	5	25431
6	2000	6	25460
7	2000	7	25553
8	2000	8	25605
9	2000	9	25597
10	2000	10	25596
11	2000	11	25750
12	2000	12	25765
13	2001	1	25718
14	2001	2	25785
15	2001	3	25748
16	2001	4	25819
17	2001	5	25876
18	2001	6	25911
19	2001	7	25942
20	2001	8	25971
21	2001	9	26078
22	2001	10	26151
23	2001	11	26236
24	2001	12	26356
25	2002	1	26454
26	2002	2	26430
27	2002	3	26967
28	2002	4	26499
29	2002	5	26568
30	2002	6	26594
31	2002	7	26774
32	2002	8	26798
33	2002	9	26840
34	2002	10	26773
35	2002	11	26847
36	2002	12	26903
37	2003	1	26893
38	2003	2	26858
39	2003	3	26904
40	2003	4	26912
41	2003	5	26961
42	2003	6	27000
43	2003	7	27038
44	2003	8	27940
45	2003	9	27992
46	2003	10	28029
47	2003	11	28046
48	2003	12	28110
49	2004	1	28131
50	2004	2	28104

Obs	YEAR	MONTH	cc_kpc
51	2004	3	28127
52	2004	4	28166
53	2004	5	28189
54	2004	6	28233
55	2004	7	28321
56	2004	8	28361
57	2004	9	28421
58	2004	10	28472
59	2004	11	28442
60	2004	12	28496
61	2005	1	28555
62	2005	2	28492
63	2005	3	28726
64	2005	4	28742
65	2005	5	28820
66	2005	6	28921
67	2005	7	28896
68	2005	8	28995
69	2005	9	29068
70	2005	10	29079
71	2005	11	29040
72	2005	12	29064
73	2006	1	29121
74	2006	2	29047
75	2006	3	29187
76	2006	4	29148
77	2006	5	29245
78	2006	6	29278
79	2006	7	29279
80	2006	8	29339
81	2006	9	29384
82	2006	10	29597
83	2006	11	29433
84	2006	12	29354
85	2007	1	29460
86	2007	2	29416
87	2007	3	29460
88	2007	4	29427
89	2007	5	29570
90	2007	6	29678
91	2007	7	29736
92	2007	8	29828
93	2007	9	29876
94	2007	10	29925
95	2007	11	29935
96	2007	12	29922
97	2008	1	29969
98	2008	2	29955
99	2008	3	29975
100	2008	4	30023

Obs	YEAR	MONTH	cc_kpc
101	2008	5	30069
102	2008	6	30080
103	2008	7	29341
104	2008	8	29387
105	2008	9	29479
106	2008	10	29482
107	2008	11	29453
108	2008	12	29540
109	2009	1	29552
110	2009	2	29486
111	2009	3	29604
112	2009	4	29479
113	2009	5	29457
114	2009	6	29567
115	2009	7	29524
116	2009	8	29559
117	2009	9	29581
118	2009	10	29614
119	2009	11	29595
120	2009	12	29635
121	2010	1	29670
122	2010	2	29652
123	2010	3	29669
124	2010	4	29699
125	2010	5	29710
126	2010	6	29863
127	2010	7	29814
128	2010	8	29867
129	2010	9	29864
130	2010	10	29878
131	2010	11	29971
132	2010	12	29828
133	2011	1	30017
134	2011	2	29782
135	2011	3	29964
136	2011	4	29852
137	2011	5	29900
138	2011	6	29936
139	2011	7	29908
140	2011	8	30057
141	2011	9	30031
142	2011	10	30047
143	2011	11	30046
144	2011	12	30032
145	2012	1	30029
146	2012	2	29991
147	2012	3	29891
148	2012	4	29979
149	2012	5	30000
150	2012	6	30057

Obs	YEAR	MONTH	cc_kpc
151	2012	7	30096
152	2012	8	30111
153	2012	9	30146
154	2012	10	30087
155	2012	11	30157
156	2012	12	30165
157	2013	1	30181
158	2013	2	30147
159	2013	3	30078
160	2013	4	30102
161	2013	5	30159
162	2013	6	30190
163	2013	7	30215
164	2013	8	30252
165	2013	9	30824
166	2013	10	30381
167	2013	11	30296
168	2013	12	30359
169	2014	1	30419
170	2014	2	30347
171	2014	3	30382
172	2014	4	30320
173	2014	5	30342
174	2014	6	30337
175	2014	7	30388
176	2014	8	30373
177	2014	9	30463
178	2014	10	30448
179	2014	11	30411
180	2014	12	30412
181	2015	1	30428
182	2015	2	30401
183	2015	3	30457
184	2015	4	30405
185	2015	5	30390
186	2015	6	30504
187	2015	7	30611
188	2015	8	30595
189	2015	9	30499
190	2015	10	30444
191	2015	11	30370
192	2015	12	30397
193	2016	1	30328
194	2016	2	30339
195	2016	3	30261
196	2016	4	30243
197	2016	5	30252
198	2016	6	30305
199	2016	7	30300
200	2016	8	30322

Obs	YEAR	MONTH	cc_kpc
201	2016	9	30365
202	2016	10	30315
203	2016	11	30237
204	2016	12	30243
205	2017	1	30131
206	2017	2	30080
207	2017	3	30121
208	2017	4	30070
209	2017	5	30147
210	2017	6	30156
211	2017	7	30206
212	2017	8	30166
213	2017	9	30184
214	2017	10	30154
215	2017	11	30163
216	2017	12	30141
217	2018	1	30212
218	2018	2	30085
219	2018	3	30026
220	2018	4	30032
221	2018	5	30082
222	2018	6	30079
223	2018	7	30130
224	2018	8	30169
225	2018	9	30151
226	2018	10	30071
227	2018	11	30060
228	2018	12	29956
229	2019	1	29890
230	2019	2	30011
231	2019	3	29915
232	2019	4	30017
233	2019	5	30002
234	2019	6	29964
235	2019	7	30061
236	2019	8	30001
237	2019	9	29981
238	2019	10	29932
239	2019	11	29903
240	2019	12	29929
241	2020	1	29955
242	2020	2	29862
243	2020	3	29854
244	2020	4	29889
245	2020	5	29927
246	2020	6	30026
247	2020	7	30075
248	2020	8	30129
249	2020	9	30166
250	2020	10	30245

Obs	YEAR	MONTH	cc_kpc
251	2020	11	30202
252	2020	12	30172
253	2021	1	30140
254	2021	2	29759
255	2021	3	30446
256	2021	4	30141
257	2021	5	30227
258	2021	6	30267
259	2021	7	30321
260	2021	8	30375
261	2021	9	30332
262	2021	10	30263
263	2021	11	30256
264	2021	12	30141
265	2022	1	.
266	2022	2	.
267	2022	3	.
268	2022	4	.
269	2022	5	.
270	2022	6	.
271	2022	7	.
272	2022	8	.
273	2022	9	.
274	2022	10	.
275	2022	11	.
276	2022	12	.
277	2023	1	.
278	2023	2	.
279	2023	3	.
280	2023	4	.
281	2023	5	.
282	2023	6	.
283	2023	7	.
284	2023	8	.
285	2023	9	.
286	2023	10	.
287	2023	11	.
288	2023	12	.
289	2024	1	.
290	2024	2	.
291	2024	3	.
292	2024	4	.
293	2024	5	.
294	2024	6	.
295	2024	7	.
296	2024	8	.
297	2024	9	.
298	2024	10	.
299	2024	11	.
300	2024	12	.



Obs	YEAR	MONTH	cc_kpc
301	2025	1	.
302	2025	2	.
303	2025	3	.
304	2025	4	.
305	2025	5	.
306	2025	6	.
307	2025	7	.
308	2025	8	.
309	2025	9	.
310	2025	10	.
311	2025	11	.
312	2025	12	.
313	2026	1	.
314	2026	2	.
315	2026	3	.
316	2026	4	.
317	2026	5	.
318	2026	6	.
319	2026	7	.
320	2026	8	.
321	2026	9	.
322	2026	10	.
323	2026	11	.
324	2026	12	.
325	2027	1	.
326	2027	2	.
327	2027	3	.
328	2027	4	.
329	2027	5	.
330	2027	6	.
331	2027	7	.
332	2027	8	.
333	2027	9	.
334	2027	10	.
335	2027	11	.
336	2027	12	.
337	2028	1	.
338	2028	2	.
339	2028	3	.
340	2028	4	.
341	2028	5	.
342	2028	6	.
343	2028	7	.
344	2028	8	.
345	2028	9	.
346	2028	10	.
347	2028	11	.
348	2028	12	.
349	2029	1	.
350	2029	2	.

Obs	YEAR	MONTH	cc_kpc
351	2029	3	.
352	2029	4	.
353	2029	5	.
354	2029	6	.
355	2029	7	.
356	2029	8	.
357	2029	9	.
358	2029	10	.
359	2029	11	.
360	2029	12	.
361	2030	1	.
362	2030	2	.
363	2030	3	.
364	2030	4	.
365	2030	5	.
366	2030	6	.
367	2030	7	.
368	2030	8	.
369	2030	9	.
370	2030	10	.
371	2030	11	.
372	2030	12	.
373	2031	1	.
374	2031	2	.
375	2031	3	.
376	2031	4	.
377	2031	5	.
378	2031	6	.
379	2031	7	.
380	2031	8	.
381	2031	9	.
382	2031	10	.
383	2031	11	.
384	2031	12	.
385	2032	1	.
386	2032	2	.
387	2032	3	.
388	2032	4	.
389	2032	5	.
390	2032	6	.
391	2032	7	.
392	2032	8	.
393	2032	9	.
394	2032	10	.
395	2032	11	.
396	2032	12	.
397	2033	1	.
398	2033	2	.
399	2033	3	.
400	2033	4	.

Obs	YEAR	MONTH	cc_kpc
401	2033	5	.
402	2033	6	.
403	2033	7	.
404	2033	8	.
405	2033	9	.
406	2033	10	.
407	2033	11	.
408	2033	12	.
409	2034	1	.
410	2034	2	.
411	2034	3	.
412	2034	4	.
413	2034	5	.
414	2034	6	.
415	2034	7	.
416	2034	8	.
417	2034	9	.
418	2034	10	.
419	2034	11	.
420	2034	12	.
421	2035	1	.
422	2035	2	.
423	2035	3	.
424	2035	4	.
425	2035	5	.
426	2035	6	.
427	2035	7	.
428	2035	8	.
429	2035	9	.
430	2035	10	.
431	2035	11	.
432	2035	12	.
433	2036	1	.
434	2036	2	.
435	2036	3	.
436	2036	4	.
437	2036	5	.
438	2036	6	.
439	2036	7	.
440	2036	8	.
441	2036	9	.
442	2036	10	.
443	2036	11	.
444	2036	12	.
445	2037	1	.
446	2037	2	.
447	2037	3	.
448	2037	4	.
449	2037	5	.
450	2037	6	.

Obs	YEAR	MONTH	cc_kpc
451	2037	7	.
452	2037	8	.
453	2037	9	.
454	2037	10	.
455	2037	11	.
456	2037	12	.
457	2038	1	.
458	2038	2	.
459	2038	3	.
460	2038	4	.
461	2038	5	.
462	2038	6	.
463	2038	7	.
464	2038	8	.
465	2038	9	.
466	2038	10	.
467	2038	11	.
468	2038	12	.
469	2039	1	.
470	2039	2	.
471	2039	3	.
472	2039	4	.
473	2039	5	.
474	2039	6	.
475	2039	7	.
476	2039	8	.
477	2039	9	.
478	2039	10	.
479	2039	11	.
480	2039	12	.
481	2040	1	.
482	2040	2	.
483	2040	3	.
484	2040	4	.
485	2040	5	.
486	2040	6	.
487	2040	7	.
488	2040	8	.
489	2040	9	.
490	2040	10	.
491	2040	11	.
492	2040	12	.
493	2041	1	.
494	2041	2	.
495	2041	3	.
496	2041	4	.
497	2041	5	.
498	2041	6	.
499	2041	7	.
500	2041	8	.

Obs	YEAR	MONTH	cc_kpc
501	2041	9	.
502	2041	10	.
503	2041	11	.
504	2041	12	.
505	2042	1	.
506	2042	2	.
507	2042	3	.
508	2042	4	.
509	2042	5	.
510	2042	6	.
511	2042	7	.
512	2042	8	.
513	2042	9	.
514	2042	10	.
515	2042	11	.
516	2042	12	.
517	2043	1	.
518	2043	2	.
519	2043	3	.
520	2043	4	.
521	2043	5	.
522	2043	6	.
523	2043	7	.
524	2043	8	.
525	2043	9	.
526	2043	10	.
527	2043	11	.
528	2043	12	.
529	2044	1	.
530	2044	2	.
531	2044	3	.
532	2044	4	.
533	2044	5	.
534	2044	6	.
535	2044	7	.
536	2044	8	.
537	2044	9	.
538	2044	10	.
539	2044	11	.
540	2044	12	.
541	2045	1	.
542	2045	2	.
543	2045	3	.
544	2045	4	.
545	2045	5	.
546	2045	6	.
547	2045	7	.
548	2045	8	.
549	2045	9	.
550	2045	10	.

Obs	YEAR	MONTH	cc_kpc
551	2045	11	.
552	2045	12	.
553	2046	1	.
554	2046	2	.
555	2046	3	.
556	2046	4	.
557	2046	5	.
558	2046	6	.
559	2046	7	.
560	2046	8	.
561	2046	9	.
562	2046	10	.
563	2046	11	.
564	2046	12	.
565	2047	1	.
566	2047	2	.
567	2047	3	.
568	2047	4	.
569	2047	5	.
570	2047	6	.
571	2047	7	.
572	2047	8	.
573	2047	9	.
574	2047	10	.
575	2047	11	.
576	2047	12	.
577	2048	1	.
578	2048	2	.
579	2048	3	.
580	2048	4	.
581	2048	5	.
582	2048	6	.
583	2048	7	.
584	2048	8	.
585	2048	9	.
586	2048	10	.
587	2048	11	.
588	2048	12	.
589	2049	1	.
590	2049	2	.
591	2049	3	.
592	2049	4	.
593	2049	5	.
594	2049	6	.
595	2049	7	.
596	2049	8	.
597	2049	9	.
598	2049	10	.
599	2049	11	.
600	2049	12	.

Obs	YEAR	MONTH	cc_kpc
601	2050	1	.
602	2050	2	.
603	2050	3	.
604	2050	4	.
605	2050	5	.
606	2050	6	.
607	2050	7	.
608	2050	8	.
609	2050	9	.
610	2050	10	.
611	2050	11	.
612	2050	12	.
613	2051	1	.
614	2051	2	.
615	2051	3	.
616	2051	4	.
617	2051	5	.
618	2051	6	.
619	2051	7	.
620	2051	8	.
621	2051	9	.
622	2051	10	.
623	2051	11	.
624	2051	12	.
625	2052	1	.
626	2052	2	.
627	2052	3	.
628	2052	4	.
629	2052	5	.
630	2052	6	.
631	2052	7	.
632	2052	8	.
633	2052	9	.
634	2052	10	.
635	2052	11	.
636	2052	12	.
637	2053	1	.
638	2053	2	.
639	2053	3	.
640	2053	4	.
641	2053	5	.
642	2053	6	.
643	2053	7	.
644	2053	8	.
645	2053	9	.
646	2053	10	.
647	2053	11	.
648	2053	12	.
649	2054	1	.
650	2054	2	.

Obs	YEAR	MONTH	cc_kpc
651	2054	3	.
652	2054	4	.
653	2054	5	.
654	2054	6	.
655	2054	7	.
656	2054	8	.
657	2054	9	.
658	2054	10	.
659	2054	11	.
660	2054	12	.
661	2055	1	.
662	2055	2	.
663	2055	3	.
664	2055	4	.
665	2055	5	.
666	2055	6	.
667	2055	7	.
668	2055	8	.
669	2055	9	.
670	2055	10	.
671	2055	11	.
672	2055	12	.
673	2056	1	.
674	2056	2	.
675	2056	3	.
676	2056	4	.
677	2056	5	.
678	2056	6	.
679	2056	7	.
680	2056	8	.
681	2056	9	.
682	2056	10	.
683	2056	11	.
684	2056	12	.
685	2057	1	.
686	2057	2	.
687	2057	3	.
688	2057	4	.
689	2057	5	.
690	2057	6	.
691	2057	7	.
692	2057	8	.
693	2057	9	.
694	2057	10	.
695	2057	11	.
696	2057	12	.



The MEANS Procedure

Variable	Label	Mean
YEAR	YEAR	2028.50
MONTH	MONTH	6.5000000
N_kpc	Service Area Population	380.1442303
D020N	Binary Variable-2002 On	0.9655172
d04on	Binary Variable-2004 On	0.9310345
d07on	Binary Variable-2007 On	0.8793103
d093on	Binary Variable-July 2009 On	0.8362069
d1	January	0.0833333
d2	February	0.0833333
d3	March	0.0833333
d4	April	0.0833333
d5	May	0.0833333
d6	June	0.0833333
d7	July	0.0833333
d8	August	0.0833333
d9	September	0.0833333
d10	October	0.0833333
d11	November	0.0833333
YR_KPC	Service Area Real Personal Income	14354.32
d13on	Binary Variable-2013 On	0.7758621
sep18on	Binary Variable-September 2018 On	0.6781609
aug19on	Binary Variable-August 2019 On	0.6623563
feb19on	Binary Variable-February 2019 On	0.6709770
mar21on	Binary Variable-March 2021 On	0.6350575







KENTUCKY POWER COMPANY  
 COMMERCIAL CUSTOMERS  
 EXOGENOUS VARIABLES

O b s	Y E A R	M O N T H	N _ k p c	D O O 2 0	d 4	d 7	d 0 9	d	d	d	d	d	d	d	d	d	d	d	Y _ K P C	s e u e a	a p g b r	f 1 2	m 1	
																								1
133	2011	1	430.126	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	13302.79	0	0	0	0	0
134	2011	2	430.072	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	13318.30	0	0	0	0	0
135	2011	3	430.002	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	13323.85	0	0	0	0	0
136	2011	4	429.914	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	13321.24	0	0	0	0	0
137	2011	5	429.807	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	13313.94	0	0	0	0	0
138	2011	6	429.677	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	13306.00	0	0	0	0	0
139	2011	7	429.525	1	1	1	1	0	0	0	0	0	0	1	0	0	0	0	13301.73	0	0	0	0	0
140	2011	8	429.344	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	13305.58	0	0	0	0	0
141	2011	9	429.143	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	13318.28	0	0	0	0	0
142	2011	10	428.925	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0	13330.21	0	0	0	0	0
143	2011	11	428.688	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	13328.58	0	0	0	0	0
144	2011	12	428.439	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	13305.43	0	0	0	0	0
145	2012	1	428.172	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	13267.99	0	0	0	0	0
146	2012	2	427.907	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	13230.66	0	0	0	0	0
147	2012	3	427.638	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	13200.04	0	0	0	0	0
148	2012	4	427.361	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	13170.18	0	0	0	0	0
149	2012	5	427.081	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	13131.72	0	0	0	0	0
150	2012	6	426.807	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	13078.48	0	0	0	0	0
151	2012	7	426.533	1	1	1	1	0	0	0	0	0	0	1	0	0	0	0	13014.84	0	0	0	0	0
152	2012	8	426.266	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	12948.40	0	0	0	0	0
153	2012	9	426.005	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	12887.84	0	0	0	0	0
154	2012	10	425.752	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0	12830.92	0	0	0	0	0
155	2012	11	425.499	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	12774.11	0	0	0	0	0
156	2012	12	425.255	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	12715.63	0	0	0	0	0
157	2013	1	425.005	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	12657.95	1	0	0	0	0
158	2013	2	424.772	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	12609.31	1	0	0	0	0
159	2013	3	424.540	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	12570.03	1	0	0	0	0
160	2013	4	424.300	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	12537.51	1	0	0	0	0
161	2013	5	424.063	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	12510.35	1	0	0	0	0
162	2013	6	423.825	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	12486.83	1	0	0	0	0
163	2013	7	423.584	1	1	1	1	0	0	0	0	0	0	1	0	0	0	0	12469.32	1	0	0	0	0
164	2013	8	423.342	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	12460.14	1	0	0	0	0
165	2013	9	423.098	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	12460.67	1	0	0	0	0
166	2013	10	422.857	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0	12471.48	1	0	0	0	0
167	2013	11	422.611	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	12493.11	1	0	0	0	0
168	2013	12	422.361	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	12525.11	1	0	0	0	0
169	2014	1	422.106	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	12563.68	1	0	0	0	0
170	2014	2	421.861	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	12600.76	1	0	0	0	0
171	2014	3	421.608	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	12634.32	1	0	0	0	0
172	2014	4	421.345	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	12665.87	1	0	0	0	0
173	2014	5	421.077	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	12696.16	1	0	0	0	0
174	2014	6	420.805	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	12726.79	1	0	0	0	0
175	2014	7	420.527	1	1	1	1	0	0	0	0	0	0	1	0	0	0	0	12758.02	1	0	0	0	0
176	2014	8	420.240	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	12790.65	1	0	0	0	0













KENTUCKY POWER COMPANY  
 COMMERCIAL CUSTOMERS  
 EXOGENOUS VARIABLES

Year	Month	N	D	d	d	0	d	d	d	d	d	d	d	d	d	d	d	Y	R	K	P	C	s	a	f	m
397	2033	1	369.894	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	14856.66	1	1	1	1	1		
398	2033	2	369.718	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	14870.32	1	1	1	1	1		
399	2033	3	369.546	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	14883.77	1	1	1	1	1		
400	2033	4	369.363	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	14897.52	1	1	1	1	1		
401	2033	5	369.182	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	14911.19	1	1	1	1	1		
402	2033	6	369.002	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	14924.84	1	1	1	1	1		
403	2033	7	368.819	1	1	1	1	0	0	0	0	0	0	1	0	0	0	0	14938.42	1	1	1	1	1		
404	2033	8	368.639	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	14952.09	1	1	1	1	1		
405	2033	9	368.453	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	14965.39	1	1	1	1	1		
406	2033	10	368.272	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0	14978.51	1	1	1	1	1		
407	2033	11	368.090	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	14991.41	1	1	1	1	1		
408	2033	12	367.909	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	15004.08	1	1	1	1	1		
409	2034	1	367.723	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	15016.73	1	1	1	1	1		
410	2034	2	367.548	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	15028.60	1	1	1	1	1		
411	2034	3	367.373	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	15040.36	1	1	1	1	1		
412	2034	4	367.194	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	15052.52	1	1	1	1	1		
413	2034	5	367.011	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	15064.85	1	1	1	1	1		
414	2034	6	366.833	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	15077.45	1	1	1	1	1		
415	2034	7	366.653	1	1	1	1	0	0	0	0	0	0	1	0	0	0	0	15090.32	1	1	1	1	1		
416	2034	8	366.471	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	15103.61	1	1	1	1	1		
417	2034	9	366.292	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	15116.79	1	1	1	1	1		
418	2034	10	366.113	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0	15129.99	1	1	1	1	1		
419	2034	11	365.936	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	15143.13	1	1	1	1	1		
420	2034	12	365.757	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	15156.16	1	1	1	1	1		
421	2035	1	365.576	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	15169.24	1	1	1	1	1		
422	2035	2	365.402	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	15181.52	1	1	1	1	1		
423	2035	3	365.228	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	15193.64	1	1	1	1	1		
424	2035	4	365.049	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	15206.00	1	1	1	1	1		
425	2035	5	364.868	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	15218.22	1	1	1	1	1		
426	2035	6	364.685	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	15230.29	1	1	1	1	1		
427	2035	7	364.504	1	1	1	1	0	0	0	0	0	0	1	0	0	0	0	15242.19	1	1	1	1	1		
428	2035	8	364.315	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	15254.10	1	1	1	1	1		
429	2035	9	364.132	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	15265.64	1	1	1	1	1		
430	2035	10	363.947	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0	15277.01	1	1	1	1	1		
431	2035	11	363.759	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	15288.21	1	1	1	1	1		
432	2035	12	363.573	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	15299.22	1	1	1	1	1		
433	2036	1	363.384	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	15310.18	1	1	1	1	1		
434	2036	2	363.197	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	15320.51	1	1	1	1	1		
435	2036	3	363.015	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	15330.55	1	1	1	1	1		
436	2036	4	362.826	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	15340.60	1	1	1	1	1		
437	2036	5	362.635	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	15350.66	1	1	1	1	1		
438	2036	6	362.453	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	15360.87	1	1	1	1	1		
439	2036	7	362.263	1	1	1	1	0	0	0	0	0	0	1	0	0	0	0	15371.21	1	1	1	1	1		
440	2036	8	362.076	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	15381.81	1	1	1	1	1		

KENTUCKY POWER COMPANY  
 COMMERCIAL CUSTOMERS  
 EXOGENOUS VARIABLES

Year	Month	N	D	d	d	0	d	d	d	d	d	d	d	d	d	d	d	Y	R	K	P	C	s	a	f	m	
																											0
441	2036	9	361.888	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	15392.24	1	1	1	1	1	
442	2036	10	361.701	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	15402.64	1	1	1	1	1	
443	2036	11	361.512	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	15412.97	1	1	1	1	1
444	2036	12	361.327	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15423.20	1	1	1	1	1
445	2037	1	361.140	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	15433.39	1	1	1	1	1
446	2037	2	360.962	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	15442.83	1	1	1	1	1
447	2037	3	360.780	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	15452.00	1	1	1	1	1
448	2037	4	360.595	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	15461.35	1	1	1	1	1
449	2037	5	360.408	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	15470.78	1	1	1	1	1
450	2037	6	360.221	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	15480.45	1	1	1	1	1
451	2037	7	360.036	1	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	15490.21	1	1	1	1	1
452	2037	8	359.845	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	15500.04	1	1	1	1	1
453	2037	9	359.658	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	15509.46	1	1	1	1	1
454	2037	10	359.468	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	15518.64	1	1	1	1	1
455	2037	11	359.280	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	15527.63	1	1	1	1	1
456	2037	12	359.091	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15536.45	1	1	1	1	1
457	2038	1	358.901	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	15545.19	1	1	1	1	1
458	2038	2	358.716	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	15553.22	1	1	1	1	1
459	2038	3	358.533	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	15560.92	1	1	1	1	1
460	2038	4	358.343	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	15568.69	1	1	1	1	1
461	2038	5	358.152	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	15576.45	1	1	1	1	1
462	2038	6	357.963	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	15584.35	1	1	1	1	1
463	2038	7	357.772	1	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	15592.31	1	1	1	1	1
464	2038	8	357.577	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	15600.33	1	1	1	1	1
465	2038	9	357.387	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	15608.09	1	1	1	1	1
466	2038	10	357.196	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	15615.73	1	1	1	1	1
467	2038	11	357.008	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	15623.31	1	1	1	1	1
468	2038	12	356.815	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15630.87	1	1	1	1	1
469	2039	1	356.621	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	15638.50	1	1	1	1	1
470	2039	2	356.437	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	15645.67	1	1	1	1	1
471	2039	3	356.251	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	15652.75	1	1	1	1	1
472	2039	4	356.058	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	15660.07	1	1	1	1	1
473	2039	5	355.867	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	15667.55	1	1	1	1	1
474	2039	6	355.673	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	15675.29	1	1	1	1	1
475	2039	7	355.481	1	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	15683.29	1	1	1	1	1
476	2039	8	355.283	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	15691.64	1	1	1	1	1
477	2039	9	355.093	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	15700.01	1	1	1	1	1
478	2039	10	354.901	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	15708.46	1	1	1	1	1
479	2039	11	354.704	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	15716.94	1	1	1	1	1
480	2039	12	354.514	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15725.39	1	1	1	1	1
481	2040	1	354.313	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	15733.93	1	1	1	1	1
482	2040	2	354.123	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	15742.15	1	1	1	1	1
483	2040	3	353.932	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	15750.33	1	1	1	1	1
484	2040	4	353.737	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	15758.63	1	1	1	1	1



KENTUCKY POWER COMPANY  
 COMMERCIAL CUSTOMERS  
 EXOGENOUS VARIABLES

Year	Month	N	D	d	d	0	d	d	d	d	d	d	d	d	d	d	d	Y	R	K	P	C	s	a	f	m
529	2044	1	344.906	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	16148.58	1	1	1	1	1		
530	2044	2	344.712	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	16157.02	1	1	1	1	1		
531	2044	3	344.518	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	16165.48	1	1	1	1	1		
532	2044	4	344.323	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	16174.08	1	1	1	1	1		
533	2044	5	344.124	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	16182.62	1	1	1	1	1		
534	2044	6	343.927	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	16191.06	1	1	1	1	1		
535	2044	7	343.728	1	1	1	1	0	0	0	0	0	0	1	0	0	0	0	16199.43	1	1	1	1	1		
536	2044	8	343.528	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	16207.95	1	1	1	1	1		
537	2044	9	343.333	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	16216.39	1	1	1	1	1		
538	2044	10	343.135	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0	16224.83	1	1	1	1	1		
539	2044	11	342.939	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	16233.17	1	1	1	1	1		
540	2044	12	342.742	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	16241.34	1	1	1	1	1		
541	2045	1	342.542	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	16249.51	1	1	1	1	1		
542	2045	2	342.348	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	16257.23	1	1	1	1	1		
543	2045	3	342.159	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	16264.97	1	1	1	1	1		
544	2045	4	341.961	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	16273.04	1	1	1	1	1		
545	2045	5	341.763	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	16281.28	1	1	1	1	1		
546	2045	6	341.567	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	16289.73	1	1	1	1	1		
547	2045	7	341.370	1	1	1	1	0	0	0	0	0	0	1	0	0	0	0	16298.42	1	1	1	1	1		
548	2045	8	341.168	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	16307.46	1	1	1	1	1		
549	2045	9	340.973	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	16316.53	1	1	1	1	1		
550	2045	10	340.774	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0	16325.70	1	1	1	1	1		
551	2045	11	340.579	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	16334.88	1	1	1	1	1		
552	2045	12	340.382	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	16344.02	1	1	1	1	1		
553	2046	1	340.180	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	16353.26	1	1	1	1	1		
554	2046	2	339.992	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	16362.03	1	1	1	1	1		
555	2046	3	339.799	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	16370.80	1	1	1	1	1		
556	2046	4	339.602	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	16379.96	1	1	1	1	1		
557	2046	5	339.403	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	16389.32	1	1	1	1	1		
558	2046	6	339.207	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	16398.96	1	1	1	1	1		
559	2046	7	339.010	1	1	1	1	0	0	0	0	0	0	1	0	0	0	0	16408.85	1	1	1	1	1		
560	2046	8	338.809	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	16419.07	1	1	1	1	1		
561	2046	9	338.609	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	16429.23	1	1	1	1	1		
562	2046	10	338.412	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	16439.42	1	1	1	1	1		
563	2046	11	338.213	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0	16449.59	1	1	1	1	1		
564	2046	12	338.014	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	16459.67	1	1	1	1	1		
565	2047	1	337.811	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	16469.83	1	1	1	1	1		
566	2047	2	337.617	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	16479.46	1	1	1	1	1		
567	2047	3	337.425	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	16489.06	1	1	1	1	1		
568	2047	4	337.226	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	16499.01	1	1	1	1	1		
569	2047	5	337.027	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	16509.08	1	1	1	1	1		
570	2047	6	336.827	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	16519.29	1	1	1	1	1		
571	2047	7	336.626	1	1	1	1	0	0	0	0	0	0	1	0	0	0	0	16529.63	1	1	1	1	1		
572	2047	8	336.425	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	16540.20	1	1	1	1	1		







KENTUCKY POWER COMPANY  
 COMMERCIAL CUSTOMERS  
 EXOGENOUS VARIABLES

O b s	Y E A R	M O N T H	N _ k p c	D O 2 0 N	d O 4 o n	d O 7 o n	d O 9 o n	d 1	d 2	d 3	d 4	d 5	d 6	d 7	d 8	d 9	d 0	d 1	Y R _ K P C	s e 1 3 n	a u 1 8 n	f e 1 9 n	m e 1 9 n		
																								17473.57	1
661	2055	1	319.348	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	17473.57	1	1	1	1	1
662	2055	2	319.168	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	17490.93	1	1	1	1	1
663	2055	3	318.962	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	17508.58	1	1	1	1	1
664	2055	4	318.787	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	17526.26	1	1	1	1	1
665	2055	5	318.601	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	17544.12	1	1	1	1	1
666	2055	6	318.423	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	17562.11	1	1	1	1	1
667	2055	7	318.234	1	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	17580.33	1	1	1	1	1
668	2055	8	318.059	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	0	17599.20	1	1	1	1	1
669	2055	9	317.879	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	17618.21	1	1	1	1	1
670	2055	10	317.694	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	17637.72	1	1	1	1	1
671	2055	11	317.521	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	17657.75	1	1	1	1	1
672	2055	12	317.326	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	17678.30	1	1	1	1	1
673	2056	1	317.128	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	17608.00	1	1	1	1	1
674	2056	2	316.950	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	17627.37	1	1	1	1	1
675	2056	3	316.739	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	17647.10	1	1	1	1	1
676	2056	4	316.568	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	17666.76	1	1	1	1	1
677	2056	5	316.383	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	17686.58	1	1	1	1	1
678	2056	6	316.210	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	17706.51	1	1	1	1	1
679	2056	7	316.021	1	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	17726.64	1	1	1	1	1
680	2056	8	315.850	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	0	17747.51	1	1	1	1	1
681	2056	9	315.673	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	17768.55	1	1	1	1	1
682	2056	10	315.489	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	17790.19	1	1	1	1	1
683	2056	11	315.320	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	17812.45	1	1	1	1	1
684	2056	12	315.123	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	17835.35	1	1	1	1	1
685	2057	1	314.925	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	17743.63	1	1	1	1	1
686	2057	2	314.748	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	17765.04	1	1	1	1	1
687	2057	3	314.532	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	17786.88	1	1	1	1	1
688	2057	4	314.366	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	17808.55	1	1	1	1	1
689	2057	5	314.182	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	17830.37	1	1	1	1	1
690	2057	6	314.012	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	17852.26	1	1	1	1	1
691	2057	7	313.823	1	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	17874.35	1	1	1	1	1
692	2057	8	313.658	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	0	17897.24	1	1	1	1	1
693	2057	9	313.483	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	17920.35	1	1	1	1	1
694	2057	10	313.300	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	17944.15	1	1	1	1	1
695	2057	11	313.136	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	17968.69	1	1	1	1	1
696	2057	12	312.938	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	17993.98	1	1	1	1	1

The SYSLIN Procedure  
 Ordinary Least Squares Estimation

Model cc\_kpc  
 Dependent Variable cc\_kpc  
 Label Commercial Customers

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	21	5.4613E8	26006029	360.86	<.0001
Error	242	17440218	72067.01		
Corrected Total	263	5.6357E8			

Root MSE 268.45300 R-Square 0.96905  
 Dependent Mean 29211.3333 Adj R-Sq 0.96637  
 Coeff Var 0.91900

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t	Variable Label
Intercept	1	18051.01	1977.913	9.13	<.0001	Intercept
yrnindx	1	7838.757	1988.482	3.94	0.0001	Service Area Real Personal Income-Population Index
D020N	1	1283.358	77.87930	16.48	<.0001	Binary Variable-2002 On
d04on	1	1770.222	70.75147	25.02	<.0001	Binary Variable-2004 On
d07on	1	773.4231	71.21377	10.86	<.0001	Binary Variable-2007 On
d093on	1	145.4609	65.33370	2.23	0.0269	Binary Variable-July 2009 On
d1	1	-237.734	81.99174	-2.90	0.0041	January
d2	1	-300.095	82.31564	-3.65	0.0003	February
d3	1	-226.559	82.09222	-2.76	0.0062	March
d4	1	-257.987	81.96515	-3.15	0.0019	April
d5	1	-206.875	81.85020	-2.53	0.0121	May
d6	1	-153.675	81.75183	-1.88	0.0613	June
d7	1	-150.676	81.57289	-1.85	0.0659	July
d8	1	-60.4670	81.20432	-0.74	0.4572	August
d9	1	1.292810	81.05615	0.02	0.9873	September
d10	1	-8.83877	80.99604	-0.11	0.9132	October
d11	1	-9.22232	80.95591	-0.11	0.9094	November

The SYSLIN Procedure  
 Ordinary Least Squares Estimation

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t	Variable Label
d13on	1	690.9252	87.50824	7.90	<.0001	Binary Variable-2013 On
sep18on	1	-129.567	137.0459	-0.95	0.3454	Binary Variable-September 2018 On
aug19on	1	-216.613	132.5579	-1.63	0.1035	Binary Variable-August 2019 On
feb19on	1	160.2978	166.7987	0.96	0.3375	Binary Variable-February 2019 On
mar21on	1	221.0424	105.9150	2.09	0.0379	Binary Variable-March 2021 On

Durbin-Watson 0.458614  
 Number of Observations 264  
 First-Order Autocorrelation 0.767774

time

Residual Values  
 Sum

2000.000000	*****	-291.773
2000.0833333	*****	-275.968
2000.1666667	*****	-318.142
2000.2500000	*****	-268.521
2000.3333333	*****	-213.869
2000.4166667	*****	-236.773
2000.5000000	*****	-145.996
2000.5833333	*****	-183.693
2000.6666667	*****	-252.999
2000.7500000	*****	-243.338
2000.8333333	****	-88.240
2000.9166667	***	-81.349
2001.0000000	***	74.126
2001.0833333	*****	203.164
2001.1666667	****	92.919
2001.2500000	*****	195.884
2001.3333333	*****	201.417
2001.4166667	*****	181.633
2001.5000000	*****	207.529
2001.5833333	*****	144.885
2001.6666667	*****	190.167
2001.7500000	*****	274.334
2001.8333333	*****	361.204
2001.9166667	*****	473.399
2002.0000000	*****	-510.964
2002.0833333	*****	-472.624
2002.1666667		-7.916
2002.2500000	*****	-442.244
2002.3333333	*****	-421.867
2002.4166667	*****	-446.792
2002.5000000	*****	-267.322
2002.5833333	*****	-330.104
2002.6666667	*****	-345.157
2002.7500000	*****	-396.316
2002.8333333	*****	-315.539
2002.9166667	*****	-262.193
2003.0000000	***	-66.212
2003.0833333	*	-35.077
2003.1666667	**	-59.007
2003.2500000	*	-15.751
2003.3333333	*	-13.808
2003.4166667	*	-23.517
2003.5000000	*	16.407
2003.5833333	*****	833.484
2003.6666667	*****	829.240
2003.7500000	*****	882.004
2003.8333333	*****	905.213
2003.9166667	*****	966.063
2004.0000000	*****	-577.412

KENTUCKY POWER COMPANY  
 COMMERCIAL CUSTOMERS  
 MODEL RESIDUALS

2004.0833333	*****	-537.737
2004.1666667	*****	-583.328
2004.2500000	*****	-507.903
2004.3333333	*****	-531.890
2004.4166667	*****	-538.345
2004.5000000	*****	-451.451
2004.5833333	*****	-499.519
2004.6666667	*****	-498.312
2004.7500000	*****	-433.622
2004.8333333	*****	-459.598
2004.9166667	*****	-411.517
2005.0000000	*****	-150.611
2005.0833333	*****	-151.250
2005.1666667		9.214
2005.2500000	**	56.642
2005.3333333	***	83.531
2005.4166667	*****	131.330
2005.5000000	****	103.331
2005.5833333	****	112.122
2005.6666667	*****	123.363
2005.7500000	*****	144.494
2005.8333333	****	105.878
2005.9166667	*****	120.655
2006.0000000	*****	375.834
2006.0833333	*****	363.058
2006.1666667	*****	429.946
2006.2500000	*****	424.132
2006.3333333	*****	472.547
2006.4166667	*****	455.183
2006.5000000	*****	456.069
2006.5833333	*****	428.619
2006.6666667	*****	414.259
2006.7500000	*****	640.308
2006.8333333	*****	481.494
2006.9166667	*****	400.485
2007.0000000	**	-61.019
2007.0833333	**	-37.734
2007.1666667	***	-64.109
2007.2500000	***	-64.619
2007.3333333	*	26.103
2007.4166667	***	77.680
2007.5000000	*****	127.572
2007.5833333	*****	123.032
2007.6666667	****	102.617
2007.7500000	*****	154.842
2007.8333333	*****	158.322
2007.9166667	*****	129.146
2008.0000000	*****	363.715
2008.0833333	*****	402.353
2008.1666667	*****	339.779
2008.2500000	*****	411.782
2008.3333333	*****	402.135

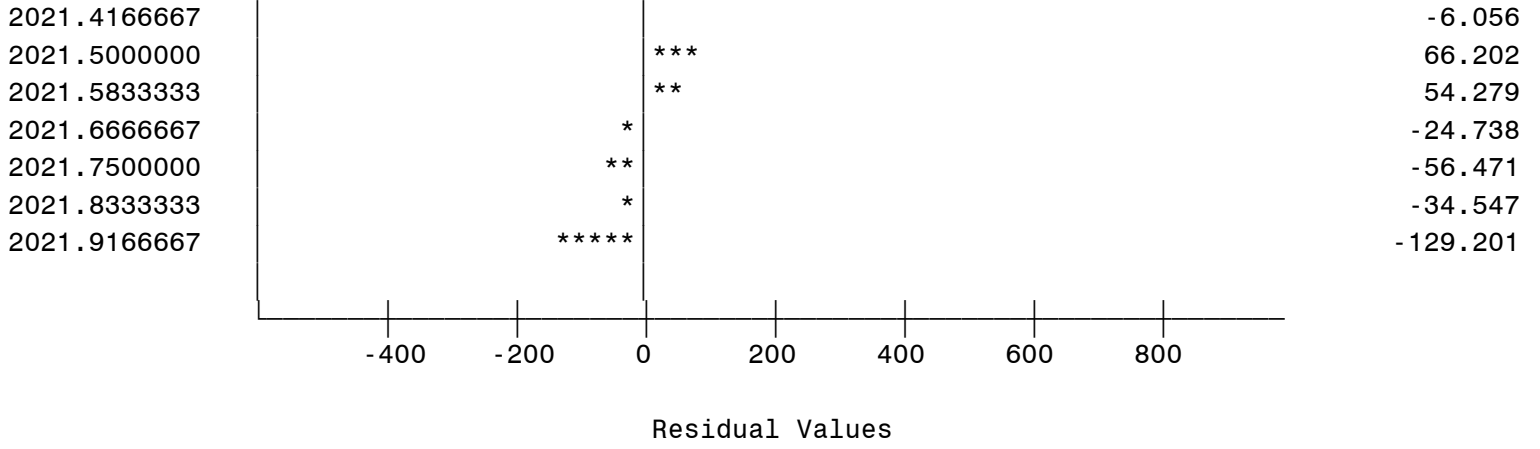
2008.4166667		*****	359.008
2008.5000000	*****		-380.888
2008.5833333	*****		-421.385
2008.6666667	*****		-387.113
2008.7500000	*****		-369.401
2008.8333333	*****		-392.291
2008.9166667	*****		-307.230
2009.0000000	****		-93.678
2009.0833333	****		-91.649
2009.1666667	**		-41.624
2009.2500000	*****		-129.792
2009.3333333	*****		-198.182
2009.4166667	*****		-137.372
2009.5000000	*****		-325.340
2009.5833333	*****		-376.762
2009.6666667	*****		-412.158
2009.7500000	*****		-364.732
2009.8333333	*****		-380.067
2009.9166667	*****		-347.602
2010.0000000	*****		-118.736
2010.0833333	***		-76.058
2010.1666667	*****		-132.915
2010.2500000	***		-71.136
2010.3333333	****		-111.666
2010.4166667	*		-13.738
2010.5000000	***		-68.025
2010.5833333	****		-106.363
2010.6666667	*****		-170.055
2010.7500000	*****		-143.369
2010.8333333	**		-47.004
2010.9166667	*****		-196.583
2011.0000000	*****		187.051
2011.0833333	*		15.568
2011.1666667	*****		127.402
2011.2500000	**		52.047
2011.3333333	**		54.848
2011.4166667	**		43.562
2011.5000000	*		18.172
2011.5833333	***		82.412
2011.6666667			-0.023
2011.7500000	*		32.360
2011.8333333	**		40.480
2011.9166667	*		29.085
2012.0000000	*****		232.074
2012.0833333	*****		267.882
2012.1666667	****		105.522
2012.2500000	*****		236.590
2012.3333333	*****		219.100
2012.4166667	*****		237.021
2012.5000000	*****		288.409
2012.5833333	*****		229.345
2012.6666667	*****		218.563

KENTUCKY POWER COMPANY  
 COMMERCIAL CUSTOMERS  
 MODEL RESIDUALS

2012.750000		*****	185.566
2012.8333333		*****	272.123
2012.9166667		*****	287.148
2013.000000	*****		-177.287
2013.0833333	*****		-136.510
2013.1666667	*****		-267.371
2013.250000	*****		-200.651
2013.3333333	*****		-184.471
2013.4166667	*****		-197.262
2013.500000	*****		-166.758
2013.5833333	*****		-212.103
2013.6666667		*****	305.442
2013.750000	*****		-121.029
2013.8333333	*****		-200.268
2013.9166667	*****		-142.395
2014.000000		*****	115.564
2014.0833333		****	106.739
2014.1666667		***	70.209
2014.250000		**	42.527
2014.3333333		*	16.357
2014.4166667	**		-39.267
2014.500000			11.209
2014.5833333	****		-91.067
2014.6666667	**		-59.209
2014.750000	**		-60.076
2014.8333333	****		-92.442
2014.9166667	****		-96.296
2015.000000		*****	118.408
2015.0833333		*****	159.061
2015.1666667		*****	150.572
2015.250000		*****	141.755
2015.3333333		****	87.657
2015.4166667		*****	159.384
2015.500000		*****	273.932
2015.5833333		*****	179.370
2015.6666667		*	34.654
2015.750000			3.737
2015.8333333	**		-56.058
2015.9166667	*		-25.093
2016.000000		*****	113.674
2016.0833333		*****	200.135
2016.1666667		***	64.988
2016.250000		****	96.613
2016.3333333		***	71.226
2016.4166667		***	84.469
2016.500000		****	87.632
2016.5833333		*	30.638
2016.6666667		*	24.219
2016.750000			-2.466
2016.8333333	***		-67.065
2016.9166667	**		-58.353
2017.000000		*	35.332

2017.0833333	**	53.414
2017.1666667	*	27.072
2017.2500000	*	13.393
2017.3333333	**	44.581
2017.4166667		5.281
2017.5000000	**	57.111
2017.5833333	***	-67.801
2017.6666667	****	-105.475
2017.7500000	*****	-118.844
2017.8333333	****	-103.012
2017.9166667	*****	-127.998
2018.0000000	*****	143.635
2018.0833333	***	84.370
2018.1666667	**	-40.428
2018.2500000		6.628
2018.3333333	*	15.237
2018.4166667	*	-31.827
2018.5000000	*	25.919
2018.5833333	*	-13.262
2018.6666667	**	51.135
2018.7500000		-2.786
2018.8333333		2.499
2018.9166667	****	-96.373
2019.0000000	**	45.525
2019.0833333	***	78.874
2019.1666667	***	-79.782
2019.2500000	***	64.263
2019.3333333		5.969
2019.4166667	***	-81.469
2019.5000000		12.144
2019.5833333	***	75.025
2019.6666667		-12.261
2019.7500000	**	-57.930
2019.8333333	****	-93.801
2019.9166667	***	-84.712
2020.0000000	*****	124.455
2020.0833333	***	77.373
2020.1666667	*	-24.971
2020.2500000	*	18.873
2020.3333333	*	-14.028
2020.4166667	*	17.866
2020.5000000	**	54.141
2020.5833333		8.848
2020.6666667	*	-26.159
2020.7500000	**	52.736
2020.8333333		2.717
2020.9166667	**	-39.088
2021.0000000	*****	118.299
2021.0833333	*****	-197.383
2021.1666667	*****	201.968
2021.2500000	**	-60.511
2021.3333333		-10.926





KENTUCKY POWER COMPANY  
 COMMERCIAL CUSTOMERS  
 ACTUAL AND FORECAST

YEAR	CUSTOMERS	GROWTH RATE
2000	25500.67	.
2001	25965.92	1.8
2002	26703.92	2.8
2003	27390.25	2.6
2004	28288.58	3.3
2005	28866.5	2.0
2006	29284.33	1.4
2007	29686.08	1.4
2008	29729.42	0.1
2009	29554.42	-0.6
2010	29790.42	0.8
2011	29964.33	0.6
2012	30059.08	0.3
2013	30265.33	0.7
2014	30386.83	0.4
2015	30458.42	0.2
2016	30292.5	-0.5
2017	30143.25	-0.5
2018	30087.75	-0.2
2019	29967.17	-0.4
2020	30041.83	0.2
2021	30222.33	0.6
2022	30132.61	-0.3
2023	30114.31	-0.1
2024	30106.66	0.0
2025	30097.76	0.0
2026	30089.06	0.0
2027	30088.69	0.0
2028	30091.52	0.0
2029	30091.86	0.0
2030	30087.7	0.0
2031	30084.83	0.0
2032	30076.35	0.0
2033	30067.47	0.0
2034	30057.07	0.0
2035	30046.34	0.0
2036	30031.91	0.0
2037	30015.77	-0.1
2038	29997.1	-0.1
2039	29976.52	-0.1
2040	29956.38	-0.1
2041	29936.28	-0.1
2042	29916.48	-0.1
2043	29896.61	-0.1
2044	29876.61	-0.1
2045	29856.07	-0.1
2046	29836.84	-0.1
2047	29818.75	-0.1
2048	29801.11	-0.1

KENTUCKY POWER COMPANY  
COMMERCIAL CUSTOMERS  
ACTUAL AND FORECAST

YEAR	CUSTOMERS	GROWTH RATE
2049	29783.58	-0.1
2050	29765.27	-0.1
2051	29748.36	-0.1
2052	29734.44	0.0
2053	29720.94	0.0
2054	29707.87	0.0
2055	29695.22	0.0
2056	29682.99	0.0
2057	29671.19	0.0

The MEANS Procedure

Variable	Label	Mean
YEAR	YEAR	2028.50
MONTH	MONTH	6.500000
ci_kpc	INDUSTRIAL CUSTOMERS	1353.28

KENTUCKY POWER COMPANY  
MANUFACTURING CUSTOMERS  
ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	ci_kpc
1	2000	1	1594
2	2000	2	1538
3	2000	3	1534
4	2000	4	1538
5	2000	5	1524
6	2000	6	1508
7	2000	7	1516
8	2000	8	1553
9	2000	9	1492
10	2000	10	1523
11	2000	11	1499
12	2000	12	1494
13	2001	1	1512
14	2001	2	1503
15	2001	3	1498
16	2001	4	1501
17	2001	5	1537
18	2001	6	1536
19	2001	7	1521
20	2001	8	1522
21	2001	9	1519
22	2001	10	1523
23	2001	11	1524
24	2001	12	1510
25	2002	1	1488
26	2002	2	1509
27	2002	3	1520
28	2002	4	1500
29	2002	5	1565
30	2002	6	1500
31	2002	7	1501
32	2002	8	1514
33	2002	9	1477
34	2002	10	1468
35	2002	11	1496
36	2002	12	1476
37	2003	1	1470
38	2003	2	1467
39	2003	3	1494
40	2003	4	1503
41	2003	5	1459
42	2003	6	1457
43	2003	7	1450
44	2003	8	1451
45	2003	9	1442
46	2003	10	1428
47	2003	11	1447
48	2003	12	1486
49	2004	1	1479
50	2004	2	1477

KENTUCKY POWER COMPANY  
 MANUFACTURING CUSTOMERS  
 ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	ci_kpc
51	2004	3	1471
52	2004	4	1472
53	2004	5	1481
54	2004	6	1463
55	2004	7	1463
56	2004	8	1461
57	2004	9	1459
58	2004	10	1456
59	2004	11	1454
60	2004	12	1454
61	2005	1	1461
62	2005	2	1454
63	2005	3	1473
64	2005	4	1446
65	2005	5	1440
66	2005	6	1462
67	2005	7	1451
68	2005	8	1467
69	2005	9	1460
70	2005	10	1464
71	2005	11	1452
72	2005	12	1457
73	2006	1	1463
74	2006	2	1453
75	2006	3	1472
76	2006	4	1455
77	2006	5	1450
78	2006	6	1464
79	2006	7	1462
80	2006	8	1462
81	2006	9	1460
82	2006	10	1463
83	2006	11	1462
84	2006	12	1458
85	2007	1	1460
86	2007	2	1447
87	2007	3	1446
88	2007	4	1434
89	2007	5	1426
90	2007	6	1436
91	2007	7	1443
92	2007	8	1442
93	2007	9	1438
94	2007	10	1427
95	2007	11	1424
96	2007	12	1417
97	2008	1	1421
98	2008	2	1426
99	2008	3	1432
100	2008	4	1420

KENTUCKY POWER COMPANY  
 MANUFACTURING CUSTOMERS  
 ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	ci_kpc
101	2008	5	1420
102	2008	6	1427
103	2008	7	1434
104	2008	8	1422
105	2008	9	1441
106	2008	10	1452
107	2008	11	1447
108	2008	12	1448
109	2009	1	1445
110	2009	2	1450
111	2009	3	1451
112	2009	4	1444
113	2009	5	1435
114	2009	6	1448
115	2009	7	1430
116	2009	8	1436
117	2009	9	1448
118	2009	10	1420
119	2009	11	1426
120	2009	12	1422
121	2010	1	1430
122	2010	2	1421
123	2010	3	1440
124	2010	4	1430
125	2010	5	1429
126	2010	6	1445
127	2010	7	1434
128	2010	8	1430
129	2010	9	1419
130	2010	10	1410
131	2010	11	1419
132	2010	12	1394
133	2011	1	1417
134	2011	2	1411
135	2011	3	1423
136	2011	4	1416
137	2011	5	1415
138	2011	6	1411
139	2011	7	1397
140	2011	8	1400
141	2011	9	1402
142	2011	10	1397
143	2011	11	1397
144	2011	12	1390
145	2012	1	1380
146	2012	2	1369
147	2012	3	1379
148	2012	4	1372
149	2012	5	1372
150	2012	6	1365

KENTUCKY POWER COMPANY  
MANUFACTURING CUSTOMERS  
ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	ci_kpc
151	2012	7	1366
152	2012	8	1374
153	2012	9	1369
154	2012	10	1362
155	2012	11	1353
156	2012	12	1356
157	2013	1	1354
158	2013	2	1353
159	2013	3	1335
160	2013	4	1342
161	2013	5	1329
162	2013	6	1326
163	2013	7	1317
164	2013	8	1312
165	2013	9	1311
166	2013	10	1303
167	2013	11	1302
168	2013	12	1301
169	2014	1	1300
170	2014	2	1302
171	2014	3	1306
172	2014	4	1297
173	2014	5	1311
174	2014	6	1299
175	2014	7	1300
176	2014	8	1296
177	2014	9	1291
178	2014	10	1299
179	2014	11	1281
180	2014	12	1275
181	2015	1	1286
182	2015	2	1266
183	2015	3	1274
184	2015	4	1271
185	2015	5	1260
186	2015	6	1265
187	2015	7	1271
188	2015	8	1257
189	2015	9	1245
190	2015	10	1238
191	2015	11	1235
192	2015	12	1223
193	2016	1	1213
194	2016	2	1232
195	2016	3	1216
196	2016	4	1204
197	2016	5	1197
198	2016	6	1200
199	2016	7	1185
200	2016	8	1176



Obs	YEAR	MONTH	ci_kpc
201	2016	9	1171
202	2016	10	1165
203	2016	11	1164
204	2016	12	1163
205	2017	1	1215
206	2017	2	1210
207	2017	3	1219
208	2017	4	1214
209	2017	5	1209
210	2017	6	1211
211	2017	7	1220
212	2017	8	1222
213	2017	9	1201
214	2017	10	1210
215	2017	11	1209
216	2017	12	1210
217	2018	1	1206
218	2018	2	1214
219	2018	3	1209
220	2018	4	1203
221	2018	5	1200
222	2018	6	1202
223	2018	7	1203
224	2018	8	1202
225	2018	9	1199
226	2018	10	1206
227	2018	11	1251
228	2018	12	1208
229	2019	1	1199
230	2019	2	1159
231	2019	3	1205
232	2019	4	1196
233	2019	5	1195
234	2019	6	1183
235	2019	7	1201
236	2019	8	1188
237	2019	9	1183
238	2019	10	1174
239	2019	11	1194
240	2019	12	1167
241	2020	1	1148
242	2020	2	1122
243	2020	3	1130
244	2020	4	1134
245	2020	5	1115
246	2020	6	1122
247	2020	7	1119
248	2020	8	1116
249	2020	9	1111
250	2020	10	1113

KENTUCKY POWER COMPANY  
 MANUFACTURING CUSTOMERS  
 ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	ci_kpc
251	2020	11	1111
252	2020	12	1096
253	2021	1	1095
254	2021	2	1061
255	2021	3	1106
256	2021	4	1094
257	2021	5	1083
258	2021	6	1081
259	2021	7	1076
260	2021	8	1074
261	2021	9	1076
262	2021	10	1074
263	2021	11	1065
264	2021	12	1061
265	2022	1	.
266	2022	2	.
267	2022	3	.
268	2022	4	.
269	2022	5	.
270	2022	6	.
271	2022	7	.
272	2022	8	.
273	2022	9	.
274	2022	10	.
275	2022	11	.
276	2022	12	.
277	2023	1	.
278	2023	2	.
279	2023	3	.
280	2023	4	.
281	2023	5	.
282	2023	6	.
283	2023	7	.
284	2023	8	.
285	2023	9	.
286	2023	10	.
287	2023	11	.
288	2023	12	.
289	2024	1	.
290	2024	2	.
291	2024	3	.
292	2024	4	.
293	2024	5	.
294	2024	6	.
295	2024	7	.
296	2024	8	.
297	2024	9	.
298	2024	10	.
299	2024	11	.
300	2024	12	.

KENTUCKY POWER COMPANY  
MANUFACTURING CUSTOMERS  
ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	ci_kpc
301	2025	1	.
302	2025	2	.
303	2025	3	.
304	2025	4	.
305	2025	5	.
306	2025	6	.
307	2025	7	.
308	2025	8	.
309	2025	9	.
310	2025	10	.
311	2025	11	.
312	2025	12	.
313	2026	1	.
314	2026	2	.
315	2026	3	.
316	2026	4	.
317	2026	5	.
318	2026	6	.
319	2026	7	.
320	2026	8	.
321	2026	9	.
322	2026	10	.
323	2026	11	.
324	2026	12	.
325	2027	1	.
326	2027	2	.
327	2027	3	.
328	2027	4	.
329	2027	5	.
330	2027	6	.
331	2027	7	.
332	2027	8	.
333	2027	9	.
334	2027	10	.
335	2027	11	.
336	2027	12	.
337	2028	1	.
338	2028	2	.
339	2028	3	.
340	2028	4	.
341	2028	5	.
342	2028	6	.
343	2028	7	.
344	2028	8	.
345	2028	9	.
346	2028	10	.
347	2028	11	.
348	2028	12	.
349	2029	1	.
350	2029	2	.

KENTUCKY POWER COMPANY  
MANUFACTURING CUSTOMERS  
ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	ci_kpc
351	2029	3	.
352	2029	4	.
353	2029	5	.
354	2029	6	.
355	2029	7	.
356	2029	8	.
357	2029	9	.
358	2029	10	.
359	2029	11	.
360	2029	12	.
361	2030	1	.
362	2030	2	.
363	2030	3	.
364	2030	4	.
365	2030	5	.
366	2030	6	.
367	2030	7	.
368	2030	8	.
369	2030	9	.
370	2030	10	.
371	2030	11	.
372	2030	12	.
373	2031	1	.
374	2031	2	.
375	2031	3	.
376	2031	4	.
377	2031	5	.
378	2031	6	.
379	2031	7	.
380	2031	8	.
381	2031	9	.
382	2031	10	.
383	2031	11	.
384	2031	12	.
385	2032	1	.
386	2032	2	.
387	2032	3	.
388	2032	4	.
389	2032	5	.
390	2032	6	.
391	2032	7	.
392	2032	8	.
393	2032	9	.
394	2032	10	.
395	2032	11	.
396	2032	12	.
397	2033	1	.
398	2033	2	.
399	2033	3	.
400	2033	4	.

KENTUCKY POWER COMPANY  
MANUFACTURING CUSTOMERS  
ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	ci_kpc
401	2033	5	.
402	2033	6	.
403	2033	7	.
404	2033	8	.
405	2033	9	.
406	2033	10	.
407	2033	11	.
408	2033	12	.
409	2034	1	.
410	2034	2	.
411	2034	3	.
412	2034	4	.
413	2034	5	.
414	2034	6	.
415	2034	7	.
416	2034	8	.
417	2034	9	.
418	2034	10	.
419	2034	11	.
420	2034	12	.
421	2035	1	.
422	2035	2	.
423	2035	3	.
424	2035	4	.
425	2035	5	.
426	2035	6	.
427	2035	7	.
428	2035	8	.
429	2035	9	.
430	2035	10	.
431	2035	11	.
432	2035	12	.
433	2036	1	.
434	2036	2	.
435	2036	3	.
436	2036	4	.
437	2036	5	.
438	2036	6	.
439	2036	7	.
440	2036	8	.
441	2036	9	.
442	2036	10	.
443	2036	11	.
444	2036	12	.
445	2037	1	.
446	2037	2	.
447	2037	3	.
448	2037	4	.
449	2037	5	.
450	2037	6	.

KENTUCKY POWER COMPANY  
MANUFACTURING CUSTOMERS  
ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	ci_kpc
451	2037	7	.
452	2037	8	.
453	2037	9	.
454	2037	10	.
455	2037	11	.
456	2037	12	.
457	2038	1	.
458	2038	2	.
459	2038	3	.
460	2038	4	.
461	2038	5	.
462	2038	6	.
463	2038	7	.
464	2038	8	.
465	2038	9	.
466	2038	10	.
467	2038	11	.
468	2038	12	.
469	2039	1	.
470	2039	2	.
471	2039	3	.
472	2039	4	.
473	2039	5	.
474	2039	6	.
475	2039	7	.
476	2039	8	.
477	2039	9	.
478	2039	10	.
479	2039	11	.
480	2039	12	.
481	2040	1	.
482	2040	2	.
483	2040	3	.
484	2040	4	.
485	2040	5	.
486	2040	6	.
487	2040	7	.
488	2040	8	.
489	2040	9	.
490	2040	10	.
491	2040	11	.
492	2040	12	.
493	2041	1	.
494	2041	2	.
495	2041	3	.
496	2041	4	.
497	2041	5	.
498	2041	6	.
499	2041	7	.
500	2041	8	.

KENTUCKY POWER COMPANY  
MANUFACTURING CUSTOMERS  
ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	ci_kpc
501	2041	9	.
502	2041	10	.
503	2041	11	.
504	2041	12	.
505	2042	1	.
506	2042	2	.
507	2042	3	.
508	2042	4	.
509	2042	5	.
510	2042	6	.
511	2042	7	.
512	2042	8	.
513	2042	9	.
514	2042	10	.
515	2042	11	.
516	2042	12	.
517	2043	1	.
518	2043	2	.
519	2043	3	.
520	2043	4	.
521	2043	5	.
522	2043	6	.
523	2043	7	.
524	2043	8	.
525	2043	9	.
526	2043	10	.
527	2043	11	.
528	2043	12	.
529	2044	1	.
530	2044	2	.
531	2044	3	.
532	2044	4	.
533	2044	5	.
534	2044	6	.
535	2044	7	.
536	2044	8	.
537	2044	9	.
538	2044	10	.
539	2044	11	.
540	2044	12	.
541	2045	1	.
542	2045	2	.
543	2045	3	.
544	2045	4	.
545	2045	5	.
546	2045	6	.
547	2045	7	.
548	2045	8	.
549	2045	9	.
550	2045	10	.

Obs	YEAR	MONTH	ci_kpc
551	2045	11	.
552	2045	12	.
553	2046	1	.
554	2046	2	.
555	2046	3	.
556	2046	4	.
557	2046	5	.
558	2046	6	.
559	2046	7	.
560	2046	8	.
561	2046	9	.
562	2046	10	.
563	2046	11	.
564	2046	12	.
565	2047	1	.
566	2047	2	.
567	2047	3	.
568	2047	4	.
569	2047	5	.
570	2047	6	.
571	2047	7	.
572	2047	8	.
573	2047	9	.
574	2047	10	.
575	2047	11	.
576	2047	12	.
577	2048	1	.
578	2048	2	.
579	2048	3	.
580	2048	4	.
581	2048	5	.
582	2048	6	.
583	2048	7	.
584	2048	8	.
585	2048	9	.
586	2048	10	.
587	2048	11	.
588	2048	12	.
589	2049	1	.
590	2049	2	.
591	2049	3	.
592	2049	4	.
593	2049	5	.
594	2049	6	.
595	2049	7	.
596	2049	8	.
597	2049	9	.
598	2049	10	.
599	2049	11	.
600	2049	12	.



KENTUCKY POWER COMPANY  
MANUFACTURING CUSTOMERS  
ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	ci_kpc
601	2050	1	.
602	2050	2	.
603	2050	3	.
604	2050	4	.
605	2050	5	.
606	2050	6	.
607	2050	7	.
608	2050	8	.
609	2050	9	.
610	2050	10	.
611	2050	11	.
612	2050	12	.
613	2051	1	.
614	2051	2	.
615	2051	3	.
616	2051	4	.
617	2051	5	.
618	2051	6	.
619	2051	7	.
620	2051	8	.
621	2051	9	.
622	2051	10	.
623	2051	11	.
624	2051	12	.
625	2052	1	.
626	2052	2	.
627	2052	3	.
628	2052	4	.
629	2052	5	.
630	2052	6	.
631	2052	7	.
632	2052	8	.
633	2052	9	.
634	2052	10	.
635	2052	11	.
636	2052	12	.
637	2053	1	.
638	2053	2	.
639	2053	3	.
640	2053	4	.
641	2053	5	.
642	2053	6	.
643	2053	7	.
644	2053	8	.
645	2053	9	.
646	2053	10	.
647	2053	11	.
648	2053	12	.
649	2054	1	.
650	2054	2	.

Obs	YEAR	MONTH	ci_kpc
651	2054	3	.
652	2054	4	.
653	2054	5	.
654	2054	6	.
655	2054	7	.
656	2054	8	.
657	2054	9	.
658	2054	10	.
659	2054	11	.
660	2054	12	.
661	2055	1	.
662	2055	2	.
663	2055	3	.
664	2055	4	.
665	2055	5	.
666	2055	6	.
667	2055	7	.
668	2055	8	.
669	2055	9	.
670	2055	10	.
671	2055	11	.
672	2055	12	.
673	2056	1	.
674	2056	2	.
675	2056	3	.
676	2056	4	.
677	2056	5	.
678	2056	6	.
679	2056	7	.
680	2056	8	.
681	2056	9	.
682	2056	10	.
683	2056	11	.
684	2056	12	.
685	2057	1	.
686	2057	2	.
687	2057	3	.
688	2057	4	.
689	2057	5	.
690	2057	6	.
691	2057	7	.
692	2057	8	.
693	2057	9	.
694	2057	10	.
695	2057	11	.
696	2057	12	.

The MEANS Procedure

Variable	Label	Mean
YEAR	YEAR	2028.50
MONTH	MONTH	6.5000000
time	TREND	2028.96
d1	January	0.0833333
d2	February	0.0833333
d3	March	0.0833333
d4	April	0.0833333
d5	May	0.0833333
d6	June	0.0833333
d7	July	0.0833333
d8	August	0.0833333
d9	September	0.0833333
d10	October	0.0833333
d11	November	0.0833333
aug15on	BINARY VARIABLE-AUGUST 2015 ON	0.7313218
d17on	BINARY VARIABLE-2017 ON	0.7068966
may16on	BINARY VARIABLE-MAY 2016 ON	0.7183908
dec19on	Binary Variable-December 2019 On	0.6566092
apr20on	Binary Variable-April 2020 On	0.6508621
dec20on	Binary Variable-December 2020 On	0.6393678









KENTUCKY POWER COMPANY  
 MANUFACTURING CUSTOMERS  
 EXOGENOUS VARIABLES

Obs	Year	Month	MWh	Manufacturing Customers												Total				
				1	2	3	4	5	6	7	8	9	10	11	12	13	14			
177	2014	9	2014.67	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
178	2014	10	2014.75	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
179	2014	11	2014.83	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
180	2014	12	2014.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
181	2015	1	2015.00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
182	2015	2	2015.08	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
183	2015	3	2015.17	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
184	2015	4	2015.25	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
185	2015	5	2015.33	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
186	2015	6	2015.42	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
187	2015	7	2015.50	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
188	2015	8	2015.58	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
189	2015	9	2015.67	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
190	2015	10	2015.75	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
191	2015	11	2015.83	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
192	2015	12	2015.92	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
193	2016	1	2016.00	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
194	2016	2	2016.08	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
195	2016	3	2016.17	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
196	2016	4	2016.25	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
197	2016	5	2016.33	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0
198	2016	6	2016.42	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0
199	2016	7	2016.50	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0
200	2016	8	2016.58	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0
201	2016	9	2016.67	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0
202	2016	10	2016.75	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0
203	2016	11	2016.83	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0
204	2016	12	2016.92	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0
205	2017	1	2017.00	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
206	2017	2	2017.08	0	1	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
207	2017	3	2017.17	0	0	1	0	0	0	0	0	0	0	0	1	1	1	0	0	0
208	2017	4	2017.25	0	0	0	1	0	0	0	0	0	0	0	1	1	1	0	0	0
209	2017	5	2017.33	0	0	0	0	1	0	0	0	0	0	0	1	1	1	0	0	0
210	2017	6	2017.42	0	0	0	0	0	1	0	0	0	0	0	1	1	1	0	0	0
211	2017	7	2017.50	0	0	0	0	0	0	1	0	0	0	0	1	1	1	0	0	0
212	2017	8	2017.58	0	0	0	0	0	0	0	1	0	0	0	1	1	1	0	0	0
213	2017	9	2017.67	0	0	0	0	0	0	0	0	1	0	0	1	1	1	0	0	0
214	2017	10	2017.75	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0
215	2017	11	2017.83	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0
216	2017	12	2017.92	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
217	2018	1	2018.00	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
218	2018	2	2018.08	0	1	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
219	2018	3	2018.17	0	0	1	0	0	0	0	0	0	0	0	1	1	1	0	0	0
220	2018	4	2018.25	0	0	0	1	0	0	0	0	0	0	0	1	1	1	0	0	0



KENTUCKY POWER COMPANY  
 MANUFACTURING CUSTOMERS  
 EXOGENOUS VARIABLES

Obs	Year	Month	Total	Demand												Supply					
				1	2	3	4	5	6	7	8	9	10	11	12	2021	2022				
221	2018	5	2018.33	0	0	0	0	1	0	0	0	0	0	0	1	1	1	0	0	0	
222	2018	6	2018.42	0	0	0	0	0	1	0	0	0	0	0	1	1	1	0	0	0	
223	2018	7	2018.50	0	0	0	0	0	0	1	0	0	0	0	1	1	1	0	0	0	
224	2018	8	2018.58	0	0	0	0	0	0	0	1	0	0	0	1	1	1	0	0	0	
225	2018	9	2018.67	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	0	0	0
226	2018	10	2018.75	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0
227	2018	11	2018.83	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0
228	2018	12	2018.92	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
229	2019	1	2019.00	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
230	2019	2	2019.08	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
231	2019	3	2019.17	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
232	2019	4	2019.25	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	0	0	0
233	2019	5	2019.33	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	0	0	0
234	2019	6	2019.42	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	0	0	0
235	2019	7	2019.50	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	0	0	0
236	2019	8	2019.58	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	0	0	0
237	2019	9	2019.67	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	0	0	0
238	2019	10	2019.75	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0
239	2019	11	2019.83	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0
240	2019	12	2019.92	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0
241	2020	1	2020.00	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0
242	2020	2	2020.08	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0
243	2020	3	2020.17	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0
244	2020	4	2020.25	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	0
245	2020	5	2020.33	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	0
246	2020	6	2020.42	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	0
247	2020	7	2020.50	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	0
248	2020	8	2020.58	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	0
249	2020	9	2020.67	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	0
250	2020	10	2020.75	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	0
251	2020	11	2020.83	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0
252	2020	12	2020.92	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
253	2021	1	2021.00	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
254	2021	2	2021.08	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
255	2021	3	2021.17	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
256	2021	4	2021.25	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
257	2021	5	2021.33	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
258	2021	6	2021.42	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
259	2021	7	2021.50	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
260	2021	8	2021.58	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1
261	2021	9	2021.67	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1
262	2021	10	2021.75	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
263	2021	11	2021.83	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
264	2021	12	2021.92	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1

KENTUCKY POWER COMPANY  
 MANUFACTURING CUSTOMERS  
 EXOGENOUS VARIABLES

Obs	Year	Month	Total	Months												Annual				
				1	2	3	4	5	6	7	8	9	10	11	12	2022	2023			
265	2022	1	2022.00	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
266	2022	2	2022.08	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
267	2022	3	2022.17	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
268	2022	4	2022.25	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
269	2022	5	2022.33	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
270	2022	6	2022.42	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
271	2022	7	2022.50	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1
272	2022	8	2022.58	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1
273	2022	9	2022.67	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1
274	2022	10	2022.75	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
275	2022	11	2022.83	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
276	2022	12	2022.92	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
277	2023	1	2023.00	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
278	2023	2	2023.08	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
279	2023	3	2023.17	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
280	2023	4	2023.25	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
281	2023	5	2023.33	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
282	2023	6	2023.42	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
283	2023	7	2023.50	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1
284	2023	8	2023.58	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1
285	2023	9	2023.67	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1
286	2023	10	2023.75	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
287	2023	11	2023.83	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
288	2023	12	2023.92	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
289	2024	1	2024.00	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
290	2024	2	2024.08	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
291	2024	3	2024.17	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
292	2024	4	2024.25	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
293	2024	5	2024.33	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
294	2024	6	2024.42	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
295	2024	7	2024.50	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1
296	2024	8	2024.58	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1
297	2024	9	2024.67	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1
298	2024	10	2024.75	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
299	2024	11	2024.83	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
300	2024	12	2024.92	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
301	2025	1	2025.00	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
302	2025	2	2025.08	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
303	2025	3	2025.17	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
304	2025	4	2025.25	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
305	2025	5	2025.33	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
306	2025	6	2025.42	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
307	2025	7	2025.50	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1
308	2025	8	2025.58	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1

KENTUCKY POWER COMPANY  
 MANUFACTURING CUSTOMERS  
 EXOGENOUS VARIABLES

Obs	Year	Month	M	Manufacturing Customers										Manufacturing Customers						
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
309	2025	9	2025.67	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1
310	2025	10	2025.75	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
311	2025	11	2025.83	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
312	2025	12	2025.92	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
313	2026	1	2026.00	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
314	2026	2	2026.08	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
315	2026	3	2026.17	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
316	2026	4	2026.25	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
317	2026	5	2026.33	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
318	2026	6	2026.42	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
319	2026	7	2026.50	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1
320	2026	8	2026.58	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1
321	2026	9	2026.67	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1
322	2026	10	2026.75	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
323	2026	11	2026.83	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
324	2026	12	2026.92	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
325	2027	1	2027.00	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
326	2027	2	2027.08	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
327	2027	3	2027.17	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
328	2027	4	2027.25	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
329	2027	5	2027.33	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
330	2027	6	2027.42	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
331	2027	7	2027.50	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1
332	2027	8	2027.58	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1
333	2027	9	2027.67	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1
334	2027	10	2027.75	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
335	2027	11	2027.83	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
336	2027	12	2027.92	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
337	2028	1	2028.00	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
338	2028	2	2028.08	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
339	2028	3	2028.17	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
340	2028	4	2028.25	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
341	2028	5	2028.33	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
342	2028	6	2028.42	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
343	2028	7	2028.50	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1
344	2028	8	2028.58	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1
345	2028	9	2028.67	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1
346	2028	10	2028.75	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
347	2028	11	2028.83	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
348	2028	12	2028.92	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
349	2029	1	2029.00	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
350	2029	2	2029.08	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
351	2029	3	2029.17	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
352	2029	4	2029.25	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1

KENTUCKY POWER COMPANY  
 MANUFACTURING CUSTOMERS  
 EXOGENOUS VARIABLES

Obs	Year	Month	Value	Scenario												2022		2023		
				1	2	3	4	5	6	7	8	9	10	11	12	1	2			
353	2029	5	2029.33	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
354	2029	6	2029.42	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
355	2029	7	2029.50	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1
356	2029	8	2029.58	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1
357	2029	9	2029.67	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1
358	2029	10	2029.75	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
359	2029	11	2029.83	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
360	2029	12	2029.92	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
361	2030	1	2030.00	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
362	2030	2	2030.08	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
363	2030	3	2030.17	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
364	2030	4	2030.25	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
365	2030	5	2030.33	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
366	2030	6	2030.42	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
367	2030	7	2030.50	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1
368	2030	8	2030.58	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1
369	2030	9	2030.67	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1
370	2030	10	2030.75	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
371	2030	11	2030.83	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
372	2030	12	2030.92	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
373	2031	1	2031.00	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
374	2031	2	2031.08	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
375	2031	3	2031.17	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
376	2031	4	2031.25	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
377	2031	5	2031.33	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
378	2031	6	2031.42	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
379	2031	7	2031.50	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1
380	2031	8	2031.58	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1
381	2031	9	2031.67	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1
382	2031	10	2031.75	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
383	2031	11	2031.83	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
384	2031	12	2031.92	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
385	2032	1	2032.00	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
386	2032	2	2032.08	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
387	2032	3	2032.17	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
388	2032	4	2032.25	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
389	2032	5	2032.33	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
390	2032	6	2032.42	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
391	2032	7	2032.50	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1
392	2032	8	2032.58	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1
393	2032	9	2032.67	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1
394	2032	10	2032.75	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
395	2032	11	2032.83	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
396	2032	12	2032.92	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1

KENTUCKY POWER COMPANY  
 MANUFACTURING CUSTOMERS  
 EXOGENOUS VARIABLES

Obs	Year	Month	Value	Scenario												2022		2023		
				1	2	3	4	5	6	7	8	9	10	11	12	1	2			
397	2033	1	2033.00	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
398	2033	2	2033.08	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
399	2033	3	2033.17	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
400	2033	4	2033.25	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
401	2033	5	2033.33	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
402	2033	6	2033.42	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
403	2033	7	2033.50	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1
404	2033	8	2033.58	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1
405	2033	9	2033.67	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1
406	2033	10	2033.75	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
407	2033	11	2033.83	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
408	2033	12	2033.92	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
409	2034	1	2034.00	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
410	2034	2	2034.08	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
411	2034	3	2034.17	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
412	2034	4	2034.25	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
413	2034	5	2034.33	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
414	2034	6	2034.42	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
415	2034	7	2034.50	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1
416	2034	8	2034.58	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1
417	2034	9	2034.67	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1
418	2034	10	2034.75	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
419	2034	11	2034.83	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
420	2034	12	2034.92	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
421	2035	1	2035.00	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
422	2035	2	2035.08	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
423	2035	3	2035.17	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
424	2035	4	2035.25	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
425	2035	5	2035.33	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
426	2035	6	2035.42	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
427	2035	7	2035.50	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1
428	2035	8	2035.58	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1
429	2035	9	2035.67	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1
430	2035	10	2035.75	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
431	2035	11	2035.83	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
432	2035	12	2035.92	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
433	2036	1	2036.00	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
434	2036	2	2036.08	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
435	2036	3	2036.17	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
436	2036	4	2036.25	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
437	2036	5	2036.33	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
438	2036	6	2036.42	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
439	2036	7	2036.50	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1
440	2036	8	2036.58	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1

Obs	Year	Month	Value	Manufacturing Customers												Total					
				1	2	3	4	5	6	7	8	9	10	11	12	Sum	Avg				
441	2036	9	2036.67	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1
442	2036	10	2036.75	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
443	2036	11	2036.83	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
444	2036	12	2036.92	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
445	2037	1	2037.00	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
446	2037	2	2037.08	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
447	2037	3	2037.17	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
448	2037	4	2037.25	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
449	2037	5	2037.33	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
450	2037	6	2037.42	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
451	2037	7	2037.50	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
452	2037	8	2037.58	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1
453	2037	9	2037.67	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1
454	2037	10	2037.75	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
455	2037	11	2037.83	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
456	2037	12	2037.92	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
457	2038	1	2038.00	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
458	2038	2	2038.08	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
459	2038	3	2038.17	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
460	2038	4	2038.25	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
461	2038	5	2038.33	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
462	2038	6	2038.42	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
463	2038	7	2038.50	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
464	2038	8	2038.58	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1
465	2038	9	2038.67	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1
466	2038	10	2038.75	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
467	2038	11	2038.83	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
468	2038	12	2038.92	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
469	2039	1	2039.00	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
470	2039	2	2039.08	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
471	2039	3	2039.17	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
472	2039	4	2039.25	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
473	2039	5	2039.33	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
474	2039	6	2039.42	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
475	2039	7	2039.50	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
476	2039	8	2039.58	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1
477	2039	9	2039.67	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1
478	2039	10	2039.75	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
479	2039	11	2039.83	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
480	2039	12	2039.92	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
481	2040	1	2040.00	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
482	2040	2	2040.08	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
483	2040	3	2040.17	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
484	2040	4	2040.25	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1

KENTUCKY POWER COMPANY  
 MANUFACTURING CUSTOMERS  
 EXOGENOUS VARIABLES

Obs	Year	Month	Value	Scenario												2022		2023		
				1	2	3	4	5	6	7	8	9	10	11	12	1	2			
485	2040	5	2040.33	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
486	2040	6	2040.42	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
487	2040	7	2040.50	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1
488	2040	8	2040.58	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1
489	2040	9	2040.67	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1
490	2040	10	2040.75	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1
491	2040	11	2040.83	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
492	2040	12	2040.92	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
493	2041	1	2041.00	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
494	2041	2	2041.08	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
495	2041	3	2041.17	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1
496	2041	4	2041.25	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1
497	2041	5	2041.33	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1
498	2041	6	2041.42	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1
499	2041	7	2041.50	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1
500	2041	8	2041.58	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1
501	2041	9	2041.67	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1
502	2041	10	2041.75	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1
503	2041	11	2041.83	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1
504	2041	12	2041.92	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
505	2042	1	2042.00	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
506	2042	2	2042.08	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
507	2042	3	2042.17	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1
508	2042	4	2042.25	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1
509	2042	5	2042.33	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1
510	2042	6	2042.42	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1
511	2042	7	2042.50	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1
512	2042	8	2042.58	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1
513	2042	9	2042.67	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1
514	2042	10	2042.75	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1
515	2042	11	2042.83	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1
516	2042	12	2042.92	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
517	2043	1	2043.00	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
518	2043	2	2043.08	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
519	2043	3	2043.17	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1
520	2043	4	2043.25	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1
521	2043	5	2043.33	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1
522	2043	6	2043.42	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1
523	2043	7	2043.50	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1
524	2043	8	2043.58	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1
525	2043	9	2043.67	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1
526	2043	10	2043.75	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1
527	2043	11	2043.83	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1
528	2043	12	2043.92	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1

KENTUCKY POWER COMPANY  
 MANUFACTURING CUSTOMERS  
 EXOGENOUS VARIABLES

Obs	Year	Month	Value	Manufacturing Customers												Total				
				1	2	3	4	5	6	7	8	9	10	11	12	Sum	Avg			
529	2044	1	2044.00	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
530	2044	2	2044.08	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
531	2044	3	2044.17	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
532	2044	4	2044.25	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
533	2044	5	2044.33	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
534	2044	6	2044.42	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
535	2044	7	2044.50	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1
536	2044	8	2044.58	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1
537	2044	9	2044.67	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1
538	2044	10	2044.75	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
539	2044	11	2044.83	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
540	2044	12	2044.92	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
541	2045	1	2045.00	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
542	2045	2	2045.08	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
543	2045	3	2045.17	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
544	2045	4	2045.25	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
545	2045	5	2045.33	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
546	2045	6	2045.42	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
547	2045	7	2045.50	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1
548	2045	8	2045.58	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1
549	2045	9	2045.67	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1
550	2045	10	2045.75	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
551	2045	11	2045.83	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
552	2045	12	2045.92	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
553	2046	1	2046.00	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
554	2046	2	2046.08	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
555	2046	3	2046.17	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
556	2046	4	2046.25	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
557	2046	5	2046.33	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
558	2046	6	2046.42	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
559	2046	7	2046.50	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1
560	2046	8	2046.58	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1
561	2046	9	2046.67	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1
562	2046	10	2046.75	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
563	2046	11	2046.83	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
564	2046	12	2046.92	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
565	2047	1	2047.00	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
566	2047	2	2047.08	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
567	2047	3	2047.17	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
568	2047	4	2047.25	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
569	2047	5	2047.33	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
570	2047	6	2047.42	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
571	2047	7	2047.50	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1
572	2047	8	2047.58	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1



Obs	Year	Month	Value	Scenario												2022		2023			
				1	2	3	4	5	6	7	8	9	10	11	12	1	2				
573	2047	9	2047.67	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1
574	2047	10	2047.75	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
575	2047	11	2047.83	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
576	2047	12	2047.92	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
577	2048	1	2048.00	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
578	2048	2	2048.08	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
579	2048	3	2048.17	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
580	2048	4	2048.25	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
581	2048	5	2048.33	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
582	2048	6	2048.42	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
583	2048	7	2048.50	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
584	2048	8	2048.58	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1
585	2048	9	2048.67	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1
586	2048	10	2048.75	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
587	2048	11	2048.83	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
588	2048	12	2048.92	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
589	2049	1	2049.00	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
590	2049	2	2049.08	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
591	2049	3	2049.17	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
592	2049	4	2049.25	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
593	2049	5	2049.33	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
594	2049	6	2049.42	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
595	2049	7	2049.50	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
596	2049	8	2049.58	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1
597	2049	9	2049.67	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1
598	2049	10	2049.75	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1
599	2049	11	2049.83	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
600	2049	12	2049.92	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
601	2050	1	2050.00	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
602	2050	2	2050.08	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
603	2050	3	2050.17	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
604	2050	4	2050.25	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
605	2050	5	2050.33	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
606	2050	6	2050.42	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
607	2050	7	2050.50	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
608	2050	8	2050.58	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1
609	2050	9	2050.67	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1
610	2050	10	2050.75	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1
611	2050	11	2050.83	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
612	2050	12	2050.92	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
613	2051	1	2051.00	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
614	2051	2	2051.08	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
615	2051	3	2051.17	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
616	2051	4	2051.25	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1

KENTUCKY POWER COMPANY  
 MANUFACTURING CUSTOMERS  
 EXOGENOUS VARIABLES

Obs	Year	Month	MWh	Manufacturing Customers												Total				
				1	2	3	4	5	6	7	8	9	10	11	12	13	14			
617	2051	5	2051.33	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
618	2051	6	2051.42	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
619	2051	7	2051.50	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1
620	2051	8	2051.58	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1
621	2051	9	2051.67	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1
622	2051	10	2051.75	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1
623	2051	11	2051.83	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
624	2051	12	2051.92	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
625	2052	1	2052.00	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
626	2052	2	2052.08	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
627	2052	3	2052.17	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1
628	2052	4	2052.25	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1
629	2052	5	2052.33	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1
630	2052	6	2052.42	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1
631	2052	7	2052.50	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1
632	2052	8	2052.58	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1
633	2052	9	2052.67	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1
634	2052	10	2052.75	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1
635	2052	11	2052.83	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
636	2052	12	2052.92	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
637	2053	1	2053.00	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
638	2053	2	2053.08	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
639	2053	3	2053.17	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1
640	2053	4	2053.25	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1
641	2053	5	2053.33	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1
642	2053	6	2053.42	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1
643	2053	7	2053.50	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1
644	2053	8	2053.58	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1
645	2053	9	2053.67	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1
646	2053	10	2053.75	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1
647	2053	11	2053.83	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
648	2053	12	2053.92	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
649	2054	1	2054.00	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
650	2054	2	2054.08	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
651	2054	3	2054.17	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1
652	2054	4	2054.25	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1
653	2054	5	2054.33	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1
654	2054	6	2054.42	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1
655	2054	7	2054.50	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1
656	2054	8	2054.58	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1
657	2054	9	2054.67	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1
658	2054	10	2054.75	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1
659	2054	11	2054.83	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
660	2054	12	2054.92	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1

Obs	Year	Month	Total	Months												Annual				
				1	2	3	4	5	6	7	8	9	10	11	12	12	12			
661	2055	1	2055.00	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
662	2055	2	2055.08	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
663	2055	3	2055.17	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
664	2055	4	2055.25	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
665	2055	5	2055.33	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
666	2055	6	2055.42	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
667	2055	7	2055.50	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1
668	2055	8	2055.58	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1
669	2055	9	2055.67	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1
670	2055	10	2055.75	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
671	2055	11	2055.83	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
672	2055	12	2055.92	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
673	2056	1	2056.00	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
674	2056	2	2056.08	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
675	2056	3	2056.17	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
676	2056	4	2056.25	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
677	2056	5	2056.33	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
678	2056	6	2056.42	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
679	2056	7	2056.50	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1
680	2056	8	2056.58	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1
681	2056	9	2056.67	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1
682	2056	10	2056.75	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
683	2056	11	2056.83	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
684	2056	12	2056.92	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
685	2057	1	2057.00	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
686	2057	2	2057.08	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
687	2057	3	2057.17	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
688	2057	4	2057.25	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
689	2057	5	2057.33	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1
690	2057	6	2057.42	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1
691	2057	7	2057.50	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1
692	2057	8	2057.58	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1
693	2057	9	2057.67	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1
694	2057	10	2057.75	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
695	2057	11	2057.83	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
696	2057	12	2057.92	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1

The SYSLIN Procedure  
 Ordinary Least Squares Estimation

Model lci\_kpc  
 Dependent Variable lci\_kpc  
 Label INDUSTRIAL CUSTOMERS, LOG

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	18	2.709971	0.150554	476.82	<.0001
Error	245	0.077357	0.000316		
Corrected Total	263	2.787328			

Root MSE 0.01777 R-Square 0.97225  
 Dependent Mean 7.20513 Adj R-Sq 0.97021  
 Coeff Var 0.24662

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t	Variable Label
Intercept	1	165.0654	4.397541	37.54	<.0001	Intercept
ltime	1	-20.7506	0.578256	-35.88	<.0001	TREND, LOG
d1	1	0.002238	0.005373	0.42	0.6774	January
d2	1	-0.00365	0.005373	-0.68	0.4971	February
d3	1	0.003954	0.005372	0.74	0.4625	March
d4	1	0.000636	0.005396	0.12	0.9062	April
d5	1	0.001507	0.005396	0.28	0.7803	May
d6	1	0.001198	0.005395	0.22	0.8244	June
d7	1	0.000463	0.005395	0.09	0.9316	July
d8	1	0.004433	0.005388	0.82	0.4114	August
d9	1	-0.00002	0.005388	-0.00	0.9976	September
d10	1	-0.00051	0.005388	-0.09	0.9249	October
d11	1	0.001691	0.005388	0.31	0.7539	November
aug15on	1	-0.06467	0.006540	-9.89	<.0001	BINARY VARIABLE-AUGUST 2015 ON
may16on	1	-0.03570	0.008719	-4.09	<.0001	BINARY VARIABLE-MAY 2016 ON
d17on	1	0.040401	0.007031	5.75	<.0001	BINARY VARIABLE-2017 ON
dec19on	1	-0.03580	0.009533	-3.75	0.0002	Binary Variable-December 2019 On

The SYSLIN Procedure  
 Ordinary Least Squares Estimation

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t	Variable Label
apr20on	1	-0.01667	0.011140	-1.50	0.1359	Binary Variable-April 2020 On
dec20on	1	-0.02492	0.008045	-3.10	0.0022	Binary Variable-December 2020 On

Durbin-Watson 0.427221  
 Number of Observations 264  
 First-Order Autocorrelation 0.779859

TREND		Residual Values
		Sum
2000.000000	*****	0.029530
2000.0833333		0.000522
2000.1666667	****	-0.008825
2000.2500000	*	-0.002039
2000.3333333	*****	-0.011189
2000.4166667	*****	-0.020571
2000.5000000	*****	-0.013680
2000.5833333	****	0.007327
2000.6666667	*****	-0.027429
2000.7500000	***	-0.005509
2000.8333333	*****	-0.022727
2000.9166667	*****	-0.023513
2001.0000000	*****	-0.012911
2001.0833333	*****	-0.012125
2001.1666667	*****	-0.022201
2001.2500000	*****	-0.016019
2001.3333333	****	0.007676
2001.4166667	****	0.008197
2001.5000000		-0.000017
2001.5833333	*	-0.002466
2001.6666667		0.000875
2001.7500000	**	0.004860
2001.8333333	**	0.004181
2001.9166667	*	-0.002493
2002.0000000	*****	-0.018544
2002.0833333	*	0.002226
2002.1666667	*	0.002745
2002.2500000	***	-0.006319
2002.3333333	*****	0.036095
2002.4166667	***	-0.005154
2002.5000000	*	-0.002889
2002.5833333	*	0.002628
2002.6666667	*****	-0.016800
2002.7500000	*****	-0.021557
2002.8333333	**	-0.003999
2002.9166667	*****	-0.014904
2003.0000000	*****	-0.020352
2003.0833333	*****	-0.015640
2003.1666667	**	-0.004146
2003.2500000	***	0.006040
2003.3333333	*****	-0.023679
2003.4166667	*****	-0.023879
2003.5000000	*****	-0.027097
2003.5833333	*****	-0.029515
2003.6666667	*****	-0.030424
2003.7500000	*****	-0.038825
2003.8333333	*****	-0.026944
2003.9166667	*	0.002206
2004.0000000	**	-0.003891

2004.0833333		*	0.001511
2004.1666667	*****		-0.009305
2004.2500000	**		-0.004445
2004.3333333		*	0.001643
2004.4166667	*****		-0.009415
2004.5000000	****		-0.007817
2004.5833333	*****		-0.012292
2004.6666667	****		-0.008350
2004.7500000	*****		-0.009054
2004.8333333	*****		-0.011765
2004.9166667	*****		-0.009211
2005.0000000	***		-0.005784
2005.0833333	**		-0.003833
2005.1666667		*	0.002405
2005.2500000	*****		-0.011915
2005.3333333	*****		-0.016081
2005.4166667			0.000251
2005.5000000	***		-0.005704
2005.5833333		*	0.002155
2005.6666667		*	0.002684
2005.7500000		***	0.006774
2005.8333333		*	-0.002794
2005.9166667		**	0.003197
2006.0000000		***	0.005931
2006.0833333		***	0.005826
2006.1666667		*****	0.012072
2006.2500000		**	0.004635
2006.3333333		*	0.001184
2006.4166667		*****	0.011963
2006.5000000		*****	0.012193
2006.5833333		*****	0.009085
2006.6666667		*****	0.013028
2006.7500000		*****	0.016434
2006.8333333		*****	0.014412
2006.9166667		*****	0.014225
2007.0000000		*****	0.014220
2007.0833333		*****	0.012029
2007.1666667		**	0.004592
2007.2500000			0.000437
2007.3333333	***		-0.005166
2007.4166667		*	0.002992
2007.5000000		*****	0.009451
2007.5833333		***	0.005649
2007.6666667		****	0.008183
2007.7500000		*	0.001857
2007.8333333		*	-0.001586
2007.9166667	**		-0.003961
2008.0000000		*	-0.002519
2008.0833333		****	0.007746
2008.1666667		***	0.005199
2008.2500000			0.000961
2008.3333333			0.000952

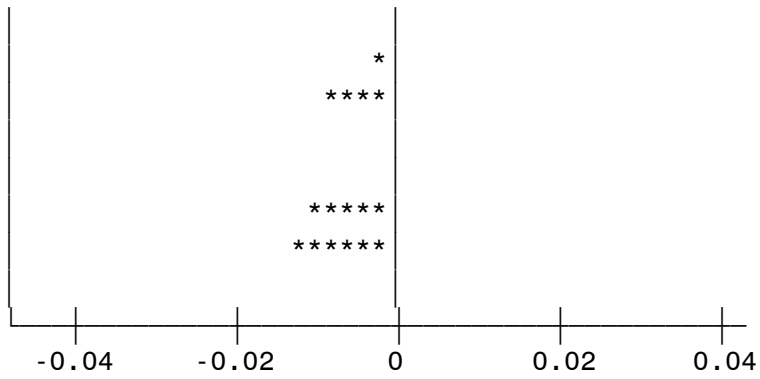
2008.4166667	****	0.007039
2008.5000000	*****	0.013528
2008.5833333	*	0.002016
2008.6666667	*****	0.020600
2008.7500000	*****	0.029557
2008.8333333	*****	0.024769
2008.9166667	*****	0.028012
2009.0000000	*****	0.024561
2009.0833333	*****	0.034767
2009.1666667	*****	0.028710
2009.2500000	*****	0.028052
2009.3333333	*****	0.021790
2009.4166667	*****	0.031977
2009.5000000	*****	0.021064
2009.5833333	*****	0.022141
2009.6666667	*****	0.035774
2009.7500000	*****	0.017600
2009.8333333	*****	0.020477
2009.9166667	*****	0.020219
2010.0000000	*****	0.024452
2010.0833333	*****	0.024890
2010.1666667	*****	0.031426
2010.2500000	*****	0.028634
2010.3333333	*****	0.027925
2010.4166667	*****	0.040227
2010.5000000	*****	0.034181
2010.5833333	*****	0.028278
2010.6666667	*****	0.025866
2010.7500000	*****	0.020855
2010.8333333	*****	0.025878
2010.9166667	*****	0.010654
2011.0000000	*****	0.025641
2011.0833333	*****	0.028149
2011.1666667	*****	0.029870
2011.2500000	*****	0.029115
2011.3333333	*****	0.028399
2011.4166667	*****	0.026736
2011.5000000	*****	0.018359
2011.5833333	*****	0.017394
2011.6666667	*****	0.024131
2011.7500000	*****	0.021909
2011.8333333	*****	0.020570
2011.9166667	*****	0.018097
2012.0000000	*****	0.009498
2012.0833333	****	0.008246
2012.1666667	****	0.008776
2012.2500000	****	0.007864
2012.3333333	****	0.007853
2012.4166667	**	0.003905
2012.5000000	**	0.006232
2012.5833333	****	0.008961
2012.6666667	****	0.010624



2012.7500000		***	0.006849
2012.8333333		*	-0.001121
2012.9166667		**	0.003643
2013.0000000			0.000789
2013.0833333		***	0.006801
2013.1666667	*****		-0.013341
2013.2500000	**		-0.003935
2013.3333333	*****		-0.013681
2013.4166667	*****		-0.014774
2013.5000000	*****		-0.019990
2013.5833333	*****		-0.026905
2013.6666667	*****		-0.022359
2013.7500000	*****		-0.027129
2013.8333333	*****		-0.029238
2013.9166667	*****		-0.027456
2014.0000000	*****		-0.029605
2014.0833333	*****		-0.021317
2014.1666667	*****		-0.024998
2014.2500000	*****		-0.027738
2014.3333333	*****		-0.017013
2014.4166667	*****		-0.025042
2014.5000000	*****		-0.022679
2014.5833333	*****		-0.028872
2014.6666667	*****		-0.027430
2014.7500000	*****		-0.019902
2014.8333333	*****		-0.035197
2014.9166667	*****		-0.037342
2015.0000000	*****		-0.030132
2015.0833333	*****		-0.039056
2015.1666667	*****		-0.039506
2015.2500000	*****		-0.037688
2015.3333333	*****		-0.046393
2015.4166667	*****		-0.041266
2015.5000000	*****		-0.034941
2015.5833333	*****	*****	0.015539
2015.6666667		*****	0.011255
2015.7500000		***	0.006966
2015.8333333		**	0.003198
2015.9166667	**		-0.004017
2016.0000000	*****		-0.013607
2016.0833333		****	0.008684
2016.1666667	*****		-0.011138
2016.2500000	*****		-0.016880
2016.3333333		*****	0.012976
2016.4166667		*****	0.016645
2016.5000000		***	0.005658
2016.5833333	**		-0.005078
2016.6666667	**		-0.004031
2016.7500000	****		-0.007819
2016.8333333	*****		-0.010020
2016.9166667	****		-0.008331
2017.0000000	***		-0.006371

2017.0833333	**	-0.003745
2017.1666667	**	-0.003085
2017.2500000	**	-0.003021
2017.3333333	****	-0.007161
2017.4166667	**	-0.004343
2017.5000000	**	0.004654
2017.5833333	**	0.003179
2017.6666667	****	-0.008849
2017.7500000		-0.000034
2017.8333333	*	-0.002203
2017.9166667	*	0.001172
2018.0000000	**	-0.003520
2018.0833333	*****	0.009840
2018.1666667	*	-0.001038
2018.2500000	*	-0.001839
2018.3333333	**	-0.004349
2018.4166667	*	-0.001519
2018.5000000		0.000904
2018.5833333	**	-0.003041
2018.6666667		-0.000233
2018.7500000	***	0.006936
2018.8333333	*****	0.042228
2018.9166667	*****	0.009798
2019.0000000		0.000938
2019.0833333	*****	-0.026244
2019.1666667	***	0.005927
2019.2500000	*	0.002604
2019.3333333	*	0.001754
2019.4166667	****	-0.007174
2019.5000000	*****	0.009518
2019.5833333	**	-0.004479
2019.6666667	**	-0.003391
2019.7500000	*****	-0.009680
2019.8333333	***	0.005869
2019.9166667	*****	0.021340
2020.0000000	**	0.003543
2020.0833333	*****	-0.012618
2020.1666667	*****	-0.012265
2020.2500000	*****	0.012109
2020.3333333	**	-0.004802
2020.4166667	*	0.002621
2020.5000000	*	0.001534
2020.5833333	**	-0.004265
2020.6666667	**	-0.003449
2020.7500000		-0.000303
2020.8333333	**	-0.003445
2020.9166667	*****	0.010429
2021.0000000	****	0.008134
2021.0833333	*****	-0.016661
2021.1666667	*****	0.018125
2021.2500000	*****	0.011388
2021.3333333	*	0.001268

2021.4166667  
2021.5000000  
2021.5833333  
2021.6666667  
2021.7500000  
2021.8333333  
2021.9166667



0.000583  
-0.002463  
-0.007438  
-0.000272  
-0.000785  
-0.010545  
-0.011761

Residual Values

KENTUCKY POWER COMPANY  
 MANUFACTURING CUSTOMERS  
 ACTUAL AND FORECAST

YEAR	CUSTOMERS	GROWTH RATE
2000	1526.08	.
2001	1517.17	-0.6
2002	1501.17	-1.1
2003	1462.83	-2.6
2004	1465.83	0.2
2005	1457.25	-0.6
2006	1460.33	0.2
2007	1436.67	-1.6
2008	1432.50	-0.3
2009	1437.92	0.4
2010	1425.08	-0.9
2011	1406.33	-1.3
2012	1368.08	-2.7
2013	1323.75	-3.2
2014	1296.42	-2.1
2015	1257.58	-3.0
2016	1190.50	-5.3
2017	1212.50	1.8
2018	1208.58	-0.3
2019	1187.00	-1.8
2020	1119.75	-5.7
2021	1078.83	-3.7
2022	1068.67	-0.9
2023	1057.77	-1.0
2024	1046.98	-1.0
2025	1036.30	-1.0
2026	1025.74	-1.0
2027	1015.30	-1.0
2028	1004.96	-1.0
2029	994.73	-1.0
2030	984.62	-1.0
2031	974.61	-1.0
2032	964.71	-1.0
2033	954.91	-1.0
2034	945.22	-1.0
2035	935.63	-1.0
2036	926.14	-1.0
2037	916.75	-1.0
2038	907.47	-1.0
2039	898.28	-1.0
2040	889.19	-1.0
2041	880.19	-1.0
2042	871.29	-1.0
2043	862.49	-1.0
2044	853.78	-1.0
2045	845.16	-1.0
2046	836.63	-1.0
2047	828.19	-1.0
2048	819.84	-1.0

KENTUCKY POWER COMPANY  
MANUFACTURING CUSTOMERS  
ACTUAL AND FORECAST

YEAR	CUSTOMERS	GROWTH RATE
2049	811.580	-1
2050	803.406	-1
2051	795.319	-1
2052	787.316	-1
2053	779.398	-1
2054	771.564	-1
2055	763.812	-1
2056	756.142	-1
2057	748.552	-1

The MEANS Procedure

Variable	Label	Mean
YEAR	YEAR	2028.50
MONTH	MONTH	6.500000
cu_kpc	OTHER RETAIL CUSTOMERS	388.3636364

KENTUCKY POWER COMPANY  
OTHER ULTIMATE CUSTOMERS  
ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	cu_kpc
1	2000	1	533
2	2000	2	530
3	2000	3	530
4	2000	4	532
5	2000	5	531
6	2000	6	534
7	2000	7	534
8	2000	8	532
9	2000	9	536
10	2000	10	532
11	2000	11	532
12	2000	12	471
13	2001	1	471
14	2001	2	446
15	2001	3	446
16	2001	4	445
17	2001	5	446
18	2001	6	445
19	2001	7	446
20	2001	8	445
21	2001	9	444
22	2001	10	444
23	2001	11	444
24	2001	12	443
25	2002	1	441
26	2002	2	438
27	2002	3	439
28	2002	4	439
29	2002	5	439
30	2002	6	439
31	2002	7	439
32	2002	8	438
33	2002	9	500
34	2002	10	440
35	2002	11	440
36	2002	12	448
37	2003	1	451
38	2003	2	454
39	2003	3	455
40	2003	4	447
41	2003	5	447
42	2003	6	446
43	2003	7	446
44	2003	8	447
45	2003	9	445
46	2003	10	445
47	2003	11	445
48	2003	12	444
49	2004	1	443
50	2004	2	442

KENTUCKY POWER COMPANY  
OTHER ULTIMATE CUSTOMERS  
ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	cu_kpc
51	2004	3	441
52	2004	4	439
53	2004	5	439
54	2004	6	439
55	2004	7	442
56	2004	8	444
57	2004	9	444
58	2004	10	444
59	2004	11	444
60	2004	12	442
61	2005	1	445
62	2005	2	441
63	2005	3	445
64	2005	4	451
65	2005	5	443
66	2005	6	444
67	2005	7	445
68	2005	8	385
69	2005	9	381
70	2005	10	381
71	2005	11	386
72	2005	12	382
73	2006	1	380
74	2006	2	381
75	2006	3	383
76	2006	4	381
77	2006	5	379
78	2006	6	380
79	2006	7	381
80	2006	8	381
81	2006	9	379
82	2006	10	379
83	2006	11	380
84	2006	12	380
85	2007	1	378
86	2007	2	376
87	2007	3	376
88	2007	4	374
89	2007	5	374
90	2007	6	373
91	2007	7	372
92	2007	8	365
93	2007	9	388
94	2007	10	377
95	2007	11	374
96	2007	12	373
97	2008	1	380
98	2008	2	379
99	2008	3	376
100	2008	4	383



KENTUCKY POWER COMPANY  
OTHER ULTIMATE CUSTOMERS  
ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	cu_kpc
101	2008	5	374
102	2008	6	373
103	2008	7	386
104	2008	8	380
105	2008	9	376
106	2008	10	379
107	2008	11	373
108	2008	12	384
109	2009	1	375
110	2009	2	376
111	2009	3	380
112	2009	4	373
113	2009	5	372
114	2009	6	373
115	2009	7	370
116	2009	8	369
117	2009	9	379
118	2009	10	375
119	2009	11	366
120	2009	12	366
121	2010	1	362
122	2010	2	367
123	2010	3	363
124	2010	4	369
125	2010	5	372
126	2010	6	388
127	2010	7	406
128	2010	8	412
129	2010	9	411
130	2010	10	414
131	2010	11	417
132	2010	12	410
133	2011	1	407
134	2011	2	402
135	2011	3	411
136	2011	4	434
137	2011	5	413
138	2011	6	412
139	2011	7	411
140	2011	8	407
141	2011	9	407
142	2011	10	420
143	2011	11	407
144	2011	12	405
145	2012	1	405
146	2012	2	404
147	2012	3	404
148	2012	4	402
149	2012	5	401
150	2012	6	401

KENTUCKY POWER COMPANY  
OTHER ULTIMATE CUSTOMERS  
ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	cu_kpc
151	2012	7	399
152	2012	8	399
153	2012	9	398
154	2012	10	399
155	2012	11	399
156	2012	12	395
157	2013	1	393
158	2013	2	392
159	2013	3	391
160	2013	4	389
161	2013	5	390
162	2013	6	388
163	2013	7	388
164	2013	8	387
165	2013	9	376
166	2013	10	376
167	2013	11	375
168	2013	12	373
169	2014	1	373
170	2014	2	374
171	2014	3	373
172	2014	4	372
173	2014	5	370
174	2014	6	370
175	2014	7	369
176	2014	8	369
177	2014	9	369
178	2014	10	365
179	2014	11	365
180	2014	12	365
181	2015	1	363
182	2015	2	364
183	2015	3	364
184	2015	4	364
185	2015	5	362
186	2015	6	310
187	2015	7	414
188	2015	8	359
189	2015	9	358
190	2015	10	357
191	2015	11	357
192	2015	12	352
193	2016	1	352
194	2016	2	351
195	2016	3	350
196	2016	4	352
197	2016	5	351
198	2016	6	350
199	2016	7	349
200	2016	8	347

KENTUCKY POWER COMPANY  
OTHER ULTIMATE CUSTOMERS  
ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	cu_kpc
201	2016	9	372
202	2016	10	347
203	2016	11	347
204	2016	12	346
205	2017	1	348
206	2017	2	348
207	2017	3	349
208	2017	4	347
209	2017	5	346
210	2017	6	346
211	2017	7	346
212	2017	8	346
213	2017	9	342
214	2017	10	345
215	2017	11	345
216	2017	12	345
217	2018	1	344
218	2018	2	344
219	2018	3	344
220	2018	4	344
221	2018	5	343
222	2018	6	298
223	2018	7	380
224	2018	8	335
225	2018	9	334
226	2018	10	334
227	2018	11	333
228	2018	12	333
229	2019	1	332
230	2019	2	332
231	2019	3	331
232	2019	4	331
233	2019	5	332
234	2019	6	329
235	2019	7	329
236	2019	8	327
237	2019	9	327
238	2019	10	325
239	2019	11	330
240	2019	12	326
241	2020	1	326
242	2020	2	327
243	2020	3	324
244	2020	4	324
245	2020	5	323
246	2020	6	315
247	2020	7	311
248	2020	8	310
249	2020	9	309
250	2020	10	309

KENTUCKY POWER COMPANY  
 OTHER ULTIMATE CUSTOMERS  
 ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	cu_kpc
251	2020	11	310
252	2020	12	310
253	2021	1	310
254	2021	2	308
255	2021	3	312
256	2021	4	309
257	2021	5	309
258	2021	6	309
259	2021	7	310
260	2021	8	310
261	2021	9	311
262	2021	10	311
263	2021	11	311
264	2021	12	310
265	2022	1	.
266	2022	2	.
267	2022	3	.
268	2022	4	.
269	2022	5	.
270	2022	6	.
271	2022	7	.
272	2022	8	.
273	2022	9	.
274	2022	10	.
275	2022	11	.
276	2022	12	.
277	2023	1	.
278	2023	2	.
279	2023	3	.
280	2023	4	.
281	2023	5	.
282	2023	6	.
283	2023	7	.
284	2023	8	.
285	2023	9	.
286	2023	10	.
287	2023	11	.
288	2023	12	.
289	2024	1	.
290	2024	2	.
291	2024	3	.
292	2024	4	.
293	2024	5	.
294	2024	6	.
295	2024	7	.
296	2024	8	.
297	2024	9	.
298	2024	10	.
299	2024	11	.
300	2024	12	.

KENTUCKY POWER COMPANY  
OTHER ULTIMATE CUSTOMERS  
ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	cu_kpc
301	2025	1	.
302	2025	2	.
303	2025	3	.
304	2025	4	.
305	2025	5	.
306	2025	6	.
307	2025	7	.
308	2025	8	.
309	2025	9	.
310	2025	10	.
311	2025	11	.
312	2025	12	.
313	2026	1	.
314	2026	2	.
315	2026	3	.
316	2026	4	.
317	2026	5	.
318	2026	6	.
319	2026	7	.
320	2026	8	.
321	2026	9	.
322	2026	10	.
323	2026	11	.
324	2026	12	.
325	2027	1	.
326	2027	2	.
327	2027	3	.
328	2027	4	.
329	2027	5	.
330	2027	6	.
331	2027	7	.
332	2027	8	.
333	2027	9	.
334	2027	10	.
335	2027	11	.
336	2027	12	.
337	2028	1	.
338	2028	2	.
339	2028	3	.
340	2028	4	.
341	2028	5	.
342	2028	6	.
343	2028	7	.
344	2028	8	.
345	2028	9	.
346	2028	10	.
347	2028	11	.
348	2028	12	.
349	2029	1	.
350	2029	2	.

KENTUCKY POWER COMPANY  
OTHER ULTIMATE CUSTOMERS  
ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	cu_kpc
351	2029	3	.
352	2029	4	.
353	2029	5	.
354	2029	6	.
355	2029	7	.
356	2029	8	.
357	2029	9	.
358	2029	10	.
359	2029	11	.
360	2029	12	.
361	2030	1	.
362	2030	2	.
363	2030	3	.
364	2030	4	.
365	2030	5	.
366	2030	6	.
367	2030	7	.
368	2030	8	.
369	2030	9	.
370	2030	10	.
371	2030	11	.
372	2030	12	.
373	2031	1	.
374	2031	2	.
375	2031	3	.
376	2031	4	.
377	2031	5	.
378	2031	6	.
379	2031	7	.
380	2031	8	.
381	2031	9	.
382	2031	10	.
383	2031	11	.
384	2031	12	.
385	2032	1	.
386	2032	2	.
387	2032	3	.
388	2032	4	.
389	2032	5	.
390	2032	6	.
391	2032	7	.
392	2032	8	.
393	2032	9	.
394	2032	10	.
395	2032	11	.
396	2032	12	.
397	2033	1	.
398	2033	2	.
399	2033	3	.
400	2033	4	.

KENTUCKY POWER COMPANY  
OTHER ULTIMATE CUSTOMERS  
ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	cu_kpc
401	2033	5	.
402	2033	6	.
403	2033	7	.
404	2033	8	.
405	2033	9	.
406	2033	10	.
407	2033	11	.
408	2033	12	.
409	2034	1	.
410	2034	2	.
411	2034	3	.
412	2034	4	.
413	2034	5	.
414	2034	6	.
415	2034	7	.
416	2034	8	.
417	2034	9	.
418	2034	10	.
419	2034	11	.
420	2034	12	.
421	2035	1	.
422	2035	2	.
423	2035	3	.
424	2035	4	.
425	2035	5	.
426	2035	6	.
427	2035	7	.
428	2035	8	.
429	2035	9	.
430	2035	10	.
431	2035	11	.
432	2035	12	.
433	2036	1	.
434	2036	2	.
435	2036	3	.
436	2036	4	.
437	2036	5	.
438	2036	6	.
439	2036	7	.
440	2036	8	.
441	2036	9	.
442	2036	10	.
443	2036	11	.
444	2036	12	.
445	2037	1	.
446	2037	2	.
447	2037	3	.
448	2037	4	.
449	2037	5	.
450	2037	6	.

KENTUCKY POWER COMPANY  
OTHER ULTIMATE CUSTOMERS  
ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	cu_kpc
451	2037	7	.
452	2037	8	.
453	2037	9	.
454	2037	10	.
455	2037	11	.
456	2037	12	.
457	2038	1	.
458	2038	2	.
459	2038	3	.
460	2038	4	.
461	2038	5	.
462	2038	6	.
463	2038	7	.
464	2038	8	.
465	2038	9	.
466	2038	10	.
467	2038	11	.
468	2038	12	.
469	2039	1	.
470	2039	2	.
471	2039	3	.
472	2039	4	.
473	2039	5	.
474	2039	6	.
475	2039	7	.
476	2039	8	.
477	2039	9	.
478	2039	10	.
479	2039	11	.
480	2039	12	.
481	2040	1	.
482	2040	2	.
483	2040	3	.
484	2040	4	.
485	2040	5	.
486	2040	6	.
487	2040	7	.
488	2040	8	.
489	2040	9	.
490	2040	10	.
491	2040	11	.
492	2040	12	.
493	2041	1	.
494	2041	2	.
495	2041	3	.
496	2041	4	.
497	2041	5	.
498	2041	6	.
499	2041	7	.
500	2041	8	.



KENTUCKY POWER COMPANY  
OTHER ULTIMATE CUSTOMERS  
ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	cu_kpc
501	2041	9	.
502	2041	10	.
503	2041	11	.
504	2041	12	.
505	2042	1	.
506	2042	2	.
507	2042	3	.
508	2042	4	.
509	2042	5	.
510	2042	6	.
511	2042	7	.
512	2042	8	.
513	2042	9	.
514	2042	10	.
515	2042	11	.
516	2042	12	.
517	2043	1	.
518	2043	2	.
519	2043	3	.
520	2043	4	.
521	2043	5	.
522	2043	6	.
523	2043	7	.
524	2043	8	.
525	2043	9	.
526	2043	10	.
527	2043	11	.
528	2043	12	.
529	2044	1	.
530	2044	2	.
531	2044	3	.
532	2044	4	.
533	2044	5	.
534	2044	6	.
535	2044	7	.
536	2044	8	.
537	2044	9	.
538	2044	10	.
539	2044	11	.
540	2044	12	.
541	2045	1	.
542	2045	2	.
543	2045	3	.
544	2045	4	.
545	2045	5	.
546	2045	6	.
547	2045	7	.
548	2045	8	.
549	2045	9	.
550	2045	10	.

KENTUCKY POWER COMPANY  
OTHER ULTIMATE CUSTOMERS  
ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	cu_kpc
551	2045	11	.
552	2045	12	.
553	2046	1	.
554	2046	2	.
555	2046	3	.
556	2046	4	.
557	2046	5	.
558	2046	6	.
559	2046	7	.
560	2046	8	.
561	2046	9	.
562	2046	10	.
563	2046	11	.
564	2046	12	.
565	2047	1	.
566	2047	2	.
567	2047	3	.
568	2047	4	.
569	2047	5	.
570	2047	6	.
571	2047	7	.
572	2047	8	.
573	2047	9	.
574	2047	10	.
575	2047	11	.
576	2047	12	.
577	2048	1	.
578	2048	2	.
579	2048	3	.
580	2048	4	.
581	2048	5	.
582	2048	6	.
583	2048	7	.
584	2048	8	.
585	2048	9	.
586	2048	10	.
587	2048	11	.
588	2048	12	.
589	2049	1	.
590	2049	2	.
591	2049	3	.
592	2049	4	.
593	2049	5	.
594	2049	6	.
595	2049	7	.
596	2049	8	.
597	2049	9	.
598	2049	10	.
599	2049	11	.
600	2049	12	.

KENTUCKY POWER COMPANY  
OTHER ULTIMATE CUSTOMERS  
ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	cu_kpc
601	2050	1	.
602	2050	2	.
603	2050	3	.
604	2050	4	.
605	2050	5	.
606	2050	6	.
607	2050	7	.
608	2050	8	.
609	2050	9	.
610	2050	10	.
611	2050	11	.
612	2050	12	.
613	2051	1	.
614	2051	2	.
615	2051	3	.
616	2051	4	.
617	2051	5	.
618	2051	6	.
619	2051	7	.
620	2051	8	.
621	2051	9	.
622	2051	10	.
623	2051	11	.
624	2051	12	.
625	2052	1	.
626	2052	2	.
627	2052	3	.
628	2052	4	.
629	2052	5	.
630	2052	6	.
631	2052	7	.
632	2052	8	.
633	2052	9	.
634	2052	10	.
635	2052	11	.
636	2052	12	.
637	2053	1	.
638	2053	2	.
639	2053	3	.
640	2053	4	.
641	2053	5	.
642	2053	6	.
643	2053	7	.
644	2053	8	.
645	2053	9	.
646	2053	10	.
647	2053	11	.
648	2053	12	.
649	2054	1	.
650	2054	2	.

KENTUCKY POWER COMPANY  
OTHER ULTIMATE CUSTOMERS  
ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	cu_kpc
651	2054	3	.
652	2054	4	.
653	2054	5	.
654	2054	6	.
655	2054	7	.
656	2054	8	.
657	2054	9	.
658	2054	10	.
659	2054	11	.
660	2054	12	.
661	2055	1	.
662	2055	2	.
663	2055	3	.
664	2055	4	.
665	2055	5	.
666	2055	6	.
667	2055	7	.
668	2055	8	.
669	2055	9	.
670	2055	10	.
671	2055	11	.
672	2055	12	.
673	2056	1	.
674	2056	2	.
675	2056	3	.
676	2056	4	.
677	2056	5	.
678	2056	6	.
679	2056	7	.
680	2056	8	.
681	2056	9	.
682	2056	10	.
683	2056	11	.
684	2056	12	.
685	2057	1	.
686	2057	2	.
687	2057	3	.
688	2057	4	.
689	2057	5	.
690	2057	6	.
691	2057	7	.
692	2057	8	.
693	2057	9	.
694	2057	10	.
695	2057	11	.
696	2057	12	.

KENTUCKY POWER COMPANY  
OTHER ULTIMATE CUSTOMERS  
ACTUAL AND FORECAST

YEAR	CUSTOMERS	GROWTH RATE
2000	527.250	.
2001	447.083	-15.2
2002	445.000	-0.5
2003	447.667	0.6
2004	441.917	-1.3
2005	419.083	-5.2
2006	380.333	-9.2
2007	375.000	-1.4
2008	378.583	1.0
2009	372.833	-1.5
2010	390.917	4.9
2011	411.333	5.2
2012	400.500	-2.6
2013	384.833	-3.9
2014	369.500	-4.0
2015	360.333	-2.5
2016	351.167	-2.5
2017	346.083	-1.4
2018	338.833	-2.1
2019	329.250	-2.8
2020	316.500	-3.9
2021	310.000	-2.1
2022	310.000	0.0
2023	310.000	0.0
2024	310.000	0.0
2025	310.000	0.0
2026	310.000	0.0
2027	310.000	0.0
2028	310.000	0.0
2029	310.000	0.0
2030	310.000	0.0
2031	310.000	0.0
2032	310.000	0.0
2033	310.000	0.0
2034	310.000	0.0
2035	310.000	0.0
2036	310.000	0.0
2037	310.000	0.0
2038	310.000	0.0
2039	310.000	0.0
2040	310.000	0.0
2041	310.000	0.0
2042	310.000	0.0
2043	310.000	0.0
2044	310.000	0.0
2045	310.000	0.0
2046	310.000	0.0
2047	310.000	0.0
2048	310.000	0.0

KENTUCKY POWER COMPANY  
OTHER ULTIMATE CUSTOMERS  
ACTUAL AND FORECAST

YEAR	CUSTOMERS	GROWTH RATE
2049	310	0
2050	310	0
2051	310	0
2052	310	0
2053	310	0
2054	310	0
2055	310	0
2056	310	0
2057	310	0

## LONG-TERM RESIDENTIAL

Kentucky Power Company  
Residential Energy Model Input Variables

Year	Month	SalesPerHH	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	7-Feb	Sep-95	Nov-95
1995	1	1,844,397,517.86	857.16	0.00	766.16	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	2	1,596,350,328.23	1,152.75	0.00	671.59	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	3	1,254,741,611.82	788.14	0.00	648.42	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	4	968,155,387.32	289.87	6.18	640.19	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	5	905,534,412.93	103.76	25.07	617.79	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	6	960,439,592.03	6.64	112.85	626.47	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	7	1,379,927,028.27	0.00	268.30	593.32	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	8	1,533,806,987.23	0.00	418.46	565.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	9	915,975,408.13	0.83	329.00	602.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00
1995	10	895,857,463.57	21.91	60.78	611.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
1995	11	1,498,882,470.13	331.12	5.65	634.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00
1995	12	1,967,901,146.64	815.24	0.38	735.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	1	2,076,798,617.87	1,321.03	0.00	768.32	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	2	1,961,229,679.54	1,316.82	0.00	675.24	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	3	1,540,773,591.60	903.63	0.00	649.11	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	4	1,352,304,482.67	624.36	7.47	643.56	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	5	960,242,182.05	136.31	74.55	619.51	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	6	988,971,148.58	18.75	160.47	628.16	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	7	1,190,706,251.20	0.00	307.56	593.59	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	8	1,142,380,692.84	0.00	282.63	566.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	9	1,112,761,645.72	0.00	244.63	604.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1996	10	879,169,425.21	41.62	44.83	616.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
1996	11	1,080,485,228.78	339.41	6.35	638.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
1996	12	1,639,880,269.11	855.53	1.52	738.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	1	1,872,862,109.57	960.06	0.81	776.28	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	2	1,697,515,457.67	1,164.71	0.67	682.19	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	3	1,310,969,527.87	640.51	2.86	657.80	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	4	1,181,396,423.42	408.85	6.53	651.36	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	5	971,922,643.18	187.93	7.51	627.91	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	6	898,196,542.17	28.37	55.36	635.63	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	7	1,173,407,879.02	0.00	260.93	601.70	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	8	1,213,288,242.80	0.00	321.26	573.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	9	1,055,187,091.32	0.00	174.12	612.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00









Kentucky Power Company  
Residential Energy Model Input Variables

Year	Month	SalesPerHH	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	7-Feb	Sep-95	Nov-95
2006	1	2,207,723,455.09	1,115.90	0.00	869.41	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2006	2	1,804,836,407.67	949.71	0.00	761.70	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2006	3	1,626,827,484.43	1,085.02	1.66	729.68	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2006	4	1,262,415,619.81	554.15	19.72	696.99	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2006	5	940,154,584.15	45.14	33.02	704.57	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2006	6	1,057,778,073.83	8.66	124.27	697.33	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2006	7	1,271,276,787.08	0.00	306.59	659.90	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2006	8	1,424,173,576.06	0.00	489.80	634.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
2006	9	1,255,081,860.97	2.08	311.13	685.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
2006	10	971,237,941.14	85.96	43.69	700.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
2006	11	1,232,087,453.73	473.96	3.02	711.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
2006	12	1,774,977,717.67	746.68	3.15	815.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2007	1	1,894,406,857.02	804.87	0.34	852.54	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2007	2	2,214,653,079.54	1,623.71	0.00	746.25	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
2007	3	1,845,838,373.91	1,367.54	2.62	726.79	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2007	4	1,270,902,877.67	471.58	34.10	739.24	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2007	5	1,045,100,110.54	178.97	59.46	702.77	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2007	6	1,145,911,905.28	7.33	209.43	693.03	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2007	7	1,271,357,530.66	0.00	341.94	652.48	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2007	8	1,344,388,712.93	0.00	402.04	639.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
2007	9	1,445,614,073.19	0.00	444.26	681.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
2007	10	1,068,750,060.73	15.14	206.45	692.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
2007	11	1,140,305,733.77	296.60	35.11	733.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
2007	12	1,690,170,524.83	835.72	0.00	819.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2008	1	2,114,912,301.05	1,160.73	0.00	857.27	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2008	2	2,006,611,403.69	1,413.59	0.00	749.02	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2008	3	1,805,065,064.25	1,208.12	0.00	730.57	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2008	4	1,341,179,216.32	545.08	1.67	738.90	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2008	5	961,256,323.06	121.15	21.82	687.77	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2008	6	1,065,972,952.47	8.21	128.54	697.78	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2008	7	1,245,205,919.79	0.00	266.26	656.42	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2008	8	1,302,137,681.46	0.00	325.05	643.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
2008	9	1,237,861,165.76	0.00	304.03	680.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00







Kentucky Power Company  
Residential Energy Model Input Variables

Year	Month	SalesPerHH	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	7-Feb	Sep-95	Nov-95
2017	1	1,795,642,938.61	974.40	0.00	791.81	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	2	1,430,614,715.25	812.35	0.00	700.71	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	3	1,279,129,104.83	636.08	0.61	679.52	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	4	1,041,332,789.00	393.53	14.30	664.57	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	5	823,765,775.39	53.60	75.46	643.95	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	6	945,257,057.31	12.94	142.13	668.10	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	7	1,174,286,650.43	0.00	285.82	649.41	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	8	1,200,944,640.43	0.00	305.23	618.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	9	1,027,802,706.75	0.00	181.47	650.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
2017	10	876,430,135.15	7.08	133.87	653.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
2017	11	965,003,787.40	286.43	24.31	666.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
2017	12	1,547,238,073.85	775.30	0.91	765.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	1	2,273,147,316.93	1,517.64	1.86	784.32	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	2	1,818,927,613.84	1,220.91	3.12	694.31	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	3	1,272,775,156.54	677.14	6.25	672.06	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	4	1,297,139,566.21	651.93	7.21	690.66	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	5	938,924,000.12	158.53	77.74	642.02	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	6	1,120,107,712.08	2.15	262.95	678.31	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	7	1,279,232,620.62	0.00	352.67	637.46	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	8	1,198,444,361.91	0.00	322.32	613.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	9	1,197,741,605.73	0.00	325.61	642.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
2018	10	989,739,593.48	40.58	203.63	639.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
2018	11	1,058,749,784.63	391.68	29.68	664.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
2018	12	1,607,197,614.97	909.13	0.16	743.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	1	1,758,299,443.33	907.80	0.00	772.36	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	2	1,727,538,541.61	1,138.33	0.00	682.70	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	3	1,430,111,575.11	889.66	0.85	661.83	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	4	1,109,539,385.45	447.34	9.90	652.87	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	5	857,774,022.56	40.04	62.39	661.29	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	6	999,339,125.88	0.62	173.84	659.89	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	7	1,205,831,829.29	0.00	303.00	631.85	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	8	1,275,655,592.78	0.00	352.66	609.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	9	1,191,835,424.58	0.00	295.06	637.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00











































Kentucky Power Company  
 Residential Energy Model Input Variables

Year	Month	Apr15on	Feb-95	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	XMissing	YMissing
2006	1	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2006	2	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2006	3	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2006	4	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2006	5	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2006	6	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2006	7	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2006	8	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2006	9	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2006	10	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2006	11	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2006	12	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2007	1	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2007	2	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2007	3	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2007	4	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2007	5	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2007	6	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2007	7	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2007	8	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2007	9	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2007	10	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2007	11	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2007	12	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2008	1	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2008	2	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2008	3	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2008	4	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2008	5	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2008	6	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2008	7	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2008	8	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0
2008	9	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0	0







Kentucky Power Company  
 Residential Energy Model Input Variables

Year	Month	Apr15on	Feb-95	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	XMissing	YMissing
2017	1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
2017	2	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
2017	3	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
2017	4	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
2017	5	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
2017	6	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
2017	7	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
2017	8	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
2017	9	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
2017	10	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
2017	11	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
2017	12	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
2018	1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
2018	2	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
2018	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2018	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2018	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2018	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2018	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2018	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2018	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2018	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2018	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2018	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2019	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2019	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2019	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2019	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2019	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2019	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2019	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2019	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2019	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0

Kentucky Power Company  
 Residential Energy Model Input Variables

Year	Month	Apr15on	Feb-95	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	XMissing	YMissing
2019	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2019	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2019	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2020	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2020	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2020	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2020	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2020	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2020	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2020	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2020	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2020	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2020	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2020	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2020	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0	0
2021	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	0
2021	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	0
2021	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	0
2021	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	0
2021	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	0
2021	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	0
2021	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	0
2021	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	0
2021	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	0
2021	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	0
2021	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	0
2021	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	0
2022	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	0
2022	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	0
2022	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2022	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2022	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2022	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1



Kentucky Power Company  
 Residential Energy Model Input Variables

Year	Month	Apr15on	Feb-95	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	XMissing	YMissing
2022	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2022	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2022	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2022	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2022	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2022	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2023	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2023	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2023	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2023	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2023	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2023	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2023	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2023	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2023	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2023	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2023	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2023	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2024	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2024	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2024	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2024	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2024	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2024	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2024	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2024	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2024	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2024	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2024	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2024	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2025	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2025	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2025	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1

Kentucky Power Company  
 Residential Energy Model Input Variables

Year	Month	Apr15on	Feb-95	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	XMissing	YMissing
2025	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2025	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2025	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2025	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2025	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2025	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2025	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2025	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2025	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2026	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2026	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2026	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2026	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2026	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2026	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2026	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2026	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2026	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2026	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2026	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2026	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2027	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2027	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2027	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2027	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2027	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2027	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2027	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2027	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2027	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2027	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2027	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2027	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1

Kentucky Power Company  
 Residential Energy Model Input Variables

Year	Month	Apr15on	Feb-95	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	XMissing	YMissing
2028	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2028	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2028	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2028	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2028	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2028	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2028	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2028	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2028	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2028	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2028	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2028	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2029	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2029	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2029	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2029	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2029	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2029	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2029	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2029	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2029	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2029	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2029	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2029	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2030	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2030	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2030	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2030	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2030	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2030	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2030	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2030	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2030	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1

Kentucky Power Company  
 Residential Energy Model Input Variables

Year	Month	Apr15on	Feb-95	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	XMissing	YMissing
2030	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2030	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2030	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2031	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2031	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2031	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2031	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2031	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2031	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2031	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2031	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2031	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2031	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2031	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2031	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2032	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2032	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2032	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2032	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2032	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2032	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2032	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2032	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2032	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2032	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2032	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2032	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2033	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2033	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2033	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2033	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2033	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2033	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1

Kentucky Power Company  
 Residential Energy Model Input Variables

Year	Month	Apr15on	Feb-95	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	XMissing	YMissing
2033	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2033	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2033	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2033	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2033	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2033	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2034	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2034	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2034	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2034	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2034	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2034	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2034	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2034	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2034	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2034	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2034	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2034	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2035	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2035	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2035	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2035	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2035	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2035	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2035	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2035	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2035	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2035	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2035	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2035	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2036	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2036	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2036	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1

Kentucky Power Company  
 Residential Energy Model Input Variables

Year	Month	Apr15on	Feb-95	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	XMissing	YMissing
2036	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2036	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2036	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2036	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2036	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2036	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2036	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2036	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2036	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2037	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2037	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2037	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2037	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2037	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2037	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2037	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2037	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2037	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2037	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2037	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2037	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2038	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2038	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2038	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2038	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2038	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2038	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2038	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2038	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2038	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2038	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2038	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2038	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1

Kentucky Power Company  
 Residential Energy Model Input Variables

Year	Month	Apr15on	Feb-95	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	XMissing	YMissing
2039	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2039	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2039	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2039	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2039	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2039	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2039	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2039	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2039	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2039	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2039	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2039	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2040	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2040	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2040	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2040	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2040	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2040	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2040	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2040	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2040	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2040	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2040	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2040	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2041	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2041	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2041	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2041	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2041	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2041	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2041	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2041	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2041	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1

Kentucky Power Company  
 Residential Energy Model Input Variables

Year	Month	Apr15on	Feb-95	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	XMissing	YMissing
2041	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2041	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2041	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2042	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2042	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2042	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2042	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2042	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2042	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2042	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2042	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2042	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2042	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2042	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2042	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2043	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2043	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2043	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2043	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2043	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2043	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2043	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2043	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2043	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2043	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2043	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2043	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2044	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2044	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2044	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2044	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2044	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2044	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1



Kentucky Power Company  
 Residential Energy Model Input Variables

Year	Month	Apr15on	Feb-95	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	XMissing	YMissing
2044	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2044	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2044	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2044	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2044	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2044	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2045	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2045	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2045	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2045	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2045	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2045	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2045	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2045	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2045	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2045	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2045	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2045	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2046	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2046	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2046	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2046	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2046	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2046	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2046	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2046	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2046	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2046	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2046	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2046	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2047	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2047	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2047	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1

Kentucky Power Company  
 Residential Energy Model Input Variables

Year	Month	Apr15on	Feb-95	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	XMissing	YMissing
2047	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2047	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2047	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2047	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2047	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2047	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2047	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2047	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2047	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2048	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2048	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2048	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2048	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2048	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2048	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2048	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2048	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2048	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2048	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2048	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2048	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2049	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2049	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2049	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2049	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2049	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2049	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2049	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2049	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2049	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2049	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2049	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2049	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1

Kentucky Power Company  
 Residential Energy Model Input Variables

Year	Month	Apr15on	Feb-95	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	XMissing	YMissing
2050	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2050	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2050	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2050	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2050	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2050	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2050	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2050	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2050	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2050	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2050	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2050	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2051	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2051	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2051	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2051	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2051	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2051	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2051	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2051	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2051	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2051	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2051	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2051	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2052	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2052	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2052	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2052	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2052	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2052	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2052	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2052	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2052	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1

Kentucky Power Company  
 Residential Energy Model Input Variables

Year	Month	Apr15on	Feb-95	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	XMissing	YMissing
2052	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2052	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2052	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2053	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2053	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2053	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2053	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2053	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2053	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2053	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2053	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2053	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2053	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2053	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2053	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2054	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2054	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2054	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2054	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2054	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2054	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2054	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2054	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2054	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2054	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2054	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2054	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2055	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2055	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2055	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2055	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2055	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2055	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1

Kentucky Power Company  
 Residential Energy Model Input Variables

Year	Month	Apr15on	Feb-95	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	XMissing	YMissing
2055	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2055	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2055	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2055	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2055	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2055	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2056	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2056	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2056	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2056	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2056	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2056	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2056	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2056	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2056	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2056	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2056	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2056	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2057	1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2057	2	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2057	3	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2057	4	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2057	5	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2057	6	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2057	7	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2057	8	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2057	9	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2057	10	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2057	11	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1
2057	12	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0	1

Kentucky Power Company  
Residential Energy Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value	Units	Definition
CONST	479347598.049	143570417.653	3.339	0.10%		Constant term
ResidentialVars.XHeat	678271.450	16765.485	40.456	0.00%		Residential Heating Component
ResidentialVars.XCool	1053337.355	69411.414	15.175	0.00%		Residential Cooling Component
ResidentialVars.XOther	821920.544	183357.471	4.483	0.00%		Residential Other Component
BinaryVars.Jan	111840473.441	13130783.175	8.517	0.00%		January
BinaryVars.Feb	-91154618.904	18914170.415	-4.819	0.00%		February
BinaryVars.Mar	-139550190.611	20446663.838	-6.825	0.00%		March
BinaryVars.Apr	-165028720.836	21551561.523	-7.657	0.00%		April
BinaryVars.May	-206168618.572	27369944.511	-7.533	0.00%		May
BinaryVars.Jun	-161683827.710	29202380.152	-5.537	0.00%		June
BinaryVars.Jul	-71170817.560	38825733.527	-1.833	6.78%		July
BinaryVars.Aug	-63034600.479	44081026.031	-1.430	15.38%		August
BinaryVars.Sep	-109928309.504	36356403.701	-3.024	0.27%		September
BinaryVars.Oct	-202965416.453	28663395.094	-7.081	0.00%		October
BinaryVars.Nov	-175840688.962	22545711.676	-7.799	0.00%		November
BinaryVars.Feb07	92200376.525	39643007.235	2.326	2.07%		Binary Variable February 2007
BinaryVars.Sep95	-397701376.844	39905172.537	-9.966	0.00%		Binary Variable September 1995
BinaryVars.Nov95	292986106.030	39286493.637	7.458	0.00%		Binary Variable November 1995
BinaryVars.Apr15on	-47149536.983	15846936.213	-2.975	0.32%		Binary Variable April 2015 On
BinaryVars.feb95	-149902382.213	43966686.267	-3.409	0.08%		Binary Variable February 1995
BinaryVars.mar95	-169901215.244	48244289.279	-3.522	0.05%		Binary Variable March 1995
BinaryVars.jan96	-227441388.121	40605497.036	-5.601	0.00%		Binary Variable January 1996
BinaryVars.apr95	-93837867.615	44096835.498	-2.128	3.41%		Binary Variable April 1995
BinaryVars.d0610	29640498.624	13502938.847	2.195	2.89%		Binary Variable 2006 through 2010
BinaryVars.Mar18on	-9328389.559	20029316.794	-0.466	64.18%		Binary Variable March 2018 On
BinaryVars.D21on	24301165.841	25806787.763	0.942	34.71%		Binary Variable 2021 On
AR(1)	0.515	0.053	9.646	0.00%		Auto Regressive Variable

Kentucky Power Company  
Residential Energy Model Statistics

Model Statistics		Forecast Statistics	
Iterations	18	Forecast Observations	0
Adjusted Observations	324	Mean Abs. Dev. (MAD)	0.00
Deg. of Freedom for Error	297	Mean Abs. % Err. (MAPE)	0.00%
R-Squared	0.988	Avg. Forecast Error	0.00
Adjusted R-Squared	0.987	Mean % Error	0.00%
AIC	35.250	Root Mean-Square Error	0.00
BIC	35.565	Theil's Inequality Coefficient	0.0000
F-Statistic	932.822	-- Bias Proportion	0.00%
Prob (F-Statistic)	0.0000	-- Variance Proportion	0.00%
Log-Likelihood	-6,143.19	-- Covariance Proportion	0.00%
Model Sum of Squares	45,597,014,001,423,900,000.00		
Sum of Squared Errors	558,368,130,995,773,000.00		
Mean Squared Error	1,880,027,377,090,150.00		
Std. Error of Regression	43,359,282.48		
Mean Abs. Dev. (MAD)	28,891,501.61		
Mean Abs. % Err. (MAPE)	2.11%		
Durbin-Watson Statistic	1.908		
Durbin-H Statistic	#NA		
Ljung-Box Statistic	34.53		
Prob (Ljung-Box)	0.0757		
Skewness	1.056		
Kurtosis	9.107		
Jarque-Bera	563.601		
Prob (Jarque-Bera)	0.0000		

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb
1995	1	479,347,598.049	479,347,598.049	581,384,513.707	0.000	629,722,698.028	111,840,473.441	0.000
1995	2	1,593,844,674.559	479,347,598.049	781,878,195.847	0.000	551,989,797.221	0.000	-91,154,618.904
1995	3	1,249,877,029.626	479,347,598.049	534,573,786.546	0.000	532,946,332.697	0.000	0.000
1995	4	958,711,081.314	479,347,598.049	196,611,570.739	6,509,234.001	526,185,324.279	0.000	0.000
1995	5	887,198,837.076	479,347,598.049	70,375,056.108	26,410,426.774	507,773,228.581	0.000	0.000
1995	6	970,269,061.362	479,347,598.049	4,503,998.789	118,872,673.888	514,911,039.510	0.000	0.000
1995	7	1,180,760,926.904	479,347,598.049	0.000	282,613,264.502	487,659,139.481	0.000	0.000
1995	8	1,425,582,913.345	479,347,598.049	0.000	440,781,274.113	464,711,120.205	0.000	0.000
1995	9	923,564,374.503	479,347,598.049	560,397.967	346,553,002.280	495,534,950.767	0.000	0.000
1995	10	910,591,004.440	479,347,598.049	14,860,922.927	64,016,988.870	502,993,914.233	0.000	0.000
1995	11	1,368,248,291.848	479,347,598.049	224,588,745.966	5,948,057.324	521,849,626.809	0.000	0.000
1995	12	1,714,282,417.669	479,347,598.049	552,952,945.911	405,447.638	604,312,634.462	0.000	0.000
1996	1	2,061,696,112.467	479,347,598.049	896,016,570.621	0.000	631,501,374.636	111,840,473.441	0.000
1996	2	1,931,909,035.624	479,347,598.049	893,159,221.728	0.000	554,991,698.722	0.000	-91,154,618.904
1996	3	1,550,545,211.177	479,347,598.049	612,907,873.957	0.000	533,513,567.819	0.000	0.000
1996	4	1,302,724,545.908	479,347,598.049	423,486,888.455	7,867,310.893	528,951,327.704	0.000	0.000
1996	5	993,364,969.354	479,347,598.049	92,457,636.699	78,528,904.962	509,187,872.497	0.000	0.000
1996	6	1,019,255,076.897	479,347,598.049	12,715,914.858	169,029,361.402	516,297,742.435	0.000	0.000
1996	7	1,206,256,954.764	479,347,598.049	0.000	323,966,841.959	487,884,367.625	0.000	0.000
1996	8	1,164,230,369.880	479,347,598.049	0.000	297,708,746.810	465,311,712.409	0.000	0.000
1996	9	1,105,034,000.458	479,347,598.049	0.000	257,676,772.071	496,971,627.027	0.000	0.000
1996	10	852,837,927.585	479,347,598.049	28,230,659.274	47,222,806.076	506,825,814.315	0.000	0.000
1996	11	1,075,741,585.442	479,347,598.049	230,208,956.710	6,693,611.949	524,768,833.699	0.000	0.000
1996	12	1,676,204,859.562	479,347,598.049	580,280,310.339	1,599,192.821	607,093,447.539	0.000	0.000
1997	1	1,866,616,676.490	479,347,598.049	651,180,153.638	853,602.966	638,043,911.908	111,840,473.441	0.000
1997	2	1,735,263,575.380	479,347,598.049	789,988,988.562	707,595.164	560,702,567.558	0.000	-91,154,618.904
1997	3	1,296,235,950.223	479,347,598.049	434,442,048.193	3,011,486.327	540,657,926.380	0.000	0.000
1997	4	1,130,294,810.927	479,347,598.049	277,307,947.739	6,879,224.208	535,363,088.057	0.000	0.000
1997	5	949,129,998.162	479,347,598.049	127,470,170.665	7,910,884.908	516,089,534.544	0.000	0.000
1997	6	942,002,032.835	479,347,598.049	19,240,957.272	58,309,825.729	522,437,991.154	0.000	0.000
1997	7	1,167,551,956.384	479,347,598.049	0.000	274,845,470.481	494,551,133.383	0.000	0.000
1997	8	1,224,031,567.088	479,347,598.049	0.000	338,400,065.982	471,464,078.506	0.000	0.000
1997	9	1,049,943,376.904	479,347,598.049	0.000	183,401,970.842	503,760,951.813	0.000	0.000



Kentucky Power Company  
Residential Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb
1997	10	867,554,308.031	479,347,598.049	20,470,153.893	57,629,491.782	513,791,081.281	0.000	0.000
1997	11	1,109,584,038.665	479,347,598.049	279,067,246.665	16,355,772.392	514,311,105.920	0.000	0.000
1997	12	1,661,648,933.570	479,347,598.049	558,983,812.371	0.000	624,475,413.787	0.000	0.000
1998	1	1,890,200,211.531	479,347,598.049	607,088,620.014	0.000	647,990,151.561	111,840,473.441	0.000
1998	2	1,581,491,782.958	479,347,598.049	641,553,915.135	0.000	567,317,619.158	0.000	-91,154,618.904
1998	3	1,378,265,325.870	479,347,598.049	513,828,877.790	38,293.382	546,951,298.722	0.000	0.000
1998	4	1,200,138,855.497	479,347,598.049	299,941,181.630	48,568,416.660	541,063,810.041	0.000	0.000
1998	5	844,298,691.983	479,347,598.049	44,807,913.708	27,166,116.731	522,184,488.816	0.000	0.000
1998	6	1,033,852,520.772	479,347,598.049	992,931.073	156,014,694.767	528,439,206.343	0.000	0.000
1998	7	1,242,531,980.068	479,347,598.049	432,280.364	334,620,329.610	498,993,697.028	0.000	0.000
1998	8	1,240,836,912.428	479,347,598.049	0.000	346,497,666.426	477,269,341.080	0.000	0.000
1998	9	1,223,008,605.471	479,347,598.049	0.000	336,772,973.624	511,602,414.454	0.000	0.000
1998	10	1,010,537,861.968	479,347,598.049	8,337,669.136	205,435,351.907	519,575,586.708	0.000	0.000
1998	11	1,020,336,096.870	479,347,598.049	169,793,577.221	15,251,020.576	539,619,778.332	0.000	0.000
1998	12	1,449,116,848.857	479,347,598.049	321,986,798.397	3,209,574.122	618,270,397.954	0.000	0.000
1999	1	2,114,290,475.862	479,347,598.049	845,458,217.492	1,418,888.265	657,318,951.473	111,840,473.441	0.000
1999	2	1,501,333,498.963	479,347,598.049	588,656,665.095	0.000	575,530,021.063	0.000	-91,154,618.904
1999	3	1,554,672,079.288	479,347,598.049	703,935,560.625	0.000	555,351,767.063	0.000	0.000
1999	4	1,219,144,541.058	479,347,598.049	364,166,209.082	11,358,879.981	549,325,781.847	0.000	0.000
1999	5	875,611,083.318	479,347,598.049	43,749,809.317	38,364,569.339	528,367,573.071	0.000	0.000
1999	6	1,022,013,924.816	479,347,598.049	0.000	178,524,170.461	534,641,979.143	0.000	0.000
1999	7	1,303,566,296.507	479,347,598.049	0.000	416,539,268.500	506,305,155.952	0.000	0.000
1999	8	1,385,067,607.247	479,347,598.049	0.000	517,687,702.535	483,626,674.499	0.000	0.000
1999	9	1,134,407,142.638	479,347,598.049	178,413.222	263,312,218.440	517,040,327.586	0.000	0.000
1999	10	865,564,564.588	479,347,598.049	19,832,849.247	54,699,607.005	526,585,164.340	0.000	0.000
1999	11	1,024,156,952.266	479,347,598.049	164,180,506.082	3,042,436.202	541,495,162.053	0.000	0.000
1999	12	1,539,695,759.556	479,347,598.049	409,424,198.897	0.000	632,115,477.394	0.000	0.000
2000	1	2,007,347,643.838	479,347,598.049	760,139,113.566	0.000	666,058,488.037	111,840,473.441	0.000
2000	2	1,933,695,999.275	479,347,598.049	1,009,910,006.808	0.000	584,497,214.053	0.000	-91,154,618.904
2000	3	1,264,650,410.503	479,347,598.049	391,017,856.570	2,507,714.709	562,564,834.644	0.000	0.000
2000	4	1,103,328,861.061	479,347,598.049	215,774,900.986	5,822,344.902	557,099,580.148	0.000	0.000
2000	5	944,928,333.825	479,347,598.049	80,481,399.704	63,518,782.711	536,836,599.231	0.000	0.000
2000	6	1,057,998,553.894	479,347,598.049	182,628.306	176,608,166.752	540,876,265.527	0.000	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb
2000	7	1,253,531,675.090	479,347,598.049	0.000	324,708,731.477	514,044,950.900	0.000	0.000
2000	8	1,180,611,890.533	479,347,598.049	0.000	285,938,672.103	491,759,981.287	0.000	0.000
2000	9	1,144,042,467.190	479,347,598.049	933,078.276	249,572,979.100	528,260,792.526	0.000	0.000
2000	10	954,479,360.485	479,347,598.049	51,759,004.962	86,613,322.299	540,395,732.245	0.000	0.000
2000	11	1,062,825,893.266	479,347,598.049	176,911,547.524	11,992,502.715	557,098,005.789	0.000	0.000
2000	12	1,894,210,509.872	479,347,598.049	781,332,855.791	0.000	641,250,503.529	0.000	0.000
2001	1	2,423,641,570.601	479,347,598.049	1,180,516,733.529	0.000	682,611,075.686	111,840,473.441	0.000
2001	2	1,905,114,488.910	479,347,598.049	921,946,906.911	0.000	601,269,735.917	0.000	-91,154,618.904
2001	3	1,508,549,452.554	479,347,598.049	640,825,667.422	0.000	577,783,187.726	0.000	0.000
2001	4	1,351,722,616.934	479,347,598.049	438,170,674.042	48,248,978.260	570,742,720.722	0.000	0.000
2001	5	974,629,791.814	479,347,598.049	67,234,804.873	107,669,363.788	550,464,963.834	0.000	0.000
2001	6	986,502,822.075	479,347,598.049	3,988,936.882	116,152,709.415	558,374,104.398	0.000	0.000
2001	7	1,216,764,318.112	479,347,598.049	0.000	289,932,792.653	528,154,311.103	0.000	0.000
2001	8	1,322,616,700.128	479,347,598.049	0.000	420,770,739.107	502,523,581.476	0.000	0.000
2001	9	1,216,359,980.066	479,347,598.049	191,711.998	330,063,456.669	541,864,127.000	0.000	0.000
2001	10	935,214,960.262	479,347,598.049	39,464,857.993	80,202,651.563	549,982,091.212	0.000	0.000
2001	11	1,098,737,639.069	479,347,598.049	189,376,380.736	23,612,716.181	566,444,619.557	0.000	0.000
2001	12	1,414,101,316.855	479,347,598.049	246,061,631.112	745,738.632	652,753,169.262	0.000	0.000
2002	1	2,148,451,811.751	479,347,598.049	845,336,646.980	0.000	693,804,367.224	111,840,473.441	0.000
2002	2	1,663,555,610.889	479,347,598.049	696,866,038.684	0.000	607,938,350.840	0.000	-91,154,618.904
2002	3	1,541,566,539.480	479,347,598.049	622,395,179.361	1,510,130.381	588,456,676.236	0.000	0.000
2002	4	1,278,588,182.245	479,347,598.049	332,435,026.571	22,976,701.242	581,705,512.757	0.000	0.000
2002	5	1,009,667,370.976	479,347,598.049	88,199,847.375	65,329,025.381	560,098,289.508	0.000	0.000
2002	6	1,088,111,542.562	479,347,598.049	51,071,091.955	172,352,315.897	567,988,247.027	0.000	0.000
2002	7	1,334,580,486.215	479,347,598.049	0.000	394,139,761.267	535,250,896.061	0.000	0.000
2002	8	1,441,065,837.572	479,347,598.049	0.000	502,542,855.527	512,606,512.773	0.000	0.000
2002	9	1,355,987,685.399	479,347,598.049	0.000	442,080,704.720	547,666,685.944	0.000	0.000
2002	10	1,002,184,441.481	479,347,598.049	19,061,242.052	178,534,893.383	557,719,349.907	0.000	0.000
2002	11	1,121,113,432.660	479,347,598.049	235,079,476.131	17,779,946.011	577,794,420.306	0.000	0.000
2002	12	1,849,745,078.805	479,347,598.049	706,869,930.326	2,354,127.392	668,553,923.786	0.000	0.000
2003	1	2,147,725,223.175	479,347,598.049	858,366,616.061	0.000	706,637,709.717	111,840,473.441	0.000
2003	2	2,215,641,961.661	479,347,598.049	1,191,275,574.244	0.000	616,494,546.968	0.000	-91,154,618.904
2003	3	1,687,094,051.185	479,347,598.049	803,034,253.566	0.000	594,720,725.678	0.000	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb
2003	4	1,117,829,847.755	479,347,598.049	211,390,899.516	19,813,604.881	587,536,158.242	0.000	0.000
2003	5	940,541,852.099	479,347,598.049	45,765,571.480	49,405,033.616	566,750,191.635	0.000	0.000
2003	6	956,305,953.777	479,347,598.049	0.000	67,041,929.221	571,794,823.706	0.000	0.000
2003	7	1,225,012,983.032	479,347,598.049	0.000	281,477,743.603	539,761,340.173	0.000	0.000
2003	8	1,254,622,685.147	479,347,598.049	0.000	336,632,584.316	510,750,452.744	0.000	0.000
2003	9	1,239,223,724.987	479,347,598.049	0.000	322,877,816.971	557,140,233.872	0.000	0.000
2003	10	946,717,944.958	479,347,598.049	53,121,972.713	46,823,624.288	564,469,275.556	0.000	0.000
2003	11	1,053,650,117.097	479,347,598.049	146,679,766.773	11,026,709.639	578,899,165.131	0.000	0.000
2003	12	1,677,854,717.278	479,347,598.049	517,372,680.724	1,258,322.406	669,382,272.394	0.000	0.000
2004	1	2,183,385,727.555	479,347,598.049	850,510,545.452	1,000,384.455	709,635,776.941	111,840,473.441	0.000
2004	2	2,155,814,773.282	479,347,598.049	1,103,596,519.120	335,418.868	624,249,779.893	0.000	-91,154,618.904
2004	3	1,581,767,017.205	479,347,598.049	637,754,514.167	3,006,666.122	601,257,852.947	0.000	0.000
2004	4	1,292,207,217.423	479,347,598.049	351,408,740.746	16,618,891.471	603,957,313.295	0.000	0.000
2004	5	1,021,712,941.554	479,347,598.049	86,153,681.349	91,662,952.076	567,573,237.766	0.000	0.000
2004	6	1,153,236,484.091	479,347,598.049	5,994,733.812	252,322,863.544	581,555,976.262	0.000	0.000
2004	7	1,275,557,296.588	479,347,598.049	0.000	322,193,878.133	547,098,688.952	0.000	0.000
2004	8	1,262,213,836.006	479,347,598.049	0.000	319,172,584.195	520,184,291.472	0.000	0.000
2004	9	1,176,757,201.826	479,347,598.049	0.000	279,905,059.265	552,043,277.320	0.000	0.000
2004	10	927,090,174.782	479,347,598.049	14,722,507.253	83,213,708.245	573,668,556.466	0.000	0.000
2004	11	1,012,235,102.370	479,347,598.049	93,943,905.187	16,474,559.105	583,222,380.451	0.000	0.000
2004	12	1,601,928,847.410	479,347,598.049	434,595,004.239	2,400,152.973	683,649,290.382	0.000	0.000
2005	1	2,066,221,753.892	479,347,598.049	746,815,057.386	0.000	709,168,067.488	111,840,473.441	0.000
2005	2	1,943,875,801.026	479,347,598.049	912,849,572.002	0.000	631,036,980.579	0.000	-91,154,618.904
2005	3	1,733,197,665.860	479,347,598.049	772,439,774.472	0.000	612,006,798.132	0.000	0.000
2005	4	1,312,781,317.814	479,347,598.049	356,794,566.205	7,536,272.513	609,591,148.713	0.000	0.000
2005	5	982,795,223.909	479,347,598.049	102,308,416.117	27,589,574.267	569,061,339.174	0.000	0.000
2005	6	1,102,780,446.900	479,347,598.049	14,117,390.561	162,595,867.680	583,061,822.173	0.000	0.000
2005	7	1,414,155,753.292	479,347,598.049	0.000	461,769,627.021	548,436,840.656	0.000	0.000
2005	8	1,495,655,055.855	479,347,598.049	0.000	589,543,039.957	533,613,088.354	0.000	0.000
2005	9	1,335,846,616.708	479,347,598.049	0.000	443,652,773.938	563,665,984.093	0.000	0.000
2005	10	1,036,517,228.387	479,347,598.049	8,743,058.669	203,770,704.242	568,570,832.143	0.000	0.000
2005	11	1,125,216,868.230	479,347,598.049	221,553,479.095	12,887,222.322	599,488,447.143	0.000	0.000
2005	12	1,906,910,235.477	479,347,598.049	753,816,271.538	1,901,963.738	680,755,214.325	0.000	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb
2006	1	2,084,373,151.919	479,347,598.049	756,881,782.575	0.000	714,585,685.064	111,840,473.441	0.000
2006	2	1,747,502,247.845	479,347,598.049	644,158,163.123	0.000	626,056,073.129	0.000	-91,154,618.904
2006	3	1,767,023,825.235	479,347,598.049	735,940,590.273	1,747,137.147	599,742,489.606	0.000	0.000
2006	4	1,272,238,466.756	479,347,598.049	375,867,139.936	20,768,314.371	572,871,093.384	0.000	0.000
2006	5	921,032,004.504	479,347,598.049	30,618,918.195	34,786,277.698	579,102,400.426	0.000	0.000
2006	6	1,053,529,795.409	479,347,598.049	5,877,126.519	130,895,625.133	573,147,192.249	0.000	0.000
2006	7	1,303,433,030.052	479,347,598.049	0.000	322,947,686.489	542,382,780.883	0.000	0.000
2006	8	1,467,177,870.552	479,347,598.049	0.000	515,923,582.598	521,716,935.150	0.000	0.000
2006	9	1,261,015,105.193	479,347,598.049	1,414,185.181	327,726,517.654	563,420,986.841	0.000	0.000
2006	10	967,197,943.832	479,347,598.049	58,301,536.901	46,020,133.997	575,674,474.947	0.000	0.000
2006	11	1,235,273,431.028	479,347,598.049	321,476,208.399	3,176,690.096	585,086,486.041	0.000	0.000
2006	12	1,683,654,605.333	479,347,598.049	506,449,660.194	3,317,162.162	670,462,226.398	0.000	0.000
2007	1	1,912,000,700.454	479,347,598.049	545,920,386.122	359,923.142	700,718,132.008	111,840,473.441	0.000
2007	2	2,238,403,287.913	479,347,598.049	1,101,318,069.614	0.000	613,360,575.733	0.000	-91,154,618.904
2007	3	1,891,948,034.791	479,347,598.049	927,565,846.320	2,761,289.652	597,364,414.523	0.000	0.000
2007	4	1,280,910,738.869	479,347,598.049	319,859,650.673	35,914,709.640	607,596,093.421	0.000	0.000
2007	5	1,045,694,214.257	479,347,598.049	121,390,075.088	62,628,954.529	577,618,557.635	0.000	0.000
2007	6	1,132,522,226.641	479,347,598.049	4,970,289.986	220,604,293.863	569,613,784.250	0.000	0.000
2007	7	1,336,047,381.166	479,347,598.049	0.000	360,181,345.758	536,287,554.301	0.000	0.000
2007	8	1,362,259,783.307	479,347,598.049	0.000	423,486,416.867	525,233,256.493	0.000	0.000
2007	9	1,400,914,258.676	479,347,598.049	0.000	467,950,927.077	559,804,140.636	0.000	0.000
2007	10	1,112,996,777.982	479,347,598.049	10,269,935.453	217,465,081.596	569,555,950.079	0.000	0.000
2007	11	1,156,622,261.798	479,347,598.049	201,172,321.599	36,982,508.622	603,123,089.873	0.000	0.000
2007	12	1,731,435,755.488	479,347,598.049	566,843,428.602	0.000	673,178,603.831	0.000	0.000
2008	1	2,082,416,413.099	479,347,598.049	787,289,740.542	0.000	704,605,297.418	111,840,473.441	0.000
2008	2	1,993,387,100.232	479,347,598.049	958,795,326.124	0.000	615,630,940.952	0.000	-91,154,618.904
2008	3	1,796,732,274.500	479,347,598.049	819,433,410.897	0.000	600,468,682.759	0.000	0.000
2008	4	1,330,851,124.582	479,347,598.049	369,713,101.339	1,762,211.134	607,316,745.553	0.000	0.000
2008	5	982,759,851.264	479,347,598.049	82,174,065.559	22,985,667.861	565,288,828.864	0.000	0.000
2008	6	1,055,601,220.421	479,347,598.049	5,570,858.242	135,396,552.376	573,516,554.898	0.000	0.000
2008	7	1,259,955,901.286	479,347,598.049	0.000	280,456,588.506	539,526,562.607	0.000	0.000
2008	8	1,311,047,821.866	479,347,598.049	0.000	342,384,540.046	529,196,985.673	0.000	0.000
2008	9	1,270,867,118.366	479,347,598.049	0.000	320,244,008.234	559,494,209.054	0.000	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb
2008	10	980,709,153.332	479,347,598.049	13,343,970.730	122,224,950.753	560,203,362.239	0.000	0.000
2008	11	1,177,692,484.028	479,347,598.049	262,332,564.071	7,905,444.866	578,888,966.313	0.000	0.000
2008	12	2,031,965,211.117	479,347,598.049	851,244,408.401	0.000	660,118,499.333	0.000	0.000
2009	1	2,248,452,416.892	479,347,598.049	935,779,435.643	0.000	699,777,097.608	111,840,473.441	0.000
2009	2	2,175,027,533.152	479,347,598.049	1,143,791,582.702	0.000	619,546,588.810	0.000	-91,154,618.904
2009	3	1,722,528,056.375	479,347,598.049	739,331,664.790	4,938,096.999	583,807,433.644	0.000	0.000
2009	4	1,221,074,565.255	479,347,598.049	283,092,573.137	3,728,415.440	588,883,137.400	0.000	0.000
2009	5	1,044,566,064.295	479,347,598.049	73,304,935.541	71,548,226.501	571,351,801.380	0.000	0.000
2009	6	1,056,998,126.376	479,347,598.049	7,067,606.225	143,364,825.271	565,625,816.219	0.000	0.000
2009	7	1,212,635,111.288	479,347,598.049	0.000	245,442,308.158	533,846,620.938	0.000	0.000
2009	8	1,216,442,253.166	479,347,598.049	0.000	254,509,017.200	517,685,569.508	0.000	0.000
2009	9	1,174,926,168.410	479,347,598.049	0.000	245,407,554.836	546,064,289.541	0.000	0.000
2009	10	1,009,664,389.870	479,347,598.049	51,517,038.999	87,793,210.482	569,008,148.417	0.000	0.000
2009	11	1,117,238,561.683	479,347,598.049	205,275,802.050	3,613,585.843	580,457,525.286	0.000	0.000
2009	12	1,737,311,497.297	479,347,598.049	541,841,294.044	234,190.030	672,472,729.760	0.000	0.000
2010	1	2,395,408,382.507	479,347,598.049	1,119,123,527.148	0.000	691,682,032.091	111,840,473.441	0.000
2010	2	2,119,544,023.870	479,347,598.049	1,106,127,609.807	0.000	592,061,996.198	0.000	-91,154,618.904
2010	3	1,876,805,999.466	479,347,598.049	914,170,653.647	0.000	590,265,959.009	0.000	0.000
2010	4	1,213,414,423.602	479,347,598.049	213,198,338.248	28,699,376.954	590,616,944.269	0.000	0.000
2010	5	981,825,680.161	479,347,598.049	55,316,539.561	45,026,914.406	556,928,955.243	0.000	0.000
2010	6	1,132,192,070.341	479,347,598.049	8,944,145.664	219,048,998.419	564,464,681.421	0.000	0.000
2010	7	1,373,713,669.201	479,347,598.049	0.000	389,532,121.989	533,715,606.973	0.000	0.000
2010	8	1,451,302,623.624	479,347,598.049	0.000	454,611,547.235	515,354,641.397	0.000	0.000
2010	9	1,300,747,663.039	479,347,598.049	0.000	323,635,248.642	540,383,988.072	0.000	0.000
2010	10	1,014,363,854.645	479,347,598.049	17,343,637.279	120,716,113.748	557,029,107.532	0.000	0.000
2010	11	1,094,996,384.262	479,347,598.049	184,549,890.654	11,621,169.384	562,121,488.307	0.000	0.000
2010	12	1,916,852,586.118	479,347,598.049	752,185,469.261	0.000	660,912,131.308	0.000	0.000
2011	1	2,477,210,112.752	479,347,598.049	1,211,790,498.629	0.000	678,333,818.795	111,840,473.441	0.000
2011	2	2,135,149,306.354	479,347,598.049	1,103,542,852.166	0.000	590,942,887.954	0.000	-91,154,618.904
2011	3	1,477,420,306.705	479,347,598.049	577,882,313.658	1,857,692.870	585,371,565.037	0.000	0.000
2011	4	1,267,918,127.479	479,347,598.049	369,222,507.081	17,826,851.274	570,431,111.690	0.000	0.000
2011	5	957,762,246.546	479,347,598.049	71,353,526.521	53,409,525.217	577,578,613.609	0.000	0.000
2011	6	1,092,768,725.994	479,347,598.049	22,899,517.023	199,445,142.440	558,576,768.622	0.000	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb
2011	7	1,279,282,569.869	479,347,598.049	0.000	312,674,002.290	537,297,928.239	0.000	0.000
2011	8	1,407,656,154.978	479,347,598.049	0.000	463,568,496.639	519,947,056.860	0.000	0.000
2011	9	1,214,552,003.105	479,347,598.049	255,232.931	277,161,134.851	543,462,657.323	0.000	0.000
2011	10	932,094,279.267	479,347,598.049	44,845,375.855	49,354,291.010	558,929,974.281	0.000	0.000
2011	11	1,093,748,001.461	479,347,598.049	223,796,353.947	1,140,105.698	568,792,247.597	0.000	0.000
2011	12	1,556,562,764.742	479,347,598.049	408,938,639.357	1,710,969.231	654,106,508.303	0.000	0.000
2012	1	1,990,570,890.645	479,347,598.049	715,547,142.686	0.000	680,798,717.985	111,840,473.441	0.000
2012	2	1,723,190,556.228	479,347,598.049	747,660,487.875	0.000	613,645,835.669	0.000	-91,154,618.904
2012	3	1,459,048,167.835	479,347,598.049	535,618,410.541	10,322,266.503	587,895,057.383	0.000	0.000
2012	4	1,025,120,359.800	479,347,598.049	112,920,392.952	43,081,480.239	587,873,100.959	0.000	0.000
2012	5	944,199,186.012	479,347,598.049	76,794,782.773	62,740,799.279	573,243,909.605	0.000	0.000
2012	6	1,069,542,744.709	479,347,598.049	387,550.190	185,085,218.494	574,305,235.631	0.000	0.000
2012	7	1,382,971,791.682	479,347,598.049	0.000	413,986,844.638	551,703,707.349	0.000	0.000
2012	8	1,338,307,986.695	479,347,598.049	0.000	406,150,755.475	515,701,498.021	0.000	0.000
2012	9	1,207,907,080.098	479,347,598.049	922,674.487	285,308,938.386	556,662,751.796	0.000	0.000
2012	10	954,546,668.546	479,347,598.049	60,933,071.877	68,317,975.509	555,631,201.275	0.000	0.000
2012	11	1,196,785,696.710	479,347,598.049	318,072,989.903	8,809,617.489	576,927,876.901	0.000	0.000
2012	12	1,642,071,804.199	479,347,598.049	519,723,613.933	0.000	655,422,640.628	0.000	0.000
2013	1	2,085,049,426.846	479,347,598.049	813,741,395.731	0.000	678,604,193.274	111,840,473.441	0.000
2013	2	1,870,800,892.626	479,347,598.049	941,088,426.083	0.000	589,971,016.324	0.000	-91,154,618.904
2013	3	1,732,623,096.376	479,347,598.049	820,487,573.025	0.000	587,024,421.079	0.000	0.000
2013	4	1,464,108,113.384	479,347,598.049	531,373,380.942	20,230,697.652	588,478,818.128	0.000	0.000
2013	5	958,408,102.673	479,347,598.049	64,326,687.891	54,379,165.813	555,214,437.961	0.000	0.000
2013	6	1,081,392,317.202	479,347,598.049	11,254,213.933	199,402,514.609	564,149,358.674	0.000	0.000
2013	7	1,272,387,279.801	479,347,598.049	0.000	347,700,124.238	533,610,298.493	0.000	0.000
2013	8	1,239,932,658.282	479,347,598.049	0.000	325,683,298.891	516,079,854.951	0.000	0.000
2013	9	1,176,335,486.881	479,347,598.049	0.000	282,159,741.334	543,084,759.985	0.000	0.000
2013	10	940,268,575.471	479,347,598.049	15,672,848.369	111,282,610.479	556,395,163.042	0.000	0.000
2013	11	1,132,020,314.680	479,347,598.049	264,083,803.593	16,077,331.577	566,081,077.774	0.000	0.000
2013	12	1,830,429,962.648	479,347,598.049	713,255,114.125	477,663.100	651,832,591.787	0.000	0.000
2014	1	2,182,377,685.061	479,347,598.049	928,842,280.257	913,399.536	679,738,435.326	111,840,473.441	0.000
2014	2	2,263,738,749.946	479,347,598.049	1,235,581,815.087	0.000	584,293,521.252	0.000	-91,154,618.904
2014	3	1,858,937,803.400	479,347,598.049	881,743,813.486	0.000	580,280,576.153	0.000	0.000



Kentucky Power Company  
Residential Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb
2014	4	1,314,384,355.234	479,347,598.049	423,355,509.658	7,122,469.878	554,755,600.019	0.000	0.000
2014	5	919,037,760.297	479,347,598.049	52,435,888.364	38,752,834.396	570,799,752.097	0.000	0.000
2014	6	1,043,168,162.524	479,347,598.049	14,458,841.942	149,467,059.039	555,647,063.167	0.000	0.000
2014	7	1,261,150,940.112	479,347,598.049	0.000	316,158,501.380	524,935,599.047	0.000	0.000
2014	8	1,148,914,165.977	479,347,598.049	0.000	223,749,804.996	514,570,052.053	0.000	0.000
2014	9	1,148,812,476.702	479,347,598.049	0.000	260,518,001.191	540,770,544.434	0.000	0.000
2014	10	908,609,279.074	479,347,598.049	26,295,712.901	66,175,514.826	542,351,266.804	0.000	0.000
2014	11	1,149,530,642.743	479,347,598.049	295,010,151.180	6,198,285.547	560,059,987.620	0.000	0.000
2014	12	1,810,595,706.728	479,347,598.049	713,893,704.331	18,987.338	642,720,632.302	0.000	0.000
2015	1	2,081,052,102.075	479,347,598.049	873,985,955.724	0.000	667,851,641.811	111,840,473.441	0.000
2015	2	2,021,468,073.579	479,347,598.049	1,091,159,241.976	0.000	586,368,526.255	0.000	-91,154,618.904
2015	3	2,071,648,304.651	479,347,598.049	1,140,802,710.741	0.000	574,724,999.302	0.000	0.000
2015	4	1,165,256,709.433	479,347,598.049	322,071,906.647	5,480,622.610	577,595,819.972	0.000	0.000
2015	5	896,005,620.615	479,347,598.049	78,266,817.045	59,179,545.740	542,071,040.379	0.000	0.000
2015	6	1,052,416,802.773	479,347,598.049	2,706,174.880	220,084,304.873	555,607,681.254	0.000	0.000
2015	7	1,228,448,319.492	479,347,598.049	0.000	313,013,087.704	533,933,310.673	0.000	0.000
2015	8	1,202,868,558.424	479,347,598.049	0.000	327,038,644.488	495,301,734.518	0.000	0.000
2015	9	1,127,681,780.688	479,347,598.049	0.000	249,367,349.576	529,628,576.787	0.000	0.000
2015	10	890,477,210.812	479,347,598.049	25,851,034.107	78,529,651.745	540,705,644.729	0.000	0.000
2015	11	969,953,151.667	479,347,598.049	149,470,124.025	5,430,070.913	544,393,895.950	0.000	0.000
2015	12	1,413,695,379.212	479,347,598.049	366,623,442.566	1,120,555.099	627,527,070.131	0.000	0.000
2016	1	1,765,360,171.126	479,347,598.049	595,535,418.450	0.000	656,587,807.413	111,840,473.441	0.000
2016	2	1,883,377,315.934	479,347,598.049	992,519,097.030	0.000	568,220,078.076	0.000	-91,154,618.904
2016	3	1,436,270,905.203	479,347,598.049	559,097,473.221	1,372,952.535	563,796,969.287	0.000	0.000
2016	4	1,065,422,046.665	479,347,598.049	199,701,403.589	10,162,733.649	569,032,497.315	0.000	0.000
2016	5	880,264,091.580	479,347,598.049	66,142,556.006	53,458,509.978	532,690,920.841	0.000	0.000
2016	6	995,188,325.755	479,347,598.049	15,423,043.020	180,459,925.569	544,818,428.973	0.000	0.000
2016	7	1,227,241,663.471	479,347,598.049	0.000	336,989,855.102	525,787,212.807	0.000	0.000
2016	8	1,334,209,914.136	479,347,598.049	0.000	451,362,465.403	503,199,340.085	0.000	0.000
2016	9	1,283,480,639.447	479,347,598.049	0.000	415,915,485.584	531,009,699.902	0.000	0.000
2016	10	978,035,634.976	479,347,598.049	2,573,637.401	198,212,983.473	536,335,331.479	0.000	0.000
2016	11	918,607,793.768	479,347,598.049	84,473,253.449	47,570,489.322	535,547,641.897	0.000	0.000
2016	12	1,531,674,139.561	479,347,598.049	497,292,598.742	1,967,946.299	623,508,914.592	0.000	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb
2017	1	1,833,419,582.058	479,347,598.049	660,909,403.107	0.000	650,805,871.799	111,840,473.441	0.000
2017	2	1,436,998,623.547	479,347,598.049	550,991,520.504	0.000	575,925,661.798	0.000	-91,154,618.904
2017	3	1,263,993,182.598	479,347,598.049	431,436,224.084	637,289.540	558,507,987.578	0.000	0.000
2017	4	1,093,268,702.754	479,347,598.049	266,920,703.192	15,066,743.125	546,223,888.027	0.000	0.000
2017	5	843,306,322.371	479,347,598.049	36,355,145.505	79,481,373.877	529,279,429.545	0.000	0.000
2017	6	953,722,539.361	479,347,598.049	8,777,933.144	149,708,456.343	549,126,282.910	0.000	0.000
2017	7	1,178,927,661.372	479,347,598.049	0.000	301,063,799.645	533,767,270.929	0.000	0.000
2017	8	1,188,273,766.784	479,347,598.049	0.000	321,506,551.231	508,714,921.063	0.000	0.000
2017	9	1,048,654,735.103	479,347,598.049	0.000	191,152,247.856	534,429,359.092	0.000	0.000
2017	10	902,109,724.757	479,347,598.049	4,803,694.152	141,005,321.572	537,394,755.183	0.000	0.000
2017	11	1,005,324,862.166	479,347,598.049	194,279,905.442	25,608,979.435	547,624,776.138	0.000	0.000
2017	12	1,558,228,822.457	479,347,598.049	525,863,706.464	962,550.344	629,525,937.155	0.000	0.000
2018	1	2,198,737,874.495	479,347,598.049	1,029,371,751.745	1,958,418.468	644,648,312.376	111,840,473.441	0.000
2018	2	1,770,468,414.654	479,347,598.049	828,107,547.543	3,284,396.289	570,666,591.106	0.000	-91,154,618.904
2018	3	1,340,617,476.234	479,347,598.049	459,283,163.681	6,579,224.246	552,379,220.388	0.000	0.000
2018	4	1,260,458,780.598	479,347,598.049	442,185,797.260	7,595,038.326	567,664,097.359	0.000	0.000
2018	5	945,064,523.361	479,347,598.049	107,528,435.901	81,888,033.336	527,690,572.338	0.000	0.000
2018	6	1,099,769,584.654	479,347,598.049	1,457,288.328	276,974,944.595	557,516,399.309	0.000	0.000
2018	7	1,258,956,271.096	479,347,598.049	0.000	371,481,978.674	523,942,348.283	0.000	0.000
2018	8	1,220,353,040.157	479,347,598.049	0.000	339,514,070.328	504,464,918.603	0.000	0.000
2018	9	1,181,302,553.648	479,347,598.049	0.000	342,977,444.609	528,149,579.468	0.000	0.000
2018	10	994,739,923.984	479,347,598.049	27,526,607.232	214,487,965.310	525,778,273.122	0.000	0.000
2018	11	1,091,057,493.472	479,347,598.049	265,664,176.446	31,261,415.359	546,050,868.771	0.000	0.000
2018	12	1,634,960,904.385	479,347,598.049	616,638,207.116	173,707.251	611,378,531.747	0.000	0.000
2019	1	1,762,671,751.303	479,347,598.049	615,734,674.576	0.000	634,819,697.935	111,840,473.441	0.000
2019	2	1,651,042,185.488	479,347,598.049	772,094,066.731	0.000	561,122,278.517	0.000	-91,154,618.904
2019	3	1,463,863,403.768	479,347,598.049	603,429,608.463	891,215.533	543,975,313.797	0.000	0.000
2019	4	1,107,520,684.786	479,347,598.049	303,420,637.269	10,424,501.664	536,609,300.292	0.000	0.000
2019	5	853,744,641.167	479,347,598.049	27,160,664.186	65,716,917.699	543,525,247.180	0.000	0.000
2019	6	989,504,319.233	479,347,598.049	419,523.309	183,112,855.022	542,380,593.833	0.000	0.000
2019	7	1,196,496,547.505	479,347,598.049	0.000	319,162,595.972	519,330,339.695	0.000	0.000
2019	8	1,240,371,259.196	479,347,598.049	0.000	371,473,133.739	501,007,158.442	0.000	0.000
2019	9	1,170,222,934.405	479,347,598.049	0.000	310,799,439.188	524,158,380.290	0.000	0.000



Kentucky Power Company  
Residential Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb
2019	10	1,022,611,960.880	479,347,598.049	10,179,830.463	245,460,100.297	524,437,026.567	0.000	0.000
2019	11	1,040,153,391.633	479,347,598.049	233,880,508.340	20,591,348.585	529,272,548.394	0.000	0.000
2019	12	1,594,563,453.347	479,347,598.049	570,162,051.844	0.000	607,460,528.065	0.000	0.000
2020	1	1,659,412,343.806	479,347,598.049	502,553,867.478	1,911,534.244	641,550,857.726	111,840,473.441	0.000
2020	2	1,503,135,118.913	479,347,598.049	623,856,217.258	1,922,434.954	555,384,635.083	0.000	-91,154,618.904
2020	3	1,334,242,946.839	479,347,598.049	519,371,542.399	137,574.041	548,326,688.142	0.000	0.000
2020	4	1,043,183,885.378	479,347,598.049	186,781,422.618	18,591,734.130	557,324,166.882	0.000	0.000
2020	5	933,341,960.978	479,347,598.049	146,516,374.203	22,997,625.799	531,383,601.094	0.000	0.000
2020	6	1,026,247,832.023	479,347,598.049	39,783,667.054	174,578,153.672	544,268,104.025	0.000	0.000
2020	7	1,217,895,109.160	479,347,598.049	0.000	331,514,059.764	524,289,344.613	0.000	0.000
2020	8	1,293,987,661.632	479,347,598.049	0.000	419,076,042.397	502,192,426.680	0.000	0.000
2020	9	1,168,307,315.254	479,347,598.049	0.000	302,573,042.191	519,245,677.533	0.000	0.000
2020	10	870,458,453.371	479,347,598.049	17,374,245.487	72,584,853.777	530,171,790.837	0.000	0.000
2020	11	933,000,938.419	479,347,598.049	119,730,411.816	12,672,480.786	532,041,738.721	0.000	0.000
2020	12	1,472,054,598.343	479,347,598.049	448,387,383.817	1,210,508.223	607,564,080.819	0.000	0.000
2021	1	1,907,807,828.383	479,347,598.049	734,803,212.063	0.000	635,256,434.642	111,840,473.441	0.000
2021	2	1,829,959,367.783	479,347,598.049	903,100,202.863	0.000	575,750,830.691	0.000	-91,154,618.904
2021	3	1,553,140,105.561	479,347,598.049	699,067,415.248	308,732.775	540,701,798.762	0.000	0.000
2021	4	1,000,631,096.105	479,347,598.049	185,274,649.372	7,898,432.954	540,163,794.428	0.000	0.000
2021	5	901,462,428.042	479,347,598.049	94,977,455.738	30,696,911.580	520,471,705.762	0.000	0.000
2021	6	984,918,558.481	479,347,598.049	12,179,335.908	148,067,353.846	535,083,338.054	0.000	0.000
2021	7	1,174,267,716.335	479,347,598.049	436,163.307	289,939,115.368	514,195,724.343	0.000	0.000
2021	8	1,211,828,463.900	479,347,598.049	0.000	331,129,425.124	494,044,625.556	0.000	0.000
2021	9	1,170,961,690.121	479,347,598.049	0.000	317,922,551.999	512,223,568.758	0.000	0.000
2021	10	913,087,841.754	479,347,598.049	1,843,641.830	134,893,938.075	519,439,644.872	0.000	0.000
2021	11	969,495,101.187	479,347,598.049	152,673,221.484	33,376,255.079	518,533,904.146	0.000	0.000
2021	12	1,470,039,540.407	479,347,598.049	436,046,739.200	0.000	599,273,456.442	0.000	0.000
2022	1	1,708,403,252.123	479,347,598.049	512,208,676.662	0.000	627,193,771.603	111,840,473.441	0.000
2022	2	1,708,242,990.709	479,347,598.049	819,536,348.080	198,142.156	553,605,541.650	0.000	-91,154,618.904
2022	3	1,441,506,471.197	479,347,598.049	603,716,627.568	1,240,694.385	539,803,553.144	0.000	0.000
2022	4	1,106,824,884.513	479,347,598.049	283,051,983.702	13,438,868.721	533,793,453.591	0.000	0.000
2022	5	869,879,412.069	479,347,598.049	67,748,647.884	45,248,449.382	518,765,344.948	0.000	0.000
2022	6	966,945,957.476	479,347,598.049	9,114,821.385	141,723,716.073	532,106,548.886	0.000	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb
2022	7	1,174,366,702.157	479,347,598.049	31,016.198	288,921,240.119	510,179,908.589	0.000	0.000
2022	8	1,196,132,602.248	479,347,598.049	0.000	326,049,260.273	486,341,391.044	0.000	0.000
2022	9	1,108,574,756.710	479,347,598.049	131,309.993	261,622,455.868	509,781,552.420	0.000	0.000
2022	10	871,273,668.611	479,347,598.049	21,727,908.653	93,728,395.868	511,716,550.808	0.000	0.000
2022	11	983,632,396.188	479,347,598.049	181,847,556.412	12,452,940.382	518,055,632.462	0.000	0.000
2022	12	1,539,345,724.318	479,347,598.049	490,857,675.466	908,796.560	600,436,168.287	0.000	0.000
2023	1	1,892,716,009.249	479,347,598.049	710,325,648.995	247,101.260	623,146,243.440	111,840,473.441	0.000
2023	2	1,710,129,585.780	479,347,598.049	803,040,747.766	193,383.217	550,886,599.566	0.000	-91,154,618.904
2023	3	1,440,020,320.136	479,347,598.049	593,327,846.768	1,214,522.274	537,861,097.013	0.000	0.000
2023	4	1,106,931,321.184	479,347,598.049	279,012,939.370	13,194,741.769	532,583,477.060	0.000	0.000
2023	5	870,743,835.860	479,347,598.049	66,966,324.169	44,548,990.873	518,227,308.268	0.000	0.000
2023	6	966,465,058.073	479,347,598.049	9,030,425.673	139,858,919.453	532,089,221.597	0.000	0.000
2023	7	1,172,221,994.930	479,347,598.049	30,784,266	285,638,153.669	510,553,304.169	0.000	0.000
2023	8	1,194,006,867.193	479,347,598.049	0.000	322,834,363.681	487,036,404.151	0.000	0.000
2023	9	1,107,269,008.918	479,347,598.049	130,616.830	259,222,767.618	510,673,167.454	0.000	0.000
2023	10	871,347,086.406	479,347,598.049	21,617,445.158	92,889,723.406	512,634,533.430	0.000	0.000
2023	11	983,481,424.389	479,347,598.049	180,890,237.501	12,339,438.650	518,921,618.645	0.000	0.000
2023	12	1,537,443,352.772	479,347,598.049	488,060,396.630	900,116.613	601,312,011.860	0.000	0.000
2024	1	1,889,026,613.141	479,347,598.049	706,115,598.939	245,460.516	623,654,247.883	111,840,473.441	0.000
2024	2	1,704,912,032.905	479,347,598.049	797,601,985.730	191,936.932	551,101,894.368	0.000	-91,154,618.904
2024	3	1,435,524,637.276	479,347,598.049	588,829,732.236	1,204,432.643	537,869,826.984	0.000	0.000
2024	4	1,104,353,554.031	479,347,598.049	276,700,351.211	13,075,034.841	532,436,052.149	0.000	0.000
2024	5	869,344,925.499	479,347,598.049	66,356,640.928	44,107,727.501	517,878,338.645	0.000	0.000
2024	6	964,347,277.202	479,347,598.049	8,941,940.908	138,374,015.659	531,544,311.178	0.000	0.000
2024	7	1,168,379,877.972	479,347,598.049	30,466.385	282,448,120.512	509,901,271.381	0.000	0.000
2024	8	1,189,634,367.014	479,347,598.049	0.000	319,135,407.737	486,362,722.457	0.000	0.000
2024	9	1,103,589,790.685	479,347,598.049	129,232.515	256,228,443.104	509,989,587.248	0.000	0.000
2024	10	869,376,129.897	479,347,598.049	21,389,536.958	91,818,343.182	511,962,828.875	0.000	0.000
2024	11	980,861,293.131	479,347,598.049	179,022,812.168	12,199,132.138	518,309,200.447	0.000	0.000
2024	12	1,531,899,601.712	479,347,598.049	483,152,333.396	890,085.368	600,686,345.603	0.000	0.000
2025	1	1,880,307,424.345	479,347,598.049	698,039,965.817	242,628.192	623,013,519.550	111,840,473.441	0.000
2025	2	1,695,429,849.344	479,347,598.049	788,639,408.566	189,762.595	550,584,459.742	0.000	-91,154,618.904
2025	3	1,428,620,575.370	479,347,598.049	582,371,120.812	1,191,113.674	537,437,694.148	0.000	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb
2025	4	1,100,775,766.501	479,347,598.049	273,680,835.468	12,932,130.602	532,020,683.920	0.000	0.000
2025	5	867,849,998.333	479,347,598.049	65,652,643.450	43,638,979.952	517,556,156.157	0.000	0.000
2025	6	962,454,857.843	479,347,598.049	8,847,419.895	136,916,179.863	531,204,248.447	0.000	0.000
2025	7	1,165,082,829.437	479,347,598.049	30,142.948	279,475,253.237	509,577,413.464	0.000	0.000
2025	8	1,185,979,582.161	479,347,598.049	0.000	315,792,303.169	486,051,042.124	0.000	0.000
2025	9	1,100,549,577.331	479,347,598.049	127,866.132	253,546,085.286	509,633,098.071	0.000	0.000
2025	10	867,797,799.770	479,347,598.049	21,164,475.713	90,860,164.348	511,567,738.816	0.000	0.000
2025	11	978,393,093.681	479,347,598.049	177,133,899.308	12,071,368.647	517,857,677.342	0.000	0.000
2025	12	1,526,202,865.690	479,347,598.049	478,047,211.271	880,724.607	600,104,092.466	0.000	0.000
2026	1	1,874,014,071.387	479,347,598.049	690,882,338.139	240,315.094	623,880,107.365	111,840,473.441	0.000
2026	2	1,688,216,763.090	479,347,598.049	780,600,731.894	187,953.462	551,411,859.292	0.000	-91,154,618.904
2026	3	1,423,526,909.768	479,347,598.049	576,438,359.715	1,179,713.258	538,288,190.059	0.000	0.000
2026	4	1,098,816,403.083	479,347,598.049	270,911,011.134	12,808,343.006	532,954,932.432	0.000	0.000
2026	5	867,703,818.635	479,347,598.049	64,987,770.845	43,219,197.904	518,494,631.111	0.000	0.000
2026	6	962,139,472.653	479,347,598.049	8,760,064.872	135,620,213.475	532,272,184.670	0.000	0.000
2026	7	1,163,658,274.030	479,347,598.049	29,852.818	276,876,041.117	510,752,360.308	0.000	0.000
2026	8	1,184,202,324.290	479,347,598.049	0.000	312,865,227.656	487,200,859.766	0.000	0.000
2026	9	1,099,402,550.613	479,347,598.049	126,646.884	251,208,326.190	510,825,049.695	0.000	0.000
2026	10	867,915,879.144	479,347,598.049	20,964,076.295	90,029,065.938	512,717,316.016	0.000	0.000
2026	11	977,819,568.815	479,347,598.049	175,494,513.655	11,963,075.535	519,031,831.241	0.000	0.000
2026	12	1,523,164,637.214	479,347,598.049	473,696,813.096	872,940.482	601,424,046.289	0.000	0.000
2027	1	1,868,943,848.556	479,347,598.049	684,395,479.046	238,342.101	625,298,716.621	111,840,473.441	0.000
2027	2	1,682,315,364.570	479,347,598.049	773,384,712.891	186,438.621	552,727,994.616	0.000	-91,154,618.904
2027	3	1,419,663,511.467	479,347,598.049	571,220,994.874	1,170,416.790	539,651,453.066	0.000	0.000
2027	4	1,097,758,354.616	479,347,598.049	268,505,455.986	12,709,625.450	534,401,156.669	0.000	0.000
2027	5	868,254,869.211	479,347,598.049	64,418,128.459	42,891,557.332	519,942,964.645	0.000	0.000
2027	6	962,531,063.426	479,347,598.049	8,683,523.839	134,600,283.084	533,760,246.866	0.000	0.000
2027	7	1,163,057,265.945	479,347,598.049	29,591.674	274,798,767.871	512,228,886.614	0.000	0.000
2027	8	1,183,277,804.677	479,347,598.049	0.000	310,524,200.033	488,617,367.776	0.000	0.000
2027	9	1,099,012,147.627	479,347,598.049	125,547.858	249,341,496.056	512,302,575.870	0.000	0.000
2027	10	868,478,277.703	479,347,598.049	20,781,981.526	89,358,172.544	514,132,702.739	0.000	0.000
2027	11	977,523,907.426	479,347,598.049	173,950,326.999	11,872,890.245	520,370,541.797	0.000	0.000
2027	12	1,520,323,079.423	479,347,598.049	469,458,018.339	866,263.449	602,827,960.288	0.000	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb
2028	1	1,864,690,453.557	479,347,598.049	678,502,241.262	236,730.582	626,940,170.925	111,840,473.441	0.000
2028	2	1,677,072,388.410	479,347,598.049	766,695,124.746	185,171.106	554,175,874.115	0.000	-91,154,618.904
2028	3	1,416,136,589.479	479,347,598.049	566,275,463.848	1,162,442.111	541,078,036.785	0.000	0.000
2028	4	1,096,773,828.628	479,347,598.049	266,169,363.584	12,622,349.371	535,839,999.162	0.000	0.000
2028	5	868,826,564.924	479,347,598.049	63,860,225.146	42,597,984.443	521,366,136.559	0.000	0.000
2028	6	962,982,444.791	479,347,598.049	8,608,124.695	133,675,559.138	535,211,751.319	0.000	0.000
2028	7	1,162,598,515.554	479,347,598.049	29,333.452	272,899,394.641	513,669,767.674	0.000	0.000
2028	8	1,182,487,000.559	479,347,598.049	0.000	308,359,960.430	489,990,803.260	0.000	0.000
2028	9	1,098,651,682.434	479,347,598.049	124,434.571	247,588,616.808	513,696,103.212	0.000	0.000
2028	10	868,989,635.421	479,347,598.049	20,596,747.161	88,726,218.830	515,461,248.535	0.000	0.000
2028	11	977,170,386.728	479,347,598.049	172,393,925.724	11,788,473.008	521,657,839.611	0.000	0.000
2028	12	1,517,485,163.937	479,347,598.049	465,234,872.695	860,064.774	604,219,389.121	0.000	0.000
2029	1	1,861,022,046.768	479,347,598.049	673,042,010.936	235,351.451	628,733,373.593	111,840,473.441	0.000
2029	2	1,672,366,427.831	479,347,598.049	760,428,237.784	184,072.759	555,737,898.845	0.000	-91,154,618.904
2029	3	1,412,908,857.990	479,347,598.049	561,560,106.679	1,155,399.249	542,572,705.326	0.000	0.000
2029	4	1,095,949,406.752	479,347,598.049	263,925,275.872	12,544,888.911	537,337,125.458	0.000	0.000
2029	5	869,442,490.560	479,347,598.049	63,313,439.300	42,332,093.964	522,794,738.521	0.000	0.000
2029	6	963,491,601.502	479,347,598.049	8,533,449.896	132,828,010.899	536,643,131.071	0.000	0.000
2029	7	1,162,272,764.606	479,347,598.049	29,076.817	271,150,991.160	515,092,676.841	0.000	0.000
2029	8	1,181,853,035.131	479,347,598.049	0.000	306,363,829.214	491,352,969.050	0.000	0.000
2029	9	1,098,417,707.075	479,347,598.049	123,329.542	245,969,843.200	515,082,006.490	0.000	0.000
2029	10	869,508,705.185	479,347,598.049	20,411,032.452	88,135,731.151	516,756,520.688	0.000	0.000
2029	11	976,751,516.297	479,347,598.049	170,822,599.852	11,708,855.799	522,889,912.261	0.000	0.000
2029	12	1,514,491,973.069	479,347,598.049	460,945,674.302	854,172.467	605,521,288.953	0.000	0.000
2030	1	1,854,376,212.283	479,347,598.049	665,837,190.362	233,618.082	629,294,093.049	111,840,473.441	0.000
2030	2	1,664,652,999.793	479,347,598.049	752,215,948.942	182,700.678	556,238,131.729	0.000	-91,154,618.904
2030	3	1,407,235,655.403	479,347,598.049	555,415,011.977	1,146,655.204	543,053,341.486	0.000	0.000
2030	4	1,093,494,896.142	479,347,598.049	261,026,811.510	12,449,364.589	537,876,603.533	0.000	0.000
2030	5	868,926,532.367	479,347,598.049	62,608,711.336	42,003,891.980	523,311,710.276	0.000	0.000
2030	6	962,877,172.117	479,347,598.049	8,437,339.792	131,782,296.426	537,170,526.261	0.000	0.000
2030	7	1,160,648,765.867	479,347,598.049	28,744.877	268,981,890.586	515,638,110.617	0.000	0.000
2030	8	1,179,893,140.332	479,347,598.049	0.000	303,894,286.910	491,862,616.554	0.000	0.000
2030	9	1,096,895,418.893	479,347,598.049	121,910.228	243,982,876.111	515,548,104.711	0.000	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb
2030	10	868,979,725.817	479,347,598.049	20,178,408.313	87,430,448.503	517,165,448.107	0.000	0.000
2030	11	975,064,888.135	479,347,598.049	168,883,836.666	11,615,736.182	523,235,166.903	0.000	0.000
2030	12	1,509,598,906.854	479,347,598.049	455,749,504.717	847,430,026	605,831,134.764	0.000	0.000
2031	1	1,849,345,472.049	479,347,598.049	659,407,454.509	232,224.168	630,694,482.583	111,840,473.441	0.000
2031	2	1,658,695,970.403	479,347,598.049	744,978,876.657	181,616.241	557,519,259.062	0.000	-91,154,618.904
2031	3	1,403,225,884.392	479,347,598.049	550,106,351.352	1,139,908.308	544,358,977.996	0.000	0.000
2031	4	1,092,478,710.712	479,347,598.049	258,612,736.927	12,379,045.638	539,344,811.636	0.000	0.000
2031	5	869,707,350.265	479,347,598.049	62,048,712.063	41,776,419.874	524,879,999.554	0.000	0.000
2031	6	963,840,681.369	479,347,598.049	8,363,987.428	131,093,443.959	538,896,240.344	0.000	0.000
2031	7	1,161,109,559.768	479,347,598.049	28,502.512	267,626,436.390	517,454,601.079	0.000	0.000
2031	8	1,180,222,411.792	479,347,598.049	0.000	302,409,155.628	493,677,019.297	0.000	0.000
2031	9	1,097,637,711.646	479,347,598.049	120,923.521	242,809,648.683	517,464,611.599	0.000	0.000
2031	10	870,315,116.977	479,347,598.049	20,017,798.421	87,018,415.311	519,073,482.351	0.000	0.000
2031	11	975,612,280.514	479,347,598.049	167,561,169.273	11,561,856.938	525,159,105.919	0.000	0.000
2031	12	1,508,233,472.328	479,347,598.049	452,207,659.700	843,518.647	608,011,456.634	0.000	0.000
2032	1	1,846,845,687.093	479,347,598.049	654,439,156.667	231,342.250	633,163,877.388	111,840,473.441	0.000
2032	2	1,655,144,360.787	479,347,598.049	739,266,542.234	180,905.072	559,680,695.038	0.000	-91,154,618.904
2032	3	1,401,022,914.598	479,347,598.049	545,816,039.681	1,135,312.722	546,450,915.459	0.000	0.000
2032	4	1,092,449,736.469	479,347,598.049	256,559,461.840	12,327,651.766	541,420,506.352	0.000	0.000
2032	5	871,033,462.391	479,347,598.049	61,547,900.159	41,598,329.993	526,885,013.465	0.000	0.000
2032	6	965,209,577.331	479,347,598.049	8,294,933.531	130,515,287.835	540,912,346.328	0.000	0.000
2032	7	1,161,830,878.502	479,347,598.049	28,262.439	266,411,060.738	519,391,535.539	0.000	0.000
2032	8	1,180,665,983.658	479,347,598.049	0.000	301,015,971.238	495,513,775.552	0.000	0.000
2032	9	1,098,386,365.553	479,347,598.049	119,885.733	241,677,488.819	519,346,463.158	0.000	0.000
2032	10	871,542,757.102	479,347,598.049	19,844,686.178	86,608,484.144	520,884,165.886	0.000	0.000
2032	11	975,859,343.948	479,347,598.049	166,101,986.231	11,506,878.210	526,920,331.122	0.000	0.000
2032	12	1,506,046,115.793	479,347,598.049	448,158,406.131	839,356.231	609,877,516.083	0.000	0.000
2033	1	1,843,891,871.140	479,347,598.049	649,023,869.906	230,486.301	635,626,204.145	111,840,473.441	0.000
2033	2	1,651,194,521.255	479,347,598.049	733,129,050.158	180,231.692	561,869,020.962	0.000	-91,154,618.904
2033	3	1,398,630,888.660	479,347,598.049	541,273,169.424	1,131,066.635	548,606,005.865	0.000	0.000
2033	4	1,092,424,790.238	479,347,598.049	254,415,878.661	12,281,211.804	543,585,583.263	0.000	0.000
2033	5	872,478,519.085	479,347,598.049	61,032,068.101	41,440,521.836	529,003,710.374	0.000	0.000
2033	6	966,821,286.905	479,347,598.049	8,225,239.991	130,016,464.057	543,092,573.219	0.000	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb
2033	7	1,162,938,430.326	479,347,598.049	28,024.302	265,383,727.840	521,526,658.397	0.000	0.000
2033	8	1,181,524,862.119	479,347,598.049	0.000	299,841,154.128	497,547,471.123	0.000	0.000
2033	9	1,099,520,103.093	479,347,598.049	118,865.489	240,720,775.742	521,437,934.020	0.000	0.000
2033	10	873,050,481.621	479,347,598.049	19,674,687.040	86,260,678.217	522,909,695.471	0.000	0.000
2033	11	976,355,847.226	479,347,598.049	164,667,477.012	11,459,912.315	528,898,309.515	0.000	0.000
2033	12	1,504,341,207.502	479,347,598.049	444,260,467.425	835,881.175	612,074,021.554	0.000	0.000
2034	1	1,841,943,514.738	479,347,598.049	643,775,934.480	229,811.243	638,926,458.226	111,840,473.441	0.000
2034	2	1,648,167,042.444	479,347,598.049	727,171,162.743	179,697.160	564,799,964.099	0.000	-91,154,618.904
2034	3	1,397,081,352.755	479,347,598.049	536,852,059.095	1,127,669.316	551,480,977.609	0.000	0.000
2034	4	1,093,191,116.563	479,347,598.049	252,328,251.434	12,243,925.083	546,476,823.535	0.000	0.000
2034	5	874,673,860.882	479,347,598.049	60,528,900.106	41,313,260.913	531,829,481.087	0.000	0.000
2034	6	969,258,703.875	479,347,598.049	8,157,176.435	129,613,462.161	546,001,055.641	0.000	0.000
2034	7	1,164,958,765.136	479,347,598.049	27,791.688	264,554,683.151	524,376,270.510	0.000	0.000
2034	8	1,183,304,739.176	479,347,598.049	0.000	298,896,541.474	500,271,960.835	0.000	0.000
2034	9	1,101,586,155.597	479,347,598.049	117,873.492	239,958,626.523	524,267,127.740	0.000	0.000
2034	10	875,384,281.708	479,347,598.049	19,510,084.846	85,986,105.598	525,682,670.370	0.000	0.000
2034	11	977,685,163.783	479,347,598.049	163,286,205.446	11,423,238.869	531,645,571.083	0.000	0.000
2034	12	1,503,697,704.249	479,347,598.049	440,526,515.878	833,195.319	615,167,155.704	0.000	0.000
2035	1	1,840,031,660.887	479,347,598.049	638,553,924.656	229,295.087	642,237,130.355	111,840,473.441	0.000
2035	2	1,645,228,142.790	479,347,598.049	721,279,575.456	179,295.150	567,753,053.742	0.000	-91,154,618.904
2035	3	1,395,644,039.196	479,347,598.049	532,507,062.504	1,125,155.398	554,391,174.558	0.000	0.000
2035	4	1,094,056,037.406	479,347,598.049	250,288,532.599	12,216,741.601	549,408,646.695	0.000	0.000
2035	5	876,969,866.695	479,347,598.049	60,039,958.167	41,221,723.807	534,705,965.946	0.000	0.000
2035	6	971,865,296.877	479,347,598.049	8,091,232.457	129,325,204.172	548,961,850.611	0.000	0.000
2035	7	1,167,259,700.990	479,347,598.049	27,566.720	263,962,911.779	527,269,202.704	0.000	0.000
2035	8	1,185,392,544.914	479,347,598.049	0.000	298,220,668.378	503,035,639.668	0.000	0.000
2035	9	1,103,907,915.446	479,347,598.049	116,914.033	239,409,980.789	527,138,492.781	0.000	0.000
2035	10	877,846,334.149	479,347,598.049	19,350,754.642	85,787,063.335	528,503,095.278	0.000	0.000
2035	11	979,112,593.340	479,347,598.049	161,946,739.633	11,396,365.120	534,439,340.203	0.000	0.000
2035	12	1,503,216,530.192	479,347,598.049	436,896,976.088	831,204.565	618,317,512.192	0.000	0.000
2036	1	1,838,715,827.804	479,347,598.049	633,800,872.095	229,090.421	645,674,554.500	111,840,473.441	0.000
2036	2	1,642,882,447.002	479,347,598.049	715,889,408.977	179,129.701	570,797,689.882	0.000	-91,154,618.904
2036	3	1,394,633,131.747	479,347,598.049	528,513,725.674	1,124,086.996	557,374,672.341	0.000	0.000



Kentucky Power Company  
Residential Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb
2036	4	1,095,144,538.936	479,347,598.049	248,404,566.933	12,204,794.803	552,393,060.690	0.000	0.000
2036	5	879,386,317.901	479,347,598.049	59,586,361.597	41,180,258.493	537,617,479.036	0.000	0.000
2036	6	974,666,700.064	479,347,598.049	8,029,943.398	129,192,534.011	551,957,213.017	0.000	0.000
2036	7	1,169,894,453.988	479,347,598.049	27,357,228	263,685,585.382	530,181,491.590	0.000	0.000
2036	8	1,187,861,386.214	479,347,598.049	0.000	297,902,638.649	505,822,510.698	0.000	0.000
2036	9	1,106,550,018.371	479,347,598.049	116,021.791	239,150,741.295	530,040,727.442	0.000	0.000
2036	10	880,469,084.798	479,347,598.049	19,202,864.908	85,693,224.021	531,367,574.974	0.000	0.000
2036	11	980,716,181.747	479,347,598.049	160,707,001.932	11,383,753.649	537,295,277.781	0.000	0.000
2036	12	1,503,111,267.722	479,347,598.049	433,547,931.374	830,276.027	621,562,222.974	0.000	0.000
2037	1	1,837,628,652.484	479,347,598.049	629,119,494.270	229,106.486	649,268,740.941	111,840,473.441	0.000
2037	2	1,640,801,448.082	479,347,598.049	710,604,244.966	179,142.816	574,001,841.857	0.000	-91,154,618.904
2037	3	1,393,880,408.305	479,347,598.049	524,611,119.925	1,124,167.121	560,524,474.524	0.000	0.000
2037	4	1,096,479,786.388	479,347,598.049	246,573,381.851	12,205,800.462	555,558,487.564	0.000	0.000
2037	5	882,056,854.152	479,347,598.049	59,147,740.361	41,184,055.039	540,722,839.977	0.000	0.000
2037	6	977,817,320.926	479,347,598.049	7,970,842.851	129,204,529.523	555,154,938.914	0.000	0.000
2037	7	1,173,036,531.770	479,347,598.049	27,156.013	263,711,315.649	533,298,040.321	0.000	0.000
2037	8	1,190,870,369.485	479,347,598.049	0.000	297,930,309.868	508,803,822.749	0.000	0.000
2037	9	1,109,688,676.450	479,347,598.049	115,167.762	239,172,389.881	533,158,590.963	0.000	0.000
2037	10	883,423,033.686	479,347,598.049	19,061,430.238	85,700,488.169	534,455,694.385	0.000	0.000
2037	11	982,622,563.832	479,347,598.049	159,522,277.494	11,384,622.630	540,385,515.324	0.000	0.000
2037	12	1,503,430,557.838	479,347,598.049	430,346,267.784	830,327.498	625,083,125.209	0.000	0.000
2038	1	1,836,706,761.861	479,347,598.049	624,473,865.390	229,125.285	652,992,460.399	111,840,473.441	0.000
2038	2	1,638,855,150.995	479,347,598.049	705,351,310.895	179,155.926	577,308,465.732	0.000	-91,154,618.904
2038	3	1,393,248,881.090	479,347,598.049	520,731,235.935	1,124,244.506	563,772,753.913	0.000	0.000
2038	4	1,097,908,652.243	479,347,598.049	244,749,565.920	12,206,614.636	558,810,355.176	0.000	0.000
2038	5	884,803,882.109	479,347,598.049	58,710,042.066	41,186,628.007	543,904,993.261	0.000	0.000
2038	6	981,042,676.523	479,347,598.049	7,911,802.291	129,211,676.250	558,432,188.344	0.000	0.000
2038	7	1,176,225,233.585	479,347,598.049	26,954.531	263,722,646.962	536,475,612.305	0.000	0.000
2038	8	1,193,914,885.293	479,347,598.049	0.000	297,939,280.259	511,839,368.166	0.000	0.000
2038	9	1,112,866,192.856	479,347,598.049	114,310.658	239,177,233.706	536,332,120.649	0.000	0.000
2038	10	886,431,972.551	479,347,598.049	18,919,481.853	85,701,757.871	537,605,311.933	0.000	0.000
2038	11	984,589,260.956	479,347,598.049	158,333,247.108	11,384,698.755	543,541,166.708	0.000	0.000
2038	12	1,503,823,146.405	479,347,598.049	427,134,131.737	830,323.578	628,687,853.744	0.000	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb
2039	1	1,835,542,063.381	479,347,598.049	619,650,898.927	229,055.363	656,650,798.302	111,840,473.441	0.000
2039	2	1,636,664,547.356	479,347,598.049	699,904,728.039	179,101.578	580,564,499.296	0.000	-91,154,618.904
2039	3	1,392,427,629.886	479,347,598.049	516,711,011.757	1,123,905.945	566,972,065.448	0.000	0.000
2039	4	1,099,225,288.964	479,347,598.049	242,862,225.566	12,203,058.992	562,017,887.895	0.000	0.000
2039	5	887,486,211.954	479,347,598.049	58,257,915.994	41,175,117.731	547,050,959.453	0.000	0.000
2039	6	984,190,553.182	479,347,598.049	7,850,912.419	129,176,479.295	561,676,151.831	0.000	0.000
2039	7	1,179,309,605.182	479,347,598.049	26,747.291	263,653,456.608	539,629,381.495	0.000	0.000
2039	8	1,196,858,099.661	479,347,598.049	0.000	297,864,138.155	514,857,724.638	0.000	0.000
2039	9	1,115,968,558.858	479,347,598.049	113,434.187	239,120,755.101	539,491,841.727	0.000	0.000
2039	10	889,408,965.034	479,347,598.049	18,774,739.114	85,683,111.036	540,745,693.989	0.000	0.000
2039	11	986,520,473.116	479,347,598.049	157,123,255.196	11,382,325.058	546,684,744.477	0.000	0.000
2039	12	1,504,166,585.482	479,347,598.049	423,876,744.533	830,164.100	632,288,839.502	0.000	0.000
2040	1	1,833,923,083.616	479,347,598.049	614,976,695.887	229,019.331	659,706,057.610	111,840,473.441	0.000
2040	2	1,634,153,950.280	479,347,598.049	694,650,191.414	179,079.097	583,308,461.327	0.000	-91,154,618.904
2040	3	1,391,291,427.233	479,347,598.049	512,851,095.741	1,123,802.447	569,695,882.310	0.000	0.000
2040	4	1,100,187,330.106	479,347,598.049	241,058,905.692	12,202,426.857	564,783,881.046	0.000	0.000
2040	5	889,811,370.440	479,347,598.049	57,827,686.156	41,174,467.199	549,806,998.310	0.000	0.000
2040	6	987,028,896.158	479,347,598.049	7,793,186.909	129,178,126.721	564,570,572.890	0.000	0.000
2040	7	1,182,145,062.831	479,347,598.049	26,551.276	263,662,323.950	542,456,167.818	0.000	0.000
2040	8	1,199,572,073.764	479,347,598.049	0.000	297,880,209.226	517,555,627.671	0.000	0.000
2040	9	1,118,782,455.513	479,347,598.049	112,607.747	239,137,316.652	542,290,003.271	0.000	0.000
2040	10	892,032,281.489	479,347,598.049	18,638,397.679	85,690,722.852	543,497,740.065	0.000	0.000
2040	11	988,112,880.186	479,347,598.049	155,985,088.818	11,383,493.837	549,414,149.146	0.000	0.000
2040	12	1,504,198,818.621	479,347,598.049	420,808,771.914	830,251.595	635,388,957.765	0.000	0.000
2041	1	1,832,913,855.616	479,347,598.049	610,653,883.756	229,092.716	663,019,568.356	111,840,473.441	0.000
2041	2	1,632,234,445.667	479,347,598.049	689,768,748.972	179,136.974	586,270,341.278	0.000	-91,154,618.904
2041	3	1,390,614,830.555	479,347,598.049	509,248,519.758	1,124,169.599	572,621,494.463	0.000	0.000
2041	4	1,101,454,401.838	479,347,598.049	239,368,475.322	12,206,566.236	567,737,243.769	0.000	0.000
2041	5	892,345,045.079	479,347,598.049	57,422,729.813	41,188,869.313	552,731,227.178	0.000	0.000
2041	6	990,075,480.169	479,347,598.049	7,738,675.312	129,224,521.133	567,625,274.086	0.000	0.000
2041	7	1,185,219,347.528	479,347,598.049	26,365.729	263,759,138.740	545,433,823.272	0.000	0.000
2041	8	1,202,523,497.716	479,347,598.049	0.000	297,991,760.354	520,395,500.494	0.000	0.000
2041	9	1,121,816,964.295	479,347,598.049	111,822.051	239,228,412.812	545,234,201.589	0.000	0.000



Kentucky Power Company  
Residential Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb
2041	10	894,832,926.184	479,347,598.049	18,508,501.587	85,724,119.394	546,394,884.308	0.000	0.000
2041	11	989,904,210.006	479,347,598.049	154,898,553.199	11,387,976.861	552,287,531.561	0.000	0.000
2041	12	1,504,537,126.050	479,347,598.049	417,879,013.905	830,581.839	638,656,692.959	0.000	0.000
2042	1	1,832,375,715.036	479,347,598.049	606,541,414.109	229,230.021	666,593,760.118	111,840,473.441	0.000
2042	2	1,630,791,090.303	479,347,598.049	685,131,918.062	179,246.498	589,463,707.300	0.000	-91,154,618.904
2042	3	1,390,357,617.760	479,347,598.049	505,833,632.678	1,124,875.218	575,778,463.129	0.000	0.000
2042	4	1,103,051,894.995	479,347,598.049	237,768,657.637	12,214,492.310	570,926,628.537	0.000	0.000
2042	5	895,145,195.864	479,347,598.049	57,039,924.633	41,216,292.239	555,886,760.217	0.000	0.000
2042	6	993,400,710.008	479,347,598.049	7,687,167.805	129,311,866.218	570,914,666.347	0.000	0.000
2042	7	1,188,611,919.144	479,347,598.049	26,190.575	263,940,645.236	548,645,063.546	0.000	0.000
2042	8	1,205,794,423.910	479,347,598.049	0.000	298,198,523.929	523,459,663.113	0.000	0.000
2042	9	1,125,159,367.820	479,347,598.049	111,080.675	239,396,003.820	548,409,755.482	0.000	0.000
2042	10	897,898,918.848	479,347,598.049	18,385,948.762	85,784,845.709	549,522,703.482	0.000	0.000
2042	11	991,996,431.783	479,347,598.049	153,873,954.733	11,396,111.418	555,396,217.249	0.000	0.000
2042	12	1,505,310,509.775	479,347,598.049	415,116,102.545	831,176.897	642,192,392.986	0.000	0.000
2043	1	1,832,684,397.475	479,347,598.049	602,980,096.744	229,550.932	670,463,439.011	111,840,473.441	0.000
2043	2	1,630,230,041.379	479,347,598.049	681,116,095.157	179,499.249	592,918,228.531	0.000	-91,154,618.904
2043	3	1,390,805,441.383	479,347,598.049	502,873,588.688	1,126,472.311	579,184,733.648	0.000	0.000
2043	4	1,105,112,527.359	479,347,598.049	236,380,915.716	12,232,023.372	574,357,471.760	0.000	0.000
2043	5	898,257,278.641	479,347,598.049	56,707,723.847	41,275,983.747	559,271,352.272	0.000	0.000
2043	6	997,070,026.111	479,347,598.049	7,642,498.772	129,500,944.766	574,439,572.935	0.000	0.000
2043	7	1,192,433,555.080	479,347,598.049	26,038.529	264,328,258.179	552,079,238.585	0.000	0.000
2043	8	1,209,515,661.485	479,347,598.049	0.000	298,638,290.703	526,741,133.914	0.000	0.000
2043	9	1,128,925,290.855	479,347,598.049	110,437.477	239,751,593.971	551,820,731.565	0.000	0.000
2043	10	901,290,654.933	479,347,598.049	18,279,646.853	85,913,050.212	552,892,536.974	0.000	0.000
2043	11	994,478,914.905	479,347,598.049	152,984,622.250	11,413,166.935	558,750,977.335	0.000	0.000
2043	12	1,506,731,636.280	479,347,598.049	412,716,744.205	832,420.526	646,011,634.202	0.000	0.000
2044	1	1,833,261,622.851	479,347,598.049	599,483,623.828	229,882.014	674,536,806.220	111,840,473.441	0.000
2044	2	1,629,920,948.567	479,347,598.049	677,173,825.587	179,760.084	596,551,144.454	0.000	-91,154,618.904
2044	3	1,391,479,560.846	479,347,598.049	499,967,784.344	1,128,120.372	582,763,009.395	0.000	0.000
2044	4	1,107,372,098.148	479,347,598.049	235,018,612.782	12,250,119.170	577,961,249.686	0.000	0.000
2044	5	901,543,106.038	479,347,598.049	56,381,436.709	41,337,477.625	562,821,972.929	0.000	0.000
2044	6	1,000,903,866.346	479,347,598.049	7,598,534.789	129,694,163.916	578,124,158.003	0.000	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb
2044	7	1,196,413,745.274	479,347,598.049	25,888.633	264,721,754.733	555,666,082.121	0.000	0.000
2044	8	1,213,384,873.552	479,347,598.049	0.000	299,081,127.971	530,167,508.713	0.000	0.000
2044	9	1,132,836,287.129	479,347,598.049	109,800.403	240,106,037.156	555,377,921.726	0.000	0.000
2044	10	904,823,522.802	479,347,598.049	18,174,066.071	86,039,507.304	556,404,528.532	0.000	0.000
2044	11	997,105,935.684	479,347,598.049	152,099,135.415	11,429,834.797	562,246,817.087	0.000	0.000
2044	12	1,508,317,873.017	479,347,598.049	410,323,270.588	833,627.341	649,990,137.741	0.000	0.000
2045	1	1,833,857,516.632	479,347,598.049	596,030,675.944	230,234.296	678,585,295.604	111,840,473.441	0.000
2045	2	1,629,620,124.539	479,347,598.049	673,268,763.584	180,034.500	600,155,108.013	0.000	-91,154,618.904
2045	3	1,392,146,042.621	479,347,598.049	497,083,254.012	1,129,840.415	586,312,301.459	0.000	0.000
2045	4	1,109,601,843.842	479,347,598.049	233,663,182.026	12,268,829.892	581,527,715.413	0.000	0.000
2045	5	904,791,692.081	479,347,598.049	56,056,503.798	41,400,814.473	566,332,155.034	0.000	0.000
2045	6	1,004,701,292.770	479,347,598.049	7,554,768.493	129,893,375.491	581,766,139.149	0.000	0.000
2045	7	1,200,371,689.165	479,347,598.049	25,739.623	265,129,596.069	559,216,333.686	0.000	0.000
2045	8	1,217,237,772.489	479,347,598.049	0.000	299,542,284.998	533,559,250.623	0.000	0.000
2045	9	1,136,727,865.572	479,347,598.049	109,169.033	240,477,617.328	558,898,551.368	0.000	0.000
2045	10	908,332,343.682	479,347,598.049	18,069,685.706	86,173,320.975	559,883,916.106	0.000	0.000
2045	11	999,719,019.924	479,347,598.049	151,226,110.895	11,447,663.281	565,715,097.364	0.000	0.000
2045	12	1,509,915,541.042	479,347,598.049	407,969,918.285	834,932.091	653,939,853.319	0.000	0.000
2046	1	1,834,500,141.819	479,347,598.049	592,556,958.612	230,566.658	682,701,305.760	111,840,473.441	0.000
2046	2	1,629,385,884.592	479,347,598.049	669,358,290.758	180,298.207	603,831,077.184	0.000	-91,154,618.904
2046	3	1,392,888,011.169	479,347,598.049	494,202,918.362	1,131,512.220	589,932,933.851	0.000	0.000
2046	4	1,111,919,503.629	479,347,598.049	232,314,621.565	12,287,286.706	585,175,478.846	0.000	0.000
2046	5	908,125,911.452	479,347,598.049	55,734,056.912	41,463,956.777	569,925,678.988	0.000	0.000
2046	6	1,008,590,784.145	479,347,598.049	7,511,438.733	130,093,846.448	585,498,489.326	0.000	0.000
2046	7	1,204,427,552.845	479,347,598.049	25,592.352	265,542,824.283	562,859,116.424	0.000	0.000
2046	8	1,221,194,838.084	479,347,598.049	0.000	300,013,020.234	537,045,580.982	0.000	0.000
2046	9	1,140,722,812.729	479,347,598.049	108,546.448	240,857,584.068	562,514,154.370	0.000	0.000
2046	10	911,943,685.481	479,347,598.049	17,966,864.658	86,310,703.765	563,460,696.164	0.000	0.000
2046	11	1,002,439,443.542	479,347,598.049	150,365,811.519	11,465,946.632	569,277,537.007	0.000	0.000
2046	12	1,511,650,657.222	479,347,598.049	405,649,972.898	836,268.418	657,993,578.559	0.000	0.000
2047	1	1,836,025,121.019	479,347,598.049	589,611,627.302	231,092.649	687,171,090.279	111,840,473.441	0.000
2047	2	1,630,046,376.109	479,347,598.049	666,037,841.195	180,711.490	607,811,604.981	0.000	-91,154,618.904
2047	3	1,394,369,516.966	479,347,598.049	491,758,621.080	1,134,123.838	593,856,125.313	0.000	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb
2047	4	1,114,751,819.244	479,347,598.049	231,169,687.644	12,315,880.507	589,124,134.582	0.000	0.000
2047	5	911,836,542.607	479,347,598.049	55,460,210.446	41,561,128.891	573,812,984.495	0.000	0.000
2047	6	1,012,889,507.284	479,347,598.049	7,474,579.014	130,399,722.658	589,528,195.974	0.000	0.000
2047	7	1,208,981,988.849	479,347,598.049	25,466.825	266,168,115.638	566,788,386.599	0.000	0.000
2047	8	1,225,659,991.419	479,347,598.049	0.000	300,720,121.529	540,803,633.021	0.000	0.000
2047	9	1,145,189,759.019	479,347,598.049	108,014.393	241,426,166.866	566,413,049.916	0.000	0.000
2047	10	915,910,634.243	479,347,598.049	17,878,808.408	86,514,619.156	567,311,785.786	0.000	0.000
2047	11	1,005,563,137.329	479,347,598.049	149,627,872.731	11,492,974.783	573,112,141.431	0.000	0.000
2047	12	1,514,019,160.999	479,347,598.049	403,656,874.416	838,235.845	662,353,213.391	0.000	0.000
2048	1	1,837,833,409.919	479,347,598.049	586,684,524.869	231,611.787	691,905,962.475	111,840,473.441	0.000
2048	2	1,630,967,804.257	479,347,598.049	662,738,482.340	181,119.465	612,031,984.009	0.000	-91,154,618.904
2048	3	1,396,096,251.978	479,347,598.049	489,327,191.463	1,136,695.297	598,011,718.482	0.000	0.000
2048	4	1,117,822,335.627	479,347,598.049	230,029,512.478	12,343,967.331	593,306,739.308	0.000	0.000
2048	5	915,780,015.368	479,347,598.049	55,187,478.580	41,656,557.603	577,933,760.410	0.000	0.000
2048	6	1,017,428,226.433	479,347,598.049	7,437,873.644	130,700,137.998	593,803,205.153	0.000	0.000
2048	7	1,213,771,881.010	479,347,598.049	25,341.867	266,782,564.737	570,963,954.619	0.000	0.000
2048	8	1,230,351,461.480	479,347,598.049	0.000	301,414,940.150	544,800,284.462	0.000	0.000
2048	9	1,149,891,969.495	479,347,598.049	107,484.724	241,984,614.870	570,557,342.058	0.000	0.000
2048	10	920,116,623.499	479,347,598.049	17,791,172.493	86,714,991.251	571,405,038.862	0.000	0.000
2048	11	1,008,938,016.335	479,347,598.049	148,894,417.949	11,519,600.179	577,193,849.823	0.000	0.000
2048	12	1,516,680,731.601	479,347,598.049	401,676,288.832	840,174.177	666,993,431.245	0.000	0.000
2049	1	1,840,535,385.386	479,347,598.049	584,310,150.716	232,322.613	696,981,601.269	111,840,473.441	0.000
2049	2	1,632,815,622.170	479,347,598.049	660,060,602.357	181,676.525	616,557,124.845	0.000	-91,154,618.904
2049	3	1,398,583,765.382	479,347,598.049	487,352,909.086	1,140,198.271	602,470,011.289	0.000	0.000
2049	4	1,121,419,924.764	479,347,598.049	229,104,176.183	12,382,151.998	597,791,480.073	0.000	0.000
2049	5	920,094,679.552	479,347,598.049	54,965,810.515	41,785,655.803	582,340,994.460	0.000	0.000
2049	6	1,022,369,368.485	479,347,598.049	7,408,015.082	131,105,450.032	598,368,893.734	0.000	0.000
2049	7	1,219,050,366.565	479,347,598.049	25,240.045	267,608,875.176	575,416,231.557	0.000	0.000
2049	8	1,235,541,067.279	479,347,598.049	0.000	302,346,112.167	549,058,718.244	0.000	0.000
2049	9	1,155,054,626.262	479,347,598.049	107,051.180	242,730,208.734	574,974,838.506	0.000	0.000
2049	10	924,680,435.683	479,347,598.049	17,719,327.438	86,981,748.469	575,773,938.882	0.000	0.000
2049	11	1,012,720,000.085	479,347,598.049	148,290,493.151	11,554,829.240	581,544,529.309	0.000	0.000
2049	12	1,519,991,026.083	479,347,598.049	400,039,823.866	842,728.301	671,937,636.569	0.000	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb
2050	1	1,843,584,948.084	479,347,598.049	581,995,208.207	233,024.073	702,345,405.015	111,840,473.441	0.000
2050	2	1,634,967,799.827	479,347,598.049	657,442,695.959	182,224.104	621,326,661.320	0.000	-91,154,618.904
2050	3	1,401,346,523.671	479,347,598.049	485,420,481.689	1,143,634.882	607,161,760.365	0.000	0.000
2050	4	1,125,271,174.667	479,347,598.049	228,198,767.578	12,419,619.907	602,510,670.671	0.000	0.000
2050	5	924,636,513.649	479,347,598.049	54,748,894.591	41,912,273.976	586,973,126.306	0.000	0.000
2050	6	1,027,533,463.722	479,347,598.049	7,378,829.129	131,503,431.296	603,164,193.660	0.000	0.000
2050	7	1,224,539,598.767	479,347,598.049	25,140.700	268,421,911.223	580,092,527.058	0.000	0.000
2050	8	1,240,937,855.621	479,347,598.049	0.000	303,265,484.078	553,536,134.676	0.000	0.000
2050	9	1,160,444,014.315	479,347,598.049	106,630.764	243,469,148.349	579,625,707.359	0.000	0.000
2050	10	929,481,823.258	479,347,598.049	17,649,906.995	87,247,246.183	580,379,249.185	0.000	0.000
2050	11	1,016,776,775.246	479,347,598.049	147,710,459.884	11,590,155.162	586,146,011.816	0.000	0.000
2050	12	1,523,674,784.745	479,347,598.049	398,477,269.847	845,308.462	677,181,369.089	0.000	0.000
2051	1	1,846,162,001.230	479,347,598.049	579,470,370.914	233,687.538	707,446,631.990	111,840,473.441	0.000
2051	2	1,636,675,644.743	479,347,598.049	654,602,580.092	182,746.133	625,874,100.074	0.000	-91,154,618.904
2051	3	1,403,745,749.447	479,347,598.049	483,334,082.946	1,146,935.194	611,644,084.571	0.000	0.000
2051	4	1,128,842,324.435	479,347,598.049	227,224,074.124	12,455,780.779	607,020,353.020	0.000	0.000
2051	5	928,968,815.023	479,347,598.049	54,516,671.061	42,035,501.783	591,414,423.404	0.000	0.000
2051	6	1,032,493,838.209	479,347,598.049	7,347,674.347	131,892,487.277	607,766,666.948	0.000	0.000
2051	7	1,229,834,824.774	479,347,598.049	25,035.123	269,221,889.340	584,587,880.523	0.000	0.000
2051	8	1,246,147,590.654	479,347,598.049	0.000	304,173,349.435	557,838,004.350	0.000	0.000
2051	9	1,165,649,299.293	479,347,598.049	106,186.617	244,202,506.582	584,098,078.250	0.000	0.000
2051	10	934,102,962.929	479,347,598.049	17,576,760.032	87,511,762.815	584,809,019.188	0.000	0.000
2051	11	1,020,623,476.921	479,347,598.049	147,100,116.689	11,625,421.758	590,567,790.090	0.000	0.000
2051	12	1,527,081,074.575	479,347,598.049	396,837,258.081	847,893.643	682,225,085.504	0.000	0.000
2052	1	1,849,071,411.250	479,347,598.049	577,119,742.733	234,420.433	712,705,937.295	111,840,473.441	0.000
2052	2	1,638,729,731.116	479,347,598.049	651,966,379.676	183,324.443	630,563,808.554	0.000	-91,154,618.904
2052	3	1,406,429,587.022	479,347,598.049	481,399,468.942	1,150,591.634	616,258,879.710	0.000	0.000
2052	4	1,132,629,743.639	479,347,598.049	226,323,212.466	12,495,953.118	611,668,461.544	0.000	0.000
2052	5	933,464,738.806	479,347,598.049	54,302,264.400	42,172,368.794	595,987,886.836	0.000	0.000
2052	6	1,037,641,880.281	479,347,598.049	7,318,985.980	132,325,541.834	612,510,342.830	0.000	0.000
2052	7	1,235,351,221.267	479,347,598.049	24,937.932	270,111,524.095	589,214,739.452	0.000	0.000
2052	8	1,251,592,672.338	479,347,598.049	0.000	305,185,364.767	562,271,070.703	0.000	0.000
2052	9	1,171,076,709.499	479,347,598.049	105,779.450	245,020,522.962	588,707,879.243	0.000	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb
2052	10	938,897,996.528	479,347,598.049	17,509,801.918	87,806,989.427	589,375,784.289	0.000	0.000
2052	11	1,024,671,167.974	479,347,598.049	146,542,942.601	11,664,881.341	595,133,195.647	0.000	0.000
2052	12	1,530,788,347.737	479,347,598.049	395,339,971.818	850,783,428	687,426,755.143	0.000	0.000
2053	1	1,852,088,359.250	479,347,598.049	574,804,211.740	235,167,265	718,037,669.456	111,840,473.441	0.000
2053	2	1,640,885,977.533	479,347,598.049	649,368,530.862	183,913,463	635,317,314.765	0.000	-91,154,618.904
2053	3	1,409,202,807.622	479,347,598.049	479,492,189.832	1,154,314.016	620,935,657.039	0.000	0.000
2053	4	1,136,491,439.885	479,347,598.049	225,434,563.939	12,536,822.774	616,377,936.661	0.000	0.000
2053	5	938,025,011.788	479,347,598.049	54,090,634.439	42,311,522.661	600,620,635.913	0.000	0.000
2053	6	1,042,857,661.417	479,347,598.049	7,290,652.797	132,765,581.010	617,314,417.973	0.000	0.000
2053	7	1,240,939,576.127	479,347,598.049	24,841.888	271,015,020.931	593,899,693.521	0.000	0.000
2053	8	1,257,107,872.292	479,347,598.049	0.000	306,212,545.628	566,759,089.796	0.000	0.000
2053	9	1,176,572,335.050	479,347,598.049	105,376.565	245,850,320.343	593,374,110.299	0.000	0.000
2053	10	943,752,806.268	479,347,598.049	17,443,501.684	88,106,285.208	593,997,598.481	0.000	0.000
2053	11	1,028,778,541.015	479,347,598.049	145,990,847.298	11,704,860.258	599,752,685.075	0.000	0.000
2053	12	1,534,569,050.834	479,347,598.049	393,855,524.619	853,709.920	692,688,978.948	0.000	0.000
2054	1	1,855,185,818.984	479,347,598.049	572,507,892.981	235,923.717	723,430,691.497	111,840,473.441	0.000
2054	2	1,643,117,776.361	479,347,598.049	646,791,795.836	184,509.931	640,125,252.151	0.000	-91,154,618.904
2054	3	1,412,044,589.224	479,347,598.049	477,600,091.904	1,158,082.606	625,665,767.978	0.000	0.000
2054	4	1,140,414,014.989	479,347,598.049	224,552,774.606	12,578,186.848	621,140,937.023	0.000	0.000
2054	5	942,640,831.816	479,347,598.049	53,880,592.963	42,452,317.895	605,305,702.183	0.000	0.000
2054	6	1,048,132,631.696	479,347,598.049	7,262,527.898	133,210,691.252	622,172,402.908	0.000	0.000
2054	7	1,246,590,708.397	479,347,598.049	24,746.537	271,928,694.699	598,637,247.374	0.000	0.000
2054	8	1,262,684,651.997	479,347,598.049	0.000	307,251,000.866	571,297,414.263	0.000	0.000
2054	9	1,182,128,808.671	479,347,598.049	104,976.448	246,688,992.356	598,092,312.024	0.000	0.000
2054	10	948,662,215.807	479,347,598.049	17,377,640.914	88,408,693.503	598,670,460.495	0.000	0.000
2054	11	1,032,940,317.445	479,347,598.049	145,442,248.358	11,745,242.743	604,422,677.959	0.000	0.000
2054	12	1,538,415,649.224	479,347,598.049	392,380,155.083	856,665.303	698,007,991.491	0.000	0.000
2055	1	1,858,356,981.233	479,347,598.049	570,226,726.724	236,688.102	728,882,255.618	111,840,473.441	0.000
2055	2	1,645,420,808.881	479,347,598.049	644,233,175.445	185,112.899	644,986,302.094	0.000	-91,154,618.904
2055	3	1,414,953,741.426	479,347,598.049	475,722,161.753	1,161,893.912	630,449,039.026	0.000	0.000
2055	4	1,144,399,043.432	479,347,598.049	223,678,131.176	12,620,042.639	625,958,753.105	0.000	0.000
2055	5	947,315,134.561	479,347,598.049	53,672,378.340	42,594,863.332	610,045,674.114	0.000	0.000
2055	6	1,053,471,323.132	479,347,598.049	7,234,661.955	133,661,547.572	627,088,103.967	0.000	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb
2055	7	1,252,311,305.562	479,347,598.049	24,652.109	272,854,585.831	603,432,047.835	0.000	0.000
2055	8	1,268,331,631.422	479,347,598.049	0.000	308,303,858.398	575,891,536.156	0.000	0.000
2055	9	1,187,756,307.406	479,347,598.049	104,580.639	247,539,710.111	602,869,488.813	0.000	0.000
2055	10	953,636,380.398	479,347,598.049	17,312,531.594	88,715,607.072	603,402,820.837	0.000	0.000
2055	11	1,037,169,915.915	479,347,598.049	144,900,269.645	11,786,247.831	609,153,250.055	0.000	0.000
2055	12	1,542,350,737.516	479,347,598.049	390,923,328.306	859,667.422	703,396,904.441	0.000	0.000
2056	1	1,861,628,551.318	479,347,598.049	567,974,034.718	237,465.207	734,405,740.605	111,840,473.441	0.000
2056	2	1,647,821,081.974	479,347,598.049	641,707,223.559	185,725.998	649,911,913.975	0.000	-91,154,618.904
2056	3	1,417,951,421.021	479,347,598.049	473,868,752.021	1,165,769.950	635,296,252.313	0.000	0.000
2056	4	1,148,461,529.948	479,347,598.049	222,815,260.775	12,662,618.653	630,841,534.009	0.000	0.000
2056	5	952,059,137.375	479,347,598.049	53,467,047.505	42,739,894.898	614,849,976.197	0.000	0.000
2056	6	1,058,885,332.956	479,347,598.049	7,207,191.412	134,120,357.562	632,070,774.344	0.000	0.000
2056	7	1,258,114,073.068	479,347,598.049	24,559.050	273,796,992.265	608,292,501.966	0.000	0.000
2056	8	1,274,061,016.518	479,347,598.049	0.000	309,375,707.978	580,549,071.673	0.000	0.000
2056	9	1,193,466,005.131	479,347,598.049	104,190.829	248,405,939.874	607,713,346.585	0.000	0.000
2056	10	958,684,057.102	479,347,598.049	17,248,433.304	89,028,181.775	608,202,021.129	0.000	0.000
2056	11	1,041,476,463.314	479,347,598.049	144,366,899.720	11,828,017.347	613,951,397.863	0.000	0.000
2056	12	1,546,387,049.269	479,347,598.049	389,490,026.095	862,725.958	708,863,459.869	0.000	0.000
2057	1	1,865,014,132.307	479,347,598.049	565,756,122.074	238,257.407	740,008,442.038	111,840,473.441	0.000
2057	2	1,650,330,524.657	479,347,598.049	639,220,093.325	186,350.875	654,907,862.014	0.000	-91,154,618.904
2057	3	1,421,046,424.288	479,347,598.049	472,043,678.077	1,169,719.704	640,212,379.772	0.000	0.000
2057	4	1,152,606,944.513	479,347,598.049	221,965,498.541	12,705,992.850	635,793,336.611	0.000	0.000
2057	5	956,876,379.456	479,347,598.049	53,264,812.287	42,887,609.341	619,721,739.053	0.000	0.000
2057	6	1,064,377,580.014	479,347,598.049	7,180,131.939	134,587,550.478	637,122,887.960	0.000	0.000
2057	7	1,264,001,231.446	479,347,598.049	24,467.372	274,756,419.262	613,220,325.026	0.000	0.000
2057	8	1,279,873,886.690	479,347,598.049	0.000	310,466,666.653	585,270,983.169	0.000	0.000
2057	9	1,199,257,902.614	479,347,598.049	103,806.683	249,287,416.484	612,624,151.603	0.000	0.000
2057	10	963,804,361.604	479,347,598.049	17,185,255.852	89,346,185.007	613,067,499.850	0.000	0.000
2057	11	1,045,857,430.975	479,347,598.049	143,841,090.503	11,870,502.269	618,815,689.819	0.000	0.000
2057	12	1,550,518,677.537	479,347,598.049	388,076,827.588	865,836.341	714,405,176.261	0.000	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Mar	Apr	May	Jun	Jul	Aug	Sep
1995	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1995	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1995	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
1995	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
1995	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
1995	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
1995	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
1995	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
1995	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
1995	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1995	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1995	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1996	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1996	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1996	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
1996	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
1996	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
1996	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
1996	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
1996	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
1996	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
1996	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1996	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1996	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1997	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1997	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1997	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
1997	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
1997	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
1997	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
1997	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
1997	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
1997	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504



Kentucky Power Company  
Residential Energy Model Output

Year	Month	Mar	Apr	May	Jun	Jul	Aug	Sep
1997	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1997	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1997	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1998	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1998	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1998	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
1998	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
1998	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
1998	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
1998	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
1998	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
1998	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
1998	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1998	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1998	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1999	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1999	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1999	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
1999	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
1999	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
1999	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
1999	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
1999	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
1999	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
1999	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1999	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1999	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2000	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2000	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2000	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2000	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2000	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2000	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000



Kentucky Power Company  
Residential Energy Model Output

Year	Month	Mar	Apr	May	Jun	Jul	Aug	Sep
2000	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2000	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2000	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2000	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2000	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2000	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2001	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2001	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2001	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2001	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2001	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2001	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2001	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2001	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2001	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2001	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2001	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2001	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2002	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2002	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2002	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2002	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2002	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2002	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2002	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2002	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2002	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2002	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2002	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2002	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2003	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2003	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2003	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000



Kentucky Power Company  
Residential Energy Model Output

Year	Month	Mar	Apr	May	Jun	Jul	Aug	Sep
2006	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2006	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2006	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2006	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2006	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2006	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2006	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2006	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2006	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2006	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2006	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2006	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2007	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2007	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2007	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2007	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2007	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2007	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2007	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2007	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2007	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2007	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2007	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2007	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2008	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2008	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2008	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2008	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2008	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2008	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2008	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2008	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2008	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Mar	Apr	May	Jun	Jul	Aug	Sep
2008	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2008	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2008	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2009	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2009	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2009	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2009	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2009	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2009	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2009	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2009	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2009	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2009	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2009	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2009	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2010	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2010	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2010	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2010	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2010	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2010	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2010	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2010	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2010	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2010	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2010	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2010	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2011	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2011	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2011	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2011	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2011	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2011	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Mar	Apr	May	Jun	Jul	Aug	Sep
2011	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2011	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2011	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2011	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2011	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2011	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2012	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2012	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2012	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2012	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2012	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2012	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2012	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2012	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2012	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2012	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2012	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2012	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2013	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2013	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2013	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2013	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2013	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2013	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2013	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2013	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2013	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2013	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2013	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2013	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2014	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2014	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2014	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000



Kentucky Power Company  
Residential Energy Model Output

Year	Month	Mar	Apr	May	Jun	Jul	Aug	Sep
2017	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2017	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2017	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2017	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2017	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2017	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2017	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2017	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2017	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2017	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2017	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2017	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2018	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2018	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2018	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2018	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2018	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2018	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2018	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2018	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2018	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2018	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2018	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2018	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2019	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2019	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2019	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2019	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2019	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2019	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2019	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2019	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2019	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Mar	Apr	May	Jun	Jul	Aug	Sep
2019	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2019	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2019	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2020	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2020	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2020	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2020	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2020	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2020	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2020	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2020	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2020	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2020	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2020	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2020	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2021	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2021	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2021	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2021	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2021	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2021	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2021	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2022	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2022	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2022	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2022	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2022	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2022	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000



Kentucky Power Company  
Residential Energy Model Output

Year	Month	Mar	Apr	May	Jun	Jul	Aug	Sep
2022	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2022	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2022	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2022	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2022	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2022	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2023	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2023	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2023	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2023	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2023	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2023	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2023	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2023	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2023	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2023	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2023	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2023	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2024	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2024	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2024	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2024	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2024	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2024	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2024	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2024	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2024	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2024	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2024	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2024	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2025	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2025	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2025	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000



Kentucky Power Company  
Residential Energy Model Output

Year	Month	Mar	Apr	May	Jun	Jul	Aug	Sep
2028	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2028	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2028	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2028	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2028	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2028	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2028	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2028	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2028	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2028	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2028	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2028	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2029	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2029	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2029	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2029	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2029	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2029	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2029	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2029	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2029	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2029	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2029	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2029	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2030	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2030	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2030	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2030	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2030	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2030	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2030	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2030	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2030	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Mar	Apr	May	Jun	Jul	Aug	Sep
2030	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2030	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2030	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2031	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2031	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2031	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2031	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2031	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2031	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2031	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2031	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2031	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2031	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2031	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2031	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2032	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2032	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2032	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2032	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2032	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2032	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2032	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2032	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2032	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2032	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2032	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2032	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2033	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2033	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2033	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2033	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2033	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2033	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Mar	Apr	May	Jun	Jul	Aug	Sep
2033	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2033	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2033	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2033	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2033	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2033	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2034	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2034	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2034	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2034	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2034	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2034	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2034	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2034	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2034	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2034	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2034	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2034	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2035	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2035	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2035	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2035	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2035	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2035	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2035	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2035	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2035	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2035	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2035	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2035	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2036	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2036	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2036	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000



Kentucky Power Company  
Residential Energy Model Output

Year	Month	Mar	Apr	May	Jun	Jul	Aug	Sep
2039	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2039	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2039	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2039	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2039	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2039	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2039	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2039	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2039	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2039	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2039	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2039	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2040	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2040	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2040	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2040	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2040	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2040	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2040	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2040	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2040	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2040	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2040	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2040	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2041	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2041	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2041	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2041	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2041	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2041	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2041	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2041	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2041	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Mar	Apr	May	Jun	Jul	Aug	Sep
2041	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2041	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2041	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2042	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2042	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2042	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2042	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2042	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2042	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2042	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2042	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2042	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2042	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2042	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2042	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2043	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2043	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2043	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2043	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2043	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2043	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2043	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2043	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2043	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2043	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2043	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2043	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2044	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2044	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2044	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2044	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2044	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2044	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000



Kentucky Power Company  
Residential Energy Model Output

Year	Month	Mar	Apr	May	Jun	Jul	Aug	Sep
2044	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2044	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2044	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2044	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2044	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2044	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2045	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2045	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2045	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2045	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2045	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2045	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2045	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2045	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2045	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2045	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2045	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2045	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2046	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2046	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2046	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2046	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2046	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2046	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2046	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2046	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2046	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2046	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2046	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2046	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2047	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2047	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2047	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000



Kentucky Power Company  
Residential Energy Model Output

Year	Month	Mar	Apr	May	Jun	Jul	Aug	Sep
2050	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2050	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2050	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2050	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2050	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2050	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2050	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2050	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2050	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2050	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2050	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2050	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2051	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2051	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2051	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2051	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2051	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2051	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2051	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2051	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2051	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2051	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2051	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2051	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2052	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2052	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2052	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2052	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2052	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2052	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2052	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2052	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2052	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Mar	Apr	May	Jun	Jul	Aug	Sep
2052	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2052	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2052	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2053	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2053	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2053	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2053	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2053	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2053	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2053	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2053	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2053	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2053	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2053	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2053	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2054	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2054	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2054	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2054	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2054	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2054	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000
2054	7	0.000	0.000	0.000	0.000	-71,170,817.560	0.000	0.000
2054	8	0.000	0.000	0.000	0.000	0.000	-63,034,600.479	0.000
2054	9	0.000	0.000	0.000	0.000	0.000	0.000	-109,928,309.504
2054	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2054	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2054	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2055	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2055	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2055	3	-139,550,190.611	0.000	0.000	0.000	0.000	0.000	0.000
2055	4	0.000	-165,028,720.836	0.000	0.000	0.000	0.000	0.000
2055	5	0.000	0.000	-206,168,618.572	0.000	0.000	0.000	0.000
2055	6	0.000	0.000	0.000	-161,683,827.710	0.000	0.000	0.000



















Kentucky Power Company  
Residential Energy Model Output

Year	Month	Oct	Nov	7-Feb	Sep-95	Nov-95	Apr15on	Feb-95
2014	4	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2014	5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2014	6	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2014	7	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2014	8	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2014	9	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2014	10	-202,965,416.453	0.000	0.000	0.000	0.000	0.000	0.000
2014	11	0.000	-175,840,688.962	0.000	0.000	0.000	0.000	0.000
2014	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2015	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2015	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2015	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2015	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2015	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2015	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2015	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2015	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2015	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2015	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2015	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2015	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2016	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2016	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2016	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2016	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2016	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2016	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2016	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2016	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2016	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2016	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2016	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2016	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000

Kentucky Power Company  
 Residential Energy Model Output

Year	Month	Oct	Nov	7-Feb	Sep-95	Nov-95	Apr15on	Feb-95
2017	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2017	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2017	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2017	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2017	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2017	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2017	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2017	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2017	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2017	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2017	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2017	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2018	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2018	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2018	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2018	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2018	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2018	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2018	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2018	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2018	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2018	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2018	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2018	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2019	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2019	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2019	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2019	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2019	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2019	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2019	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2019	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2019	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Oct	Nov	7-Feb	Sep-95	Nov-95	Apr15on	Feb-95
2019	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2019	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2019	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2020	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2020	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2020	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2020	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2020	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2020	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2020	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2020	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2020	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2020	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2020	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2020	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2021	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2021	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2021	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2021	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2021	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2021	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2021	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2021	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2021	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2021	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2021	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2021	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2022	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2022	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2022	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2022	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2022	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2022	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Oct	Nov	7-Feb	Sep-95	Nov-95	Apr15on	Feb-95
2022	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2022	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2022	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2022	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2022	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2022	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2023	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2023	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2023	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2023	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2023	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2023	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2023	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2023	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2023	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2023	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2023	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2023	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2024	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2024	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2024	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2024	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2024	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2024	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2024	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2024	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2024	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2024	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2024	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2024	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2025	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2025	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2025	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000



Kentucky Power Company  
 Residential Energy Model Output

Year	Month	Oct	Nov	7-Feb	Sep-95	Nov-95	Apr15on	Feb-95
2025	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2025	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2025	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2025	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2025	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2025	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2025	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2025	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2025	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2026	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2026	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2026	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2026	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2026	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2026	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2026	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2026	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2026	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2026	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2026	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2026	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2027	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2027	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2027	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2027	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2027	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2027	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2027	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2027	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2027	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2027	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2027	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2027	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000

Kentucky Power Company  
 Residential Energy Model Output

Year	Month	Oct	Nov	7-Feb	Sep-95	Nov-95	Apr15on	Feb-95
2028	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2028	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2028	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2028	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2028	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2028	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2028	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2028	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2028	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2028	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2028	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2028	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2029	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2029	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2029	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2029	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2029	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2029	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2029	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2029	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2029	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2029	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2029	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2029	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2030	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2030	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2030	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2030	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2030	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2030	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2030	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2030	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2030	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Oct	Nov	7-Feb	Sep-95	Nov-95	Apr15on	Feb-95
2030	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2030	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2030	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2031	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2031	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2031	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2031	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2031	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2031	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2031	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2031	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2031	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2031	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2031	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2031	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2032	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2032	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2032	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2032	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2032	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2032	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2032	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2032	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2032	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2032	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2032	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2032	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2033	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2033	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2033	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2033	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2033	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2033	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Oct	Nov	7-Feb	Sep-95	Nov-95	Apr15on	Feb-95
2033	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2033	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2033	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2033	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2033	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2033	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2034	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2034	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2034	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2034	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2034	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2034	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2034	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2034	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2034	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2034	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2034	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2034	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2035	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2035	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2035	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2035	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2035	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2035	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2035	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2035	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2035	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2035	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2035	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2035	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2036	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2036	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2036	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Oct	Nov	7-Feb	Sep-95	Nov-95	Apr15on	Feb-95
2036	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2036	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2036	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2036	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2036	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2036	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2036	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2036	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2036	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2037	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2037	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2037	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2037	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2037	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2037	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2037	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2037	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2037	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2037	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2037	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2037	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2038	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2038	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2038	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2038	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2038	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2038	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2038	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2038	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2038	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2038	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2038	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2038	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000

Kentucky Power Company  
 Residential Energy Model Output

Year	Month	Oct	Nov	7-Feb	Sep-95	Nov-95	Apr15on	Feb-95
2039	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2039	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2039	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2039	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2039	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2039	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2039	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2039	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2039	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2039	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2039	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2039	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2040	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2040	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2040	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2040	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2040	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2040	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2040	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2040	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2040	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2040	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2040	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2040	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2041	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2041	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2041	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2041	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2041	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2041	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2041	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2041	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2041	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Oct	Nov	7-Feb	Sep-95	Nov-95	Apr15on	Feb-95
2041	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2041	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2041	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2042	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2042	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2042	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2042	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2042	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2042	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2042	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2042	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2042	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2042	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2042	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2042	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2043	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2043	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2043	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2043	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2043	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2043	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2043	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2043	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2043	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2043	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2043	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2043	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2044	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2044	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2044	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2044	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2044	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2044	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Oct	Nov	7-Feb	Sep-95	Nov-95	Apr15on	Feb-95
2044	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2044	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2044	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2044	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2044	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2044	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2045	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2045	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2045	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2045	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2045	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2045	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2045	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2045	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2045	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2045	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2045	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2045	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2046	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2046	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2046	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2046	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2046	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2046	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2046	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2046	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2046	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2046	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2046	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2046	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2047	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2047	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2047	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000



Kentucky Power Company  
 Residential Energy Model Output

Year	Month	Oct	Nov	7-Feb	Sep-95	Nov-95	Apr15on	Feb-95
2047	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2047	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2047	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2047	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2047	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2047	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2047	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2047	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2047	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2048	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2048	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2048	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2048	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2048	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2048	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2048	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2048	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2048	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2048	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2048	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2048	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2049	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2049	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2049	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2049	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2049	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2049	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2049	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2049	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2049	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2049	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2049	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2049	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Oct	Nov	7-Feb	Sep-95	Nov-95	Apr15on	Feb-95
2050	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2050	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2050	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2050	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2050	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2050	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2050	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2050	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2050	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2050	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2050	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2050	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2051	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2051	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2051	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2051	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2051	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2051	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2051	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2051	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2051	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2051	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2051	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2051	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2052	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2052	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2052	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2052	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2052	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2052	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2052	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2052	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2052	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Oct	Nov	7-Feb	Sep-95	Nov-95	Apr15on	Feb-95
2052	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2052	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2052	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2053	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2053	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2053	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2053	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2053	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2053	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2053	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2053	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2053	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2053	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2053	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2053	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2054	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2054	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2054	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2054	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2054	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2054	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2054	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2054	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2054	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2054	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2054	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2054	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2055	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2055	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2055	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2055	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2055	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2055	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Oct	Nov	7-Feb	Sep-95	Nov-95	Apr15on	Feb-95
2055	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2055	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2055	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2055	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2055	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2055	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2056	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2056	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2056	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2056	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2056	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2056	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2056	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2056	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2056	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2056	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2056	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2056	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2057	1	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2057	2	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2057	3	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2057	4	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2057	5	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2057	6	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2057	7	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2057	8	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2057	9	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2057	10	-202,965,416.453	0.000	0.000	0.000	0.000	-47,149,536.983	0.000
2057	11	0.000	-175,840,688.962	0.000	0.000	0.000	-47,149,536.983	0.000
2057	12	0.000	0.000	0.000	0.000	0.000	-47,149,536.983	0.000











Kentucky Power Company  
Residential Energy Model Output

Year	Month	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	ARMA
2006	1	0.000	0.000	0.000	29,640,498.624	0.000	0.000	-7,922,885.833
2006	2	0.000	0.000	0.000	29,640,498.624	0.000	0.000	59,454,533.825
2006	3	0.000	0.000	0.000	29,640,498.624	0.000	0.000	60,155,702.147
2006	4	0.000	0.000	0.000	29,640,498.624	0.000	0.000	-41,227,456.771
2006	5	0.000	0.000	0.000	29,640,498.624	0.000	0.000	-26,295,069.916
2006	6	0.000	0.000	0.000	29,640,498.624	0.000	0.000	-3,694,417.456
2006	7	0.000	0.000	0.000	29,640,498.624	0.000	0.000	285,283.567
2006	8	0.000	0.000	0.000	29,640,498.624	0.000	0.000	-16,416,143.391
2006	9	0.000	0.000	0.000	29,640,498.624	0.000	0.000	-30,606,371.652
2006	10	0.000	0.000	0.000	29,640,498.624	0.000	0.000	-18,820,882.233
2006	11	0.000	0.000	0.000	29,640,498.624	0.000	0.000	-7,613,361.218
2006	12	0.000	0.000	0.000	29,640,498.624	0.000	0.000	-5,562,540.094
2007	1	0.000	0.000	0.000	29,640,498.624	0.000	0.000	44,173,689.068
2007	2	0.000	0.000	0.000	29,640,498.624	0.000	0.000	13,690,788.273
2007	3	0.000	0.000	0.000	29,640,498.624	0.000	0.000	-5,181,421.766
2007	4	0.000	0.000	0.000	29,640,498.624	0.000	0.000	-26,419,090.702
2007	5	0.000	0.000	0.000	29,640,498.624	0.000	0.000	-18,762,851.095
2007	6	0.000	0.000	0.000	29,640,498.624	0.000	0.000	-9,970,410.422
2007	7	0.000	0.000	0.000	29,640,498.624	0.000	0.000	1,761,201.994
2007	8	0.000	0.000	0.000	29,640,498.624	0.000	0.000	-32,413,386.246
2007	9	0.000	0.000	0.000	29,640,498.624	0.000	0.000	-25,900,596.205
2007	10	0.000	0.000	0.000	29,640,498.624	0.000	0.000	9,683,130.634
2007	11	0.000	0.000	0.000	29,640,498.624	0.000	0.000	-17,803,066.008
2007	12	0.000	0.000	0.000	29,640,498.624	0.000	0.000	-17,574,373.618
2008	1	0.000	0.000	0.000	29,640,498.624	0.000	0.000	-30,307,194.976
2008	2	0.000	0.000	0.000	29,640,498.624	0.000	0.000	1,127,355.387
2008	3	0.000	0.000	0.000	29,640,498.624	0.000	0.000	7,392,274.782
2008	4	0.000	0.000	0.000	29,640,498.624	0.000	0.000	8,099,690.719
2008	5	0.000	0.000	0.000	29,640,498.624	0.000	0.000	9,491,810.880
2008	6	0.000	0.000	0.000	29,640,498.624	0.000	0.000	-6,187,014.059
2008	7	0.000	0.000	0.000	29,640,498.624	0.000	0.000	2,155,471.059
2008	8	0.000	0.000	0.000	29,640,498.624	0.000	0.000	-6,487,200.046
2008	9	0.000	0.000	0.000	29,640,498.624	0.000	0.000	-7,930,886.091







Kentucky Power Company  
Residential Energy Model Output

Year	Month	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	ARMA
2017	1	0.000	0.000	0.000	0.000	0.000	0.000	-22,334,227.354
2017	2	0.000	0.000	0.000	0.000	0.000	0.000	-30,962,000.916
2017	3	0.000	0.000	0.000	0.000	0.000	0.000	-19,236,189.058
2017	4	0.000	0.000	0.000	0.000	0.000	0.000	-2,111,971.819
2017	5	0.000	0.000	0.000	0.000	0.000	0.000	-27,839,069.048
2017	6	0.000	0.000	0.000	0.000	0.000	0.000	-24,404,366.391
2017	7	0.000	0.000	0.000	0.000	0.000	0.000	-16,930,652.707
2017	8	0.000	0.000	0.000	0.000	0.000	0.000	-11,111,166.096
2017	9	0.000	0.000	0.000	0.000	0.000	0.000	803,376.594
2017	10	0.000	0.000	0.000	0.000	0.000	0.000	-10,326,690.763
2017	11	0.000	0.000	0.000	0.000	0.000	0.000	-18,546,170.952
2017	12	0.000	0.000	0.000	0.000	0.000	0.000	-30,321,432.570
2018	1	0.000	0.000	0.000	0.000	0.000	0.000	-21,279,142.600
2018	2	0.000	0.000	0.000	0.000	0.000	0.000	27,366,437.556
2018	3	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	39,056,387.024
2018	4	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	-14,827,103.017
2018	5	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	11,256,428.852
2018	6	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	2,635,108.626
2018	7	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	11,833,090.194
2018	8	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	16,538,980.199
2018	9	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	-2,765,832.432
2018	10	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	7,042,823.265
2018	11	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	1,052,050.353
2018	12	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	-16,099,213.235
2019	1	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	-22,592,766.155
2019	2	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	-13,889,212.363
2019	3	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	32,247,785.080
2019	4	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	-774,705.109
2019	5	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	640,759.167
2019	6	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	2,405,503.271
2019	7	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	6,304,757.891
2019	8	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	8,055,895.988
2019	9	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	22,323,752.925

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	ARMA
2019	10	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	22,630,748.499
2019	11	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	9,380,003.771
2019	12	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	-5,928,798.068
2020	1	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	-21,314,060.589
2020	2	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	-9,743,220.984
2020	3	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	-16,912,338.637
2020	4	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	22,645,611.078
2020	5	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	15,743,306.949
2020	6	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	6,432,063.475
2020	7	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	10,392,850.837
2020	8	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	12,884,121.528
2020	9	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	33,547,233.529
2020	10	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	30,423,308.217
2020	11	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	21,527,324.553
2020	12	0.000	0.000	0.000	0.000	-9,328,389.559	0.000	-7,977,046.022
2021	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-21,263,129.110
2021	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-4,907,884.213
2021	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	5,441,512.040
2021	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-14,847,897.160
2021	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	14,314,136.188
2021	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	4,101,521.035
2021	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-6,303,306.471
2021	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	2,518,176.351
2021	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	3,573,041.521
2021	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	12,705,196.083
2021	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-6,418,427.907
2021	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-12,451,492.582
2022	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	9,989,493.071
2022	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-21,113,259.620
2022	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-10,875,050.636
2022	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-5,601,538.012
2022	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-2,885,248.920
2022	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-1,486,138.506

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	ARMA
2022	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-765,482.535
2022	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-394,285.936
2022	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-203,089.414
2022	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-104,607.611
2022	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-53,881.451
2022	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-27,753.342
2023	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-14,295.235
2023	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-7,363.212
2023	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-3,792.655
2023	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-1,953.526
2023	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-1,006.225
2023	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-518.288
2023	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-266.961
2023	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-137.507
2023	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-70.827
2023	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-36.482
2023	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-18.791
2023	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-9.679
2024	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-4.985
2024	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-2.568
2024	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-1.323
2024	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.681
2024	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.351
2024	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.181
2024	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.093
2024	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.048
2024	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.025
2024	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.013
2024	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.007
2024	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.003
2025	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.002
2025	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.001
2025	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000

Kentucky Power Company  
 Residential Energy Model Output

Year	Month	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	ARMA
2025	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2025	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2025	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2025	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2025	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2025	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2025	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2025	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2025	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2026	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2026	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2026	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2026	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2026	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2026	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2026	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2026	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2026	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2026	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2026	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2026	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2027	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2027	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2027	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2027	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2027	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2027	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2027	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2027	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2027	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2027	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2027	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2027	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000



Kentucky Power Company  
 Residential Energy Model Output

Year	Month	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	ARMA
2028	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2028	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2028	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2028	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2028	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2028	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2028	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2028	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2028	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2028	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2028	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2028	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2029	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2029	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2029	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2029	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2029	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2029	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2029	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2029	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2029	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2029	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2029	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2029	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2030	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2030	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2030	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2030	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2030	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2030	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2030	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2030	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2030	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	ARMA
2030	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2030	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2030	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2031	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2031	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2031	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2031	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2031	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2031	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2031	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2031	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2031	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2031	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2031	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2031	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2032	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2032	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2032	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2032	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2032	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2032	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2032	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2032	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2032	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2032	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2032	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2032	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2033	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2033	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2033	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2033	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2033	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2033	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000

Kentucky Power Company  
 Residential Energy Model Output

Year	Month	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	ARMA
2033	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2033	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2033	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2033	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2033	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2033	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2034	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2034	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2034	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2034	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2034	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2034	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2034	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2034	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2034	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2034	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2034	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2034	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2035	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2035	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2035	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2035	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2035	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2035	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2035	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2035	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2035	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2035	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2035	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2035	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2036	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2036	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2036	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000

Kentucky Power Company  
 Residential Energy Model Output

Year	Month	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	ARMA
2036	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2036	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2036	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2036	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2036	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2036	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2036	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2036	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2036	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2037	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2037	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2037	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2037	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2037	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2037	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2037	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2037	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2037	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2037	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2037	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2037	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2038	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2038	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2038	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2038	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2038	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2038	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2038	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2038	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2038	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2038	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2038	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2038	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000

Kentucky Power Company  
 Residential Energy Model Output

Year	Month	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	ARMA
2039	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2039	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2039	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2039	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2039	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2039	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2039	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2039	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2039	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2039	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2039	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2039	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2040	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2040	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2040	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2040	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2040	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2040	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2040	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2040	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2040	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2040	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2040	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2040	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2041	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2041	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2041	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2041	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2041	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2041	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2041	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2041	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2041	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000

Kentucky Power Company  
 Residential Energy Model Output

Year	Month	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	ARMA
2041	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2041	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2041	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2042	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2042	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2042	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2042	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2042	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2042	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2042	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2042	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2042	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2042	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2042	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2042	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2043	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2043	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2043	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2043	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2043	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2043	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2043	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2043	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2043	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2043	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2043	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2043	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2044	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2044	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2044	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2044	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2044	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2044	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000

Kentucky Power Company  
 Residential Energy Model Output

Year	Month	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	ARMA
2044	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2044	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2044	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2044	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2044	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2044	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2045	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2045	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2045	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2045	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2045	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2045	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2045	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2045	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2045	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2045	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2045	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2045	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2046	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2046	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2046	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2046	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2046	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2046	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2046	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2046	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2046	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2046	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2046	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2046	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2047	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2047	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2047	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000

Kentucky Power Company  
 Residential Energy Model Output

Year	Month	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	ARMA
2047	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2047	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2047	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2047	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2047	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2047	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2047	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2047	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2047	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2048	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2048	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2048	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2048	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2048	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2048	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2048	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2048	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2048	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2048	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2048	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2048	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2049	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2049	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2049	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2049	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2049	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2049	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2049	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2049	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2049	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2049	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2049	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2049	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000



Kentucky Power Company  
 Residential Energy Model Output

Year	Month	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	ARMA
2050	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2050	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2050	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2050	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2050	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2050	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2050	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2050	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2050	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2050	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2050	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2050	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2051	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2051	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2051	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2051	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2051	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2051	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2051	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2051	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2051	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2051	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2051	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2051	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2052	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2052	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2052	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2052	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2052	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2052	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2052	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2052	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2052	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000

Kentucky Power Company  
 Residential Energy Model Output

Year	Month	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	ARMA
2052	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2052	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2052	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2053	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2053	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2053	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2053	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2053	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2053	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2053	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2053	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2053	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2053	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2053	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2053	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2054	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2054	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2054	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2054	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2054	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2054	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2054	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2054	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2054	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2054	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2054	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2054	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2055	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2055	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2055	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2055	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2055	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2055	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Mar-95	Jan-96	Apr-95	d0610	Mar18on	D21on	ARMA
2055	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2055	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2055	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2055	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2055	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2055	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2056	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2056	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	-0.000
2056	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2056	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2056	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2056	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2056	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2056	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2056	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2056	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2056	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2056	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2057	1	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2057	2	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2057	3	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2057	4	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2057	5	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2057	6	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2057	7	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2057	8	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2057	9	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2057	10	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2057	11	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000
2057	12	0.000	0.000	0.000	0.000	-9,328,389.559	24,301,165.841	0.000

Kentucky Power Company  
Residential Energy Model Output

Year	Month	X-Missing	Lighting Share	Lighting	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
1995	1	0.000						
1995	2	0.000	0.204461346	166,015,759.1	781,878,195.847	0.000	166,015,759.1	645,950,719.57384
1995	3	0.000	0.204461346	146,251,863.9	534,573,786.546	0.000	146,251,863.9	569,051,379.20659
1995	4	0.000	0.204461346	154,489,005.0	196,611,570.739	6,509,234.001	154,489,005.0	601,101,271.60594
1995	5	0.000	0.204461346	161,608,978.3	70,375,056.108	26,410,426.774	161,608,978.3	628,804,375.90582
1995	6	0.000	0.204461346	173,156,757.7	4,503,998.789	118,872,673.888	173,156,757.7	673,735,630.98394
1995	7	0.000	0.204461346	183,636,480.0	0.000	282,613,264.502	183,636,480.0	714,511,182.44706
1995	8	0.000	0.204461346	201,353,868.7	0.000	440,781,274.113	201,353,868.7	783,447,770.53871
1995	9	0.000	0.204461346	117,861,942.1	560,397.967	346,553,002.280	117,861,942.1	458,589,032.16050
1995	10	0.000	0.204461346	170,053,178.4	14,860,922.927	64,016,988.870	170,053,178.4	661,659,914.24142
1995	11	0.000	0.204461346	232,618,022.3	224,588,745.966	5,948,057.324	232,618,022.3	905,093,466.25597
1995	12	0.000	0.204461346	237,364,088.6	552,952,945.911	405,447.638	237,364,088.6	923,559,935.55295
1996	1	0.000	0.20822429	242,722,795.2	896,016,570.621	0.000	242,722,795.2	922,956,746.62414
1996	2	0.000	0.20822429	216,292,942.7	893,159,221.728	0.000	216,292,942.7	822,456,871.18419
1996	3	0.000	0.20822429	195,238,869.0	612,907,873.957	0.000	195,238,869.0	742,398,468.19548
1996	4	0.000	0.20822429	181,440,471.9	423,486,888.455	7,867,310.893	181,440,471.9	689,929,874.63076
1996	5	0.000	0.20822429	171,239,164.4	92,457,636.699	78,528,904.962	171,239,164.4	651,139,263.29703
1996	6	0.000	0.20822429	174,389,883.8	12,715,914.858	169,029,361.402	174,389,883.8	663,119,916.84869
1996	7	0.000	0.20822429	183,714,232.5	0.000	323,966,841.959	183,714,232.5	698,575,880.30043
1996	8	0.000	0.20822429	180,430,849.9	0.000	297,708,746.810	180,430,849.9	686,090,773.14844
1996	9	0.000	0.20822429	176,440,357.4	0.000	257,676,772.071	176,440,357.4	670,916,870.94515
1996	10	0.000	0.20822429	161,870,327.9	28,230,659.274	47,222,806.076	161,870,327.9	615,514,134.36041
1996	11	0.000	0.20822429	174,666,658.9	230,208,956.710	6,693,611.949	174,666,658.9	664,172,357.90659
1996	12	0.000	0.20822429	227,865,120.6	580,280,310.339	1,599,192.821	227,865,120.6	866,460,235.79794
1997	1	0.000	0.211074109	256,367,007.6	651,180,153.638	853,602.966	256,367,007.6	958,215,912.28111
1997	2	0.000	0.211074109	199,373,636.1	789,988,988.562	707,595.164	199,373,636.1	745,193,355.51363
1997	3	0.000	0.211074109	181,266,733.2	434,442,048.193	3,011,486.327	181,266,733.2	677,515,682.49616
1997	4	0.000	0.211074109	178,591,416.0	277,307,947.739	6,879,224.208	178,591,416.0	667,516,222.97592
1997	5	0.000	0.211074109	171,761,333.0	127,470,170.665	7,910,884.908	171,761,333.0	641,987,609.59452
1997	6	0.000	0.211074109	182,463,277.3	19,240,957.272	58,309,825.729	182,463,277.3	681,987,972.51308
1997	7	0.000	0.211074109	188,427,226.1	0.000	274,845,470.481	188,427,226.1	704,279,259.80501
1997	8	0.000	0.211074109	186,933,880.0	0.000	338,400,065.982	186,933,880.0	698,697,621.11969
1997	9	0.000	0.211074109	182,904,455.2	0.000	183,401,970.842	182,904,455.2	683,636,950.87816

Kentucky Power Company  
Residential Energy Model Output

Year	Month	X-Missing	Lighting Share	Lighting	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
1997	10	0.000	0.211074109	166,633,439.4	20,470,153.893	57,629,491.782	166,633,439.4	622,821,222.91471
1997	11	0.000	0.211074109	171,848,311.8	279,067,246.665	16,355,772.392	171,848,311.8	642,312,707.82313
1997	12	0.000	0.211074109	232,744,058.0	558,983,812.371	0.000	232,744,058.0	869,921,063.23221
1998	1	0.000	0.2135391	273,994,494.9	607,088,620.014	0.000	273,994,494.9	1,009,117,096.66590
1998	2	0.000	0.2135391	200,713,486.6	641,553,915.135	0.000	200,713,486.6	739,224,381.17997
1998	3	0.000	0.2135391	184,582,804.3	513,828,877.790	38,293.382	184,582,804.3	679,815,350.43327
1998	4	0.000	0.2135391	181,856,145.4	299,941,181.630	48,568,416.660	181,856,145.4	669,773,111.82407
1998	5	0.000	0.2135391	164,921,513.4	44,807,913.708	27,166,116.731	164,921,513.4	607,403,148.16971
1998	6	0.000	0.2135391	187,240,670.0	992,931.073	156,014,694.767	187,240,670.0	689,604,224.95548
1998	7	0.000	0.2135391	193,782,328.2	432,280.364	334,620,329.610	193,782,328.2	713,697,041.85353
1998	8	0.000	0.2135391	190,976,398.0	0.000	346,497,666.426	190,976,398.0	703,362,848.03782
1998	9	0.000	0.2135391	189,245,959.5	0.000	336,772,973.624	189,245,959.5	696,989,672.35882
1998	10	0.000	0.2135391	170,140,447.3	8,337,669.136	205,435,351.907	170,140,447.3	626,624,393.63474
1998	11	0.000	0.2135391	178,367,395.2	169,793,577.221	15,251,020.576	178,367,395.2	656,924,103.86422
1998	12	0.000	0.2135391	240,000,967.3	321,986,798.397	3,209,574.122	240,000,967.3	883,919,508.99968
1999	1	0.000	0.215005028	272,500,247.0	845,458,217.492	1,418,888.265	272,500,247.0	994,913,123.13568
1999	2	0.000	0.215005028	196,230,108.1	588,656,665.095	0.000	196,230,108.1	716,446,725.76078
1999	3	0.000	0.215005028	182,912,628.9	703,935,560.625	0.000	182,912,628.9	667,823,889.75303
1999	4	0.000	0.215005028	181,382,423.8	364,166,209.082	11,358,879.981	181,382,423.8	662,237,028.20336
1999	5	0.000	0.215005028	170,605,781.1	43,749,809.317	38,364,569.339	170,605,781.1	622,890,923.55697
1999	6	0.000	0.215005028	181,354,538.1	0.000	178,524,170.461	181,354,538.1	662,135,216.20743
1999	7	0.000	0.215005028	190,715,270.9	0.000	416,539,268.500	190,715,270.9	696,311,757.12382
1999	8	0.000	0.215005028	186,491,040.6	0.000	517,687,702.535	186,491,040.6	680,888,864.12056
1999	9	0.000	0.215005028	187,251,428.7	178,413.222	263,312,218.440	187,251,428.7	683,665,082.25660
1999	10	0.000	0.215005028	170,075,880.5	19,832,849.247	54,699,607.005	170,075,880.5	620,956,227.83244
1999	11	0.000	0.215005028	184,245,120.7	164,180,506.082	3,042,436.202	184,245,120.7	672,688,889.27853
1999	12	0.000	0.215005028	243,014,068.4	409,424,198.897	0.000	243,014,068.4	887,257,492.25290
2000	1	0.000	0.216695275	270,264,195.5	760,139,113.566	0.000	270,264,195.5	976,944,334.77557
2000	2	0.000	0.216695275	200,180,059.7	1,009,910,006.808	0.000	200,180,059.7	723,605,932.75396
2000	3	0.000	0.216695275	188,768,636.6	391,017,856.570	2,507,714.709	188,768,636.6	682,356,202.59639
2000	4	0.000	0.216695275	191,067,074.9	215,774,900.986	5,822,344.902	191,067,074.9	690,664,540.31410
2000	5	0.000	0.216695275	173,557,346.1	80,481,399.704	63,518,782.711	173,557,346.1	627,370,805.35536
2000	6	0.000	0.216695275	190,953,557.7	182,628.306	176,608,166.752	190,953,557.7	690,254,201.16980

Kentucky Power Company  
Residential Energy Model Output

Year	Month	X-Missing	Lighting Share	Lighting	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2000	7	0.000	0.216695275	201,271,543.2	0.000	324,708,731.477	201,271,543.2	727,551,400.38599
2000	8	0.000	0.216695275	193,871,459.1	0.000	285,938,672.103	193,871,459.1	700,801,759.29359
2000	9	0.000	0.216695275	193,625,118.1	933,078.276	249,572,979.100	193,625,118.1	699,911,291.73347
2000	10	0.000	0.216695275	176,846,538.0	51,759,004.962	86,613,322.299	176,846,538.0	639,260,495.20000
2000	11	0.000	0.216695275	189,374,734.1	176,911,547.524	11,992,502.715	189,374,734.1	684,547,108.89129
2000	12	0.000	0.216695275	241,155,329.3	781,332,855.791	0.000	241,155,329.3	871,722,324.74657
2001	1	0.000	0.217700026	270,628,309.5	1,180,516,733.529	0.000	270,628,309.5	972,496,527.58238
2001	2	0.000	0.217700026	214,035,608.3	921,946,906.911	0.000	214,035,608.3	769,131,973.72686
2001	3	0.000	0.217700026	188,903,490.7	640,825,667.422	0.000	188,903,490.7	678,820,294.45231
2001	4	0.000	0.217700026	188,376,478.0	438,170,674.042	48,248,978.260	188,376,478.0	676,926,486.63848
2001	5	0.000	0.217700026	174,100,289.0	67,234,804.873	107,669,363.788	174,100,289.0	625,625,334.11149
2001	6	0.000	0.217700026	188,606,850.6	3,988,936.882	116,152,709.415	188,606,850.6	677,754,325.19040
2001	7	0.000	0.217700026	201,771,247.3	0.000	289,932,792.653	201,771,247.3	725,060,278.16674
2001	8	0.000	0.217700026	196,331,889.3	0.000	420,770,739.107	196,331,889.3	705,514,071.75932
2001	9	0.000	0.217700026	192,905,040.6	191,711.998	330,063,456.669	192,905,040.6	693,199,770.82090
2001	10	0.000	0.217700026	177,544,701.3	39,464,857.993	80,202,651.563	177,544,701.3	638,002,749.39255
2001	11	0.000	0.217700026	192,827,480.8	189,376,380.736	23,612,716.181	192,827,480.8	692,921,061.39872
2001	12	0.000	0.217700026	254,119,922.8	246,061,631.112	745,738.632	254,119,922.8	913,174,024.34598
2002	1	0.000	0.219249625	285,707,511.5	845,336,646.980	0.000	285,707,511.5	1,017,407,653.24303
2002	2	0.000	0.219249625	211,946,326.4	696,866,038.684	0.000	211,946,326.4	754,743,245.77049
2002	3	0.000	0.219249625	201,196,880.7	622,395,179.361	1,510,130.381	201,196,880.7	716,464,349.01639
2002	4	0.000	0.219249625	202,406,091.7	332,435,026.571	22,976,701.242	202,406,091.7	720,770,362.76256
2002	5	0.000	0.219249625	187,708,044.9	88,199,847.375	65,329,025.381	187,708,044.9	668,430,453.32698
2002	6	0.000	0.219249625	189,582,549.5	51,071,091.955	172,352,315.897	189,582,549.5	675,105,585.22060
2002	7	0.000	0.219249625	206,191,276.5	0.000	394,139,761.267	206,191,276.5	734,249,448.43744
2002	8	0.000	0.219249625	205,770,812.1	0.000	502,542,855.527	205,770,812.1	732,752,169.94702
2002	9	0.000	0.219249625	200,373,763.0	0.000	442,080,704.720	200,373,763.0	713,533,217.65605
2002	10	0.000	0.219249625	176,405,684.6	19,061,242.052	178,534,893.383	176,405,684.6	628,182,621.46893
2002	11	0.000	0.219249625	190,364,366.4	235,079,476.131	17,779,946.011	190,364,366.4	677,889,644.09415
2002	12	0.000	0.219249625	250,058,806.5	706,869,930.326	2,354,127.392	250,058,806.5	890,462,214.62892
2003	1	0.000	0.217325381	280,210,350.9	858,366,616.061	0.000	280,210,350.9	1,009,148,256.25099
2003	2	0.000	0.217325381	222,620,815.7	1,191,275,574.244	0.000	222,620,815.7	801,745,571.72853
2003	3	0.000	0.217325381	192,128,632.6	803,034,253.566	0.000	192,128,632.6	691,931,165.05061

Kentucky Power Company  
Residential Energy Model Output

Year	Month	X-Missing	Lighting Share	Lighting	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2003	4	0.000	0.217325381	192,686,190.8	211,390,899.516	19,813,604.881	192,686,190.8	693,939,152.58400
2003	5	0.000	0.217325381	183,720,628.6	45,765,571.480	49,405,033.616	183,720,628.6	661,650,618.44733
2003	6	0.000	0.217325381	193,259,643.2	0.000	67,041,929.221	193,259,643.2	696,004,381.38452
2003	7	0.000	0.217325381	205,054,155.6	0.000	281,477,743.603	205,054,155.6	738,481,083.79405
2003	8	0.000	0.217325381	199,502,548.6	0.000	336,632,584.316	199,502,548.6	718,487,552.18126
2003	9	0.000	0.217325381	199,145,223.8	0.000	322,877,816.971	199,145,223.8	717,200,684.19689
2003	10	0.000	0.217325381	184,025,123.4	53,121,972.713	46,823,624.288	184,025,123.4	662,747,224.60230
2003	11	0.000	0.217325381	194,711,293.3	146,679,766.773	11,026,709.639	194,711,293.3	701,232,347.39192
2003	12	0.000	0.217325381	251,928,735.6	517,372,680.724	1,258,322.406	251,928,735.6	907,294,978.51385
2004	1	0.000	0.215381953	286,861,794.8	850,510,545.452	1,000,384.455	286,861,794.8	1,045,013,002.83115
2004	2	0.000	0.215381953	226,556,579.2	1,103,596,519.120	335,418.868	226,556,579.2	825,326,256.10045
2004	3	0.000	0.215381953	202,675,674.8	637,754,514.167	3,006,666.122	202,675,674.8	738,330,162.15477
2004	4	0.000	0.215381953	199,051,603.8	351,408,740.746	16,618,891.471	199,051,603.8	725,127,981.39666
2004	5	0.000	0.215381953	181,760,034.8	86,153,681.349	91,662,952.076	181,760,034.8	662,136,273.31490
2004	6	0.000	0.215381953	192,749,377.4	5,994,733.812	252,322,863.544	192,749,377.4	702,169,509.30391
2004	7	0.000	0.215381953	205,337,274.8	0.000	322,193,878.133	205,337,274.8	748,026,143.64978
2004	8	0.000	0.215381953	203,114,066.4	0.000	319,172,584.195	203,114,066.4	739,927,185.41520
2004	9	0.000	0.215381953	193,165,765.8	0.000	279,905,059.265	193,165,765.8	703,686,376.71383
2004	10	0.000	0.215381953	178,584,798.9	14,722,507.253	83,213,708.245	178,584,798.9	650,569,160.35315
2004	11	0.000	0.215381953	194,235,028.6	93,943,905.187	16,474,559.105	194,235,028.6	707,581,609.49223
2004	12	0.000	0.215381953	250,905,693.1	434,595,004.239	2,400,152.973	250,905,693.1	914,027,997.10854
2005	1	0.000	0.213541203	281,747,693.8	746,815,057.386	0.000	281,747,693.8	1,037,659,002.68604
2005	2	0.000	0.213541203	220,166,581.7	912,849,572.002	0.000	220,166,581.7	810,859,647.28372
2005	3	0.000	0.213541203	205,161,396.4	772,439,774.472	0.000	205,161,396.4	755,596,495.03107
2005	4	0.000	0.213541203	202,533,256.7	356,794,566.205	7,536,272.513	202,533,256.7	745,917,222.37175
2005	5	0.000	0.213541203	182,128,701.7	102,308,416.117	27,589,574.267	182,128,701.7	670,768,531.85422
2005	6	0.000	0.213541203	197,753,501.9	14,117,390.561	162,595,867.680	197,753,501.9	728,313,686.71147
2005	7	0.000	0.213541203	203,373,679.6	0.000	461,769,627.021	203,373,679.6	749,012,446.71170
2005	8	0.000	0.213541203	193,492,250.3	0.000	589,543,039.957	193,492,250.3	712,619,765.55757
2005	9	0.000	0.213541203	190,520,146.9	0.000	443,652,773.938	190,520,146.9	701,673,695.86869
2005	10	0.000	0.213541203	175,958,691.7	8,743,058.669	203,770,704.242	175,958,691.7	648,044,773.80610
2005	11	0.000	0.213541203	190,217,414.7	221,553,479.095	12,887,222.322	190,217,414.7	700,558,752.14198
2005	12	0.000	0.213541203	245,826,925.1	753,816,271.538	1,901,963.738	245,826,925.1	905,365,075.06955

Kentucky Power Company  
Residential Energy Model Output

Year	Month	X-Missing	Lighting Share	Lighting	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2006	1	0.000	0.206467337	274,083,608.5	756,881,782.575	0.000	274,083,608.5	1,053,407,760.84598
2006	2	0.000	0.206467337	227,804,515.4	644,158,163.123	0.000	227,804,515.4	875,539,569.27321
2006	3	0.000	0.206467337	212,524,283.4	735,940,590.273	1,747,137.147	212,524,283.4	816,811,814.37183
2006	4	0.000	0.206467337	180,783,422.6	375,867,139.936	20,768,314.371	180,783,422.6	694,819,589.81764
2006	5	0.000	0.206467337	176,658,989.0	30,618,918.195	34,786,277.698	176,658,989.0	678,967,819.59754
2006	6	0.000	0.206467337	189,280,385.9	5,877,126.519	130,895,625.133	189,280,385.9	727,476,657.85596
2006	7	0.000	0.206467337	202,438,198.3	0.000	322,947,686.489	202,438,198.3	778,047,145.28192
2006	8	0.000	0.206467337	196,402,940.1	0.000	515,923,582.598	196,402,940.1	754,851,347.89468
2006	9	0.000	0.206467337	192,401,626.7	1,414,185.181	327,726,517.654	192,401,626.7	739,472,775.67725
2006	10	0.000	0.206467337	178,155,766.6	58,301,536.901	46,020,133.997	178,155,766.6	684,720,506.32435
2006	11	0.000	0.206467337	188,013,396.8	321,476,208.399	3,176,690.096	188,013,396.8	722,607,135.76606
2006	12	0.000	0.206467337	242,369,485.0	506,449,660.194	3,317,162.162	242,369,485.0	931,518,297.97675
2007	1	0.000	0.199528296	272,499,862.5	545,920,386.122	359,923.142	272,499,862.5	1,093,220,528.67677
2007	2	0.000	0.199528296	226,880,676.1	1,101,318,069.614	0.000	226,880,676.1	910,204,542.24626
2007	3	0.000	0.199528296	191,870,579.4	927,565,846.320	2,761,289.652	191,870,579.4	769,750,319.44686
2007	4	0.000	0.199528296	184,590,885.2	319,859,650.673	35,914,709.640	184,590,885.2	740,545,493.34346
2007	5	0.000	0.199528296	171,928,581.3	121,390,075.088	62,628,954.529	171,928,581.3	689,746,603.31387
2007	6	0.000	0.199528296	180,961,717.8	4,970,289.986	220,604,293.863	180,961,717.8	725,985,925.03306
2007	7	0.000	0.199528296	194,712,887.2	0.000	360,181,345.758	194,712,887.2	781,153,148.20570
2007	8	0.000	0.199528296	187,311,850.2	0.000	423,486,416.867	187,311,850.2	751,461,516.27230
2007	9	0.000	0.199528296	186,152,583.8	0.000	467,950,927.077	186,152,583.8	746,810,747.78309
2007	10	0.000	0.199528296	176,634,770.7	10,269,935.453	217,465,081.596	176,634,770.7	708,626,990.22996
2007	11	0.000	0.199528296	183,260,241.6	201,172,321.599	36,982,508.622	183,260,241.6	735,207,189.99088
2007	12	0.000	0.199528296	232,369,122.6	566,843,428.602	0.000	232,369,122.6	932,223,204.32823
2008	1	0.000	0.193038968	250,009,916.1	787,289,740.542	0.000	250,009,916.1	1,045,116,756.43928
2008	2	0.000	0.193038968	199,716,528.2	958,795,326.124	0.000	199,716,528.2	834,875,245.87872
2008	3	0.000	0.193038968	188,656,763.9	819,433,410.897	0.000	188,656,763.9	788,642,099.68288
2008	4	0.000	0.193038968	185,196,916.6	369,713,101.339	1,762,211.134	185,196,916.6	774,178,895.55056
2008	5	0.000	0.193038968	169,411,020.9	82,174,065.559	22,985,667.861	169,411,020.9	708,189,096.90271
2008	6	0.000	0.193038968	176,559,966.6	5,570,858.242	135,396,552.376	176,559,966.6	738,073,843.18913
2008	7	0.000	0.193038968	189,081,536.4	0.000	280,456,588.506	189,081,536.4	790,417,776.42182
2008	8	0.000	0.193038968	186,989,760.1	0.000	342,384,540.046	186,989,760.1	781,673,521.69508
2008	9	0.000	0.193038968	183,507,304.0	0.000	320,244,008.234	183,507,304.0	767,115,806.12892



Kentucky Power Company  
Residential Energy Model Output

Year	Month	X-Missing	Lighting Share	Lighting	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2008	10	0.000	0.193038968	163,144,998.1	13,343,970.730	122,224,950.753	163,144,998.1	681,995,233.79644
2008	11	0.000	0.193038968	175,174,075.3	262,332,564.071	7,905,444.866	175,174,075.3	732,280,399.84088
2008	12	0.000	0.193038968	227,925,125.1	851,244,408.401	0.000	227,925,125.1	952,795,677.63014
2009	1	0.000	0.18803217	246,824,749.7	935,779,435.643	0.000	246,824,749.7	1,065,848,231.58769
2009	2	0.000	0.18803217	193,905,533.9	1,143,791,582.702	0.000	193,905,533.9	837,330,416.51428
2009	3	0.000	0.18803217	183,944,030.3	739,331,664.790	4,938,096.999	183,944,030.3	794,314,264.26433
2009	4	0.000	0.18803217	175,669,727.7	283,092,573.137	3,728,415.440	175,669,727.7	758,583,848.97179
2009	5	0.000	0.18803217	169,174,969.7	73,304,935.541	71,548,226.501	169,174,969.7	730,537,932.52480
2009	6	0.000	0.18803217	170,463,515.2	7,067,606.225	143,364,825.271	170,463,515.2	736,102,179.68114
2009	7	0.000	0.18803217	181,863,361.9	0.000	245,442,308.158	181,863,361.9	785,329,441.18278
2009	8	0.000	0.18803217	180,874,394.1	0.000	254,509,017.200	180,874,394.1	781,058,841.84896
2009	9	0.000	0.18803217	174,779,402.3	0.000	245,407,554.836	174,779,402.3	754,739,211.25696
2009	10	0.000	0.18803217	163,654,578.0	51,517,038.999	87,793,210.482	163,654,578.0	706,699,562.37333
2009	11	0.000	0.18803217	170,798,866.6	205,275,802.050	3,613,585.843	170,798,866.6	737,550,307.18106
2009	12	0.000	0.18803217	224,742,821.7	541,841,294.044	234,190.030	224,742,821.7	970,493,191.54320
2010	1	0.000	0.164289955	209,680,781.7	1,119,123,527.148	0.000	209,680,781.7	1,066,604,073.65976
2010	2	0.000	0.164289955	166,494,137.3	1,106,127,609.807	0.000	166,494,137.3	846,922,276.80584
2010	3	0.000	0.164289955	158,151,317.8	914,170,653.647	0.000	158,151,317.8	804,484,027.98863
2010	4	0.000	0.164289955	159,610,436.5	213,198,338.248	28,699,376.954	159,610,436.5	811,906,271.90958
2010	5	0.000	0.164289955	144,818,675.4	55,316,539.561	45,026,914.406	144,818,675.4	736,663,550.74957
2010	6	0.000	0.164289955	148,550,801.1	8,944,145.664	219,048,998.419	148,550,801.1	755,648,125.17914
2010	7	0.000	0.164289955	161,691,142.3	0.000	389,532,121.989	161,691,142.3	822,490,404.91939
2010	8	0.000	0.164289955	163,746,332.3	0.000	454,611,547.235	163,746,332.3	832,944,744.10859
2010	9	0.000	0.164289955	160,529,754.8	0.000	323,635,248.642	160,529,754.8	816,582,659.61844
2010	10	0.000	0.164289955	143,967,961.9	17,343,637.279	120,716,113.748	143,967,961.9	732,336,141.70028
2010	11	0.000	0.164289955	147,667,972.2	184,549,890.654	11,621,169.384	147,667,972.2	751,157,351.98162
2010	12	0.000	0.164289955	191,343,108.4	752,185,469.261	0.000	191,343,108.4	973,324,008.41530
2011	1	0.000	0.155915303	197,298,282.5	1,211,790,498.629	0.000	197,298,282.5	1,068,121,331.59537
2011	2	0.000	0.155915303	160,843,232.9	1,103,542,852.166	0.000	160,843,232.9	870,763,221.33121
2011	3	0.000	0.155915303	139,962,096.0	577,882,313.658	1,857,692.870	139,962,096.0	757,718,204.19898
2011	4	0.000	0.155915303	137,340,921.0	369,222,507.081	17,826,851.274	137,340,921.0	743,527,848.10345
2011	5	0.000	0.155915303	129,877,321.8	71,353,526.521	53,409,525.217	129,877,321.8	703,121,872.97049
2011	6	0.000	0.155915303	135,712,432.1	22,899,517.023	199,445,142.440	135,712,432.1	734,711,634.48088

Kentucky Power Company  
Residential Energy Model Output

Year	Month	X-Missing	Lighting Share	Lighting	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2011	7	0.000	0.155915303	150,709,067.7	0.000	312,674,002.290	150,709,067.7	815,899,499.90597
2011	8	0.000	0.155915303	147,197,713.3	0.000	463,568,496.639	147,197,713.3	796,889,945.05285
2011	9	0.000	0.155915303	146,113,786.5	255,232.931	277,161,134.851	146,113,786.5	791,021,848.81269
2011	10	0.000	0.155915303	130,640,592.4	44,845,375.855	49,354,291.010	130,640,592.4	707,254,020.04794
2011	11	0.000	0.155915303	135,461,014.8	223,796,353.947	1,140,105.698	135,461,014.8	733,350,527.04471
2011	12	0.000	0.155915303	178,665,396.9	408,938,639.357	1,710,969.231	178,665,396.9	967,247,759.22812
2012	1	0.000	0.152324671	194,217,572.8	715,547,142.686	0.000	194,217,572.8	1,080,806,175.12424
2012	2	0.000	0.152324671	148,597,296.6	747,660,487.875	0.000	148,597,296.6	826,932,771.70990
2012	3	0.000	0.152324671	139,088,798.1	535,618,410.541	10,322,266.503	139,088,798.1	774,018,692.73341
2012	4	0.000	0.152324671	132,388,187.5	112,920,392.952	43,081,480.239	132,388,187.5	736,730,299.13766
2012	5	0.000	0.152324671	122,570,118.7	76,794,782.773	62,740,799.279	122,570,118.7	682,093,485.27835
2012	6	0.000	0.152324671	134,665,668.2	387,550.190	185,085,218.494	134,665,668.2	749,404,307.84913
2012	7	0.000	0.152324671	147,600,313.2	0.000	413,986,844.638	147,600,313.2	821,384,633.85027
2012	8	0.000	0.152324671	141,990,543.5	0.000	406,150,755.475	141,990,543.5	790,166,687.72082
2012	9	0.000	0.152324671	140,393,912.2	922,674.487	285,308,938.386	140,393,912.2	781,281,554.97594
2012	10	0.000	0.152324671	125,712,883.9	60,933,071.877	68,317,975.509	125,712,883.9	699,582,737.24744
2012	11	0.000	0.152324671	132,507,701.8	318,072,989.903	8,809,617.489	132,507,701.8	737,395,387.49712
2012	12	0.000	0.152324671	170,961,318.8	519,723,613.933	0.000	170,961,318.8	951,386,871.51563
2013	1	0.000	0.138150358	175,631,659.6	813,741,395.731	0.000	175,631,659.6	1,095,676,371.54816
2013	2	0.000	0.138150358	128,440,110.0	941,088,426.083	0.000	128,440,110.0	801,272,356.49678
2013	3	0.000	0.138150358	126,011,849.1	820,487,573.025	0.000	126,011,849.1	786,123,674.29826
2013	4	0.000	0.138150358	126,062,759.0	531,373,380.942	20,230,697.652	126,062,759.0	786,441,275.75072
2013	5	0.000	0.138150358	116,005,166.3	64,326,687.891	54,379,165.813	116,005,166.3	723,697,082.69987
2013	6	0.000	0.138150358	120,292,433.3	11,254,213.933	199,402,514.609	120,292,433.3	750,443,155.40413
2013	7	0.000	0.138150358	127,745,861.5	0.000	347,700,124.238	127,745,861.5	796,941,294.02779
2013	8	0.000	0.138150358	126,303,876.3	0.000	325,683,298.891	126,303,876.3	787,945,483.13272
2013	9	0.000	0.138150358	123,530,699.3	0.000	282,159,741.334	123,530,699.3	770,645,046.22684
2013	10	0.000	0.138150358	112,359,498.2	15,672,848.369	111,282,610.479	112,359,498.2	700,953,618.43299
2013	11	0.000	0.138150358	117,684,650.6	264,083,803.593	16,077,331.577	117,684,650.6	734,174,528.93465
2013	12	0.000	0.138150358	154,272,115.9	713,255,114.125	477,663.100	154,272,115.9	962,425,069.53224
2014	1	0.000	0.133107427	166,733,291.7	928,842,280.257	913,399.536	166,733,291.7	1,085,888,713.56415
2014	2	0.000	0.133107427	136,855,323.8	1,235,581,815.087	0.000	136,855,323.8	891,301,611.05301
2014	3	0.000	0.133107427	130,071,777.3	881,743,813.486	0.000	130,071,777.3	847,122,212.56496

Kentucky Power Company  
Residential Energy Model Output

Year	Month	X-Missing	Lighting Share	Lighting	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2014	4	0.000	0.133107427	117,654,503.1	423,355,509.658	7,122,469.878	117,654,503.1	766,251,872.61696
2014	5	0.000	0.133107427	110,192,855.1	52,435,888.364	38,752,834.396	110,192,855.1	717,656,182.48421
2014	6	0.000	0.133107427	117,033,674.8	14,458,841.942	149,467,059.039	117,033,674.8	762,208,586.69441
2014	7	0.000	0.133107427	125,785,511.7	0.000	316,158,501.380	125,785,511.7	819,206,926.99541
2014	8	0.000	0.133107427	123,146,247.3	0.000	223,749,804.996	123,146,247.3	802,018,113.64932
2014	9	0.000	0.133107427	118,238,591.8	0.000	260,518,001.191	118,238,591.8	770,055,883.75618
2014	10	0.000	0.133107427	108,634,035.8	26,295,712.901	66,175,514.826	108,634,035.8	707,504,015.52963
2014	11	0.000	0.133107427	112,917,985.8	295,010,151.180	6,198,285.547	112,917,985.8	735,404,220.19133
2014	12	0.000	0.133107427	145,976,654.0	713,893,704.331	18,987.338	145,976,654.0	950,706,361.05843
2015	1	0.000	0.124148361	149,855,283.1	873,985,955.724	0.000	149,855,283.1	1,057,210,863.20193
2015	2	0.000	0.124148361	115,496,316.3	1,091,159,241.976	0.000	115,496,316.3	814,812,515.35164
2015	3	0.000	0.124148361	115,562,954.4	1,140,802,710.741	0.000	115,562,954.4	815,282,639.49791
2015	4	0.000	0.124148361	103,999,600.6	322,071,906.647	5,480,622.610	103,999,600.6	733,704,579.57833
2015	5	0.000	0.124148361	94,173,888.2	78,266,817.045	59,179,545.740	94,173,888.2	664,385,369.58859
2015	6	0.000	0.124148361	102,996,747.9	2,706,174.880	220,084,304.873	102,996,747.9	726,629,575.14411
2015	7	0.000	0.124148361	113,649,783.2	0.000	313,013,087.704	113,649,783.2	801,785,448.56834
2015	8	0.000	0.124148361	108,732,847.9	0.000	327,038,644.488	108,732,847.9	767,097,065.99804
2015	9	0.000	0.124148361	109,041,296.7	0.000	249,367,349.576	109,041,296.7	769,273,134.43867
2015	10	0.000	0.124148361	97,592,594.8	25,851,034.107	78,529,651.745	97,592,594.8	688,503,930.14968
2015	11	0.000	0.124148361	101,187,488.3	149,470,124.025	5,430,070.913	101,187,488.3	713,865,468.38641
2015	12	0.000	0.124148361	129,853,149.2	366,623,442.566	1,120,555.099	129,853,149.2	916,098,232.30902
2016	1	0.000	0.093041221	108,841,923.9	595,535,418.450	0.000	108,841,923.9	1,060,982,828.75651
2016	2	0.000	0.093041221	82,886,536.9	992,519,097.030	0.000	82,886,536.9	807,971,682.04120
2016	3	0.000	0.093041221	81,485,546.4	559,097,473.221	1,372,952.535	81,485,546.4	794,314,933.05742
2016	4	0.000	0.093041221	79,602,152.9	199,701,403.589	10,162,733.649	79,602,152.9	775,955,756.47799
2016	5	0.000	0.093041221	70,773,017.0	66,142,556.006	53,458,509.978	70,773,017.0	689,890,008.55107
2016	6	0.000	0.093041221	74,368,346.8	15,423,043.020	180,459,925.569	74,368,346.8	724,937,010.39067
2016	7	0.000	0.093041221	82,830,115.7	0.000	336,989,855.102	82,830,115.7	807,421,692.68347
2016	8	0.000	0.093041221	82,141,205.0	0.000	451,362,465.403	82,141,205.0	800,706,243.71269
2016	9	0.000	0.093041221	80,719,321.6	0.000	415,915,485.584	80,719,321.6	786,845,832.22410
2016	10	0.000	0.093041221	72,316,197.7	2,573,637.401	198,212,983.473	72,316,197.7	704,932,816.42696
2016	11	0.000	0.093041221	73,182,880.1	84,473,253.449	47,570,489.322	73,182,880.1	713,381,170.91084
2016	12	0.000	0.093041221	96,057,021.9	497,292,598.742	1,967,946.299	96,057,021.9	936,356,572.60165

Kentucky Power Company  
Residential Energy Model Output

Year	Month	X-Missing	Lighting Share	Lighting	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2017	1	0.000	0.079021201	92,653,162.4	660,909,403.107	0.000	92,653,162.4	1,079,857,016.56670
2017	2	0.000	0.079021201	70,013,345.3	550,991,520.504	0.000	70,013,345.3	815,993,757.77299
2017	3	0.000	0.079021201	65,739,291.3	431,436,224.084	637,289.540	65,739,291.3	766,180,377.69610
2017	4	0.000	0.079021201	64,108,419.1	266,920,703.192	15,066,743.125	64,108,419.1	747,172,837.30232
2017	5	0.000	0.079021201	57,485,537.4	36,355,145.505	79,481,373.877	57,485,537.4	669,984,265.55337
2017	6	0.000	0.079021201	62,840,515.5	8,777,933.144	149,708,456.343	62,840,515.5	732,395,634.32876
2017	7	0.000	0.079021201	69,369,856.6	0.000	301,063,799.645	69,369,856.6	808,494,005.16439
2017	8	0.000	0.079021201	68,492,986.3	0.000	321,506,551.231	68,492,986.3	798,274,229.29679
2017	9	0.000	0.079021201	67,760,876.3	0.000	191,152,247.856	67,760,876.3	789,741,610.94754
2017	10	0.000	0.079021201	59,763,790.3	4,803,694.152	141,005,321.572	59,763,790.3	696,536,918.77882
2017	11	0.000	0.079021201	62,066,094.1	194,279,905.442	25,608,979.435	62,066,094.1	723,369,883.14964
2017	12	0.000	0.079021201	81,502,669.3	525,863,706.464	962,550.344	81,502,669.3	949,899,896.32160
2018	1	0.000	0.067311804	78,580,318.2	1,029,371,751.745	1,958,418.468	78,580,318.2	1,088,827,386.04111
2018	2	0.000	0.067311804	63,210,931.1	828,107,547.543	3,284,396.289	63,210,931.1	875,865,539.74927
2018	3	0.000	0.067311804	58,881,342.8	459,283,163.681	6,579,224.246	58,881,342.8	815,873,745.50758
2018	4	0.000	0.067311804	54,568,194.7	442,185,797.260	7,595,038.326	54,568,194.7	756,109,750.30498
2018	5	0.000	0.067311804	50,864,033.5	107,528,435.901	81,888,033.336	50,864,033.5	704,784,020.63061
2018	6	0.000	0.067311804	55,285,698.6	1,457,288.328	276,974,944.595	55,285,698.6	766,051,653.13125
2018	7	0.000	0.067311804	59,737,495.4	0.000	371,481,978.674	59,737,495.4	827,736,797.05286
2018	8	0.000	0.067311804	59,290,859.8	0.000	339,514,070.328	59,290,859.8	821,548,109.99072
2018	9	0.000	0.067311804	56,429,175.2	0.000	342,977,444.609	56,429,175.2	781,895,933.85339
2018	10	0.000	0.067311804	50,667,301.1	27,526,607.232	214,487,965.310	50,667,301.1	702,058,050.33691
2018	11	0.000	0.067311804	53,454,450.7	265,664,176.446	31,261,415.359	53,454,450.7	740,677,450.98144
2018	12	0.000	0.067311804	68,533,445.0	616,638,207.116	173,707.251	68,533,445.0	949,615,545.05336
2019	1	0.000	0.06059262	69,495,922.4	615,734,674.576	0.000	69,495,922.4	1,077,441,154.32627
2019	2	0.000	0.06059262	53,257,769.3	772,094,066.731	0.000	53,257,769.3	825,690,349.43782
2019	3	0.000	0.06059262	52,081,936.9	603,429,608.463	891,215.533	52,081,936.9	807,460,642.90155
2019	4	0.000	0.06059262	48,090,880.7	303,420,637.269	10,424,501.664	48,090,880.7	745,584,665.13669
2019	5	0.000	0.06059262	46,102,928.6	27,160,664.186	65,716,917.699	46,102,928.6	714,764,130.72317
2019	6	0.000	0.06059262	48,835,951.5	419,523.309	183,112,855.022	48,835,951.5	757,135,989.39276
2019	7	0.000	0.06059262	53,159,962.7	0.000	319,162,595.972	53,159,962.7	824,173,988.83468
2019	8	0.000	0.06059262	52,648,813.9	0.000	371,473,133.739	52,648,813.9	816,249,311.56262
2019	9	0.000	0.06059262	52,074,721.2	0.000	310,799,439.188	52,074,721.2	807,348,773.99190

Kentucky Power Company  
Residential Energy Model Output

Year	Month	X-Missing	Lighting Share	Lighting	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2019	10	0.000	0.06059262	46,472,844.7	10,179,830.463	245,460,100.297	46,472,844.7	720,499,185.38360
2019	11	0.000	0.06059262	47,606,502.6	233,880,508.340	20,591,348.585	47,606,502.6	738,075,032.07126
2019	12	0.000	0.06059262	62,071,164.8	570,162,051.844	0.000	62,071,164.8	962,330,236.70162
2020	1	0.000	0.056678098	65,460,195.8	502,553,867.478	1,911,534.244	65,460,195.8	1,089,486,746.30241
2020	2	0.000	0.056678098	49,726,895.7	623,856,217.258	1,922,434.954	49,726,895.7	827,629,571.04241
2020	3	0.000	0.056678098	46,177,563.8	519,371,542.399	137,574.041	46,177,563.8	768,556,266.64704
2020	4	0.000	0.056678098	47,485,518.4	186,781,422.618	18,591,734.130	47,485,518.4	790,325,210.18253
2020	5	0.000	0.056678098	43,292,315.9	146,516,374.203	22,997,625.799	43,292,315.9	720,535,645.07256
2020	6	0.000	0.056678098	46,016,154.8	39,783,667.054	174,578,153.672	46,016,154.8	765,869,856.51510
2020	7	0.000	0.056678098	50,238,391.8	0.000	331,514,059.764	50,238,391.8	836,142,657.55555
2020	8	0.000	0.056678098	49,588,326.4	0.000	419,076,042.397	49,588,326.4	825,323,292.87983
2020	9	0.000	0.056678098	49,068,171.8	0.000	302,573,042.191	49,068,171.8	816,666,101.23249
2020	10	0.000	0.056678098	44,237,218.8	17,374,245.487	72,584,853.777	44,237,218.8	736,262,135.35223
2020	11	0.000	0.056678098	45,376,374.4	119,730,411.816	12,672,480.786	45,376,374.4	755,221,671.44705
2020	12	0.000	0.056678098	57,950,901.2	448,387,383.817	1,210,508.223	57,950,901.2	964,505,805.06742
2021	1	0.000	0.054867813	64,360,198.4	734,803,212.063	0.000	64,360,198.4	1,108,644,417.91932
2021	2	0.000	0.054867813	50,854,735.7	903,100,202.863	0.000	50,854,735.7	876,004,429.21508
2021	3	0.000	0.054867813	46,844,161.5	699,067,415.248	308,732.775	46,844,161.5	806,919,796.03121
2021	4	0.000	0.054867813	44,303,455.6	185,274,649.372	7,898,432.954	44,303,455.6	763,154,558.15360
2021	5	0.000	0.054867813	42,565,794.6	94,977,455.738	30,696,911.580	42,565,794.6	733,222,266.17383
2021	6	0.000	0.054867813	45,247,942.2	12,179,335.908	148,067,353.846	45,247,942.2	779,423,926.52088
2021	7	0.000	0.054867813	48,497,245.3	436,163.307	289,939,115.368	48,497,245.3	835,395,192.32774
2021	8	0.000	0.054867813	48,322,030.5	0.000	331,129,425.124	48,322,030.5	832,377,008.25795
2021	9	0.000	0.054867813	46,804,392.3	0.000	317,922,551.999	46,804,392.3	806,234,745.87195
2021	10	0.000	0.054867813	42,596,641.3	1,843,641.830	134,893,938.075	42,596,641.3	733,753,620.55222
2021	11	0.000	0.054867813	42,985,948.3	152,673,221.484	33,376,255.079	42,985,948.3	740,459,676.28603
2021	12	0.000	0.054867813	56,732,924.1	436,046,739.200	0.000	56,732,924.1	977,259,877.13754
2022	1	0.000	0.053829799	64,390,913.8	512,208,676.662	0.000	64,390,913.8	1,131,803,661.66937
2022	2	0.000	0.053829799	47,828,234.2	819,536,348.080	198,142.156	47,828,234.2	840,680,266.31161
2022	3	0.000	0.053829799	45,031,272.7	603,716,627.568	1,240,694.385	45,031,272.7	791,517,876.52528
2022	4	0.000	0.053829799	43,620,118.2	283,051,983.702	13,438,868.721	43,620,118.2	766,713,913.86338
2022	5	0.000	0.053829799	40,742,823.0	67,748,647.884	45,248,449.382	40,742,823.0	716,139,491.78442
2022	6	0.000	0.053829799	43,930,898.5	9,114,821.385	141,723,716.073	43,930,898.5	772,176,521.47876

Kentucky Power Company  
Residential Energy Model Output

Year	Month	X-Missing	Lighting Share	Lighting	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2022	7	0.000	0.053829799	47,661,681.8	31,016.198	288,921,240.119	47,661,681.8	837,752,764.01898
2022	8	0.000	0.053829799	46,836,411.6	0.000	326,049,260.273	46,836,411.6	823,246,930.39632
2022	9	0.000	0.053829799	45,584,203.9	131,309.993	261,622,455.868	45,584,203.9	801,236,786.95950
2022	10	0.000	0.053829799	40,685,496.9	21,727,908.653	93,728,395.868	40,685,496.9	715,131,867.15560
2022	11	0.000	0.053829799	42,489,577.6	181,847,556.412	12,452,940.382	42,489,577.6	746,842,321.75412
2022	12	0.000	0.053829799	56,390,980.8	490,857,675.466	908,796.560	56,390,980.8	991,188,271.50294
2023	1	0.000	0.053345206	63,061,676.1	710,325,648.995	247,101.260	63,061,676.1	1,119,081,582.85264
2023	2	0.000	0.053345206	48,378,525.2	803,040,747.766	193,383.217	48,378,525.2	858,516,929.58121
2023	3	0.000	0.053345206	45,102,195.8	593,327,846.768	1,214,522.274	45,102,195.8	800,375,755.28897
2023	4	0.000	0.053345206	43,461,600.7	279,012,939.370	13,194,741.769	43,461,600.7	771,262,039.31052
2023	5	0.000	0.053345206	40,501,202.1	66,966,324.169	44,548,990.873	40,501,202.1	718,727,318.67217
2023	6	0.000	0.053345206	43,613,745.2	9,030,425.673	139,858,919.453	43,613,745.2	773,961,967.79464
2023	7	0.000	0.053345206	47,293,355.8	30,784.266	285,638,153.669	47,293,355.8	839,259,701.18879
2023	8	0.000	0.053345206	46,472,877.0	0.000	322,834,363.681	46,472,877.0	824,699,626.50580
2023	9	0.000	0.053345206	45,232,234.0	130,616.830	259,222,767.618	45,232,234.0	802,683,390.47612
2023	10	0.000	0.053345206	40,373,781.6	21,617,445.158	92,889,723.406	40,373,781.6	716,466,136.21643
2023	11	0.000	0.053345206	42,156,142.6	180,890,237.501	12,339,438.650	42,156,142.6	748,095,605.62350
2023	12	0.000	0.053345206	55,931,533.5	488,060,396.630	900,116.613	55,931,533.5	992,551,306.05034
2024	1	0.000	0.053139125	62,845,812.6	706,115,598.939	245,460.516	62,845,812.6	1,119,819,741.12694
2024	2	0.000	0.053139125	48,203,462.5	797,601,985.730	191,936.932	48,203,462.5	858,914,647.69374
2024	3	0.000	0.053139125	44,928,623.8	588,829,732.236	1,204,432.643	44,928,623.8	800,561,848.59169
2024	4	0.000	0.053139125	43,285,971.0	276,700,351.211	13,075,034.841	43,285,971.0	771,292,196.97885
2024	5	0.000	0.053139125	40,326,248.7	66,356,640.928	44,107,727.501	40,326,248.7	718,554,308.37164
2024	6	0.000	0.053139125	43,416,329.4	8,941,940.908	138,374,015.659	43,416,329.4	773,614,991.24973
2024	7	0.000	0.053139125	47,076,019.3	30,466.385	282,448,120.512	47,076,019.3	838,825,271.72916
2024	8	0.000	0.053139125	46,257,552.9	0.000	319,135,407.737	46,257,552.9	824,241,406.36455
2024	9	0.000	0.053139125	45,021,173.2	129,232.515	256,228,443.104	45,021,173.2	802,210,941.89354
2024	10	0.000	0.053139125	40,182,119.1	21,389,536.958	91,818,343.182	40,182,119.1	715,986,130.69606
2024	11	0.000	0.053139125	41,960,744.0	179,022,812.168	12,199,132.138	41,960,744.0	747,678,604.85042
2024	12	0.000	0.053139125	55,682,213.7	483,152,333.396	890,085.368	55,682,213.7	992,174,969.23670
2025	1	0.000	0.052634808	62,215,650.1	698,039,965.817	242,628.192	62,215,650.1	1,119,809,180.18814
2025	2	0.000	0.052634808	47,718,752.7	788,639,408.566	189,762.595	47,718,752.7	858,881,925.43804
2025	3	0.000	0.052634808	44,479,483.6	582,371,120.812	1,191,113.674	44,479,483.6	800,578,857.25372



Kentucky Power Company  
Residential Energy Model Output

Year	Month	X-Missing	Lighting Share	Lighting	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2025	4	0.000	0.052634808	42,853,302.8	273,680,835.468	12,932,130.602	42,853,302.8	771,309,497.64461
2025	5	0.000	0.052634808	39,926,574.5	65,652,643.450	43,638,979.952	39,926,574.5	718,631,800.41256
2025	6	0.000	0.052634808	42,986,387.7	8,847,419.895	136,916,179.863	42,986,387.7	773,704,870.41448
2025	7	0.000	0.052634808	46,612,198.3	30,142.948	279,475,253.237	46,612,198.3	838,965,234.96871
2025	8	0.000	0.052634808	45,802,140.5	0.000	315,792,303.169	45,802,140.5	824,385,138.52584
2025	9	0.000	0.052634808	44,575,136.1	127,866.132	253,546,085.286	44,575,136.1	802,300,489.83499
2025	10	0.000	0.052634808	39,779,975.3	21,164,475.713	90,860,164.348	39,779,975.3	715,993,184.45992
2025	11	0.000	0.052634808	41,538,749.8	177,133,899.308	12,071,368.647	41,538,749.8	747,649,075.94202
2025	12	0.000	0.052634808	55,123,115.0	478,047,211.271	880,724.607	55,123,115.0	992,151,814.82407
2026	1	0.000	0.052144467	61,681,242.9	690,882,338.139	240,315.094	61,681,242.9	1,121,210,175.28437
2026	2	0.000	0.052144467	47,317,353.7	780,600,731.894	187,953.462	47,317,353.7	860,110,724.01110
2026	3	0.000	0.052144467	44,109,465.7	576,438,359.715	1,179,713.258	44,109,465.7	801,799,371.11899
2026	4	0.000	0.052144467	42,502,801.4	270,911,011.134	12,808,343.006	42,502,801.4	772,594,247.53070
2026	5	0.000	0.052144467	39,603,558.7	64,987,770.845	43,219,197.904	39,603,558.7	719,893,291.23496
2026	6	0.000	0.052144467	42,641,617.6	8,760,064.872	135,620,213.475	42,641,617.6	775,117,576.74310
2026	7	0.000	0.052144467	46,239,230.5	29,852.818	276,876,041.117	46,239,230.5	840,513,149.61117
2026	8	0.000	0.052144467	45,435,408.7	0.000	312,865,227.656	45,435,408.7	825,901,687.89371
2026	9	0.000	0.052144467	44,222,032.1	126,646.884	251,208,326.190	44,222,032.1	803,845,545.47603
2026	10	0.000	0.052144467	39,469,332.9	20,964,076.295	90,029,065.938	39,469,332.9	717,453,404.00954
2026	11	0.000	0.052144467	41,213,004.4	175,494,513.655	11,963,075.535	41,213,004.4	749,148,975.22658
2026	12	0.000	0.052144467	54,678,421.6	473,696,813.096	872,940.482	54,678,421.6	993,916,462.01861
2027	1	0.000	0.051805005	61,353,186.3	684,395,479.046	238,342.101	61,353,186.3	1,122,956,841.08280
2027	2	0.000	0.051805005	47,077,498.1	773,384,712.891	186,438.621	47,077,498.1	861,666,714.99139
2027	3	0.000	0.051805005	43,892,935.0	571,220,994.874	1,170,416.790	43,892,935.0	803,379,164.83985
2027	4	0.000	0.051805005	42,301,028.0	268,505,455.986	12,709,625.450	42,301,028.0	774,242,245.21964
2027	5	0.000	0.051805005	39,420,768.7	64,418,128.459	42,891,557.332	39,420,768.7	721,524,414.75095
2027	6	0.000	0.051805005	42,441,107.8	8,683,523.839	134,600,283.084	42,441,107.8	776,806,148.67520
2027	7	0.000	0.051805005	46,014,702.5	29,591.674	274,798,767.871	46,014,702.5	842,214,203.88723
2027	8	0.000	0.051805005	45,213,004.4	0.000	310,524,200.033	45,213,004.4	827,540,600.20793
2027	9	0.000	0.051805005	44,010,687.9	125,547.858	249,341,496.056	44,010,687.9	805,534,415.77329
2027	10	0.000	0.051805005	39,285,709.9	20,781,981.526	89,358,172.544	39,285,709.9	719,052,413.70860
2027	11	0.000	0.051805005	41,014,057.8	173,950,326.999	11,872,890.245	41,014,057.8	750,686,632.34620
2027	12	0.000	0.051805005	54,395,192.5	469,458,018.339	866,263.449	54,395,192.5	995,603,605.17451

Kentucky Power Company  
Residential Energy Model Output

Year	Month	X-Missing	Lighting Share	Lighting	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2028	1	0.000	0.051592288	61,185,950.6	678,502,241.262	236,730.582	61,185,950.6	1,124,765,531.09211
2028	2	0.000	0.051592288	46,958,892.7	766,695,124.746	185,171.106	46,958,892.7	863,233,199.81216
2028	3	0.000	0.051592288	43,786,307.1	566,275,463.848	1,162,442.111	43,786,307.1	804,912,376.45659
2028	4	0.000	0.051592288	42,201,569.0	266,169,363.584	12,622,349.371	42,201,569.0	775,780,546.62924
2028	5	0.000	0.051592288	39,332,327.9	63,860,225.146	42,597,984.443	39,332,327.9	723,036,027.44053
2028	6	0.000	0.051592288	42,341,727.0	8,608,124.695	133,675,559.138	42,341,727.0	778,357,033.96655
2028	7	0.000	0.051592288	45,900,100.1	29,333.452	272,899,394.641	45,900,100.1	843,769,687.39441
2028	8	0.000	0.051592288	45,098,214.2	0.000	308,359,960.430	45,098,214.2	829,028,825.96150
2028	9	0.000	0.051592288	43,901,871.1	124,434.571	247,588,616.808	43,901,871.1	807,036,759.97186
2028	10	0.000	0.051592288	39,192,941.7	20,596,747.161	88,726,218.830	39,192,941.7	720,473,727.69363
2028	11	0.000	0.051592288	40,912,064.8	172,393,925.724	11,788,473.008	40,912,064.8	752,075,923.19013
2028	12	0.000	0.051592288	54,243,627.6	465,234,872.695	860,064.774	54,243,627.6	997,146,598.90696
2029	1	0.000	0.051399629	61,049,636.4	673,042,010.936	235,351.451	61,049,636.4	1,126,695,048.01018
2029	2	0.000	0.051399629	46,863,823.6	760,428,237.784	184,072.759	46,863,823.6	864,890,293.73085
2029	3	0.000	0.051399629	43,699,623.1	561,560,106.679	1,155,399.249	43,699,623.1	806,493,729.01109
2029	4	0.000	0.051399629	42,120,929.2	263,925,275.872	12,544,888.911	42,120,929.2	777,358,312.78841
2029	5	0.000	0.051399629	39,258,880.4	63,313,439.300	42,332,093.964	39,258,880.4	724,538,076.90090
2029	6	0.000	0.051399629	42,257,184.4	8,533,449.896	132,828,010.899	42,257,184.4	779,872,956.31510
2029	7	0.000	0.051399629	45,801,834.2	29,076.817	271,150,991.160	45,801,834.2	845,290,862.43170
2029	8	0.000	0.051399629	44,999,820.6	0.000	306,363,829.214	44,999,820.6	830,489,385.35788
2029	9	0.000	0.051399629	43,809,165.0	123,329.542	245,969,843.200	43,809,165.0	808,515,369.30383
2029	10	0.000	0.051399629	39,113,161.6	20,411,032.452	88,135,731.151	39,113,161.6	721,848,779.94364
2029	11	0.000	0.051399629	40,822,616.6	170,822,599.852	11,708,855.799	40,822,616.6	753,397,444.01914
2029	12	0.000	0.051399629	54,107,985.0	460,945,674.302	854,172.467	54,107,985.0	998,584,141.33849
2030	1	0.000	0.050598208	60,126,123.8	665,837,190.362	233,618.082	60,126,123.8	1,128,179,280.01306
2030	2	0.000	0.050598208	46,158,435.2	752,215,948.942	182,700.678	46,158,435.2	866,095,914.94076
2030	3	0.000	0.050598208	43,042,579.3	555,415,011.977	1,146,655.204	43,042,579.3	807,631,408.94500
2030	4	0.000	0.050598208	41,491,477.6	261,026,811.510	12,449,364.589	41,491,477.6	778,527,242.39755
2030	5	0.000	0.050598208	38,672,915.1	62,608,711.336	42,003,891.980	38,672,915.1	725,641,013.99827
2030	6	0.000	0.050598208	41,624,997.0	8,437,339.792	131,782,296.426	41,624,997.0	781,032,538.89959
2030	7	0.000	0.050598208	45,115,291.5	28,744.877	268,981,890.586	45,115,291.5	846,522,838.94567
2030	8	0.000	0.050598208	44,323,972.1	0.000	303,894,286.910	44,323,972.1	831,674,881.35154
2030	9	0.000	0.050598208	43,149,677.7	121,910.228	243,982,876.111	43,149,677.7	809,640,954.86708



Kentucky Power Company  
Residential Energy Model Output

Year	Month	X-Missing	Lighting Share	Lighting	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2030	10	0.000	0.050598208	38,524,001.5	20,178,408.313	87,430,448.503	38,524,001.5	722,846,867.51274
2030	11	0.000	0.050598208	40,203,581.0	168,883,836.666	11,615,736.182	40,203,581.0	754,361,734.30606
2030	12	0.000	0.050598208	53,280,012.7	455,749,504.717	847,430.026	53,280,012.7	999,721,959.44914
2031	1	0.000	0.049954984	59,431,734.0	659,407,454.509	232,224.168	59,431,734.0	1,130,274,059.41082
2031	2	0.000	0.049954984	45,635,650.2	744,978,876.657	181,616.241	45,635,650.2	867,899,827.27504
2031	3	0.000	0.049954984	42,560,628.6	550,106,351.352	1,139,908.308	42,560,628.6	809,418,996.14682
2031	4	0.000	0.049954984	41,037,366.4	258,612,736.927	12,379,045.638	41,037,366.4	780,449,561.73474
2031	5	0.000	0.049954984	38,259,634.0	62,048,712.063	41,776,419.874	38,259,634.0	727,622,584.30950
2031	6	0.000	0.049954984	41,182,052.1	8,363,987.428	131,093,443.959	41,182,052.1	783,201,197.85770
2031	7	0.000	0.049954984	44,632,511.4	28,502.512	267,626,436.390	44,632,511.4	848,822,109.50940
2031	8	0.000	0.049954984	43,851,147.2	0.000	302,409,155.628	43,851,147.2	833,962,108.93299
2031	9	0.000	0.049954984	42,696,881.5	120,923.521	242,809,648.683	42,696,881.5	812,010,257.90334
2031	10	0.000	0.049954984	38,129,585.5	20,017,798.421	87,018,415.311	38,129,585.5	725,149,317.78925
2031	11	0.000	0.049954984	39,788,608.0	167,561,169.273	11,561,856.938	39,788,608.0	756,700,646.28971
2031	12	0.000	0.049954984	52,711,614.7	452,207,659.700	843,518.647	52,711,614.7	1,002,470,679.28998
2032	1	0.000	0.049391972	58,883,883.0	654,439,156.667	231,342.250	58,883,883.0	1,133,291,305.21513
2032	2	0.000	0.049391972	45,228,075.9	739,266,542.234	180,905.072	45,228,075.9	870,468,837.59425
2032	3	0.000	0.049391972	42,184,278.3	545,816,039.681	1,135,312.722	42,184,278.3	811,887,283.90401
2032	4	0.000	0.049391972	40,677,381.6	256,559,461.840	12,327,651.766	40,677,381.6	782,885,241.23593
2032	5	0.000	0.049391972	37,927,464.3	61,547,900.159	41,598,329.993	37,927,464.3	729,959,767.92186
2032	6	0.000	0.049391972	40,817,493.5	8,294,933.531	130,515,287.835	40,817,493.5	785,581,862.49751
2032	7	0.000	0.049391972	44,225,154.2	28,262.439	266,411,060.738	44,225,154.2	851,166,401.11082
2032	8	0.000	0.049391972	43,447,648.4	0.000	301,015,971.238	43,447,648.4	836,202,364.04398
2032	9	0.000	0.049391972	42,308,619.1	119,885.733	241,677,488.819	42,308,619.1	814,280,371.93854
2032	10	0.000	0.049391972	37,789,283.1	19,844,686.178	86,608,484.144	37,789,283.1	727,300,303.68667
2032	11	0.000	0.049391972	39,427,165.0	166,101,986.231	11,506,878.210	39,427,165.0	758,823,314.54329
2032	12	0.000	0.049391972	52,209,702.2	448,158,406.131	839,356.231	52,209,702.2	1,004,838,651.24447
2033	1	0.000	0.048892167	58,408,417.4	649,023,869.906	230,486.301	58,408,417.4	1,136,229,097.52759
2033	2	0.000	0.048892167	44,877,398.8	733,129,050.158	180,231.692	44,877,398.8	873,007,840.59238
2033	3	0.000	0.048892167	41,862,776.9	541,273,169.424	1,131,066.635	41,862,776.9	814,363,875.73882
2033	4	0.000	0.048892167	40,371,617.0	254,415,878.661	12,281,211.804	40,371,617.0	785,356,082.81994
2033	5	0.000	0.048892167	37,647,258.8	61,032,068.101	41,440,521.836	37,647,258.8	732,358,670.33407
2033	6	0.000	0.048892167	40,511,051.7	8,225,239.991	130,016,464.057	40,511,051.7	788,068,531.15781

Kentucky Power Company  
Residential Energy Model Output

Year	Month	X-Missing	Lighting Share	Lighting	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2033	7	0.000	0.048892167	43,882,024.6	28,024.302	265,383,727.840	43,882,024.6	853,644,653.55559
2033	8	0.000	0.048892167	43,107,427.5	0.000	299,841,154.128	43,107,427.5	838,576,280.51460
2033	9	0.000	0.048892167	41,982,748.9	118,865.489	240,720,775.742	41,982,748.9	816,697,712.94738
2033	10	0.000	0.048892167	37,505,920.7	19,674,687.040	86,260,678.217	37,505,920.7	729,609,195.65288
2033	11	0.000	0.048892167	39,124,903.8	164,667,477.012	11,459,912.315	39,124,903.8	761,103,554.14867
2033	12	0.000	0.048892167	51,788,777.0	444,260,467.425	835,881.175	51,788,777.0	1,007,456,081.90424
2034	1	0.000	0.048420772	58,005,072.1	643,775,934.480	229,811.243	58,005,072.1	1,139,932,696.92502
2034	2	0.000	0.048420772	44,586,630.8	727,171,162.743	179,697.160	44,586,630.8	876,229,551.72370
2034	3	0.000	0.048420772	41,598,364.2	536,852,059.095	1,127,669.316	41,598,364.2	817,503,260.10416
2034	4	0.000	0.048420772	40,122,369.1	252,328,251.434	12,243,925.083	40,122,369.1	788,496,570.92486
2034	5	0.000	0.048420772	37,421,107.9	60,528,900.106	41,313,260.913	37,421,107.9	735,410,592.00236
2034	6	0.000	0.048420772	40,261,294.4	8,157,176.435	129,613,462.161	40,261,294.4	791,226,770.89788
2034	7	0.000	0.048420772	43,596,915.4	27,791.688	264,554,683.151	43,596,915.4	856,779,374.85023
2034	8	0.000	0.048420772	42,823,728.1	0.000	298,896,541.474	42,823,728.1	841,584,469.63325
2034	9	0.000	0.048420772	41,714,963.0	117,873.492	239,958,626.523	41,714,963.0	819,794,692.61034
2034	10	0.000	0.048420772	37,278,576.1	19,510,084.846	85,986,105.598	37,278,576.1	732,609,515.20611
2034	11	0.000	0.048420772	38,880,704.6	163,286,205.446	11,423,238.869	38,880,704.6	764,095,014.89471
2034	12	0.000	0.048420772	51,439,226.2	440,526,515.878	833,195.319	51,439,226.2	1,010,898,766.85431
2035	1	0.000	0.048021964	57,686,309.7	638,553,924.656	229,295.087	57,686,309.7	1,143,562,131.46442
2035	2	0.000	0.048021964	44,361,215.0	721,279,575.456	179,295.150	44,361,215.0	879,408,057.23333
2035	3	0.000	0.048021964	41,395,500.9	532,507,062.504	1,125,155.398	41,395,500.9	820,616,320.44031
2035	4	0.000	0.048021964	39,932,701.0	250,288,532.599	12,216,741.601	39,932,701.0	791,618,062.19483
2035	5	0.000	0.048021964	37,251,030.7	60,039,958.167	41,221,723.807	37,251,030.7	738,457,154.01711
2035	6	0.000	0.048021964	40,071,873.3	8,091,232.457	129,325,204.172	40,071,873.3	794,376,986.92471
2035	7	0.000	0.048021964	43,376,762.3	27,566.720	263,962,911.779	43,376,762.3	859,892,460.19313
2035	8	0.000	0.048021964	42,603,736.1	0.000	298,220,668.378	42,603,736.1	844,568,140.40988
2035	9	0.000	0.048021964	41,509,274.5	116,914.033	239,409,980.789	41,509,274.5	822,871,746.16558
2035	10	0.000	0.048021964	37,106,980.7	19,350,754.642	85,787,063.335	37,106,980.7	735,601,535.44413
2035	11	0.000	0.048021964	38,694,633.6	161,946,739.633	11,396,365.120	38,694,633.6	767,074,855.02382
2035	12	0.000	0.048021964	51,166,843.4	436,896,976.088	831,204.565	51,166,843.4	1,014,321,506.12380
2036	1	0.000	0.047649367	57,402,519.4	633,800,872.095	229,090.421	57,402,519.4	1,147,283,345.84153
2036	2	0.000	0.047649367	44,162,096.5	715,889,408.977	179,129.701	44,162,096.5	882,651,811.85642
2036	3	0.000	0.047649367	41,216,479.8	528,513,725.674	1,124,086.996	41,216,479.8	823,778,839.28221

Kentucky Power Company  
Residential Energy Model Output

Year	Month	X-Missing	Lighting Share	Lighting	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2036	4	0.000	0.047649367	39,765,073.3	248,404,566.933	12,204,794.803	39,765,073.3	794,770,103.89931
2036	5	0.000	0.047649367	37,100,736.1	59,586,361.597	41,180,258.493	37,100,736.1	741,518,961.73225
2036	6	0.000	0.047649367	39,903,687.5	8,029,943.398	129,192,534.011	39,903,687.5	797,540,535.17744
2036	7	0.000	0.047649367	43,178,975.8	27,357.228	263,685,585.382	43,178,975.8	863,002,535.57281
2036	8	0.000	0.047649367	42,405,971.4	0.000	297,902,638.649	42,405,971.4	847,552,776.19475
2036	9	0.000	0.047649367	41,325,498.5	116,021.791	239,150,741.295	41,325,498.5	825,957,756.77752
2036	10	0.000	0.047649367	36,955,562.7	19,202,864.908	85,693,224.021	36,955,562.7	738,617,433.21022
2036	11	0.000	0.047649367	38,530,490.1	160,707,001.932	11,383,753.649	38,530,490.1	770,094,936.11153
2036	12	0.000	0.047649367	50,924,454.3	433,547,931.374	830,276.027	50,924,454.3	1,017,808,606.03309
2037	1	0.000	0.047290646	57,140,344.4	629,119,494.270	229,106.486	57,140,344.4	1,151,139,707.37786
2037	2	0.000	0.047290646	43,981,155.0	710,604,244.966	179,142.816	43,981,155.0	886,036,905.31613
2037	3	0.000	0.047290646	41,055,143.7	524,611,119.925	1,124,167.121	41,055,143.7	827,089,977.54164
2037	4	0.000	0.047290646	39,615,402.8	246,573,381.851	12,205,800.462	39,615,402.8	798,085,201.24569
2037	5	0.000	0.047290646	36,968,283.1	59,147,740.361	41,184,055.039	36,968,283.1	744,756,775.62825
2037	6	0.000	0.047290646	39,754,500.9	7,970,842.851	129,204,529.523	39,754,500.9	800,887,447.64123
2037	7	0.000	0.047290646	43,001,292.8	27,156.013	263,711,315.649	43,001,292.8	866,296,767.32162
2037	8	0.000	0.047290646	42,227,712.4	0.000	297,930,309.868	42,227,712.4	850,712,347.24314
2037	9	0.000	0.047290646	41,161,831.3	115,167.762	239,172,389.881	41,161,831.3	829,239,287.50651
2037	10	0.000	0.047290646	36,823,387.3	19,061,430.238	85,700,488.169	36,823,387.3	741,837,728.02172
2037	11	0.000	0.047290646	38,386,558.2	159,522,277.494	11,384,622.630	38,386,558.2	773,329,105.49838
2037	12	0.000	0.047290646	50,707,582.7	430,346,267.784	830,327.498	50,707,582.7	1,021,546,379.85214
2038	1	0.000	0.046930076	56,879,429.3	624,473,865.390	229,125.285	56,879,429.3	1,155,124,341.83927
2038	2	0.000	0.046930076	43,800,998.6	705,351,310.895	179,155.926	43,800,998.6	889,523,685.61810
2038	3	0.000	0.046930076	40,894,558.7	520,731,235.935	1,124,244.506	40,894,558.7	830,498,841.94774
2038	4	0.000	0.046930076	39,465,963.6	244,749,565.920	12,206,614.636	39,465,963.6	801,486,508.10220
2038	5	0.000	0.046930076	36,835,755.3	58,710,042.066	41,186,628.007	36,835,755.3	748,071,456.75771
2038	6	0.000	0.046930076	39,605,192.3	7,911,802.291	129,211,676.250	39,605,192.3	804,314,005.70587
2038	7	0.000	0.046930076	42,822,551.0	26,954.531	263,722,646.962	42,822,551.0	869,653,081.13892
2038	8	0.000	0.046930076	42,048,203.4	0.000	297,939,280.259	42,048,203.4	853,927,401.60779
2038	9	0.000	0.046930076	40,996,924.8	114,310.658	239,177,233.706	40,996,924.8	832,577,723.66381
2038	10	0.000	0.046930076	36,690,437.3	18,919,481.853	85,701,757.871	36,690,437.3	745,120,295.55455
2038	11	0.000	0.046930076	38,241,972.9	158,333,247.108	11,384,698.755	38,241,972.9	776,629,342.17412
2038	12	0.000	0.046930076	50,490,130.4	427,134,131.737	830,323.578	50,490,130.4	1,025,368,560.72723

Kentucky Power Company  
Residential Energy Model Output

Year	Month	X-Missing	Lighting Share	Lighting	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2039	1	0.000	0.04657867	56,623,923.8	619,650,898.927	229,055.363	56,623,923.8	1,159,038,185.26245
2039	2	0.000	0.04657867	43,624,683.9	699,904,728.039	179,101.578	43,624,683.9	892,956,033.85356
2039	3	0.000	0.04657867	40,737,365.0	516,711,011.757	1,123,905.945	40,737,365.0	833,855,347.13359
2039	4	0.000	0.04657867	39,319,850.0	242,862,225.566	12,203,058.992	39,319,850.0	804,840,154.39882
2039	5	0.000	0.04657867	36,706,468.7	58,257,915.994	41,175,117.731	36,706,468.7	751,346,709.54524
2039	6	0.000	0.04657867	39,459,733.1	7,850,912.419	129,176,479.295	39,459,733.1	807,703,428.40105
2039	7	0.000	0.04657867	42,648,799.4	26,747.291	263,653,456.608	42,648,799.4	872,980,601.84567
2039	8	0.000	0.04657867	41,873,942.8	0.000	297,864,138.155	41,873,942.8	857,120,018.72346
2039	9	0.000	0.04657867	40,837,120.6	113,434.187	239,120,755.101	40,837,120.6	835,897,248.96829
2039	10	0.000	0.04657867	36,561,978.7	18,774,739.114	85,683,111.036	36,561,978.7	748,389,136.18375
2039	11	0.000	0.04657867	38,102,045.5	157,123,255.196	11,382,325.058	38,102,045.5	779,912,847.36963
2039	12	0.000	0.04657867	50,279,795.7	423,876,744.533	830,164.100	50,279,795.7	1,029,179,881.12281
2040	1	0.000	0.045532588	55,491,355.3	614,976,695.887	229,019.331	55,491,355.3	1,163,226,013.11948
2040	2	0.000	0.045532588	42,769,883.2	694,650,191.414	179,079.097	42,769,883.2	896,554,796.54818
2040	3	0.000	0.045532588	39,946,491.7	512,851,095.741	1,123,802.447	39,946,491.7	837,370,037.37554
2040	4	0.000	0.045532588	38,562,732.1	241,058,905.692	12,202,426.857	38,562,732.1	808,363,265.42271
2040	5	0.000	0.045532588	36,007,589.9	57,827,686.156	41,174,467.199	36,007,589.9	754,801,627.17080
2040	6	0.000	0.045532588	38,705,321.3	7,793,186.909	129,178,126.721	38,705,321.3	811,352,261.22638
2040	7	0.000	0.045532588	41,819,686.8	26,551.276	263,662,323.950	41,819,686.8	876,636,500.83019
2040	8	0.000	0.045532588	41,056,363.8	0.000	297,880,209.226	41,056,363.8	860,635,500.77102
2040	9	0.000	0.045532588	40,047,392.0	112,607.747	239,137,316.652	40,047,392.0	839,485,139.13537
2040	10	0.000	0.045532588	35,866,163.1	18,638,397.679	85,690,722.852	35,866,163.1	751,836,997.81715
2040	11	0.000	0.045532588	37,370,611.6	155,985,088.818	11,383,493.837	37,370,611.6	783,373,685.94515
2040	12	0.000	0.045532588	49,291,748.7	420,808,771.914	830,251.595	49,291,748.7	1,033,268,046.46005
2041	1	0.000	0.044640734	54,552,355.3	610,653,883.756	229,092.716	54,552,355.3	1,167,478,523.79587
2041	2	0.000	0.044640734	42,064,363.6	689,768,748.972	179,136.974	42,064,363.6	900,222,196.10833
2041	3	0.000	0.044640734	39,294,655.2	509,248,519.758	1,124,169.599	39,294,655.2	840,947,485.96648
2041	4	0.000	0.044640734	37,939,238.4	239,368,475.322	12,206,566.236	37,939,238.4	811,940,121.87242
2041	5	0.000	0.044640734	35,432,843.6	57,422,729.813	41,188,869.313	35,432,843.6	758,300,602.36919
2041	6	0.000	0.044640734	38,083,558.5	7,738,675.312	129,224,521.133	38,083,558.5	815,028,725.24094
2041	7	0.000	0.044640734	41,133,483.0	26,365.729	263,759,138.740	41,133,483.0	880,300,360.02347
2041	8	0.000	0.044640734	40,378,960.6	0.000	297,991,760.354	40,378,960.6	864,152,776.72960
2041	9	0.000	0.044640734	39,394,408.9	111,822.051	239,228,412.812	39,394,408.9	843,082,320.54058

Kentucky Power Company  
Residential Energy Model Output

Year	Month	X-Missing	Lighting Share	Lighting	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2041	10	0.000	0.044640734	35,292,977.9	18,508,501.587	85,724,119.394	35,292,977.9	755,307,327.32109
2041	11	0.000	0.044640734	36,766,897.7	154,898,553.199	11,387,976.861	36,766,897.7	786,850,782.22310
2041	12	0.000	0.044640734	48,472,137.9	417,879,013.905	830,581.839	48,472,137.9	1,037,355,392.41597
2042	1	0.000	0.043848943	53,741,486.6	606,541,414.109	229,230.021	53,741,486.6	1,171,863,584.29836
2042	2	0.000	0.043848943	41,458,295.2	685,131,918.062	179,246.498	41,458,295.2	904,021,630.59264
2042	3	0.000	0.043848943	38,736,117.0	505,833,632.678	1,124,875.218	38,736,117.0	844,662,992.85643
2042	4	0.000	0.043848943	37,406,162.6	237,768,657.637	12,214,492.310	37,406,162.6	815,662,582.47125
2042	5	0.000	0.043848943	34,942,739.2	57,039,924.633	41,216,292.239	34,942,739.2	761,946,239.76181
2042	6	0.000	0.043848943	37,552,308.1	7,687,167.805	129,311,866.218	37,552,308.1	818,849,367.90964
2042	7	0.000	0.043848943	40,544,709.3	26,190.575	263,940,645.236	40,544,709.3	884,100,373.99509
2042	8	0.000	0.043848943	39,797,120.7	0.000	298,198,523.929	39,797,120.7	867,798,779.30822
2042	9	0.000	0.043848943	38,834,916.3	111,080.675	239,396,003.820	38,834,916.3	846,817,367.04343
2042	10	0.000	0.043848943	34,804,139.1	18,385,948.762	85,784,845.709	34,804,139.1	758,923,985.27921
2042	11	0.000	0.043848943	36,251,077.1	153,873,954.733	11,396,111.418	36,251,077.1	790,475,288.54345
2042	12	0.000	0.043848943	47,767,425.9	415,116,102.545	831,176.897	47,767,425.9	1,041,595,804.39519
2043	1	0.000	0.043170502	53,077,042.7	602,980,096.744	229,550.932	53,077,042.7	1,176,397,707.07196
2043	2	0.000	0.043170502	40,965,976.9	681,116,095.157	179,499.249	40,965,976.9	907,968,470.08317
2043	3	0.000	0.043170502	38,283,833.9	502,873,588.688	1,126,472.311	38,283,833.9	848,521,546.51664
2043	4	0.000	0.043170502	36,975,517.6	236,380,915.716	12,232,023.372	36,975,517.6	819,524,070.67664
2043	5	0.000	0.043170502	34,548,212.2	56,707,723.847	41,275,983.747	34,548,212.2	765,725,358.86845
2043	6	0.000	0.043170502	37,123,462.7	7,642,498.772	129,500,944.766	37,123,462.7	822,803,119.91268
2043	7	0.000	0.043170502	40,065,647.9	26,038.529	264,328,258.179	40,065,647.9	888,013,610.45278
2043	8	0.000	0.043170502	39,323,033.8	0.000	298,638,290.703	39,323,033.8	871,554,336.99365
2043	9	0.000	0.043170502	38,381,307.6	110,437.477	239,751,593.971	38,381,307.6	850,681,951.76831
2043	10	0.000	0.043170502	34,411,119.4	18,279,646.853	85,913,050.212	34,411,119.4	762,686,838.50622
2043	11	0.000	0.043170502	35,835,019.3	152,984,622.250	11,413,166.935	35,835,019.3	794,246,106.42819
2043	12	0.000	0.043170502	47,193,236.6	412,716,744.205	832,420.526	47,193,236.6	1,045,989,234.95719
2044	1	0.000	0.042590598	52,537,551.8	599,483,623.828	229,882.014	52,537,551.8	1,181,010,565.25152
2044	2	0.000	0.042590598	40,570,413.5	677,173,825.587	179,760.084	40,570,413.5	911,996,949.43676
2044	3	0.000	0.042590598	37,921,972.2	499,967,784.344	1,128,120.372	37,921,972.2	852,461,683.91730
2044	4	0.000	0.042590598	36,632,316.6	235,018,612.782	12,250,119.170	36,632,316.6	823,471,049.63399
2044	5	0.000	0.042590598	34,235,352.9	56,381,436.709	41,337,477.625	34,235,352.9	769,588,838.82847
2044	6	0.000	0.042590598	36,781,715.9	7,598,534.789	129,694,163.916	36,781,715.9	826,829,451.71733

Kentucky Power Company  
Residential Energy Model Output

Year	Month	X-Missing	Lighting Share	Lighting	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2044	7	0.000	0.042590598	39,680,216.3	25,888.633	264,721,754.733	39,680,216.3	891,985,885.64925
2044	8	0.000	0.042590598	38,940,743.1	0.000	299,081,127.971	38,940,743.1	875,363,002.45752
2044	9	0.000	0.042590598	38,017,238.6	109,800.403	240,106,037.156	38,017,238.6	854,603,210.98584
2044	10	0.000	0.042590598	34,098,456.4	18,174,066.071	86,039,507.304	34,098,456.4	766,511,493.05132
2044	11	0.000	0.042590598	35,502,541.3	152,099,135.415	11,429,834.797	35,502,541.3	798,074,424.17409
2044	12	0.000	0.042590598	46,728,741.8	410,323,270.588	833,627.341	46,728,741.8	1,050,432,233.24289
2045	1	0.000	0.042065777	52,060,463.1	596,030,675.944	230,234.296	52,060,463.1	1,185,536,143.25661
2045	2	0.000	0.042065777	40,222,090.0	673,268,763.584	180,034.500	40,222,090.0	915,949,236.45077
2045	3	0.000	0.042065777	37,603,984.3	497,083,254.012	1,129,840.415	37,603,984.3	856,328,963.94415
2045	4	0.000	0.042065777	36,330,942.7	233,663,182.026	12,268,829.892	36,330,942.7	827,338,889.18014
2045	5	0.000	0.042065777	33,961,147.9	56,056,503.798	41,400,814.473	33,961,147.9	773,373,225.89682
2045	6	0.000	0.042065777	36,481,677.8	7,554,768.493	129,893,375.491	36,481,677.8	830,771,471.03402
2045	7	0.000	0.042065777	39,340,602.8	25,739.623	265,129,596.069	39,340,602.8	895,875,750.69355
2045	8	0.000	0.042065777	38,603,573.9	0.000	299,542,284.998	38,603,573.9	879,091,913.55582
2045	9	0.000	0.042065777	37,696,871.0	109,169.033	240,477,617.328	37,696,871.0	858,444,208.21281
2045	10	0.000	0.042065777	33,824,642.9	18,069,685.706	86,173,320.975	33,824,642.9	770,264,694.08306
2045	11	0.000	0.042065777	35,210,958.8	151,226,110.895	11,447,663.281	35,210,958.8	801,834,286.91543
2045	12	0.000	0.042065777	46,319,077.0	407,969,918.285	834,932.091	46,319,077.0	1,054,791,613.65539
2046	1	0.000	0.041559639	51,605,128.1	592,556,958.612	230,566.658	51,605,128.1	1,190,107,488.42345
2046	2	0.000	0.041559639	39,890,907.1	669,358,290.758	180,298.207	39,890,907.1	919,956,388.49520
2046	3	0.000	0.041559639	37,302,002.8	494,202,918.362	1,131,512.220	37,302,002.8	860,251,577.76600
2046	4	0.000	0.041559639	36,045,406.2	232,314,621.565	12,287,286.706	36,045,406.2	831,272,189.16786
2046	5	0.000	0.041559639	33,701,870.7	55,734,056.912	41,463,956.777	33,701,870.7	777,226,027.05117
2046	6	0.000	0.041559639	36,197,842.9	7,511,438.733	130,093,846.448	36,197,842.9	834,787,656.02497
2046	7	0.000	0.041559639	39,018,646.8	25,592.352	265,542,824.283	39,018,646.8	899,840,489.40815
2046	8	0.000	0.041559639	38,283,983.8	0.000	300,013,020.234	38,283,983.8	882,897,834.01750
2046	9	0.000	0.041559639	37,393,562.9	108,546.448	240,857,584.068	37,393,562.9	862,363,119.28404
2046	10	0.000	0.041559639	33,566,312.3	17,966,864.658	86,310,703.765	33,566,312.3	774,099,804.77522
2046	11	0.000	0.041559639	34,935,352.0	150,365,811.519	11,465,946.632	34,935,352.0	805,672,333.41923
2046	12	0.000	0.041559639	45,930,234.2	405,649,972.898	836,268.418	45,930,234.2	1,059,234,181.71035
2047	1	0.000	0.041058824	51,166,783.8	589,611,627.302	231,092.649	51,166,783.8	1,195,015,617.28919
2047	2	0.000	0.041058824	39,573,636.9	666,037,841.195	180,711.490	39,573,636.9	924,254,186.53246
2047	3	0.000	0.041058824	37,013,576.1	491,758,621.080	1,134,123.838	37,013,576.1	864,463,195.99654



Kentucky Power Company  
Residential Energy Model Output

Year	Month	X-Missing	Lighting Share	Lighting	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2047	4	0.000	0.041058824	35,773,167.6	231,169,687.644	12,315,880.507	35,773,167.6	835,493,083.50141
2047	5	0.000	0.041058824	33,455,354.0	55,460,210.446	41,561,128.891	33,455,354.0	781,359,849.31144
2047	6	0.000	0.041058824	35,927,095.3	7,474,579.014	130,399,722.658	35,927,095.3	839,088,110.35633
2047	7	0.000	0.041058824	38,709,783.2	25,466.825	266,168,115.638	38,709,783.2	904,078,623.21405
2047	8	0.000	0.041058824	37,976,943.3	0.000	300,720,121.529	37,976,943.3	886,962,926.63421
2047	9	0.000	0.041058824	37,103,035.3	108,014.393	241,426,166.866	37,103,035.3	866,552,542.50740
2047	10	0.000	0.041058824	33,319,942.1	17,878,808.408	86,514,619.156	33,319,942.1	778,197,264.58226
2047	11	0.000	0.041058824	34,671,807.3	149,627,872.731	11,492,974.783	34,671,807.3	809,770,482.52684
2047	12	0.000	0.041058824	45,555,752.6	403,656,874.416	838,235.845	45,555,752.6	1,063,968,298.10297
2048	1	0.000	0.040561717	50,739,352.2	586,684,524.869	231,611.787	50,739,352.2	1,200,177,921.03217
2048	2	0.000	0.040561717	39,265,697.1	662,738,482.340	181,119.465	39,265,697.1	928,782,505.37416
2048	3	0.000	0.040561717	36,734,003.6	489,327,191.463	1,136,695.297	36,734,003.6	868,898,361.65614
2048	4	0.000	0.040561717	35,509,708.6	230,029,512.478	12,343,967.331	35,509,708.6	839,939,147.21871
2048	5	0.000	0.040561717	33,217,449.3	55,187,478.580	41,656,557.603	33,217,449.3	785,718,529.88480
2048	6	0.000	0.040561717	35,665,520.7	7,437,873.644	130,700,137.998	35,665,520.7	843,624,694.07618
2048	7	0.000	0.040561717	38,410,484.6	25,341.867	266,782,564.737	38,410,484.6	908,553,489.81657
2048	8	0.000	0.040561717	37,679,260.1	0.000	301,414,940.150	37,679,260.1	891,257,261.18689
2048	9	0.000	0.040561717	36,821,921.3	107,484.724	241,984,614.870	36,821,921.3	870,977,948.62831
2048	10	0.000	0.040561717	33,082,560.5	17,791,172.493	86,714,991.251	33,082,560.5	782,527,899.23353
2048	11	0.000	0.040561717	34,417,590.1	148,894,417.949	11,519,600.179	34,417,590.1	814,106,408.05789
2048	12	0.000	0.040561717	45,192,415.6	401,676,288.832	840,174.177	45,192,415.6	1,068,971,853.01366
2049	1	0.000	0.040089555	50,352,197.2	584,310,150.716	232,322.613	50,352,197.2	1,205,640,714.86256
2049	2	0.000	0.040089555	38,990,032.7	660,060,602.357	181,676.525	38,990,032.7	933,583,310.54395
2049	3	0.000	0.040089555	36,485,129.7	487,352,909.086	1,140,198.271	36,485,129.7	873,605,528.34153
2049	4	0.000	0.040089555	35,276,146.5	229,104,176.183	12,382,151.998	35,276,146.5	844,657,450.07962
2049	5	0.000	0.040089555	33,007,463.2	54,965,810.515	41,785,655.803	33,007,463.2	790,335,750.02860
2049	6	0.000	0.040089555	35,433,390.0	7,408,015.082	131,105,450.032	35,433,390.0	848,422,513.33277
2049	7	0.000	0.040089555	38,141,854.3	25,240.045	267,608,875.176	38,141,854.3	913,274,397.00531
2049	8	0.000	0.040089555	37,411,370.7	0.000	302,346,112.167	37,411,370.7	895,783,584.43488
2049	9	0.000	0.040089555	36,570,388.5	107,051.180	242,730,208.734	36,570,388.5	875,646,977.87442
2049	10	0.000	0.040089555	32,872,607.8	17,719,327.438	86,981,748.469	32,872,607.8	787,106,751.95875
2049	11	0.000	0.040089555	34,191,366.5	148,290,493.151	11,554,829.240	34,191,366.5	818,683,311.21220
2049	12	0.000	0.040089555	44,864,561.0	400,039,823.866	842,728.301	44,864,561.0	1,074,243,912.96201

Kentucky Power Company  
Residential Energy Model Output

Year	Month	X-Missing	Lighting Share	Lighting	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2050	1	0.000	0.039682965	50,054,374.6	581,995,208.207	233,024.073	50,054,374.6	1,211,302,341.23351
2050	2	0.000	0.039682965	38,783,863.4	657,442,695.959	182,224.104	38,783,863.4	938,559,016.34498
2050	3	0.000	0.039682965	36,301,278.4	485,420,481.689	1,143,634.882	36,301,278.4	878,481,128.73770
2050	4	0.000	0.039682965	35,105,645.7	228,198,767.578	12,419,619.907	35,105,645.7	849,547,141.47603
2050	5	0.000	0.039682965	32,856,516.7	54,748,894.591	41,912,273.976	32,856,516.7	795,118,828.33339
2050	6	0.000	0.039682965	35,264,314.7	7,378,829.129	131,503,431.296	35,264,314.7	853,386,888.58420
2050	7	0.000	0.039682965	37,940,587.2	25,140.700	268,421,911.223	37,940,587.2	918,151,959.64714
2050	8	0.000	0.039682965	37,209,620.0	0.000	303,265,484.078	37,209,620.0	900,462,751.52007
2050	9	0.000	0.039682965	36,384,050.2	106,630.764	243,469,148.349	36,384,050.2	880,484,184.99534
2050	10	0.000	0.039682965	32,721,964.7	17,649,906.995	87,247,246.183	32,721,964.7	791,862,705.36999
2050	11	0.000	0.039682965	34,027,196.6	147,710,459.884	11,590,155.162	34,027,196.6	823,448,963.63521
2050	12	0.000	0.039682965	44,617,629.4	398,477,269.847	845,308.462	44,617,629.4	1,079,734,577.03439
2051	1	0.000	0.039220511	49,671,128.1	579,470,370.914	233,687.538	49,671,128.1	1,216,786,814.64320
2051	2	0.000	0.039220511	38,510,240.4	654,602,580.092	182,746.133	38,510,240.4	943,380,078.12240
2051	3	0.000	0.039220511	36,054,032.8	483,334,082.946	1,146,935.194	36,054,032.8	883,210,698.46733
2051	4	0.000	0.039220511	34,873,406.7	227,224,074.124	12,455,780.779	34,873,406.7	854,289,062.79154
2051	5	0.000	0.039220511	32,647,806.4	54,516,671.061	42,035,501.783	32,647,806.4	799,768,835.80578
2051	6	0.000	0.039220511	35,033,866.0	7,347,674.347	131,892,487.277	35,033,866.0	858,219,810.61316
2051	7	0.000	0.039220511	37,674,748.7	25,035.123	269,221,889.340	37,674,748.7	922,913,151.65121
2051	8	0.000	0.039220511	36,944,711.4	0.000	304,173,349.435	36,944,711.4	905,029,529.78694
2051	9	0.000	0.039220511	36,135,449.7	106,186.617	244,202,506.582	36,135,449.7	885,205,156.38250
2051	10	0.000	0.039220511	32,514,370.3	17,576,760.032	87,511,762.815	32,514,370.3	796,500,069.81540
2051	11	0.000	0.039220511	33,804,077.9	147,100,116.689	11,625,421.758	33,804,077.9	828,093,860.58491
2051	12	0.000	0.039220511	44,295,485.6	396,837,258.081	847,893.643	44,295,485.6	1,085,100,437.22573
2052	1	0.000	0.038762681	49,295,170.3	577,119,742.733	234,420.433	49,295,170.3	1,222,422,077.73807
2052	2	0.000	0.038762681	38,242,487.1	651,966,379.676	183,324.443	38,242,487.1	948,337,539.86932
2052	3	0.000	0.038762681	35,812,047.6	481,399,468.942	1,150,591.634	35,812,047.6	888,067,478.83621
2052	4	0.000	0.038762681	34,646,494.5	226,323,212.466	12,495,953.118	34,646,494.5	859,164,083.50778
2052	5	0.000	0.038762681	32,443,980.7	54,302,264.400	42,172,368.794	32,443,980.7	804,546,124.92628
2052	6	0.000	0.038762681	34,808,785.1	7,318,985.980	132,325,541.834	34,808,785.1	863,188,567.31787
2052	7	0.000	0.038762681	37,414,312.1	24,937.932	270,111,524.095	37,414,312.1	927,800,447.17545
2052	8	0.000	0.038762681	36,685,284.8	0.000	305,185,364.767	36,685,284.8	909,722,022.76147
2052	9	0.000	0.038762681	35,892,320.5	105,779.450	245,020,522.962	35,892,320.5	890,058,086.59031



Kentucky Power Company  
Residential Energy Model Output

Year	Month	X-Missing	Lighting Share	Lighting	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2052	10	0.000	0.038762681	32,311,842.6	17,509,801.918	87,806,989.427	32,311,842.6	801,269,362.61915
2052	11	0.000	0.038762681	33,586,442.4	146,542,942.601	11,664,881.341	33,586,442.4	832,876,901.59965
2052	12	0.000	0.038762681	43,980,044.8	395,339,971.818	850,783.428	43,980,044.8	1,090,617,547.64984
2053	1	0.000	0.038309441	48,923,032.5	574,804,211.740	235,167.265	48,923,032.5	1,228,125,947.70679
2053	2	0.000	0.038309441	37,977,433.5	649,368,530.862	183,913.463	37,977,433.5	953,356,099.72536
2053	3	0.000	0.038309441	35,572,472.9	479,492,189.832	1,154,314.016	35,572,472.9	892,983,830.85895
2053	4	0.000	0.038309441	34,421,800.9	225,434,563.939	12,536,822.774	34,421,800.9	864,098,252.22589
2053	5	0.000	0.038309441	32,242,101.1	54,090,634.439	42,311,522.661	32,242,101.1	809,380,753.60911
2053	6	0.000	0.038309441	34,585,818.0	7,290,652.797	132,765,581.010	34,585,818.0	868,215,609.60254
2053	7	0.000	0.038309441	37,156,315.8	24,841.888	271,015,020.931	37,156,315.8	932,743,397.48490
2053	8	0.000	0.038309441	36,428,268.4	0.000	306,212,545.628	36,428,268.4	914,467,058.26833
2053	9	0.000	0.038309441	35,651,403.2	105,376.565	245,850,320.343	35,651,403.2	894,965,234.96813
2053	10	0.000	0.038309441	32,111,089.1	17,443,501.684	88,106,285.208	32,111,089.1	806,091,930.27527
2053	11	0.000	0.038309441	33,370,696.4	145,990,847.298	11,704,860.258	33,370,696.4	837,712,137.06243
2053	12	0.000	0.038309441	43,667,392.4	393,855,524.619	853,709.920	43,667,392.4	1,096,192,423.93712
2054	1	0.000	0.037860757	48,554,224.6	572,507,892.981	235,923.717	48,554,224.6	1,233,887,777.63952
2054	2	0.000	0.037860757	37,714,669.9	646,791,795.836	184,509.931	37,714,669.9	958,426,800.72427
2054	3	0.000	0.037860757	35,334,929.9	477,600,091.904	1,158,082.606	35,334,929.9	897,951,484.82323
2054	4	0.000	0.037860757	34,198,979.9	224,552,774.606	12,578,186.848	34,198,979.9	869,084,073.60204
2054	5	0.000	0.037860757	32,041,858.3	53,880,592.963	42,452,317.895	32,041,858.3	814,266,062.65864
2054	6	0.000	0.037860757	34,364,672.2	7,262,527.898	133,210,691.252	34,364,672.2	873,294,740.34961
2054	7	0.000	0.037860757	36,900,504.5	24,746.537	271,928,694.699	36,900,504.5	937,736,762.70662
2054	8	0.000	0.037860757	36,173,441.0	0.000	307,251,000.866	36,173,441.0	919,260,210.11044
2054	9	0.000	0.037860757	35,412,484.8	104,976.448	246,688,992.356	35,412,484.8	899,922,355.04976
2054	10	0.000	0.037860757	31,911,918.7	17,377,640.914	88,408,693.503	31,911,918.7	810,963,962.70543
2054	11	0.000	0.037860757	33,156,664.7	145,442,248.358	11,745,242.743	33,156,664.7	842,596,161.64479
2054	12	0.000	0.037860757	43,357,337.0	392,380,155.083	856,665.303	43,357,337.0	1,101,821,491.80763
2055	1	0.000	0.037416595	48,188,591.6	570,226,726.724	236,688.102	48,188,591.6	1,239,704,974.79074
2055	2	0.000	0.037416595	37,454,105.6	644,233,175.445	185,112.899	37,454,105.6	963,548,414.91275
2055	3	0.000	0.037416595	35,099,373.3	475,722,161.753	1,161,893.912	35,099,373.3	902,970,312.51050
2055	4	0.000	0.037416595	33,978,042.2	223,678,131.176	12,620,042.639	33,978,042.2	874,122,827.41341
2055	5	0.000	0.037416595	31,843,314.1	53,672,378.340	42,594,863.332	31,843,314.1	819,204,578.79373
2055	6	0.000	0.037416595	34,145,453.2	7,234,661.955	133,661,547.572	34,145,453.2	878,429,660.42778

Kentucky Power Company  
Residential Energy Model Output

Year	Month	X-Missing	Lighting Share	Lighting	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2055	7	0.000	0.037416595	36,647,012.7	24,652.109	272,854,585.831	36,647,012.7	942,785,054.89237
2055	8	0.000	0.037416595	35,920,970.1	0.000	308,303,858.398	35,920,970.1	924,106,802.92112
2055	9	0.000	0.037416595	35,175,790.3	104,580.639	247,539,710.111	35,175,790.3	904,936,226.33757
2055	10	0.000	0.037416595	31,714,614.1	17,312,531.594	88,715,607.072	31,714,614.1	815,893,627.66973
2055	11	0.000	0.037416595	32,944,690.5	144,900,269.645	11,786,247.831	32,944,690.5	847,538,707.96304
2055	12	0.000	0.037416595	43,050,326.9	390,923,328.306	859,667.422	43,050,326.9	1,107,517,414.89607
2056	1	0.000	0.036976921	47,826,580.5	567,974,034.718	237,465.207	47,826,580.5	1,245,590,470.84912
2056	2	0.000	0.036976921	37,196,125.4	641,707,223.559	185,725.998	37,196,125.4	968,732,007.01102
2056	3	0.000	0.036976921	34,866,164.0	473,868,752.021	1,165,769.950	34,866,164.0	908,050,735.06116
2056	4	0.000	0.036976921	33,759,324.6	222,815,260.775	12,662,618.653	33,759,324.6	879,224,325.90777
2056	5	0.000	0.036976921	31,646,779.3	53,467,047.505	42,739,894.898	31,646,779.3	824,205,415.69643
2056	6	0.000	0.036976921	33,928,462.0	7,207,191.412	134,120,357.562	33,928,462.0	883,629,321.99624
2056	7	0.000	0.036976921	36,396,107.1	24,559.050	273,796,992.265	36,396,107.1	947,896,414.61984
2056	8	0.000	0.036976921	35,671,092.8	0.000	309,375,707.978	35,671,092.8	929,014,215.78742
2056	9	0.000	0.036976921	34,941,559.0	104,190.829	248,405,939.874	34,941,559.0	910,014,315.40732
2056	10	0.000	0.036976921	31,519,402.9	17,248,433.304	89,028,181.775	31,519,402.9	820,888,039.10631
2056	11	0.000	0.036976921	32,734,986.1	144,366,899.720	11,828,017.347	32,734,986.1	852,546,560.16555
2056	12	0.000	0.036976921	42,746,589.3	389,490,026.095	862,725.958	42,746,589.3	1,113,287,707.96427
2057	1	0.000	0.036541703	47,468,393.9	565,756,122.074	238,257.407	47,468,393.9	1,251,551,358.95854
2057	2	0.000	0.036541703	36,940,887.4	639,220,093.325	186,350.875	36,940,887.4	973,983,193.05521
2057	3	0.000	0.036541703	34,635,432.9	472,043,678.077	1,169,719.704	34,635,432.9	913,197,593.65489
2057	4	0.000	0.036541703	33,542,924.6	221,965,498.541	12,705,992.850	33,542,924.6	884,392,528.51352
2057	5	0.000	0.036541703	31,452,319.1	53,264,812.287	42,887,609.341	31,452,319.1	829,271,638.68255
2057	6	0.000	0.036541703	33,713,736.8	7,180,131.939	134,587,550.478	33,713,736.8	888,896,160.82783
2057	7	0.000	0.036541703	36,147,795.9	24,467.372	274,756,419.262	36,147,795.9	953,072,548.87058
2057	8	0.000	0.036541703	35,423,790.6	0.000	310,466,666.653	35,423,790.6	933,983,429.41441
2057	9	0.000	0.036541703	34,709,746.0	103,806.683	249,287,416.484	34,709,746.0	915,156,933.45231
2057	10	0.000	0.036541703	31,326,212.4	17,185,255.852	89,346,185.007	31,326,212.4	825,946,708.37098
2057	11	0.000	0.036541703	32,527,444.8	143,841,090.503	11,870,502.269	32,527,444.8	857,618,393.44669
2057	12	0.000	0.036541703	42,445,965.6	388,076,827.588	865,836.341	42,445,965.6	1,119,130,048.02402

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Actual Usage	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
1995	1						
1995	2	1,593,844,674.559	1,596,350,328.2	781,878,195.847	0.000	166,015,759.1	648,456,373.24063
1995	3	1,249,877,029.626	1,254,741,611.8	534,573,786.546	0.000	146,251,863.9	573,915,961.40519
1995	4	958,711,081.314	968,155,387.3	196,611,570.739	6,509,234.001	154,489,005.0	610,545,577.60907
1995	5	887,198,837.076	905,534,412.9	70,375,056.108	26,410,426.774	161,608,978.3	647,139,951.75572
1995	6	970,269,061.362	960,439,592.0	4,503,998.789	118,872,673.888	173,156,757.7	663,906,161.65490
1995	7	1,180,760,926.904	1,379,927,028.3	0.000	282,613,264.502	183,636,480.0	913,677,283.81266
1995	8	1,425,582,913.345	1,533,806,987.2	0.000	440,781,274.113	201,353,868.7	891,671,844.42507
1995	9	923,564,374.503	915,975,408.1	560,397.967	346,553,002.280	117,861,942.1	451,000,065.79261
1995	10	910,591,004.440	895,857,463.6	14,860,922.927	64,016,988.870	170,053,178.4	646,926,373.37409
1995	11	1,368,248,291.848	1,498,882,470.1	224,588,745.966	5,948,057.324	232,618,022.3	1,035,727,644.54194
1995	12	1,714,282,417.669	1,967,901,146.6	552,952,945.911	405,447.638	237,364,088.6	1,177,178,664.52609
1996	1	2,061,696,112.467	2,076,798,617.9	896,016,570.621	0.000	242,722,795.2	938,059,252.02537
1996	2	1,931,909,035.624	1,961,229,679.5	893,159,221.728	0.000	216,292,942.7	851,777,515.09548
1996	3	1,550,545,211.177	1,540,773,591.6	612,907,873.957	0.000	195,238,869.0	732,626,848.62053
1996	4	1,302,724,545.908	1,352,304,482.7	423,486,888.455	7,867,310.893	181,440,471.9	739,509,811.38862
1996	5	993,364,969.354	960,242,182.1	92,457,636.699	78,528,904.962	171,239,164.4	618,016,475.99375
1996	6	1,019,255,076.897	988,971,148.6	12,715,914.858	169,029,361.402	174,389,883.8	632,835,988.53266
1996	7	1,206,256,954.764	1,190,706,251.2	0.000	323,966,841.959	183,714,232.5	683,025,176.73637
1996	8	1,164,230,369.880	1,142,380,692.8	0.000	297,708,746.810	180,430,849.9	664,241,096.10889
1996	9	1,105,034,000.458	1,112,761,645.7	0.000	257,676,772.071	176,440,357.4	678,644,516.20771
1996	10	852,837,927.585	879,169,425.2	28,230,659.274	47,222,806.076	161,870,327.9	641,845,631.98304
1996	11	1,075,741,585.442	1,080,485,228.8	230,208,956.710	6,693,611.949	174,666,658.9	668,916,001.24902
1996	12	1,676,204,859.562	1,639,880,269.1	580,280,310.339	1,599,192.821	227,865,120.6	830,135,645.34847
1997	1	1,866,616,676.490	1,872,862,109.6	651,180,153.638	853,602.966	256,367,007.6	964,461,345.35922
1997	2	1,735,263,575.380	1,697,515,457.7	789,988,988.562	707,595.164	199,373,636.1	707,445,237.80014
1997	3	1,296,235,950.223	1,310,969,527.9	434,442,048.193	3,011,486.327	181,266,733.2	692,249,260.14545
1997	4	1,130,294,810.927	1,181,396,423.4	277,307,947.739	6,879,224.208	178,591,416.0	718,617,835.46652
1997	5	949,129,998.162	971,922,643.2	127,470,170.665	7,910,884.908	171,761,333.0	664,780,254.61018
1997	6	942,002,032.835	898,196,542.2	19,240,957.272	58,309,825.729	182,463,277.3	638,182,481.84781
1997	7	1,167,551,956.384	1,173,407,879.0	0.000	274,845,470.481	188,427,226.1	710,135,182.44417
1997	8	1,224,031,567.088	1,213,288,242.8	0.000	338,400,065.982	186,933,880.0	687,954,296.83377
1997	9	1,049,943,376.904	1,055,187,091.3	0.000	183,401,970.842	182,904,455.2	688,880,665.29298

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Actual Usage	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
1997	10	867,554,308.031	861,173,071.0	20,470,153.893	57,629,491.782	166,633,439.4	616,439,985.84713
1997	11	1,109,584,038.665	1,110,993,058.7	279,067,246.665	16,355,772.392	171,848,311.8	643,721,727.88474
1997	12	1,661,648,933.570	1,748,100,828.4	558,983,812.371	0.000	232,744,058.0	956,372,958.05271
1998	1	1,890,200,211.531	1,816,033,319.3	607,088,620.014	0.000	273,994,494.9	934,950,204.45630
1998	2	1,581,491,782.958	1,553,672,256.1	641,553,915.135	0.000	200,713,486.6	711,404,854.33040
1998	3	1,378,265,325.870	1,393,328,817.6	513,828,877.790	38,293.382	184,582,804.3	694,878,842.21058
1998	4	1,200,138,855.497	1,159,163,821.8	299,941,181.630	48,568,416.660	181,856,145.4	628,798,078.11191
1998	5	844,298,691.983	927,021,092.2	44,807,913.708	27,166,116.731	164,921,513.4	690,125,548.39906
1998	6	1,033,852,520.772	1,003,710,299.0	992,931.073	156,014,694.767	187,240,670.0	659,462,003.14952
1998	7	1,242,531,980.068	1,243,692,577.8	432,280.364	334,620,329.610	193,782,328.2	714,857,639.57837
1998	8	1,240,836,912.428	1,250,202,535.7	0.000	346,497,666.426	190,976,398.0	712,728,471.33867
1998	9	1,223,008,605.471	1,219,361,559.8	0.000	336,772,973.624	189,245,959.5	693,342,626.67826
1998	10	1,010,537,861.968	994,519,240.3	8,337,669.136	205,435,351.907	170,140,447.3	610,605,772.00763
1998	11	1,020,336,096.870	1,079,235,975.8	169,793,577.221	15,251,020.576	178,367,395.2	715,823,982.80857
1998	12	1,449,116,848.857	1,459,519,909.4	321,986,798.397	3,209,574.122	240,000,967.3	894,322,569.54418
1999	1	2,114,290,475.862	1,996,281,053.4	845,458,217.492	1,418,888.265	272,500,247.0	876,903,700.64773
1999	2	1,501,333,498.963	1,466,155,153.4	588,656,665.095	0.000	196,230,108.1	681,268,380.18408
1999	3	1,554,672,079.288	1,560,206,994.7	703,935,560.625	0.000	182,912,628.9	673,358,805.17001
1999	4	1,219,144,541.058	1,223,541,450.5	364,166,209.082	11,358,879.981	181,382,423.8	666,633,937.61468
1999	5	875,611,083.318	866,545,204.6	43,749,809.317	38,364,569.339	170,605,781.1	613,825,044.79831
1999	6	1,022,013,924.816	977,527,859.2	0.000	178,524,170.461	181,354,538.1	617,649,150.58747
1999	7	1,303,566,296.507	1,267,808,366.3	0.000	416,539,268.500	190,715,270.9	660,553,826.88621
1999	8	1,385,067,607.247	1,387,451,366.7	0.000	517,687,702.535	186,491,040.6	683,272,623.52838
1999	9	1,134,407,142.638	1,126,778,698.7	178,413.222	263,312,218.440	187,251,428.7	676,036,638.28144
1999	10	865,564,564.588	900,664,947.0	19,832,849.247	54,699,607.005	170,075,880.5	656,056,610.22298
1999	11	1,024,156,952.266	1,048,740,561.2	164,180,506.082	3,042,436.202	184,245,120.7	697,272,498.24810
1999	12	1,539,695,759.556	1,501,399,041.6	409,424,198.897	0.000	243,014,068.4	848,960,774.30606
2000	1	2,007,347,643.838	1,922,441,095.7	760,139,113.566	0.000	270,264,195.5	892,037,786.65630
2000	2	1,933,695,999.275	1,921,954,652.8	1,009,910,006.808	0.000	200,180,059.7	711,864,586.30550
2000	3	1,264,650,410.503	1,315,910,191.7	391,017,856.570	2,507,714.709	188,768,636.6	733,615,983.80443
2000	4	1,103,328,861.061	1,075,373,007.3	215,774,900.986	5,822,344.902	191,067,074.9	662,708,686.55174
2000	5	944,928,333.825	998,023,787.9	80,481,399.704	63,518,782.711	173,557,346.1	680,466,259.47421
2000	6	1,057,998,553.894	1,048,146,689.2	182,628.306	176,608,166.752	190,953,557.7	680,402,336.45860

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Actual Usage	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2000	7	1,253,531,675.090	1,220,915,630.4	0.000	324,708,731.477	201,271,543.2	694,935,355.66030
2000	8	1,180,611,890.533	1,185,966,961.3	0.000	285,938,672.103	193,871,459.1	706,156,830.09588
2000	9	1,144,042,467.190	1,146,883,663.9	933,078.276	249,572,979.100	193,625,118.1	702,752,488.44464
2000	10	954,479,360.485	981,004,259.7	51,759,004.962	86,613,322.299	176,846,538.0	665,785,394.41729
2000	11	1,062,825,893.266	1,034,520,178.6	176,911,547.524	11,992,502.715	189,374,734.1	656,241,394.21760
2000	12	1,894,210,509.872	1,842,378,621.1	781,332,855.791	0.000	241,155,329.3	819,890,435.92792
2001	1	2,423,641,570.601	2,442,094,256.8	1,180,516,733.529	0.000	270,628,309.5	990,949,213.79243
2001	2	1,905,114,488.910	1,814,615,610.7	921,946,906.911	0.000	214,035,608.3	678,633,095.49952
2001	3	1,508,549,452.554	1,520,046,059.2	640,825,667.422	0.000	188,903,490.7	690,316,901.05736
2001	4	1,351,722,616.934	1,325,045,263.9	438,170,674.042	48,248,978.260	188,376,478.0	650,249,133.56464
2001	5	974,629,791.814	979,761,380.4	67,234,804.873	107,669,363.788	174,100,289.0	630,756,922.67204
2001	6	986,502,822.075	977,736,682.2	3,988,936.882	116,152,709.415	188,606,850.6	668,988,185.33047
2001	7	1,216,764,318.112	1,193,277,616.7	0.000	289,932,792.653	201,771,247.3	701,573,576.78812
2001	8	1,322,616,700.128	1,290,724,565.9	0.000	420,770,739.107	196,331,889.3	673,621,937.50890
2001	9	1,216,359,980.066	1,220,538,371.8	191,711.998	330,063,456.669	192,905,040.6	697,378,162.55704
2001	10	935,214,960.262	976,700,738.2	39,464,857.993	80,202,651.563	177,544,701.3	679,488,527.31230
2001	11	1,098,737,639.069	1,151,266,076.8	189,376,380.736	23,612,716.181	192,827,480.8	745,449,499.13249
2001	12	1,414,101,316.855	1,414,092,324.5	246,061,631.112	745,738.632	254,119,922.8	913,165,032.01187
2002	1	2,148,451,811.751	2,073,169,675.9	845,336,646.980	0.000	285,707,511.5	942,125,517.40559
2002	2	1,663,555,610.889	1,672,431,977.0	696,866,038.684	0.000	211,946,326.4	763,619,611.92753
2002	3	1,541,566,539.480	1,604,873,500.7	622,395,179.361	1,510,130.381	201,196,880.7	779,771,310.26225
2002	4	1,278,588,182.245	1,295,819,825.4	332,435,026.571	22,976,701.242	202,406,091.7	738,002,005.94917
2002	5	1,009,667,370.976	946,106,018.9	88,199,847.375	65,329,025.381	187,708,044.9	604,869,101.21356
2002	6	1,088,111,542.562	1,103,276,437.5	51,071,091.955	172,352,315.897	189,582,549.5	690,270,480.19777
2002	7	1,334,580,486.215	1,356,212,003.1	0.000	394,139,761.267	206,191,276.5	755,880,965.30212
2002	8	1,441,065,837.572	1,425,290,539.7	0.000	502,542,855.527	205,770,812.1	716,976,872.11926
2002	9	1,355,987,685.399	1,301,868,519.2	0.000	442,080,704.720	200,373,763.0	659,414,051.46918
2002	10	1,002,184,441.481	1,006,367,078.6	19,061,242.052	178,534,893.383	176,405,684.6	632,365,258.59354
2002	11	1,121,113,432.660	1,119,831,951.3	235,079,476.131	17,779,946.011	190,364,366.4	676,608,162.70421
2002	12	1,849,745,078.805	1,840,687,068.1	706,869,930.326	2,354,127.392	250,058,806.5	881,404,203.88374
2003	1	2,147,725,223.175	2,194,397,728.1	858,366,616.061	0.000	280,210,350.9	1,055,820,761.21139
2003	2	2,215,641,961.661	2,098,001,263.4	1,191,275,574.244	0.000	222,620,815.7	684,104,873.46082
2003	3	1,687,094,051.185	1,707,984,851.4	803,034,253.566	0.000	192,128,632.6	712,821,965.28232



Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Actual Usage	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2003	4	1,117,829,847.755	1,143,625,004.3	211,390,899.516	19,813,604.881	192,686,190.8	719,734,309.15672
2003	5	940,541,852.099	934,722,031.2	45,765,571.480	49,405,033.616	183,720,628.6	655,830,797.54416
2003	6	956,305,953.777	947,952,593.0	0.000	67,041,929.221	193,259,643.2	687,651,020.60132
2003	7	1,225,012,983.032	1,211,800,499.5	0.000	281,477,743.603	205,054,155.6	725,268,600.31105
2003	8	1,254,622,685.147	1,243,866,913.9	0.000	336,632,584.316	199,502,548.6	707,731,780.88846
2003	9	1,239,223,724.987	1,260,932,394.3	0.000	322,877,816.971	199,145,223.8	738,909,353.55677
2003	10	946,717,944.958	967,079,428.8	53,121,972.713	46,823,624.288	184,025,123.4	683,108,708.47703
2003	11	1,053,650,117.097	1,060,485,719.8	146,679,766.773	11,026,709.639	194,711,293.3	708,067,950.11798
2003	12	1,677,854,717.278	1,727,644,432.2	517,372,680.724	1,258,322.406	251,928,735.6	957,084,693.40660
2004	1	2,183,385,727.555	2,228,905,324.8	850,510,545.452	1,000,384.455	286,861,794.8	1,090,532,600.02711
2004	2	2,155,814,773.282	2,116,278,744.3	1,103,596,519.120	335,418.868	226,556,579.2	785,790,227.14018
2004	3	1,581,767,017.205	1,593,277,528.0	637,754,514.167	3,006,666.122	202,675,674.8	749,840,672.93917
2004	4	1,292,207,217.423	1,292,407,886.9	351,408,740.746	16,618,891.471	199,051,603.8	725,328,650.88921
2004	5	1,021,712,941.554	1,010,218,988.8	86,153,681.349	91,662,952.076	181,760,034.8	650,642,320.53175
2004	6	1,153,236,484.091	1,153,825,211.5	5,994,733.812	252,322,863.544	192,749,377.4	702,758,236.67261
2004	7	1,275,557,296.588	1,290,174,059.4	0.000	322,193,878.133	205,337,274.8	762,642,906.50517
2004	8	1,262,213,836.006	1,207,890,210.0	0.000	319,172,584.195	203,114,066.4	685,603,559.45228
2004	9	1,176,757,201.826	1,160,797,780.4	0.000	279,905,059.265	193,165,765.8	687,726,955.30304
2004	10	927,090,174.782	977,278,137.3	14,722,507.253	83,213,708.245	178,584,798.9	700,757,122.90539
2004	11	1,012,235,102.370	1,000,907,938.5	93,943,905.187	16,474,559.105	194,235,028.6	696,254,445.60916
2004	12	1,601,928,847.410	1,636,977,562.4	434,595,004.239	2,400,152.973	250,905,693.1	949,076,712.05018
2005	1	2,066,221,753.892	2,070,072,946.9	746,815,057.386	0.000	281,747,693.8	1,041,510,195.65420
2005	2	1,943,875,801.026	1,949,462,576.6	912,849,572.002	0.000	220,166,581.7	816,446,422.85983
2005	3	1,733,197,665.860	1,771,887,800.4	772,439,774.472	0.000	205,161,396.4	794,286,629.58316
2005	4	1,312,781,317.814	1,308,930,626.7	356,794,566.205	7,536,272.513	202,533,256.7	742,066,531.30379
2005	5	982,795,223.909	1,021,337,500.5	102,308,416.117	27,589,574.267	182,128,701.7	709,310,808.46478
2005	6	1,102,780,446.900	1,069,231,422.6	14,117,390.561	162,595,867.680	197,753,501.9	694,764,662.40552
2005	7	1,414,155,753.292	1,333,320,854.8	0.000	461,769,627.021	203,373,679.6	668,177,548.18264
2005	8	1,495,655,055.855	1,460,080,863.3	0.000	589,543,039.957	193,492,250.3	677,045,573.03954
2005	9	1,335,846,616.708	1,336,065,753.1	0.000	443,652,773.938	190,520,146.9	701,892,832.22423
2005	10	1,036,517,228.387	1,033,743,952.1	8,743,058.669	203,770,704.242	175,958,691.7	645,271,497.49335
2005	11	1,125,216,868.230	1,120,136,249.4	221,553,479.095	12,887,222.322	190,217,414.7	695,478,133.29710
2005	12	1,906,910,235.477	1,900,439,239.2	753,816,271.538	1,901,963.738	245,826,925.1	898,894,078.81253

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Actual Usage	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2006	1	2,084,373,151.919	2,207,723,455.1	756,881,782.575	0.000	274,083,608.5	1,176,758,064.01195
2006	2	1,747,502,247.845	1,804,836,407.7	644,158,163.123	0.000	227,804,515.4	932,873,729.09434
2006	3	1,767,023,825.235	1,626,827,484.4	735,940,590.273	1,747,137.147	212,524,283.4	676,615,473.56926
2006	4	1,272,238,466.756	1,262,415,619.8	375,867,139.936	20,768,314.371	180,783,422.6	684,996,742.87313
2006	5	921,032,004.504	940,154,584.1	30,618,918.195	34,786,277.698	176,658,989.0	698,090,399.24170
2006	6	1,053,529,795.409	1,057,778,073.8	5,877,126.519	130,895,625.133	189,280,385.9	731,724,936.27474
2006	7	1,303,433,030.052	1,271,276,787.1	0.000	322,947,686.489	202,438,198.3	745,890,902.30702
2006	8	1,467,177,870.552	1,424,173,576.1	0.000	515,923,582.598	196,402,940.1	711,847,053.40623
2006	9	1,261,015,105.193	1,255,081,861.0	1,414,185.181	327,726,517.654	192,401,626.7	733,539,531.45269
2006	10	967,197,943.832	971,237,941.1	58,301,536.901	46,020,133.997	178,155,766.6	688,760,503.63385
2006	11	1,235,273,431.028	1,232,087,453.7	321,476,208.399	3,176,690.096	188,013,396.8	719,421,158.47208
2006	12	1,683,654,605.333	1,774,977,717.7	506,449,660.194	3,317,162.162	242,369,485.0	1,022,841,410.31296
2007	1	1,912,000,700.454	1,894,406,857.0	545,920,386.122	359,923.142	272,499,862.5	1,075,626,685.24714
2007	2	2,238,403,287.913	2,214,653,079.5	1,101,318,069.614	0.000	226,880,676.1	886,454,333.87475
2007	3	1,891,948,034.791	1,845,838,373.9	927,565,846.320	2,761,289.652	191,870,579.4	723,640,658.56739
2007	4	1,280,910,738.869	1,270,902,877.7	319,859,650.673	35,914,709.640	184,590,885.2	730,537,632.14757
2007	5	1,045,694,214.257	1,045,100,110.5	121,390,075.088	62,628,954.529	171,928,581.3	689,152,499.59522
2007	6	1,132,522,226.641	1,145,911,905.3	4,970,289.986	220,604,293.863	180,961,717.8	739,375,603.66786
2007	7	1,336,047,381.166	1,271,357,530.7	0.000	360,181,345.758	194,712,887.2	716,463,297.70117
2007	8	1,362,259,783.307	1,344,388,712.9	0.000	423,486,416.867	187,311,850.2	733,590,445.89145
2007	9	1,400,914,258.676	1,445,614,073.2	0.000	467,950,927.077	186,152,583.8	791,510,562.29678
2007	10	1,112,996,777.982	1,068,750,060.7	10,269,935.453	217,465,081.596	176,634,770.7	664,380,272.97485
2007	11	1,156,622,261.798	1,140,305,733.8	201,172,321.599	36,982,508.622	183,260,241.6	718,890,661.95818
2007	12	1,731,435,755.488	1,690,170,524.8	566,843,428.602	0.000	232,369,122.6	890,957,973.67026
2008	1	2,082,416,413.099	2,114,912,301.1	787,289,740.542	0.000	250,009,916.1	1,077,612,644.39367
2008	2	1,993,387,100.232	2,006,611,403.7	958,795,326.124	0.000	199,716,528.2	848,099,549.33754
2008	3	1,796,732,274.500	1,805,065,064.2	819,433,410.897	0.000	188,656,763.9	796,974,889.43017
2008	4	1,330,851,124.582	1,341,179,216.3	369,713,101.339	1,762,211.134	185,196,916.6	784,506,987.29243
2008	5	982,759,851.264	961,256,323.1	82,174,065.559	22,985,667.861	169,411,020.9	686,685,568.70033
2008	6	1,055,601,220.421	1,065,972,952.5	5,570,858.242	135,396,552.376	176,559,966.6	748,445,575.24204
2008	7	1,259,955,901.286	1,245,205,919.8	0.000	280,456,588.506	189,081,536.4	775,667,794.92147
2008	8	1,311,047,821.866	1,302,137,681.5	0.000	342,384,540.046	186,989,760.1	772,763,381.29041
2008	9	1,270,867,118.366	1,237,861,165.8	0.000	320,244,008.234	183,507,304.0	734,109,853.52032

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Actual Usage	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2008	10	980,709,153.332	992,899,481.5	13,343,970.730	122,224,950.753	163,144,998.1	694,185,561.99101
2008	11	1,177,692,484.028	1,204,822,669.8	262,332,564.071	7,905,444.866	175,174,075.3	759,410,585.65234
2008	12	2,031,965,211.117	2,004,950,168.6	851,244,408.401	0.000	227,925,125.1	925,780,635.13407
2009	1	2,248,452,416.892	2,244,456,669.8	935,779,435.643	0.000	246,824,749.7	1,061,852,484.50068
2009	2	2,175,027,533.152	2,229,732,803.4	1,143,791,582.702	0.000	193,905,533.9	892,035,686.78862
2009	3	1,722,528,056.375	1,700,254,596.7	739,331,664.790	4,938,096.999	183,944,030.3	772,040,804.56212
2009	4	1,221,074,565.255	1,269,251,033.0	283,092,573.137	3,728,415.440	175,669,727.7	806,760,316.73115
2009	5	1,044,566,064.295	1,006,668,358.8	73,304,935.541	71,548,226.501	169,174,969.7	692,640,227.07398
2009	6	1,056,998,126.376	1,054,682,149.7	7,067,606.225	143,364,825.271	170,463,515.2	733,786,203.03578
2009	7	1,212,635,111.288	1,213,794,441.9	0.000	245,442,308.158	181,863,361.9	786,488,771.81797
2009	8	1,216,442,253.166	1,187,851,010.7	0.000	254,509,017.200	180,874,394.1	752,467,599.34767
2009	9	1,174,926,168.410	1,181,452,121.3	0.000	245,407,554.836	174,779,402.3	761,265,164.19459
2009	10	1,009,664,389.870	1,004,137,336.3	51,517,038.999	87,793,210.482	163,654,578.0	701,172,508.83360
2009	11	1,117,238,561.683	1,149,238,021.2	205,275,802.050	3,613,585.843	170,798,866.6	769,549,766.69478
2009	12	1,737,311,497.297	1,653,206,192.2	541,841,294.044	234,190.030	224,742,821.7	886,387,886.41607
2010	1	2,395,408,382.507	2,438,469,823.7	1,119,123,527.148	0.000	209,680,781.7	1,109,665,514.87244
2010	2	2,119,544,023.870	2,121,714,378.1	1,106,127,609.807	0.000	166,494,137.3	849,092,631.04844
2010	3	1,876,805,999.466	1,945,592,070.6	914,170,653.647	0.000	158,151,317.8	873,270,099.15432
2010	4	1,213,414,423.602	1,218,668,892.7	213,198,338.248	28,699,376.954	159,610,436.5	817,160,741.03029
2010	5	981,825,680.161	945,395,138.8	55,316,539.561	45,026,914.406	144,818,675.4	700,233,009.34665
2010	6	1,132,192,070.341	1,164,318,712.7	8,944,145.664	219,048,998.419	148,550,801.1	787,774,767.48916
2010	7	1,373,713,669.201	1,429,758,865.0	0.000	389,532,121.989	161,691,142.3	878,535,600.76819
2010	8	1,451,302,623.624	1,489,051,092.2	0.000	454,611,547.235	163,746,332.3	870,693,212.66526
2010	9	1,300,747,663.039	1,288,807,601.6	0.000	323,635,248.642	160,529,754.8	804,642,598.17960
2010	10	1,014,363,854.645	1,008,016,131.2	17,343,637.279	120,716,113.748	143,967,961.9	725,988,418.23920
2010	11	1,094,996,384.262	1,081,280,184.2	184,549,890.654	11,621,169.384	147,667,972.2	737,441,151.88348
2010	12	1,916,852,586.118	1,914,121,373.7	752,185,469.261	0.000	191,343,108.4	970,592,796.01167
2011	1	2,477,210,112.752	2,583,180,891.9	1,211,790,498.629	0.000	197,298,282.5	1,174,092,110.69671
2011	2	2,135,149,306.354	2,029,311,108.0	1,103,542,852.166	0.000	160,843,232.9	764,925,022.97500
2011	3	1,477,420,306.705	1,497,373,823.2	577,882,313.658	1,857,692.870	139,962,096.0	777,671,720.70065
2011	4	1,267,918,127.479	1,237,322,480.4	369,222,507.081	17,826,851.274	137,340,921.0	712,932,200.98295
2011	5	957,762,246.546	964,228,311.9	71,353,526.521	53,409,525.217	129,877,321.8	709,587,938.31287
2011	6	1,092,768,725.994	1,139,615,319.9	22,899,517.023	199,445,142.440	135,712,432.1	781,558,228.39364



Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Actual Usage	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2011	7	1,279,282,569.869	1,273,345,535.3	0.000	312,674,002.290	150,709,067.7	809,962,465.33426
2011	8	1,407,656,154.978	1,446,915,636.9	0.000	463,568,496.639	147,197,713.3	836,149,426.93216
2011	9	1,214,552,003.105	1,195,311,998.4	255,232.931	277,161,134.851	146,113,786.5	771,781,844.06542
2011	10	932,094,279.267	922,740,827.3	44,845,375.855	49,354,291.010	130,640,592.4	697,900,568.09341
2011	11	1,093,748,001.461	1,121,424,115.5	223,796,353.947	1,140,105.698	135,461,014.8	761,026,641.06655
2011	12	1,556,562,764.742	1,549,999,788.0	408,938,639.357	1,710,969.231	178,665,396.9	960,684,782.47209
2012	1	1,990,570,890.645	1,936,457,076.3	715,547,142.686	0.000	194,217,572.8	1,026,692,360.73349
2012	2	1,723,190,556.228	1,721,183,448.9	747,660,487.875	0.000	148,597,296.6	824,925,664.42893
2012	3	1,459,048,167.835	1,409,422,938.4	535,618,410.541	10,322,266.503	139,088,798.1	724,393,463.30720
2012	4	1,025,120,359.800	977,120,699.8	112,920,392.952	43,081,480.239	132,388,187.5	688,730,639.14928
2012	5	944,199,186.012	970,622,977.5	76,794,782.773	62,740,799.279	122,570,118.7	708,517,276.75022
2012	6	1,069,542,744.709	1,095,117,537.0	387,550.190	185,085,218.494	134,665,668.2	774,979,100.17477
2012	7	1,382,971,791.682	1,374,144,445.2	0.000	413,986,844.638	147,600,313.2	812,557,287.32369
2012	8	1,338,307,986.695	1,329,610,153.2	0.000	406,150,755.475	141,990,543.5	781,468,854.24800
2012	9	1,207,907,080.098	1,199,271,521.1	922,674.487	285,308,938.386	140,393,912.2	772,645,995.98460
2012	10	954,546,668.546	940,817,771.8	60,933,071.877	68,317,975.509	125,712,883.9	685,853,840.50400
2012	11	1,196,785,696.710	1,183,200,730.2	318,072,989.903	8,809,617.489	132,507,701.8	723,810,420.99938
2012	12	1,642,071,804.199	1,657,436,622.2	519,723,613.933	0.000	170,961,318.8	966,751,689.53373
2013	1	2,085,049,426.846	1,989,467,918.3	813,741,395.731	0.000	175,631,659.6	1,000,094,863.02539
2013	2	1,870,800,892.626	1,890,739,839.5	941,088,426.083	0.000	128,440,110.0	821,211,303.34632
2013	3	1,732,623,096.376	1,766,153,678.4	820,487,573.025	0.000	126,011,849.1	819,654,256.29988
2013	4	1,464,108,113.384	1,476,357,193.2	531,373,380.942	20,230,697.652	126,062,759.0	798,690,355.55407
2013	5	958,408,102.673	925,592,889.9	64,326,687.891	54,379,165.813	116,005,166.3	690,881,869.88644
2013	6	1,081,392,317.202	1,059,271,380.2	11,254,213.933	199,402,514.609	120,292,433.3	728,322,218.37004
2013	7	1,272,387,279.801	1,254,262,697.7	0.000	347,700,124.238	127,745,861.5	778,816,711.95193
2013	8	1,239,932,658.282	1,222,492,848.7	0.000	325,683,298.891	126,303,876.3	770,505,673.50541
2013	9	1,176,335,486.881	1,156,875,156.7	0.000	282,159,741.334	123,530,699.3	751,184,716.01811
2013	10	940,268,575.471	925,313,385.6	15,672,848.369	111,282,610.479	112,359,498.2	685,998,428.56371
2013	11	1,132,020,314.680	1,121,631,236.2	264,083,803.593	16,077,331.577	117,684,650.6	723,785,450.44949
2013	12	1,830,429,962.648	1,809,375,873.4	713,255,114.125	477,663.100	154,272,115.9	941,370,980.24857
2014	1	2,182,377,685.061	2,308,763,001.6	928,842,280.257	913,399.536	166,733,291.7	1,212,274,030.12115
2014	2	2,263,738,749.946	2,318,955,621.7	1,235,581,815.087	0.000	136,855,323.8	946,518,482.81029
2014	3	1,858,937,803.400	1,830,617,039.8	881,743,813.486	0.000	130,071,777.3	818,801,448.99182

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Actual Usage	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2014	4	1,314,384,355.234	1,268,237,621.6	423,355,509.658	7,122,469.878	117,654,503.1	720,105,139.01255
2014	5	919,037,760.297	946,682,966.7	52,435,888.364	38,752,834.396	110,192,855.1	745,301,388.88356
2014	6	1,043,168,162.524	1,060,301,158.1	14,458,841.942	149,467,059.039	117,033,674.8	779,341,582.22039
2014	7	1,261,150,940.112	1,238,168,389.3	0.000	316,158,501.380	125,785,511.7	796,224,376.23082
2014	8	1,148,914,165.977	1,112,124,329.2	0.000	223,749,804.996	123,146,247.3	765,228,276.84442
2014	9	1,148,812,476.702	1,165,669,026.2	0.000	260,518,001.191	118,238,591.8	786,912,433.25700
2014	10	908,609,279.074	881,608,022.0	26,295,712.901	66,175,514.826	108,634,035.8	680,502,758.44593
2014	11	1,149,530,642.743	1,115,491,458.0	295,010,151.180	6,198,285.547	112,917,985.8	701,365,035.43855
2014	12	1,810,595,706.728	1,735,077,353.9	713,893,704.331	18,987.338	145,976,654.0	875,188,008.25113
2015	1	2,081,052,102.075	2,047,111,752.7	873,985,955.724	0.000	149,855,283.1	1,023,270,513.79028
2015	2	2,021,468,073.579	2,097,411,237.8	1,091,159,241.976	0.000	115,496,316.3	890,755,679.62181
2015	3	2,071,648,304.651	2,041,616,647.6	1,140,802,710.741	0.000	115,562,954.4	785,250,982.41391
2015	4	1,165,256,709.433	1,153,793,972.4	322,071,906.647	5,480,622.610	103,999,600.6	722,241,842.50638
2015	5	896,005,620.615	912,350,444.7	78,266,817.045	59,179,545.740	94,173,888.2	680,730,193.71470
2015	6	1,052,416,802.773	1,088,662,754.9	2,706,174.880	220,084,304.873	102,996,747.9	762,875,527.30671
2015	7	1,228,448,319.492	1,230,037,563.0	0.000	313,013,087.704	113,649,783.2	803,374,692.06346
2015	8	1,202,868,558.424	1,242,789,121.3	0.000	327,038,644.488	108,732,847.9	807,017,628.90640
2015	9	1,127,681,780.688	1,132,635,924.8	0.000	249,367,349.576	109,041,296.7	774,227,278.58662
2015	10	890,477,210.812	902,084,847.4	25,851,034.107	78,529,651.745	97,592,594.8	700,111,566.72143
2015	11	969,953,151.667	928,910,552.8	149,470,124.025	5,430,070.913	101,187,488.3	672,822,869.52705
2015	12	1,413,695,379.212	1,367,669,687.7	366,623,442.566	1,120,555.099	129,853,149.2	870,072,540.81711
2016	1	1,765,360,171.126	1,760,428,969.9	595,535,418.450	0.000	108,841,923.9	1,056,051,627.55448
2016	2	1,883,377,315.934	1,939,360,432.8	992,519,097.030	0.000	82,886,536.9	863,954,798.86707
2016	3	1,436,270,905.203	1,454,493,920.0	559,097,473.221	1,372,952.535	81,485,546.4	812,537,947.88792
2016	4	1,065,422,046.665	1,049,837,537.2	199,701,403.589	10,162,733.649	79,602,152.9	760,371,247.05061
2016	5	880,264,091.580	847,205,376.0	66,142,556.006	53,458,509.978	70,773,017.0	656,831,293.01692
2016	6	995,188,325.755	1,017,889,044.1	15,423,043.020	180,459,925.569	74,368,346.8	747,637,728.74758
2016	7	1,227,241,663.471	1,244,159,627.8	0.000	336,989,855.102	82,830,115.7	824,339,657.02795
2016	8	1,334,209,914.136	1,351,460,101.9	0.000	451,362,465.403	82,141,205.0	817,956,431.44416
2016	9	1,283,480,639.447	1,291,872,972.9	0.000	415,915,485.584	80,719,321.6	795,238,165.67094
2016	10	978,035,634.976	955,985,437.1	2,573,637.401	198,212,983.473	72,316,197.7	682,882,618.55819
2016	11	918,607,793.768	878,726,052.1	84,473,253.449	47,570,489.322	73,182,880.1	673,499,429.22521
2016	12	1,531,674,139.561	1,511,606,955.6	497,292,598.742	1,967,946.299	96,057,021.9	916,289,388.68506

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Actual Usage	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2017	1	1,833,419,582.058	1,795,642,938.6	660,909,403.107	0.000	92,653,162.4	1,042,080,373.12177
2017	2	1,436,998,623.547	1,430,614,715.3	550,991,520.504	0.000	70,013,345.3	809,609,849.47956
2017	3	1,263,993,182.598	1,279,129,104.8	431,436,224.084	637,289.540	65,739,291.3	781,316,299.93085
2017	4	1,093,268,702.754	1,041,332,789.0	266,920,703.192	15,066,743.125	64,108,419.1	695,236,923.54399
2017	5	843,306,322.371	823,765,775.4	36,355,145.505	79,481,373.877	57,485,537.4	650,443,718.56734
2017	6	953,722,539.361	945,257,057.3	8,777,933.144	149,708,456.343	62,840,515.5	723,930,152.28131
2017	7	1,178,927,661.372	1,174,286,650.4	0.000	301,063,799.645	69,369,856.6	803,852,994.22450
2017	8	1,188,273,766.784	1,200,944,640.4	0.000	321,506,551.231	68,492,986.3	810,945,102.94473
2017	9	1,048,654,735.103	1,027,802,706.7	0.000	191,152,247.856	67,760,876.3	768,889,582.59108
2017	10	902,109,724.757	876,430,135.1	4,803,694.152	141,005,321.572	59,763,790.3	670,857,329.16773
2017	11	1,005,324,862.166	965,003,787.4	194,279,905.442	25,608,979.435	62,066,094.1	683,048,808.38824
2017	12	1,558,228,822.457	1,547,238,073.8	525,863,706.464	962,550.344	81,502,669.3	938,909,147.71183
2018	1	2,198,737,874.495	2,273,147,316.9	1,029,371,751.745	1,958,418.468	78,580,318.2	1,163,236,828.47543
2018	2	1,770,468,414.654	1,818,927,613.8	828,107,547.543	3,284,396.289	63,210,931.1	924,324,738.93746
2018	3	1,340,617,476.234	1,272,775,156.5	459,283,163.681	6,579,224.246	58,881,342.8	748,031,425.81014
2018	4	1,260,458,780.598	1,297,139,566.2	442,185,797.260	7,595,038.326	54,568,194.7	792,790,535.91202
2018	5	945,064,523.361	938,924,000.1	107,528,435.901	81,888,033.336	50,864,033.5	698,643,497.38857
2018	6	1,099,769,584.654	1,120,107,712.1	1,457,288.328	276,974,944.595	55,285,698.6	786,389,780.56115
2018	7	1,258,956,271.096	1,279,232,620.6	0.000	371,481,978.674	59,737,495.4	848,013,146.57498
2018	8	1,220,353,040.157	1,198,444,361.9	0.000	339,514,070.328	59,290,859.8	799,639,431.74146
2018	9	1,181,302,553.648	1,197,741,605.7	0.000	342,977,444.609	56,429,175.2	798,334,985.93646
2018	10	994,739,923.984	989,739,593.5	27,526,607.232	214,487,965.310	50,667,301.1	697,057,719.83529
2018	11	1,091,057,493.472	1,058,749,784.6	265,664,176.446	31,261,415.359	53,454,450.7	708,369,742.13975
2018	12	1,634,960,904.385	1,607,197,615.0	616,638,207.116	173,707.251	68,533,445.0	921,852,255.63474
2019	1	1,762,671,751.303	1,758,299,443.3	615,734,674.576	0.000	69,495,922.4	1,073,068,846.35394
2019	2	1,651,042,185.488	1,727,538,541.6	772,094,066.731	0.000	53,257,769.3	902,186,705.56236
2019	3	1,463,863,403.768	1,430,111,575.1	603,429,608.463	891,215.533	52,081,936.9	773,708,814.24149
2019	4	1,107,520,684.786	1,109,539,385.4	303,420,637.269	10,424,501.664	48,090,880.7	747,603,365.80066
2019	5	853,744,641.167	857,774,022.6	27,160,664.186	65,716,917.699	46,102,928.6	718,793,512.11765
2019	6	989,504,319.233	999,339,125.9	419,523.309	183,112,855.022	48,835,951.5	766,970,796.04331
2019	7	1,196,496,547.505	1,205,831,829.3	0.000	319,162,595.972	53,159,962.7	833,509,270.62440
2019	8	1,240,371,259.196	1,275,655,592.8	0.000	371,473,133.739	52,648,813.9	851,533,645.15116
2019	9	1,170,222,934.405	1,191,835,424.6	0.000	310,799,439.188	52,074,721.2	828,961,264.16741

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Actual Usage	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2019	10	1,022,611,960.880	1,018,191,928.0	10,179,830.463	245,460,100.297	46,472,844.7	716,079,152.53985
2019	11	1,040,153,391.633	1,019,262,981.4	233,880,508.340	20,591,348.585	47,606,502.6	717,184,621.86206
2019	12	1,594,563,453.347	1,559,112,279.1	570,162,051.844	0.000	62,071,164.8	926,879,062.40530
2020	1	1,659,412,343.806	1,661,810,524.3	502,553,867.478	1,911,534.244	65,460,195.8	1,091,884,926.76698
2020	2	1,503,135,118.913	1,480,044,047.1	623,856,217.258	1,922,434.954	49,726,895.7	804,538,499.25829
2020	3	1,334,242,946.839	1,395,120,383.4	519,371,542.399	137,574.041	46,177,563.8	829,433,703.19276
2020	4	1,043,183,885.378	1,051,102,962.0	186,781,422.618	18,591,734.130	47,485,518.4	798,244,286.84886
2020	5	933,341,960.978	930,086,120.1	146,516,374.203	22,997,625.799	43,292,315.9	717,279,804.21496
2020	6	1,026,247,832.023	1,039,992,866.1	39,783,667.054	174,578,153.672	46,016,154.8	779,614,890.62371
2020	7	1,217,895,109.160	1,232,516,008.8	0.000	331,514,059.764	50,238,391.8	850,763,557.17588
2020	8	1,293,987,661.632	1,346,233,485.2	0.000	419,076,042.397	49,588,326.4	877,569,116.46699
2020	9	1,168,307,315.254	1,193,825,112.9	0.000	302,573,042.191	49,068,171.8	842,183,898.88540
2020	10	870,458,453.371	881,829,156.7	17,374,245.487	72,584,853.777	44,237,218.8	747,632,838.71648
2020	11	933,000,938.419	895,986,656.7	119,730,411.816	12,672,480.786	45,376,374.4	718,207,389.70069
2020	12	1,472,054,598.343	1,438,750,552.4	448,387,383.817	1,210,508.223	57,950,901.2	931,201,759.14114
2021	1	1,907,807,828.383	1,919,542,594.2	734,803,212.063	0.000	64,360,198.4	1,120,379,183.70934
2021	2	1,829,959,367.783	1,845,431,621.8	903,100,202.863	0.000	50,854,735.7	891,476,683.22117
2021	3	1,553,140,105.561	1,518,872,290.3	699,067,415.248	308,732.775	46,844,161.5	772,651,980.73465
2021	4	1,000,631,096.105	1,043,269,031.6	185,274,649.372	7,898,432.954	44,303,455.6	805,792,493.60381
2021	5	901,462,428.042	895,111,149.3	94,977,455.738	30,696,911.580	42,565,794.6	726,870,987.48029
2021	6	984,918,558.481	968,579,545.4	12,179,335.908	148,067,353.846	45,247,942.2	763,084,913.40899
2021	7	1,174,267,716.335	1,185,459,911.4	436,163.307	289,939,115.368	48,497,245.3	846,587,387.39877
2021	8	1,211,828,463.900	1,216,247,133.7	0.000	331,129,425.124	48,322,030.5	836,795,678.06814
2021	9	1,170,961,690.121	1,192,055,026.0	0.000	317,922,551.999	46,804,392.3	827,328,081.77046
2021	10	913,087,841.754	887,921,652.2	1,843,641.830	134,893,938.075	42,596,641.3	708,587,431.01721
2021	11	969,495,101.187	951,739,701.8	152,673,221.484	33,376,255.079	42,985,948.3	722,704,276.93094
2021	12	1,470,039,540.407	1,501,885,035.6	436,046,739.200	0.000	56,732,924.1	1,009,105,372.35320
2022	1	1,708,403,252.123	1,708,403,252.123	512,208,676.662	0.000	64,390,913.8	1,131,803,661.66937
2022	2	1,708,242,990.709	1,708,242,990.709	819,536,348.080	198,142.156	47,828,234.2	840,680,266.31161
2022	3	1,441,506,471.197	1,441,506,471.197	603,716,627.568	1,240,694.385	45,031,272.7	791,517,876.52528
2022	4	1,106,824,884.513	1,106,824,884.513	283,051,983.702	13,438,868.721	43,620,118.2	766,713,913.86338
2022	5	869,879,412.069	869,879,412.069	67,748,647.884	45,248,449.382	40,742,823.0	716,139,491.78442
2022	6	966,945,957.476	966,945,957.476	9,114,821.385	141,723,716.073	43,930,898.5	772,176,521.47876

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Actual Usage	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2022	7	1,174,366,702.157		31,016.198	288,921,240.119	47,661,681.8	837,752,764.01898
2022	8	1,196,132,602.248		0.000	326,049,260.273	46,836,411.6	823,246,930.39632
2022	9	1,108,574,756.710		131,309.993	261,622,455.868	45,584,203.9	801,236,786.95950
2022	10	871,273,668.611		21,727,908.653	93,728,395.868	40,685,496.9	715,131,867.15560
2022	11	983,632,396.188		181,847,556.412	12,452,940.382	42,489,577.6	746,842,321.75412
2022	12	1,539,345,724.318		490,857,675.466	908,796.560	56,390,980.8	991,188,271.50294
2023	1	1,892,716,009.249		710,325,648.995	247,101.260	63,061,676.1	1,119,081,582.85264
2023	2	1,710,129,585.780		803,040,747.766	193,383.217	48,378,525.2	858,516,929.58121
2023	3	1,440,020,320.136		593,327,846.768	1,214,522.274	45,102,195.8	800,375,755.28897
2023	4	1,106,931,321.184		279,012,939.370	13,194,741.769	43,461,600.7	771,262,039.31052
2023	5	870,743,835.860		66,966,324.169	44,548,990.873	40,501,202.1	718,727,318.67217
2023	6	966,465,058.073		9,030,425.673	139,858,919.453	43,613,745.2	773,961,967.79464
2023	7	1,172,221,994.930		30,784.266	285,638,153.669	47,293,355.8	839,259,701.18879
2023	8	1,194,006,867.193		0.000	322,834,363.681	46,472,877.0	824,699,626.50580
2023	9	1,107,269,008.918		130,616.830	259,222,767.618	45,232,234.0	802,683,390.47612
2023	10	871,347,086.406		21,617,445.158	92,889,723.406	40,373,781.6	716,466,136.21643
2023	11	983,481,424.389		180,890,237.501	12,339,438.650	42,156,142.6	748,095,605.62350
2023	12	1,537,443,352.772		488,060,396.630	900,116.613	55,931,533.5	992,551,306.05034
2024	1	1,889,026,613.141		706,115,598.939	245,460.516	62,845,812.6	1,119,819,741.12694
2024	2	1,704,912,032.905		797,601,985.730	191,936.932	48,203,462.5	858,914,647.69374
2024	3	1,435,524,637.276		588,829,732.236	1,204,432.643	44,928,623.8	800,561,848.59169
2024	4	1,104,353,554.031		276,700,351.211	13,075,034.841	43,285,971.0	771,292,196.97885
2024	5	869,344,925.499		66,356,640.928	44,107,727.501	40,326,248.7	718,554,308.37164
2024	6	964,347,277.202		8,941,940.908	138,374,015.659	43,416,329.4	773,614,991.24973
2024	7	1,168,379,877.972		30,466.385	282,448,120.512	47,076,019.3	838,825,271.72916
2024	8	1,189,634,367.014		0.000	319,135,407.737	46,257,552.9	824,241,406.36455
2024	9	1,103,589,790.685		129,232.515	256,228,443.104	45,021,173.2	802,210,941.89354
2024	10	869,376,129.897		21,389,536.958	91,818,343.182	40,182,119.1	715,986,130.69606
2024	11	980,861,293.131		179,022,812.168	12,199,132.138	41,960,744.0	747,678,604.85042
2024	12	1,531,899,601.712		483,152,333.396	890,085.368	55,682,213.7	992,174,969.23670
2025	1	1,880,307,424.345		698,039,965.817	242,628.192	62,215,650.1	1,119,809,180.18814
2025	2	1,695,429,849.344		788,639,408.566	189,762.595	47,718,752.7	858,881,925.43804
2025	3	1,428,620,575.370		582,371,120.812	1,191,113.674	44,479,483.6	800,578,857.25372



Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Actual Usage	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2025	4	1,100,775,766.501		273,680,835.468	12,932,130.602	42,853,302.8	771,309,497.64461
2025	5	867,849,998.333		65,652,643.450	43,638,979.952	39,926,574.5	718,631,800.41256
2025	6	962,454,857.843		8,847,419.895	136,916,179.863	42,986,387.7	773,704,870.41448
2025	7	1,165,082,829.437		30,142.948	279,475,253.237	46,612,198.3	838,965,234.96871
2025	8	1,185,979,582.161		0.000	315,792,303.169	45,802,140.5	824,385,138.52584
2025	9	1,100,549,577.331		127,866.132	253,546,085.286	44,575,136.1	802,300,489.83499
2025	10	867,797,799.770		21,164,475.713	90,860,164.348	39,779,975.3	715,993,184.45992
2025	11	978,393,093.681		177,133,899.308	12,071,368.647	41,538,749.8	747,649,075.94202
2025	12	1,526,202,865.690		478,047,211.271	880,724.607	55,123,115.0	992,151,814.82407
2026	1	1,874,014,071.387		690,882,338.139	240,315.094	61,681,242.9	1,121,210,175.28437
2026	2	1,688,216,763.090		780,600,731.894	187,953.462	47,317,353.7	860,110,724.01110
2026	3	1,423,526,909.768		576,438,359.715	1,179,713.258	44,109,465.7	801,799,371.11899
2026	4	1,098,816,403.083		270,911,011.134	12,808,343.006	42,502,801.4	772,594,247.53070
2026	5	867,703,818.635		64,987,770.845	43,219,197.904	39,603,558.7	719,893,291.23496
2026	6	962,139,472.653		8,760,064.872	135,620,213.475	42,641,617.6	775,117,576.74310
2026	7	1,163,658,274.030		29,852.818	276,876,041.117	46,239,230.5	840,513,149.61117
2026	8	1,184,202,324.290		0.000	312,865,227.656	45,435,408.7	825,901,687.89371
2026	9	1,099,402,550.613		126,646.884	251,208,326.190	44,222,032.1	803,845,545.47603
2026	10	867,915,879.144		20,964,076.295	90,029,065.938	39,469,332.9	717,453,404.00954
2026	11	977,819,568.815		175,494,513.655	11,963,075.535	41,213,004.4	749,148,975.22658
2026	12	1,523,164,637.214		473,696,813.096	872,940.482	54,678,421.6	993,916,462.01861
2027	1	1,868,943,848.556		684,395,479.046	238,342.101	61,353,186.3	1,122,956,841.08280
2027	2	1,682,315,364.570		773,384,712.891	186,438.621	47,077,498.1	861,666,714.99139
2027	3	1,419,663,511.467		571,220,994.874	1,170,416.790	43,892,935.0	803,379,164.83985
2027	4	1,097,758,354.616		268,505,455.986	12,709,625.450	42,301,028.0	774,242,245.21964
2027	5	868,254,869.211		64,418,128.459	42,891,557.332	39,420,768.7	721,524,414.75095
2027	6	962,531,063.426		8,683,523.839	134,600,283.084	42,441,107.8	776,806,148.67520
2027	7	1,163,057,265.945		29,591.674	274,798,767.871	46,014,702.5	842,214,203.88723
2027	8	1,183,277,804.677		0.000	310,524,200.033	45,213,004.4	827,540,600.20793
2027	9	1,099,012,147.627		125,547.858	249,341,496.056	44,010,687.9	805,534,415.77329
2027	10	868,478,277.703		20,781,981.526	89,358,172.544	39,285,709.9	719,052,413.70860
2027	11	977,523,907.426		173,950,326.999	11,872,890.245	41,014,057.8	750,686,632.34620
2027	12	1,520,323,079.423		469,458,018.339	866,263.449	54,395,192.5	995,603,605.17451

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Actual Usage	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2028	1	1,864,690,453.557		678,502,241.262	236,730.582	61,185,950.6	1,124,765,531.09211
2028	2	1,677,072,388.410		766,695,124.746	185,171.106	46,958,892.7	863,233,199.81216
2028	3	1,416,136,589.479		566,275,463.848	1,162,442.111	43,786,307.1	804,912,376.45659
2028	4	1,096,773,828.628		266,169,363.584	12,622,349.371	42,201,569.0	775,780,546.62924
2028	5	868,826,564.924		63,860,225.146	42,597,984.443	39,332,327.9	723,036,027.44053
2028	6	962,982,444.791		8,608,124.695	133,675,559.138	42,341,727.0	778,357,033.96655
2028	7	1,162,598,515.554		29,333.452	272,899,394.641	45,900,100.1	843,769,687.39441
2028	8	1,182,487,000.559		0.000	308,359,960.430	45,098,214.2	829,028,825.96150
2028	9	1,098,651,682.434		124,434.571	247,588,616.808	43,901,871.1	807,036,759.97186
2028	10	868,989,635.421		20,596,747.161	88,726,218.830	39,192,941.7	720,473,727.69363
2028	11	977,170,386.728		172,393,925.724	11,788,473.008	40,912,064.8	752,075,923.19013
2028	12	1,517,485,163.937		465,234,872.695	860,064.774	54,243,627.6	997,146,598.90696
2029	1	1,861,022,046.768		673,042,010.936	235,351.451	61,049,636.4	1,126,695,048.01018
2029	2	1,672,366,427.831		760,428,237.784	184,072.759	46,863,823.6	864,890,293.73085
2029	3	1,412,908,857.990		561,560,106.679	1,155,399.249	43,699,623.1	806,493,729.01109
2029	4	1,095,949,406.752		263,925,275.872	12,544,888.911	42,120,929.2	777,358,312.78841
2029	5	869,442,490.560		63,313,439.300	42,332,093.964	39,258,880.4	724,538,076.90090
2029	6	963,491,601.502		8,533,449.896	132,828,010.899	42,257,184.4	779,872,956.31510
2029	7	1,162,272,764.606		29,076.817	271,150,991.160	45,801,834.2	845,290,862.43170
2029	8	1,181,853,035.131		0.000	306,363,829.214	44,999,820.6	830,489,385.35788
2029	9	1,098,417,707.075		123,329.542	245,969,843.200	43,809,165.0	808,515,369.30383
2029	10	869,508,705.185		20,411,032.452	88,135,731.151	39,113,161.6	721,848,779.94364
2029	11	976,751,516.297		170,822,599.852	11,708,855.799	40,822,616.6	753,397,444.01914
2029	12	1,514,491,973.069		460,945,674.302	854,172.467	54,107,985.0	998,584,141.33849
2030	1	1,854,376,212.283		665,837,190.362	233,618.082	60,126,123.8	1,128,179,280.01306
2030	2	1,664,652,999.793		752,215,948.942	182,700.678	46,158,435.2	866,095,914.94076
2030	3	1,407,235,655.403		555,415,011.977	1,146,655.204	43,042,579.3	807,631,408.94500
2030	4	1,093,494,896.142		261,026,811.510	12,449,364.589	41,491,477.6	778,527,242.39755
2030	5	868,926,532.367		62,608,711.336	42,003,891.980	38,672,915.1	725,641,013.99827
2030	6	962,877,172.117		8,437,339.792	131,782,296.426	41,624,997.0	781,032,538.89959
2030	7	1,160,648,765.867		28,744.877	268,981,890.586	45,115,291.5	846,522,838.94567
2030	8	1,179,893,140.332		0.000	303,894,286.910	44,323,972.1	831,674,881.35154
2030	9	1,096,895,418.893		121,910.228	243,982,876.111	43,149,677.7	809,640,954.86708

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Actual Usage	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2030	10	868,979,725.817		20,178,408.313	87,430,448.503	38,524,001.5	722,846,867.51274
2030	11	975,064,888.135		168,883,836.666	11,615,736.182	40,203,581.0	754,361,734.30606
2030	12	1,509,598,906.854		455,749,504.717	847,430.026	53,280,012.7	999,721,959.44914
2031	1	1,849,345,472.049		659,407,454.509	232,224.168	59,431,734.0	1,130,274,059.41082
2031	2	1,658,695,970.403		744,978,876.657	181,616.241	45,635,650.2	867,899,827.27504
2031	3	1,403,225,884.392		550,106,351.352	1,139,908.308	42,560,628.6	809,418,996.14682
2031	4	1,092,478,710.712		258,612,736.927	12,379,045.638	41,037,366.4	780,449,561.73474
2031	5	869,707,350.265		62,048,712.063	41,776,419.874	38,259,634.0	727,622,584.30950
2031	6	963,840,681.369		8,363,987.428	131,093,443.959	41,182,052.1	783,201,197.85770
2031	7	1,161,109,559.768		28,502.512	267,626,436.390	44,632,511.4	848,822,109.50940
2031	8	1,180,222,411.792		0.000	302,409,155.628	43,851,147.2	833,962,108.93299
2031	9	1,097,637,711.646		120,923.521	242,809,648.683	42,696,881.5	812,010,257.90334
2031	10	870,315,116.977		20,017,798.421	87,018,415.311	38,129,585.5	725,149,317.78925
2031	11	975,612,280.514		167,561,169.273	11,561,856.938	39,788,608.0	756,700,646.28971
2031	12	1,508,233,472.328		452,207,659.700	843,518.647	52,711,614.7	1,002,470,679.28998
2032	1	1,846,845,687.093		654,439,156.667	231,342.250	58,883,883.0	1,133,291,305.21513
2032	2	1,655,144,360.787		739,266,542.234	180,905.072	45,228,075.9	870,468,837.59425
2032	3	1,401,022,914.598		545,816,039.681	1,135,312.722	42,184,278.3	811,887,283.90401
2032	4	1,092,449,736.469		256,559,461.840	12,327,651.766	40,677,381.6	782,885,241.23593
2032	5	871,033,462.391		61,547,900.159	41,598,329.993	37,927,464.3	729,959,767.92186
2032	6	965,209,577.331		8,294,933.531	130,515,287.835	40,817,493.5	785,581,862.49751
2032	7	1,161,830,878.502		28,262.439	266,411,060.738	44,225,154.2	851,166,401.11082
2032	8	1,180,665,983.658		0.000	301,015,971.238	43,447,648.4	836,202,364.04398
2032	9	1,098,386,365.553		119,885.733	241,677,488.819	42,308,619.1	814,280,371.93854
2032	10	871,542,757.102		19,844,686.178	86,608,484.144	37,789,283.1	727,300,303.68667
2032	11	975,859,343.948		166,101,986.231	11,506,878.210	39,427,165.0	758,823,314.54329
2032	12	1,506,046,115.793		448,158,406.131	839,356.231	52,209,702.2	1,004,838,651.24447
2033	1	1,843,891,871.140		649,023,869.906	230,486.301	58,408,417.4	1,136,229,097.52759
2033	2	1,651,194,521.255		733,129,050.158	180,231.692	44,877,398.8	873,007,840.59238
2033	3	1,398,630,888.660		541,273,169.424	1,131,066.635	41,862,776.9	814,363,875.73882
2033	4	1,092,424,790.238		254,415,878.661	12,281,211.804	40,371,617.0	785,356,082.81994
2033	5	872,478,519.085		61,032,068.101	41,440,521.836	37,647,258.8	732,358,670.33407
2033	6	966,821,286.905		8,225,239.991	130,016,464.057	40,511,051.7	788,068,531.15781



Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Actual Usage	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2033	7	1,162,938,430.326		28,024.302	265,383,727.840	43,882,024.6	853,644,653.55559
2033	8	1,181,524,862.119		0.000	299,841,154.128	43,107,427.5	838,576,280.51460
2033	9	1,099,520,103.093		118,865.489	240,720,775.742	41,982,748.9	816,697,712.94738
2033	10	873,050,481.621		19,674,687.040	86,260,678.217	37,505,920.7	729,609,195.65288
2033	11	976,355,847.226		164,667,477.012	11,459,912.315	39,124,903.8	761,103,554.14867
2033	12	1,504,341,207.502		444,260,467.425	835,881.175	51,788,777.0	1,007,456,081.90424
2034	1	1,841,943,514.738		643,775,934.480	229,811.243	58,005,072.1	1,139,932,696.92502
2034	2	1,648,167,042.444		727,171,162.743	179,697.160	44,586,630.8	876,229,551.72370
2034	3	1,397,081,352.755		536,852,059.095	1,127,669.316	41,598,364.2	817,503,260.10416
2034	4	1,093,191,116.563		252,328,251.434	12,243,925.083	40,122,369.1	788,496,570.92486
2034	5	874,673,860.882		60,528,900.106	41,313,260.913	37,421,107.9	735,410,592.00236
2034	6	969,258,703.875		8,157,176.435	129,613,462.161	40,261,294.4	791,226,770.89788
2034	7	1,164,958,765.136		27,791.688	264,554,683.151	43,596,915.4	856,779,374.85023
2034	8	1,183,304,739.176		0.000	298,896,541.474	42,823,728.1	841,584,469.63325
2034	9	1,101,586,155.597		117,873.492	239,958,626.523	41,714,963.0	819,794,692.61034
2034	10	875,384,281.708		19,510,084.846	85,986,105.598	37,278,576.1	732,609,515.20611
2034	11	977,685,163.783		163,286,205.446	11,423,238.869	38,880,704.6	764,095,014.89471
2034	12	1,503,697,704.249		440,526,515.878	833,195.319	51,439,226.2	1,010,898,766.85431
2035	1	1,840,031,660.887		638,553,924.656	229,295.087	57,686,309.7	1,143,562,131.46442
2035	2	1,645,228,142.790		721,279,575.456	179,295.150	44,361,215.0	879,408,057.23333
2035	3	1,395,644,039.196		532,507,062.504	1,125,155.398	41,395,500.9	820,616,320.44031
2035	4	1,094,056,037.406		250,288,532.599	12,216,741.601	39,932,701.0	791,618,062.19483
2035	5	876,969,866.695		60,039,958.167	41,221,723.807	37,251,030.7	738,457,154.01711
2035	6	971,865,296.877		8,091,232.457	129,325,204.172	40,071,873.3	794,376,986.92471
2035	7	1,167,259,700.990		27,566.720	263,962,911.779	43,376,762.3	859,892,460.19313
2035	8	1,185,392,544.914		0.000	298,220,668.378	42,603,736.1	844,568,140.40988
2035	9	1,103,907,915.446		116,914.033	239,409,980.789	41,509,274.5	822,871,746.16558
2035	10	877,846,334.149		19,350,754.642	85,787,063.335	37,106,980.7	735,601,535.44413
2035	11	979,112,593.340		161,946,739.633	11,396,365.120	38,694,633.6	767,074,855.02382
2035	12	1,503,216,530.192		436,896,976.088	831,204.565	51,166,843.4	1,014,321,506.12380
2036	1	1,838,715,827.804		633,800,872.095	229,090.421	57,402,519.4	1,147,283,345.84153
2036	2	1,642,882,447.002		715,889,408.977	179,129.701	44,162,096.5	882,651,811.85642
2036	3	1,394,633,131.747		528,513,725.674	1,124,086.996	41,216,479.8	823,778,839.28221

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Actual Usage	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2036	4	1,095,144,538.936		248,404,566.933	12,204,794.803	39,765,073.3	794,770,103.89931
2036	5	879,386,317.901		59,586,361.597	41,180,258.493	37,100,736.1	741,518,961.73225
2036	6	974,666,700.064		8,029,943.398	129,192,534.011	39,903,687.5	797,540,535.17744
2036	7	1,169,894,453.988		27,357,228	263,685,585.382	43,178,975.8	863,002,535.57281
2036	8	1,187,861,386.214		0.000	297,902,638.649	42,405,971.4	847,552,776.19475
2036	9	1,106,550,018.371		116,021.791	239,150,741.295	41,325,498.5	825,957,756.77752
2036	10	880,469,084.798		19,202,864.908	85,693,224.021	36,955,562.7	738,617,433.21022
2036	11	980,716,181.747		160,707,001.932	11,383,753.649	38,530,490.1	770,094,936.11153
2036	12	1,503,111,267.722		433,547,931.374	830,276.027	50,924,454.3	1,017,808,606.03309
2037	1	1,837,628,652.484		629,119,494.270	229,106.486	57,140,344.4	1,151,139,707.37786
2037	2	1,640,801,448.082		710,604,244.966	179,142.816	43,981,155.0	886,036,905.31613
2037	3	1,393,880,408.305		524,611,119.925	1,124,167.121	41,055,143.7	827,089,977.54164
2037	4	1,096,479,786.388		246,573,381.851	12,205,800.462	39,615,402.8	798,085,201.24569
2037	5	882,056,854.152		59,147,740.361	41,184,055.039	36,968,283.1	744,756,775.62825
2037	6	977,817,320.926		7,970,842.851	129,204,529.523	39,754,500.9	800,887,447.64123
2037	7	1,173,036,531.770		27,156.013	263,711,315.649	43,001,292.8	866,296,767.32162
2037	8	1,190,870,369.485		0.000	297,930,309.868	42,227,712.4	850,712,347.24314
2037	9	1,109,688,676.450		115,167.762	239,172,389.881	41,161,831.3	829,239,287.50651
2037	10	883,423,033.686		19,061,430.238	85,700,488.169	36,823,387.3	741,837,728.02172
2037	11	982,622,563.832		159,522,277.494	11,384,622.630	38,386,558.2	773,329,105.49838
2037	12	1,503,430,557.838		430,346,267.784	830,327.498	50,707,582.7	1,021,546,379.85214
2038	1	1,836,706,761.861		624,473,865.390	229,125.285	56,879,429.3	1,155,124,341.83927
2038	2	1,638,855,150.995		705,351,310.895	179,155.926	43,800,998.6	889,523,685.61810
2038	3	1,393,248,881.090		520,731,235.935	1,124,244.506	40,894,558.7	830,498,841.94774
2038	4	1,097,908,652.243		244,749,565.920	12,206,614.636	39,465,963.6	801,486,508.10220
2038	5	884,803,882.109		58,710,042.066	41,186,628.007	36,835,755.3	748,071,456.75771
2038	6	981,042,676.523		7,911,802.291	129,211,676.250	39,605,192.3	804,314,005.70587
2038	7	1,176,225,233.585		26,954.531	263,722,646.962	42,822,551.0	869,653,081.13892
2038	8	1,193,914,885.293		0.000	297,939,280.259	42,048,203.4	853,927,401.60779
2038	9	1,112,866,192.856		114,310.658	239,177,233.706	40,996,924.8	832,577,723.66381
2038	10	886,431,972.551		18,919,481.853	85,701,757.871	36,690,437.3	745,120,295.55455
2038	11	984,589,260.956		158,333,247.108	11,384,698.755	38,241,972.9	776,629,342.17412
2038	12	1,503,823,146.405		427,134,131.737	830,323.578	50,490,130.4	1,025,368,560.72723

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Actual Usage	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2039	1	1,835,542,063.381		619,650,898.927	229,055.363	56,623,923.8	1,159,038,185.26245
2039	2	1,636,664,547.356		699,904,728.039	179,101.578	43,624,683.9	892,956,033.85356
2039	3	1,392,427,629.886		516,711,011.757	1,123,905.945	40,737,365.0	833,855,347.13359
2039	4	1,099,225,288.964		242,862,225.566	12,203,058.992	39,319,850.0	804,840,154.39882
2039	5	887,486,211.954		58,257,915.994	41,175,117.731	36,706,468.7	751,346,709.54524
2039	6	984,190,553.182		7,850,912.419	129,176,479.295	39,459,733.1	807,703,428.40105
2039	7	1,179,309,605.182		26,747.291	263,653,456.608	42,648,799.4	872,980,601.84567
2039	8	1,196,858,099.661		0.000	297,864,138.155	41,873,942.8	857,120,018.72346
2039	9	1,115,968,558.858		113,434.187	239,120,755.101	40,837,120.6	835,897,248.96829
2039	10	889,408,965.034		18,774,739.114	85,683,111.036	36,561,978.7	748,389,136.18375
2039	11	986,520,473.116		157,123,255.196	11,382,325.058	38,102,045.5	779,912,847.36963
2039	12	1,504,166,585.482		423,876,744.533	830,164.100	50,279,795.7	1,029,179,881.12281
2040	1	1,833,923,083.616		614,976,695.887	229,019.331	55,491,355.3	1,163,226,013.11948
2040	2	1,634,153,950.280		694,650,191.414	179,079.097	42,769,883.2	896,554,796.54818
2040	3	1,391,291,427.233		512,851,095.741	1,123,802.447	39,946,491.7	837,370,037.37554
2040	4	1,100,187,330.106		241,058,905.692	12,202,426.857	38,562,732.1	808,363,265.42271
2040	5	889,811,370.440		57,827,686.156	41,174,467.199	36,007,589.9	754,801,627.17080
2040	6	987,028,896.158		7,793,186.909	129,178,126.721	38,705,321.3	811,352,261.22638
2040	7	1,182,145,062.831		26,551.276	263,662,323.950	41,819,686.8	876,636,500.83019
2040	8	1,199,572,073.764		0.000	297,880,209.226	41,056,363.8	860,635,500.77102
2040	9	1,118,782,455.513		112,607.747	239,137,316.652	40,047,392.0	839,485,139.13537
2040	10	892,032,281.489		18,638,397.679	85,690,722.852	35,866,163.1	751,836,997.81715
2040	11	988,112,880.186		155,985,088.818	11,383,493.837	37,370,611.6	783,373,685.94515
2040	12	1,504,198,818.621		420,808,771.914	830,251.595	49,291,748.7	1,033,268,046.46005
2041	1	1,832,913,855.616		610,653,883.756	229,092.716	54,552,355.3	1,167,478,523.79587
2041	2	1,632,234,445.667		689,768,748.972	179,136.974	42,064,363.6	900,222,196.10833
2041	3	1,390,614,830.555		509,248,519.758	1,124,169.599	39,294,655.2	840,947,485.96648
2041	4	1,101,454,401.838		239,368,475.322	12,206,566.236	37,939,238.4	811,940,121.87242
2041	5	892,345,045.079		57,422,729.813	41,188,869.313	35,432,843.6	758,300,602.36919
2041	6	990,075,480.169		7,738,675.312	129,224,521.133	38,083,558.5	815,028,725.24094
2041	7	1,185,219,347.528		26,365.729	263,759,138.740	41,133,483.0	880,300,360.02347
2041	8	1,202,523,497.716		0.000	297,991,760.354	40,378,960.6	864,152,776.72960
2041	9	1,121,816,964.295		111,822.051	239,228,412.812	39,394,408.9	843,082,320.54058

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Actual Usage	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2041	10	894,832,926.184		18,508,501.587	85,724,119.394	35,292,977.9	755,307,327.32109
2041	11	989,904,210.006		154,898,553.199	11,387,976.861	36,766,897.7	786,850,782.22310
2041	12	1,504,537,126.050		417,879,013.905	830,581.839	48,472,137.9	1,037,355,392.41597
2042	1	1,832,375,715.036		606,541,414.109	229,230.021	53,741,486.6	1,171,863,584.29836
2042	2	1,630,791,090.303		685,131,918.062	179,246.498	41,458,295.2	904,021,630.59264
2042	3	1,390,357,617.760		505,833,632.678	1,124,875.218	38,736,117.0	844,662,992.85643
2042	4	1,103,051,894.995		237,768,657.637	12,214,492.310	37,406,162.6	815,662,582.47125
2042	5	895,145,195.864		57,039,924.633	41,216,292.239	34,942,739.2	761,946,239.76181
2042	6	993,400,710.008		7,687,167.805	129,311,866.218	37,552,308.1	818,849,367.90964
2042	7	1,188,611,919.144		26,190.575	263,940,645.236	40,544,709.3	884,100,373.99509
2042	8	1,205,794,423.910		0.000	298,198,523.929	39,797,120.7	867,798,779.30822
2042	9	1,125,159,367.820		111,080.675	239,396,003.820	38,834,916.3	846,817,367.04343
2042	10	897,898,918.848		18,385,948.762	85,784,845.709	34,804,139.1	758,923,985.27921
2042	11	991,996,431.783		153,873,954.733	11,396,111.418	36,251,077.1	790,475,288.54345
2042	12	1,505,310,509.775		415,116,102.545	831,176.897	47,767,425.9	1,041,595,804.39519
2043	1	1,832,684,397.475		602,980,096.744	229,550.932	53,077,042.7	1,176,397,707.07196
2043	2	1,630,230,041.379		681,116,095.157	179,499.249	40,965,976.9	907,968,470.08317
2043	3	1,390,805,441.383		502,873,588.688	1,126,472.311	38,283,833.9	848,521,546.51664
2043	4	1,105,112,527.359		236,380,915.716	12,232,023.372	36,975,517.6	819,524,070.67664
2043	5	898,257,278.641		56,707,723.847	41,275,983.747	34,548,212.2	765,725,358.86845
2043	6	997,070,026.111		7,642,498.772	129,500,944.766	37,123,462.7	822,803,119.91268
2043	7	1,192,433,555.080		26,038.529	264,328,258.179	40,065,647.9	888,013,610.45278
2043	8	1,209,515,661.485		0.000	298,638,290.703	39,323,033.8	871,554,336.99365
2043	9	1,128,925,290.855		110,437.477	239,751,593.971	38,381,307.6	850,681,951.76831
2043	10	901,290,654.933		18,279,646.853	85,913,050.212	34,411,119.4	762,686,838.50622
2043	11	994,478,914.905		152,984,622.250	11,413,166.935	35,835,019.3	794,246,106.42819
2043	12	1,506,731,636.280		412,716,744.205	832,420.526	47,193,236.6	1,045,989,234.95719
2044	1	1,833,261,622.851		599,483,623.828	229,882.014	52,537,551.8	1,181,010,565.25152
2044	2	1,629,920,948.567		677,173,825.587	179,760.084	40,570,413.5	911,996,949.43676
2044	3	1,391,479,560.846		499,967,784.344	1,128,120.372	37,921,972.2	852,461,683.91730
2044	4	1,107,372,098.148		235,018,612.782	12,250,119.170	36,632,316.6	823,471,049.63399
2044	5	901,543,106.038		56,381,436.709	41,337,477.625	34,235,352.9	769,588,838.82847
2044	6	1,000,903,866.346		7,598,534.789	129,694,163.916	36,781,715.9	826,829,451.71733

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Actual Usage	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2044	7	1,196,413,745.274		25,888.633	264,721,754.733	39,680,216.3	891,985,885.64925
2044	8	1,213,384,873.552		0.000	299,081,127.971	38,940,743.1	875,363,002.45752
2044	9	1,132,836,287.129		109,800.403	240,106,037.156	38,017,238.6	854,603,210.98584
2044	10	904,823,522.802		18,174,066.071	86,039,507.304	34,098,456.4	766,511,493.05132
2044	11	997,105,935.684		152,099,135.415	11,429,834.797	35,502,541.3	798,074,424.17409
2044	12	1,508,317,873.017		410,323,270.588	833,627.341	46,728,741.8	1,050,432,233.24289
2045	1	1,833,857,516.632		596,030,675.944	230,234.296	52,060,463.1	1,185,536,143.25661
2045	2	1,629,620,124.539		673,268,763.584	180,034.500	40,222,090.0	915,949,236.45077
2045	3	1,392,146,042.621		497,083,254.012	1,129,840.415	37,603,984.3	856,328,963.94415
2045	4	1,109,601,843.842		233,663,182.026	12,268,829.892	36,330,942.7	827,338,889.18014
2045	5	904,791,692.081		56,056,503.798	41,400,814.473	33,961,147.9	773,373,225.89682
2045	6	1,004,701,292.770		7,554,768.493	129,893,375.491	36,481,677.8	830,771,471.03402
2045	7	1,200,371,689.165		25,739.623	265,129,596.069	39,340,602.8	895,875,750.69355
2045	8	1,217,237,772.489		0.000	299,542,284.998	38,603,573.9	879,091,913.55582
2045	9	1,136,727,865.572		109,169.033	240,477,617.328	37,696,871.0	858,444,208.21281
2045	10	908,332,343.682		18,069,685.706	86,173,320.975	33,824,642.9	770,264,694.08306
2045	11	999,719,019.924		151,226,110.895	11,447,663.281	35,210,958.8	801,834,286.91543
2045	12	1,509,915,541.042		407,969,918.285	834,932.091	46,319,077.0	1,054,791,613.65539
2046	1	1,834,500,141.819		592,556,958.612	230,566.658	51,605,128.1	1,190,107,488.42345
2046	2	1,629,385,884.592		669,358,290.758	180,298.207	39,890,907.1	919,956,388.49520
2046	3	1,392,888,011.169		494,202,918.362	1,131,512.220	37,302,002.8	860,251,577.76600
2046	4	1,111,919,503.629		232,314,621.565	12,287,286.706	36,045,406.2	831,272,189.16786
2046	5	908,125,911.452		55,734,056.912	41,463,956.777	33,701,870.7	777,226,027.05117
2046	6	1,008,590,784.145		7,511,438.733	130,093,846.448	36,197,842.9	834,787,656.02497
2046	7	1,204,427,552.845		25,592.352	265,542,824.283	39,018,646.8	899,840,489.40815
2046	8	1,221,194,838.084		0.000	300,013,020.234	38,283,983.8	882,897,834.01750
2046	9	1,140,722,812.729		108,546.448	240,857,584.068	37,393,562.9	862,363,119.28404
2046	10	911,943,685.481		17,966,864.658	86,310,703.765	33,566,312.3	774,099,804.77522
2046	11	1,002,439,443.542		150,365,811.519	11,465,946.632	34,935,352.0	805,672,333.41923
2046	12	1,511,650,657.222		405,649,972.898	836,268.418	45,930,234.2	1,059,234,181.71035
2047	1	1,836,025,121.019		589,611,627.302	231,092.649	51,166,783.8	1,195,015,617.28919
2047	2	1,630,046,376.109		666,037,841.195	180,711.490	39,573,636.9	924,254,186.53246
2047	3	1,394,369,516.966		491,758,621.080	1,134,123.838	37,013,576.1	864,463,195.99654

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Actual Usage	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2047	4	1,114,751,819.244		231,169,687.644	12,315,880.507	35,773,167.6	835,493,083.50141
2047	5	911,836,542.607		55,460,210.446	41,561,128.891	33,455,354.0	781,359,849.31144
2047	6	1,012,889,507.284		7,474,579.014	130,399,722.658	35,927,095.3	839,088,110.35633
2047	7	1,208,981,988.849		25,466.825	266,168,115.638	38,709,783.2	904,078,623.21405
2047	8	1,225,659,991.419		0.000	300,720,121.529	37,976,943.3	886,962,926.63421
2047	9	1,145,189,759.019		108,014.393	241,426,166.866	37,103,035.3	866,552,542.50740
2047	10	915,910,634.243		17,878,808.408	86,514,619.156	33,319,942.1	778,197,264.58226
2047	11	1,005,563,137.329		149,627,872.731	11,492,974.783	34,671,807.3	809,770,482.52684
2047	12	1,514,019,160.999		403,656,874.416	838,235.845	45,555,752.6	1,063,968,298.10297
2048	1	1,837,833,409.919		586,684,524.869	231,611.787	50,739,352.2	1,200,177,921.03217
2048	2	1,630,967,804.257		662,738,482.340	181,119.465	39,265,697.1	928,782,505.37416
2048	3	1,396,096,251.978		489,327,191.463	1,136,695.297	36,734,003.6	868,898,361.65614
2048	4	1,117,822,335.627		230,029,512.478	12,343,967.331	35,509,708.6	839,939,147.21871
2048	5	915,780,015.368		55,187,478.580	41,656,557.603	33,217,449.3	785,718,529.88480
2048	6	1,017,428,226.433		7,437,873.644	130,700,137.998	35,665,520.7	843,624,694.07618
2048	7	1,213,771,881.010		25,341.867	266,782,564.737	38,410,484.6	908,553,489.81657
2048	8	1,230,351,461.480		0.000	301,414,940.150	37,679,260.1	891,257,261.18689
2048	9	1,149,891,969.495		107,484.724	241,984,614.870	36,821,921.3	870,977,948.62831
2048	10	920,116,623.499		17,791,172.493	86,714,991.251	33,082,560.5	782,527,899.23353
2048	11	1,008,938,016.335		148,894,417.949	11,519,600.179	34,417,590.1	814,106,408.05789
2048	12	1,516,680,731.601		401,676,288.832	840,174.177	45,192,415.6	1,068,971,853.01366
2049	1	1,840,535,385.386		584,310,150.716	232,322.613	50,352,197.2	1,205,640,714.86256
2049	2	1,632,815,622.170		660,060,602.357	181,676.525	38,990,032.7	933,583,310.54395
2049	3	1,398,583,765.382		487,352,909.086	1,140,198.271	36,485,129.7	873,605,528.34153
2049	4	1,121,419,924.764		229,104,176.183	12,382,151.998	35,276,146.5	844,657,450.07962
2049	5	920,094,679.552		54,965,810.515	41,785,655.803	33,007,463.2	790,335,750.02860
2049	6	1,022,369,368.485		7,408,015.082	131,105,450.032	35,433,390.0	848,422,513.33277
2049	7	1,219,050,366.565		25,240.045	267,608,875.176	38,141,854.3	913,274,397.00531
2049	8	1,235,541,067.279		0.000	302,346,112.167	37,411,370.7	895,783,584.43488
2049	9	1,155,054,626.262		107,051.180	242,730,208.734	36,570,388.5	875,646,977.87442
2049	10	924,680,435.683		17,719,327.438	86,981,748.469	32,872,607.8	787,106,751.95875
2049	11	1,012,720,000.085		148,290,493.151	11,554,829.240	34,191,366.5	818,683,311.21220
2049	12	1,519,991,026.083		400,039,823.866	842,728.301	44,864,561.0	1,074,243,912.96201



Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Actual Usage	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2050	1	1,843,584,948.084		581,995,208.207	233,024.073	50,054,374.6	1,211,302,341.23351
2050	2	1,634,967,799.827		657,442,695.959	182,224.104	38,783,863.4	938,559,016.34498
2050	3	1,401,346,523.671		485,420,481.689	1,143,634.882	36,301,278.4	878,481,128.73770
2050	4	1,125,271,174.667		228,198,767.578	12,419,619.907	35,105,645.7	849,547,141.47603
2050	5	924,636,513.649		54,748,894.591	41,912,273.976	32,856,516.7	795,118,828.33339
2050	6	1,027,533,463.722		7,378,829.129	131,503,431.296	35,264,314.7	853,386,888.58420
2050	7	1,224,539,598.767		25,140.700	268,421,911.223	37,940,587.2	918,151,959.64714
2050	8	1,240,937,855.621		0.000	303,265,484.078	37,209,620.0	900,462,751.52007
2050	9	1,160,444,014.315		106,630.764	243,469,148.349	36,384,050.2	880,484,184.99534
2050	10	929,481,823.258		17,649,906.995	87,247,246.183	32,721,964.7	791,862,705.36999
2050	11	1,016,776,775.246		147,710,459.884	11,590,155.162	34,027,196.6	823,448,963.63521
2050	12	1,523,674,784.745		398,477,269.847	845,308.462	44,617,629.4	1,079,734,577.03439
2051	1	1,846,162,001.230		579,470,370.914	233,687.538	49,671,128.1	1,216,786,814.64320
2051	2	1,636,675,644.743		654,602,580.092	182,746.133	38,510,240.4	943,380,078.12240
2051	3	1,403,745,749.447		483,334,082.946	1,146,935.194	36,054,032.8	883,210,698.46733
2051	4	1,128,842,324.435		227,224,074.124	12,455,780.779	34,873,406.7	854,289,062.79154
2051	5	928,968,815.023		54,516,671.061	42,035,501.783	32,647,806.4	799,768,835.80578
2051	6	1,032,493,838.209		7,347,674.347	131,892,487.277	35,033,866.0	858,219,810.61316
2051	7	1,229,834,824.774		25,035.123	269,221,889.340	37,674,748.7	922,913,151.65121
2051	8	1,246,147,590.654		0.000	304,173,349.435	36,944,711.4	905,029,529.78694
2051	9	1,165,649,299.293		106,186.617	244,202,506.582	36,135,449.7	885,205,156.38250
2051	10	934,102,962.929		17,576,760.032	87,511,762.815	32,514,370.3	796,500,069.81540
2051	11	1,020,623,476.921		147,100,116.689	11,625,421.758	33,804,077.9	828,093,860.58491
2051	12	1,527,081,074.575		396,837,258.081	847,893.643	44,295,485.6	1,085,100,437.22573
2052	1	1,849,071,411.250		577,119,742.733	234,420.433	49,295,170.3	1,222,422,077.73807
2052	2	1,638,729,731.116		651,966,379.676	183,324.443	38,242,487.1	948,337,539.86932
2052	3	1,406,429,587.022		481,399,468.942	1,150,591.634	35,812,047.6	888,067,478.83621
2052	4	1,132,629,743.639		226,323,212.466	12,495,953.118	34,646,494.5	859,164,083.50778
2052	5	933,464,738.806		54,302,264.400	42,172,368.794	32,443,980.7	804,546,124.92628
2052	6	1,037,641,880.281		7,318,985.980	132,325,541.834	34,808,785.1	863,188,567.31787
2052	7	1,235,351,221.267		24,937.932	270,111,524.095	37,414,312.1	927,800,447.17545
2052	8	1,251,592,672.338		0.000	305,185,364.767	36,685,284.8	909,722,022.76147
2052	9	1,171,076,709.499		105,779.450	245,020,522.962	35,892,320.5	890,058,086.59031

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Actual Usage	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2052	10	938,897,996.528		17,509,801.918	87,806,989.427	32,311,842.6	801,269,362.61915
2052	11	1,024,671,167.974		146,542,942.601	11,664,881.341	33,586,442.4	832,876,901.59965
2052	12	1,530,788,347.737		395,339,971.818	850,783.428	43,980,044.8	1,090,617,547.64984
2053	1	1,852,088,359.250		574,804,211.740	235,167.265	48,923,032.5	1,228,125,947.70679
2053	2	1,640,885,977.533		649,368,530.862	183,913.463	37,977,433.5	953,356,099.72536
2053	3	1,409,202,807.622		479,492,189.832	1,154,314.016	35,572,472.9	892,983,830.85895
2053	4	1,136,491,439.885		225,434,563.939	12,536,822.774	34,421,800.9	864,098,252.22589
2053	5	938,025,011.788		54,090,634.439	42,311,522.661	32,242,101.1	809,380,753.60911
2053	6	1,042,857,661.417		7,290,652.797	132,765,581.010	34,585,818.0	868,215,609.60254
2053	7	1,240,939,576.127		24,841.888	271,015,020.931	37,156,315.8	932,743,397.48490
2053	8	1,257,107,872.292		0.000	306,212,545.628	36,428,268.4	914,467,058.26833
2053	9	1,176,572,335.050		105,376.565	245,850,320.343	35,651,403.2	894,965,234.96813
2053	10	943,752,806.268		17,443,501.684	88,106,285.208	32,111,089.1	806,091,930.27527
2053	11	1,028,778,541.015		145,990,847.298	11,704,860.258	33,370,696.4	837,712,137.06243
2053	12	1,534,569,050.834		393,855,524.619	853,709.920	43,667,392.4	1,096,192,423.93712
2054	1	1,855,185,818.984		572,507,892.981	235,923.717	48,554,224.6	1,233,887,777.63952
2054	2	1,643,117,776.361		646,791,795.836	184,509.931	37,714,669.9	958,426,800.72427
2054	3	1,412,044,589.224		477,600,091.904	1,158,082.606	35,334,929.9	897,951,484.82323
2054	4	1,140,414,014.989		224,552,774.606	12,578,186.848	34,198,979.9	869,084,073.60204
2054	5	942,640,831.816		53,880,592.963	42,452,317.895	32,041,858.3	814,266,062.65864
2054	6	1,048,132,631.696		7,262,527.898	133,210,691.252	34,364,672.2	873,294,740.34961
2054	7	1,246,590,708.397		24,746.537	271,928,694.699	36,900,504.5	937,736,762.70662
2054	8	1,262,684,651.997		0.000	307,251,000.866	36,173,441.0	919,260,210.11044
2054	9	1,182,128,808.671		104,976.448	246,688,992.356	35,412,484.8	899,922,355.04976
2054	10	948,662,215.807		17,377,640.914	88,408,693.503	31,911,918.7	810,963,962.70543
2054	11	1,032,940,317.445		145,442,248.358	11,745,242.743	33,156,664.7	842,596,161.64479
2054	12	1,538,415,649.224		392,380,155.083	856,665.303	43,357,337.0	1,101,821,491.80763
2055	1	1,858,356,981.233		570,226,726.724	236,688.102	48,188,591.6	1,239,704,974.79074
2055	2	1,645,420,808.881		644,233,175.445	185,112.899	37,454,105.6	963,548,414.91275
2055	3	1,414,953,741.426		475,722,161.753	1,161,893.912	35,099,373.3	902,970,312.51050
2055	4	1,144,399,043.432		223,678,131.176	12,620,042.639	33,978,042.2	874,122,827.41341
2055	5	947,315,134.561		53,672,378.340	42,594,863.332	31,843,314.1	819,204,578.79373
2055	6	1,053,471,323.132		7,234,661.955	133,661,547.572	34,145,453.2	878,429,660.42778



Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Actual Usage	Heating Usage	Cooling Usage	Lighting Usage	Other Usage
2055	7	1,252,311,305.562		24,652.109	272,854,585.831	36,647,012.7	942,785,054.89237
2055	8	1,268,331,631.422		0.000	308,303,858.398	35,920,970.1	924,106,802.92112
2055	9	1,187,756,307.406		104,580.639	247,539,710.111	35,175,790.3	904,936,226.33757
2055	10	953,636,380.398		17,312,531.594	88,715,607.072	31,714,614.1	815,893,627.66973
2055	11	1,037,169,915.915		144,900,269.645	11,786,247.831	32,944,690.5	847,538,707.96304
2055	12	1,542,350,737.516		390,923,328.306	859,667.422	43,050,326.9	1,107,517,414.89607
2056	1	1,861,628,551.318		567,974,034.718	237,465.207	47,826,580.5	1,245,590,470.84912
2056	2	1,647,821,081.974		641,707,223.559	185,725.998	37,196,125.4	968,732,007.01102
2056	3	1,417,951,421.021		473,868,752.021	1,165,769.950	34,866,164.0	908,050,735.06116
2056	4	1,148,461,529.948		222,815,260.775	12,662,618.653	33,759,324.6	879,224,325.90777
2056	5	952,059,137.375		53,467,047.505	42,739,894.898	31,646,779.3	824,205,415.69643
2056	6	1,058,885,332.956		7,207,191.412	134,120,357.562	33,928,462.0	883,629,321.99624
2056	7	1,258,114,073.068		24,559.050	273,796,992.265	36,396,107.1	947,896,414.61984
2056	8	1,274,061,016.518		0.000	309,375,707.978	35,671,092.8	929,014,215.78742
2056	9	1,193,466,005.131		104,190.829	248,405,939.874	34,941,559.0	910,014,315.40732
2056	10	958,684,057.102		17,248,433.304	89,028,181.775	31,519,402.9	820,888,039.10631
2056	11	1,041,476,463.314		144,366,899.720	11,828,017.347	32,734,986.1	852,546,560.16555
2056	12	1,546,387,049.269		389,490,026.095	862,725.958	42,746,589.3	1,113,287,707.96427
2057	1	1,865,014,132.307		565,756,122.074	238,257.407	47,468,393.9	1,251,551,358.95854
2057	2	1,650,330,524.657		639,220,093.325	186,350.875	36,940,887.4	973,983,193.05521
2057	3	1,421,046,424.288		472,043,678.077	1,169,719.704	34,635,432.9	913,197,593.65489
2057	4	1,152,606,944.513		221,965,498.541	12,705,992.850	33,542,924.6	884,392,528.51352
2057	5	956,876,379.456		53,264,812.287	42,887,609.341	31,452,319.1	829,271,638.68255
2057	6	1,064,377,580.014		7,180,131.939	134,587,550.478	33,713,736.8	888,896,160.82783
2057	7	1,264,001,231.446		24,467.372	274,756,419.262	36,147,795.9	953,072,548.87058
2057	8	1,279,873,886.690		0.000	310,466,666.653	35,423,790.6	933,983,429.41441
2057	9	1,199,257,902.614		103,806.683	249,287,416.484	34,709,746.0	915,156,933.45231
2057	10	963,804,361.604		17,185,255.852	89,346,185.007	31,326,212.4	825,946,708.37098
2057	11	1,045,857,430.975		143,841,090.503	11,870,502.269	32,527,444.8	857,618,393.44669
2057	12	1,550,518,677.537		388,076,827.588	865,836.341	42,445,965.6	1,119,130,048.02402

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Customers	Heating	Cooling	Lighting	Other	Total
1995	1							
1995	2	1,596,350,328.226	139,081	108,744.4	0.0	23,089.6	90,188.0	222,022.0
1995	3	1,254,741,611.824	139,035	74,324.5	0.0	20,334.1	79,794.4	174,453.0
1995	4	968,155,387.317	138,956	27,320.4	904.5	21,467.2	84,839.0	134,531.0
1995	5	905,534,412.926	139,003	9,782.3	3,671.1	22,464.1	89,954.4	125,872.0
1995	6	960,439,592.033	139,129	626.6	16,538.6	24,091.1	92,368.6	133,625.0
1995	7	1,379,927,028.269	139,232	0.0	39,348.8	25,568.1	127,213.1	192,130.0
1995	8	1,533,806,987.231	139,483	0.0	61,481.5	28,085.4	124,373.1	213,940.0
1995	9	915,975,408.135	139,721	78.3	48,420.7	16,467.8	63,014.2	127,981.0
1995	10	895,857,463.572	139,866	2,078.5	8,953.8	23,784.7	90,483.0	125,300.0
1995	11	1,498,882,470.134	140,041	31,451.6	833.0	32,576.1	145,044.3	209,905.0
1995	12	1,967,901,146.642	140,41	77,640.1	56.9	33,328.3	165,287.7	276,313.0
1996	1	2,076,798,617.868	140,797	126,156.4	0.0	34,174.6	132,075.9	292,407.0
1996	2	1,961,229,679.535	140,265	125,279.0	0.0	30,338.3	119,474.6	275,091.9
1996	3	1,540,773,591.602	140,887	86,350.8	0.0	27,506.6	103,217.6	217,075.0
1996	4	1,352,304,482.665	140,586	59,536.3	1,106.0	25,508.0	103,964.7	190,115.1
1996	5	960,242,182.051	140,51	12,991.2	11,034.1	24,060.8	86,837.5	134,923.6
1996	6	988,971,148.581	140,617	1,788.1	23,768.4	24,522.2	88,987.5	139,066.2
1996	7	1,190,706,251.200	140,661	0.0	45,569.5	25,841.4	96,075.0	167,485.9
1996	8	1,142,380,692.841	140,725	0.0	41,895.1	25,391.1	93,475.3	160,761.5
1996	9	1,112,761,645.720	140,996	0.0	36,331.4	24,877.4	95,686.2	156,894.9
1996	10	879,169,425.208	141,077	3,982.7	6,662.1	22,836.2	90,549.7	124,030.6
1996	11	1,080,485,228.784	141,356	32,541.4	946.2	24,690.2	94,555.3	152,733.1
1996	12	1,639,880,269.112	141,651	82,197.3	226.5	32,277.3	117,589.5	232,290.7
1997	1	1,872,862,109.568	141,83	92,356.9	121.1	36,360.5	136,789.6	265,628.0
1997	2	1,697,515,457.667	141,839	112,051.2	100.4	28,279.0	100,343.3	240,773.9
1997	3	1,310,969,527.873	141,572	61,504.8	426.3	25,662.3	98,003.1	185,596.6
1997	4	1,181,396,423.418	141,364	39,201.4	972.5	25,246.4	101,586.7	167,006.9
1997	5	971,922,643.178	141,345	18,017.3	1,118.2	24,277.6	93,963.4	137,376.4
1997	6	898,196,542.170	141,476	2,722.1	8,249.4	25,814.2	90,287.5	127,073.3
1997	7	1,173,407,879.023	141,515	0.0	38,894.8	26,665.3	100,494.8	166,054.8
1997	8	1,213,288,242.802	141,811	0.0	47,988.9	26,509.3	97,559.5	172,057.6
1997	9	1,055,187,091.319	141,92	0.0	26,028.4	25,957.8	97,765.9	149,752.2

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Customers	Heating	Cooling	Lighting	Other	Total
1997	10	861,173,070.964	141.988	2,906.5	8,182.7	23,659.9	87,527.1	122,276.2
1997	11	1,110,993,058.726	151.125	42,174.0	2,471.8	25,970.6	97,282.4	167,898.8
1997	12	1,748,100,828.390	138.582	77,465.1	0.0	32,254.1	132,536.1	242,255.3
1998	1	1,816,033,319.322	142.74	86,655.8	0.0	39,110.0	133,454.8	259,220.6
1998	2	1,553,672,256.108	142.471	91,402.8	0.0	28,595.9	101,354.6	221,353.2
1998	3	1,393,328,817.648	142.614	73,279.2	5.5	26,324.1	99,099.5	198,708.2
1998	4	1,159,163,821.785	142.771	42,822.9	6,934.2	25,963.8	89,774.1	165,495.0
1998	5	927,021,092.213	142.28	6,375.3	3,865.2	23,465.0	98,191.1	131,896.6
1998	6	1,003,710,298.966	142.257	141.3	22,194.2	26,636.3	93,813.1	142,784.8
1998	7	1,243,692,577.793	142.397	61.6	47,648.9	27,594.0	101,793.6	177,098.1
1998	8	1,250,202,535.729	142.602	0.0	49,411.3	27,233.6	101,636.5	178,281.4
1998	9	1,219,361,559.791	142.455	0.0	47,975.0	26,959.0	98,770.1	173,704.2
1998	10	994,519,240.341	142.643	1,189.3	29,303.9	24,269.3	87,098.6	141,861.2
1998	11	1,079,235,975.815	142.896	24,262.8	2,179.3	25,488.0	102,288.4	154,218.5
1998	12	1,459,519,909.401	143.048	46,059.6	459.1	34,331.7	127,931.1	208,781.4
1999	1	1,996,281,053.374	143.197	121,067.1	203.2	39,021.2	125,570.0	285,861.5
1999	2	1,466,155,153.386	143.168	84,276.8	0.0	28,093.9	97,535.8	209,906.5
1999	3	1,560,206,994.705	143.337	100,900.0	0.0	26,218.1	96,517.2	223,635.4
1999	4	1,223,541,450.470	143.195	52,146.8	1,626.5	25,973.1	95,458.6	175,205.0
1999	5	866,545,204.559	142.917	6,252.6	5,482.9	24,382.5	87,726.0	123,844.0
1999	6	977,527,859.197	142.951	0.0	25,520.2	25,924.8	88,293.6	139,738.6
1999	7	1,267,808,366.269	142.955	0.0	59,546.4	27,263.7	94,429.5	181,239.5
1999	8	1,387,451,366.655	143.05	0.0	74,055.2	26,677.5	97,742.1	198,474.9
1999	9	1,126,778,698.663	143.099	25.5	37,679.7	26,795.5	96,740.2	161,240.9
1999	10	900,664,946.978	143.243	2,840.9	7,835.3	24,362.2	93,975.5	129,013.9
1999	11	1,048,740,561.235	143.398	23,543.2	436.3	26,420.4	99,987.5	150,387.3
1999	12	1,501,399,041.609	143.574	58,782.7	0.0	34,890.5	121,888.7	215,561.9
2000	1	1,922,441,095.719	143.869	109,360.5	0.0	38,882.6	128,336.6	276,579.7
2000	2	1,921,954,652.827	143.934	145,360.4	0.0	28,812.7	102,461.5	276,634.6
2000	3	1,315,910,191.712	143.862	56,252.6	360.8	27,156.6	105,539.5	189,309.5
2000	4	1,075,373,007.298	143.461	30,955.3	835.3	27,410.7	95,072.9	154,274.1
2000	5	998,023,787.944	143.434	11,543.8	9,110.8	24,894.0	97,602.0	143,150.5
2000	6	1,048,146,689.183	143.303	26.2	25,308.5	27,364.2	97,503.7	150,202.6

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Customers	Heating	Cooling	Lighting	Other	Total
2000	7	1,220,915,630.365	143,298	0.0	46,530.1	28,841.8	99,582.8	174,954.8
2000	8	1,185,966,961.335	143,438	0.0	41,014.5	27,808.5	101,289.7	170,112.7
2000	9	1,146,883,663.901	143,541	133.9	35,824.0	27,793.1	100,873.8	164,624.8
2000	10	981,004,259.703	143,672	7,436.3	12,443.9	25,407.9	95,654.7	140,942.8
2000	11	1,034,520,178.593	143,791	25,438.3	1,724.4	27,230.4	94,361.6	148,754.7
2000	12	1,842,378,621.053	144,226	112,688.5	0.0	34,780.9	118,249.5	265,718.9
2001	1	2,442,094,256.811	144,223	170,257.7	0.0	39,030.8	142,917.7	352,206.2
2001	2	1,814,615,610.683	144,273	133,012.0	0.0	30,879.6	97,908.4	261,800.0
2001	3	1,520,046,059.159	144,119	92,355.2	0.0	27,224.6	99,487.8	219,067.5
2001	4	1,325,045,263.860	143,978	63,086.9	6,946.8	27,122.1	93,621.6	190,777.4
2001	5	979,761,380.374	143,932	9,677.2	15,497.1	25,058.6	90,786.1	141,019.0
2001	6	977,736,682.215	143,849	573.8	16,708.5	27,130.9	96,233.3	140,646.4
2001	7	1,193,277,616.734	143,853	0.0	41,707.7	29,025.4	100,923.5	171,656.6
2001	8	1,290,724,565.878	143,911	0.0	60,553.5	28,254.3	96,941.6	185,749.5
2001	9	1,220,538,371.802	144,012	27.6	47,533.1	27,780.6	100,430.8	175,772.2
2001	10	976,700,738.181	144,138	5,688.4	11,560.2	25,590.9	97,940.1	140,779.7
2001	11	1,151,266,076.803	144,214	27,310.7	3,405.3	27,808.4	107,504.3	166,028.7
2001	12	1,414,092,324.520	144,447	35,542.9	107.7	36,706.9	131,903.9	204,261.4
2002	1	2,073,169,675.913	144,776	122,384.5	0.0	41,363.6	136,397.2	300,145.2
2002	2	1,672,431,977.046	144,635	100,791.2	0.0	30,654.9	110,446.1	241,892.2
2002	3	1,604,873,500.726	144,57	89,979.7	218.3	29,087.0	112,731.5	232,016.6
2002	4	1,295,819,825.432	144,471	48,027.2	3,319.5	29,241.8	106,619.9	187,208.4
2002	5	946,106,018.862	144,097	12,709.3	9,413.7	27,048.2	87,159.8	136,331.0
2002	6	1,103,276,437.539	144,17	7,362.9	24,848.0	27,332.1	99,516.3	159,059.4
2002	7	1,356,212,003.080	144,163	0.0	56,820.4	29,725.2	108,970.1	195,515.6
2002	8	1,425,290,539.744	144,235	0.0	72,484.3	29,679.4	103,413.2	205,576.8
2002	9	1,301,868,519.212	144,234	0.0	63,763.1	28,900.7	95,109.9	187,773.7
2002	10	1,006,367,078.606	144,277	2,750.1	25,758.5	25,451.3	91,235.8	145,195.6
2002	11	1,119,831,951.270	144,47	33,961.9	2,568.7	27,501.9	97,749.6	161,782.1
2002	12	1,840,687,068.060	144,696	102,281.3	340.6	36,182.5	127,535.7	266,340.1
2003	1	2,194,397,728.135	144,903	124,379.9	0.0	40,603.3	152,991.6	317,974.8
2003	2	2,098,001,263.393	144,848	172,553.9	0.0	32,246.2	99,091.2	303,891.3
2003	3	1,707,984,851.417	144.7	116,199.1	0.0	27,801.0	103,145.3	247,145.4

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Customers	Heating	Cooling	Lighting	Other	Total
2003	4	1,143,625,004.328	144,415	30,528.0	2,861.4	27,826.8	103,940.4	165,156.6
2003	5	934,722,031.196	144,25	6,601.7	7,126.7	26,501.7	94,603.6	134,833.7
2003	6	947,952,592.993	144,177	0.0	9,665.9	27,863.6	99,143.5	136,673.0
2003	7	1,211,800,499.549	144,13	0.0	40,569.4	29,554.5	104,533.0	174,656.8
2003	8	1,243,866,913.854	144,29	0.0	48,572.7	28,786.2	102,118.6	179,477.6
2003	9	1,260,932,394.347	144,411	0.0	46,627.1	28,758.8	106,706.6	182,092.5
2003	10	967,079,428.833	144,406	7,671.1	6,761.6	26,574.3	98,645.0	139,652.1
2003	11	1,060,485,719.823	144,466	21,190.2	1,593.0	28,129.2	102,291.7	153,204.1
2003	12	1,727,644,432.171	144,85	74,941.4	182.3	36,491.9	138,633.7	250,249.3
2004	1	2,228,905,324.751	145,096	123,405.7	145.2	41,622.5	158,231.9	323,405.2
2004	2	2,116,278,744.322	144,846	159,851.5	48.6	32,815.8	113,818.6	306,534.5
2004	3	1,593,277,527.989	144,789	92,339.8	435.3	29,345.2	108,568.7	230,689.1
2004	4	1,292,407,886.915	144,67	50,838.3	2,404.3	28,796.8	104,933.3	186,972.6
2004	5	1,010,218,988.771	144,359	12,437.1	13,232.4	26,238.7	93,926.1	145,834.2
2004	6	1,153,825,211.460	144,117	863.9	36,364.0	27,778.5	101,279.4	166,285.8
2004	7	1,290,174,059.443	144,037	0.0	46,407.8	29,576.2	109,848.8	185,832.8
2004	8	1,207,890,210.043	144,066	0.0	45,981.9	29,261.8	98,772.2	174,015.9
2004	9	1,160,797,780.415	144,081	0.0	40,329.0	27,831.5	99,088.4	167,248.9
2004	10	977,278,137.334	144,159	2,122.4	11,996.0	25,744.6	101,020.4	140,883.4
2004	11	1,000,907,938.487	144,36	13,561.7	2,378.3	28,039.8	100,511.3	144,491.1
2004	12	1,636,977,562.352	144,623	62,852.4	347.1	36,286.7	137,258.3	236,744.6
2005	1	2,070,072,946.860	144.9	108,213.5	0.0	40,825.2	150,914.8	299,953.6
2005	2	1,949,462,576.602	144,415	131,829.2	0.0	31,795.4	117,907.1	281,531.6
2005	3	1,771,887,800.412	145,259	112,203.8	0.0	29,801.5	115,377.3	257,382.7
2005	4	1,308,930,626.746	144,955	51,719.2	1,092.4	29,358.2	107,566.3	189,736.0
2005	5	1,021,337,500.520	144,302	14,763.3	3,981.2	26,281.5	102,355.0	147,381.0
2005	6	1,069,231,422.594	144,342	2,037.7	23,469.4	28,544.1	100,283.7	154,335.0
2005	7	1,333,320,854.762	144,274	0.0	66,621.4	29,341.5	96,400.6	192,363.5
2005	8	1,460,080,863.337	144,231	0.0	85,030.4	27,907.6	97,651.0	210,588.9
2005	9	1,336,065,753.064	144,191	0.0	63,970.7	27,471.3	101,206.6	192,648.7
2005	10	1,033,743,952.074	144,223	1,261.0	29,388.4	25,377.3	93,063.0	149,089.7
2005	11	1,120,136,249.385	144,419	31,996.5	1,861.2	27,471.0	100,440.3	161,769.0
2005	12	1,900,439,239.220	144,641	109,032.7	275.1	35,556.7	130,016.9	274,881.4

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Customers	Heating	Cooling	Lighting	Other	Total
2006	1	2,207,723,455.085	144.83	109,619.2	0.0	39,695.5	170,429.9	319,744.6
2006	2	1,804,836,407.666	144.53	93,100.2	0.0	32,924.6	134,828.2	260,853.0
2006	3	1,626,827,484.432	145.013	106,721.0	253.4	30,818.8	98,118.0	235,911.1
2006	4	1,262,415,619.812	144.56	54,335.4	3,002.3	26,134.1	99,023.1	182,494.8
2006	5	940,154,584.148	144.258	4,417.0	5,018.2	25,484.5	100,705.1	135,624.8
2006	6	1,057,778,073.827	144.12	847.0	18,864.7	27,279.1	105,456.2	152,447.0
2006	7	1,271,276,787.077	144.118	0.0	46,542.6	29,175.0	107,496.3	183,213.9
2006	8	1,424,173,576.063	144.248	0.0	74,420.9	28,330.7	102,682.5	205,434.2
2006	9	1,255,081,860.968	144.269	204.0	47,280.8	27,757.6	105,827.0	181,069.4
2006	10	971,237,941.142	144.313	8,413.7	6,641.3	25,710.2	99,397.1	140,162.3
2006	11	1,232,087,453.734	144.545	46,467.8	459.2	27,176.4	103,988.7	178,092.1
2006	12	1,774,977,717.670	144.554	73,209.3	479.5	35,035.5	147,855.8	256,580.1
2007	1	1,894,406,857.024	144.815	79,057.5	52.1	39,462.1	155,766.9	274,338.5
2007	2	2,214,653,079.541	144.843	159,518.2	0.0	32,862.1	128,396.7	320,777.0
2007	3	1,845,838,373.912	144.494	134,027.7	399.0	27,724.1	104,561.7	266,712.6
2007	4	1,270,902,877.673	144.179	46,117.0	5,178.1	26,614.1	105,328.2	183,237.5
2007	5	1,045,100,110.539	143.841	17,460.9	9,008.6	24,730.4	99,128.4	150,328.2
2007	6	1,145,911,905.275	143.743	714.4	31,710.3	26,012.0	106,280.1	164,716.8
2007	7	1,271,357,530.661	143.666	0.0	51,745.8	27,973.6	102,931.4	182,650.9
2007	8	1,344,388,712.926	143.97	0.0	60,969.3	26,967.3	105,615.0	193,551.6
2007	9	1,445,614,073.190	144.118	0.0	67,440.2	26,827.9	114,070.9	208,339.0
2007	10	1,068,750,060.727	144.087	1,479.8	31,333.9	25,450.8	95,728.6	153,993.0
2007	11	1,140,305,733.765	144.181	29,005.2	5,332.2	26,422.6	103,650.4	164,410.4
2007	12	1,690,170,524.830	144.542	81,932.7	0.0	33,587.1	128,780.8	244,300.6
2008	1	2,114,912,301.053	144.825	114,019.2	0.0	36,207.7	156,065.3	306,292.2
2008	2	2,006,611,403.691	144.69	138,728.1	0.0	28,897.0	122,711.5	290,336.6
2008	3	1,805,065,064.247	144.365	118,297.5	0.0	27,235.4	115,055.3	260,588.2
2008	4	1,341,179,216.324	143.988	53,234.3	253.7	26,666.1	112,959.6	193,113.7
2008	5	961,256,323.062	143.799	11,816.5	3,305.3	24,361.1	98,744.7	138,227.7
2008	6	1,065,972,952.474	143.71	800.6	19,457.8	25,373.4	107,559.1	153,191.0
2008	7	1,245,205,919.785	143.789	0.0	40,326.6	27,187.8	111,532.5	179,046.9
2008	8	1,302,137,681.462	143.832	0.0	49,245.9	26,895.1	111,148.1	187,289.1
2008	9	1,237,861,165.757	143.855	0.0	46,068.7	26,398.4	105,605.4	178,072.5

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Customers	Heating	Cooling	Lighting	Other	Total
2008	10	992,899,481.527	143,884	1,920.0	17,586.2	23,474.0	99,882.2	142,862.3
2008	11	1,204,822,669.840	144,121	37,807.6	1,139.3	25,246.3	109,447.0	173,640.2
2008	12	2,004,950,168.621	144,407	122,925.7	0.0	32,914.0	133,689.2	289,528.8
2009	1	2,244,456,669.805	144,472	135,193.9	0.0	35,659.3	153,408.0	324,261.1
2009	2	2,229,732,803.426	144,302	165,051.4	0.0	27,981.0	128,722.5	321,754.9
2009	3	1,700,254,596.672	144,126	106,556.9	711.7	26,511.1	111,271.2	245,050.9
2009	4	1,269,251,033.015	143,754	40,695.7	536.0	25,253.2	115,975.0	182,459.9
2009	5	1,006,668,358.844	143,405	10,512.3	10,260.4	24,260.5	99,328.1	144,361.3
2009	6	1,054,682,149.731	143,404	1,013.5	20,559.1	24,445.1	105,227.9	151,245.6
2009	7	1,213,794,441.923	143,215	0.0	35,151.0	26,045.6	112,637.0	173,833.6
2009	8	1,187,851,010.665	143,272	0.0	36,464.0	25,914.2	107,807.5	170,185.8
2009	9	1,181,452,121.348	143,258	0.0	35,156.6	25,038.5	109,057.3	169,252.5
2009	10	1,004,137,336.330	143,276	7,381.2	12,578.7	23,447.8	100,461.2	143,868.8
2009	11	1,149,238,021.196	143,42	29,440.7	518.3	24,496.0	110,368.8	164,823.7
2009	12	1,653,206,192.170	143,633	77,826.3	33.6	32,280.5	127,314.6	237,455.0
2010	1	2,438,469,823.720	143,805	160,935.6	0.0	30,153.1	159,575.4	350,664.2
2010	2	2,121,714,378.112	143,788	159,047.9	0.0	23,939.9	122,089.3	305,077.1
2010	3	1,945,592,070.632	143,618	131,291.4	0.0	22,713.4	125,417.3	279,422.0
2010	4	1,218,668,892.723	143,153	30,520.0	4,108.4	22,848.7	116,979.0	174,456.1
2010	5	945,395,138.758	142,803	7,899.4	6,430.0	20,680.5	99,995.4	135,005.3
2010	6	1,164,318,712.651	142,743	1,276.7	31,267.7	21,204.6	112,449.3	166,198.3
2010	7	1,429,758,865.049	142,667	0.0	55,573.4	23,068.0	125,338.0	203,979.4
2010	8	1,489,051,092.180	142,742	0.0	64,892.2	23,373.5	124,284.5	212,550.1
2010	9	1,288,807,601.600	142,47	0.0	46,108.3	22,870.7	114,637.4	183,616.4
2010	10	1,008,016,131.183	142,457	2,470.7	17,196.9	20,509.2	103,422.1	143,599.0
2010	11	1,081,280,184.164	142,699	26,335.1	1,658.3	21,072.1	105,232.1	154,297.6
2010	12	1,914,121,373.714	142,708	107,342.9	0.0	27,306.2	138,511.4	273,160.4
2011	1	2,583,180,891.853	143,185	173,510.2	0.0	28,250.2	168,112.4	369,872.8
2011	2	2,029,311,107.997	142,735	157,514.2	0.0	22,958.0	109,181.6	289,653.7
2011	3	1,497,373,823.206	142,867	82,560.3	265.4	19,996.0	111,103.6	213,925.3
2011	4	1,237,322,480.358	142,173	52,493.5	2,534.5	19,526.2	101,359.7	175,913.8
2011	5	964,228,311.888	141,679	10,109.3	7,567.0	18,400.9	100,533.7	136,610.9
2011	6	1,139,615,319.907	141,463	3,239.4	28,214.1	19,198.3	110,561.6	161,213.4



Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Customers	Heating	Cooling	Lighting	Other	Total
2011	7	1,273,345,535.298	141.398	0.0	44,211.5	21,310.0	114,527.1	180,048.5
2011	8	1,446,915,636.857	141.531	0.0	65,609.3	20,833.0	118,341.1	204,783.4
2011	9	1,195,311,998.358	141.286	36.1	39,159.0	20,643.8	109,042.0	168,880.9
2011	10	922,740,827.313	141.18	6,331.3	6,967.8	18,443.8	98,529.6	130,272.6
2011	11	1,121,424,115.483	141.32	31,626.9	161.1	19,143.4	107,548.3	158,479.7
2011	12	1,549,999,787.986	141.5	57,864.8	242.1	25,281.2	135,936.9	219,325.0
2012	1	1,936,457,076.255	141.565	101,296.4	0.0	27,494.4	145,343.7	274,134.5
2012	2	1,721,183,448.947	141.707	105,948.7	0.0	21,057.3	116,897.7	243,903.7
2012	3	1,409,422,938.409	141.335	75,701.6	1,458.9	19,658.1	102,382.2	199,200.8
2012	4	977,120,699.812	140.895	15,909.9	6,070.0	18,652.8	97,038.7	137,671.4
2012	5	970,622,977.484	140.79	10,811.9	8,833.3	17,256.6	99,752.1	136,654.0
2012	6	1,095,117,537.035	140.611	54.5	26,025.0	18,935.5	108,970.6	153,985.6
2012	7	1,374,144,445.155	140.697	0.0	58,246.7	20,766.9	114,324.4	193,338.0
2012	8	1,329,610,153.223	140.645	0.0	57,123.1	19,970.3	109,909.7	187,003.0
2012	9	1,199,271,521.107	140.641	129.8	40,126.1	19,745.1	108,665.7	168,666.7
2012	10	940,817,771.802	140.571	8,565.4	9,603.5	17,671.6	96,411.2	132,251.7
2012	11	1,183,200,730.212	140.781	44,778.6	1,240.2	18,654.6	101,898.8	166,572.2
2012	12	1,657,436,622.217	140.909	73,233.7	0.0	24,090.0	136,224.0	233,547.7
2013	1	1,989,467,918.323	141.093	114,813.2	0.0	24,780.4	141,106.4	280,700.0
2013	2	1,890,739,839.475	140.913	132,611.6	0.0	18,098.9	115,719.3	266,429.8
2013	3	1,766,153,678.377	140.755	115,487.7	0.0	17,736.8	115,370.4	248,595.0
2013	4	1,476,357,193.187	140.501	74,658.5	2,842.4	17,711.9	112,216.8	207,429.7
2013	5	925,592,889.859	140.166	9,016.4	7,622.1	16,260.0	96,838.1	129,736.7
2013	6	1,059,271,380.168	139.896	1,574.4	27,895.6	16,828.4	101,889.4	148,187.8
2013	7	1,254,262,697.725	139.651	0.0	48,556.7	17,839.8	108,762.5	175,159.0
2013	8	1,222,492,848.655	139.694	0.0	45,496.0	17,643.9	107,635.0	170,774.9
2013	9	1,156,875,156.672	139.623	0.0	39,396.0	17,247.7	104,882.7	161,526.4
2013	10	925,313,385.601	139.665	2,188.9	15,542.3	15,692.7	95,810.0	129,233.9
2013	11	1,121,631,236.194	139.889	36,942.4	2,249.0	16,462.8	101,249.6	156,903.9
2013	12	1,809,375,873.365	140.119	99,940.6	66.9	21,616.5	131,904.0	253,527.9
2014	1	2,308,763,001.618	140.271	130,289.6	128.1	23,387.8	170,046.9	323,852.5
2014	2	2,318,955,621.703	140.091	173,093.9	0.0	19,172.2	132,598.7	324,864.8
2014	3	1,830,617,039.827	139.931	123,383.3	0.0	18,201.1	114,575.7	256,160.1



Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Customers	Heating	Cooling	Lighting	Other	Total
2014	4	1,268,237,621.629	139,255	58,954.4	991.8	16,384.0	100,278.2	176,608.4
2014	5	946,682,966.697	138,875	7,282.0	5,381.8	15,303.0	103,503.7	131,470.6
2014	6	1,060,301,158.050	138,595	2,003.9	20,715.4	16,220.3	108,012.8	146,952.4
2014	7	1,238,168,389.348	138,447	0.0	43,771.2	17,414.6	110,234.9	171,420.7
2014	8	1,112,124,329.172	138,262	0.0	30,936.1	17,026.4	105,802.0	153,764.5
2014	9	1,165,669,026.203	138,304	0.0	36,030.7	16,352.9	108,833.1	161,216.7
2014	10	881,608,021.990	138,245	3,635.3	9,148.4	15,018.1	94,076.1	121,877.9
2014	11	1,115,491,457.990	138,492	40,856.5	858.4	15,638.2	97,133.4	154,486.6
2014	12	1,735,077,353.921	138,726	99,035.6	2.6	20,250.8	121,411.3	240,700.3
2015	1	2,047,111,752.664	138,726	121,244.6	0.0	20,788.8	141,954.2	283,987.6
2015	2	2,097,411,237.850	138,781	151,432.2	0.0	16,028.7	123,620.0	291,080.8
2015	3	2,041,616,647.567	138,747	158,283.0	0.0	16,034.0	108,951.2	283,268.2
2015	4	1,153,793,972.361	138,064	44,466.5	756.7	14,358.6	99,715.6	159,297.4
2015	5	912,350,444.742	137,608	10,770.1	8,143.6	12,959.1	93,673.9	125,546.7
2015	6	1,088,662,754.935	137,535	372.2	30,269.3	14,165.7	104,922.1	149,729.2
2015	7	1,230,037,562.987	137,529	0.0	43,048.4	15,630.1	110,487.3	169,165.8
2015	8	1,242,789,121.333	137,572	0.0	44,991.4	14,958.6	111,023.0	170,973.0
2015	9	1,132,635,924.836	137,565	0.0	34,304.2	15,000.3	106,506.6	155,811.1
2015	10	902,084,847.384	137.6	3,557.1	10,805.7	13,428.7	96,335.4	124,126.9
2015	11	928,910,552.808	137,679	20,578.9	747.6	13,931.4	92,633.6	127,891.5
2015	12	1,367,669,687.720	137,921	50,565.1	154.5	17,909.5	120,001.3	188,630.4
2016	1	1,760,428,969.924	138,019	82,195.2	0.0	15,022.3	145,755.2	242,972.6
2016	2	1,939,360,432.760	137,998	136,965.7	0.0	11,438.2	119,224.0	267,627.9
2016	3	1,454,493,920.034	137,583	76,922.3	188.9	11,211.0	111,791.4	200,113.6
2016	4	1,049,837,537.238	137,293	27,417.6	1,395.3	10,928.8	104,393.6	144,135.3
2016	5	847,205,376.046	136,978	9,060.1	7,322.6	9,694.3	89,971.4	116,048.5
2016	6	1,017,889,044.112	136,721	2,108.7	24,672.7	10,167.7	102,217.8	139,166.8
2016	7	1,244,159,627.816	136,599	0.0	46,032.5	11,314.5	112,604.0	169,951.0
2016	8	1,351,460,101.868	136,648	0.0	61,677.8	11,224.4	111,772.1	184,674.3
2016	9	1,291,872,972.894	136,648	0.0	56,834.0	11,030.1	108,667.7	176,531.9
2016	10	955,985,437.107	136,374	351.0	27,031.1	9,862.0	93,127.4	130,371.6
2016	11	878,726,052.082	136,515	11,531.9	6,494.1	9,990.6	91,942.8	119,959.3
2016	12	1,511,606,955.644	136,781	68,020.2	269.2	13,138.8	125,331.0	206,759.1

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Customers	Heating	Cooling	Lighting	Other	Total
2017	1	1,795,642,938.613	136,772	90,393.9	0.0	12,672.4	142,527.4	245,593.7
2017	2	1,430,614,715.254	136,525	75,224.1	0.0	9,558.6	110,532.0	195,314.7
2017	3	1,279,129,104.833	136,455	58,871.6	87.0	8,970.5	106,614.5	174,543.6
2017	4	1,041,332,788.996	135,945	36,286.5	2,048.2	8,715.2	94,514.0	141,564.0
2017	5	823,765,775.385	135,797	4,936.9	10,793.3	7,806.4	88,328.3	111,864.9
2017	6	945,257,057.314	135,604	1,190.3	20,301.1	8,521.4	98,167.8	128,180.6
2017	7	1,174,286,650.432	135,51	0.0	40,797.2	9,400.3	108,930.1	159,127.6
2017	8	1,200,944,640.432	135,496	0.0	43,562.9	9,280.5	109,879.8	162,723.2
2017	9	1,027,802,706.747	135,661	0.0	25,931.9	9,192.5	104,308.3	139,432.7
2017	10	876,430,135.146	135,483	650.8	19,103.8	8,097.0	90,889.8	118,741.4
2017	11	965,003,787.404	135,713	26,366.3	3,475.5	8,423.2	92,698.6	130,963.6
2017	12	1,547,238,073.847	135,794	71,409.1	130.7	11,067.6	127,498.2	210,105.6
2018	1	2,273,147,316.930	135,945	139,937.9	266.2	10,682.6	158,136.2	309,023.0
2018	2	1,818,927,613.842	135,758	112,422.2	445.9	8,581.4	125,484.5	246,934.0
2018	3	1,272,775,156.536	135,432	62,201.6	891.0	7,974.4	101,307.4	172,374.5
2018	4	1,297,139,566.205	135,133	59,753.9	1,026.3	7,374.0	107,132.2	175,286.4
2018	5	938,924,000.119	134,816	14,496.6	11,039.8	6,857.3	94,188.3	126,582.0
2018	6	1,120,107,712.084	134,581	196.1	37,275.6	7,440.4	105,833.1	150,745.2
2018	7	1,279,232,620.619	134,743	0.0	50,054.6	8,049.2	114,263.8	172,367.6
2018	8	1,198,444,361.908	134,62	0.0	45,705.4	7,981.7	107,647.5	161,334.6
2018	9	1,197,741,605.731	134,705	0.0	46,200.8	7,601.3	107,539.7	161,341.8
2018	10	989,739,593.482	134,459	3,701.2	28,839.8	6,812.7	93,725.7	133,079.4
2018	11	1,058,749,784.630	134,652	35,772.2	4,209.4	7,197.7	95,383.4	142,562.8
2018	12	1,607,197,614.966	134,757	83,096.3	23.4	9,235.4	124,226.0	216,581.1
2019	1	1,758,299,443.331	134,73	82,957.9	0.0	9,363.2	144,574.6	236,895.7
2019	2	1,727,538,541.612	134,491	103,839.7	0.0	7,162.7	121,336.0	232,338.4
2019	3	1,430,111,575.108	134,34	81,064.7	119.7	6,996.7	103,940.0	192,121.2
2019	4	1,109,539,385.450	134,212	40,722.7	1,399.1	6,454.4	100,337.3	148,913.5
2019	5	857,774,022.561	133,947	3,638.1	8,802.6	6,175.3	96,280.2	114,896.3
2019	6	999,339,125.883	133,735	56.1	24,488.6	6,531.1	102,570.8	133,646.6
2019	7	1,205,831,829.295	133,751	0.0	42,688.3	7,110.2	111,482.7	161,281.2
2019	8	1,275,655,592.784	133,708	0.0	49,668.9	7,039.6	113,856.9	170,565.4
2019	9	1,191,835,424.581	133,732	0.0	41,563.8	6,964.1	110,858.6	159,386.5

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Customers	Heating	Cooling	Lighting	Other	Total
2019	10	1,018,191,928.036	133.623	1,360.3	32,799.1	6,209.8	95,684.6	136,053.9
2019	11	1,019,262,981.424	133.614	31,249.7	2,751.3	6,360.9	95,825.9	136,187.8
2019	12	1,559,112,279.050	133.854	76,318.5	0.0	8,308.5	124,066.5	208,693.4
2020	1	1,661,810,524.271	133.843	67,263.3	255.8	8,761.4	146,141.2	222,421.7
2020	2	1,480,044,047.129	133.675	83,394.0	257.0	6,647.2	107,546.7	197,844.9
2020	3	1,395,120,383.385	133.756	69,469.1	18.4	6,176.5	110,941.7	186,605.7
2020	4	1,051,102,962.045	133.894	25,008.9	2,489.3	6,358.0	106,880.1	140,736.4
2020	5	930,086,120.121	134.115	19,650.0	3,084.3	5,806.1	96,198.0	124,738.5
2020	6	1,039,992,866.132	134.289	5,342.5	23,443.9	6,179.5	104,693.7	139,659.6
2020	7	1,232,516,008.780	134.395	0.0	44,553.8	6,751.8	114,338.4	165,644.0
2020	8	1,346,233,485.219	134.531	0.0	56,378.7	6,671.2	118,060.3	181,110.1
2020	9	1,193,825,112.907	134.624	0.0	40,733.6	6,605.8	113,378.2	160,717.5
2020	10	881,829,156.736	134.679	2,339.9	9,775.7	5,957.8	100,690.4	118,763.9
2020	11	895,986,656.673	134.749	16,133.6	1,707.6	6,114.4	96,777.7	120,733.3
2020	12	1,438,750,552.417	134.862	60,470.4	163.3	7,815.4	125,583.7	194,032.8
2021	1	1,919,542,594.173	134.725	98,996.4	0.0	8,670.9	150,943.1	258,610.4
2021	2	1,845,431,621.789	133.661	120,709.3	0.0	6,797.3	119,155.7	246,662.2
2021	3	1,518,872,290.264	134.884	94,293.0	41.6	6,318.5	104,218.4	204,871.6
2021	4	1,043,269,031.555	133.988	24,824.6	1,058.3	5,936.1	107,966.5	139,785.5
2021	5	895,111,149.349	133.667	12,695.4	4,103.2	5,689.6	97,158.7	119,646.8
2021	6	968,579,545.369	133.515	1,626.1	19,769.2	6,041.3	101,883.3	129,319.9
2021	7	1,185,459,911.406	133.417	58.2	38,682.8	6,470.4	112,949.1	158,160.5
2021	8	1,216,247,133.710	133.535	0.0	44,217.4	6,452.7	111,741.5	162,411.6
2021	9	1,192,055,026.019	133.555	0.0	42,460.1	6,251.0	110,493.8	159,204.9
2021	10	887,921,652.219	133.469	246.1	18,004.2	5,685.3	94,574.5	118,510.0
2021	11	951,739,701.832	133.616	20,399.6	4,459.6	5,743.6	96,564.9	127,167.7
2021	12	1,501,885,035.622	133.624	58,266.3	0.0	7,580.9	134,840.7	200,687.9
2022	1	1,708,403,252.123	133.681707	68,472.9	0.0	8,607.9	151,301.4	228,382.3
2022	2	1,708,242,990.709	133.455631	109,371.7	26.4	6,382.9	112,193.5	227,974.6
2022	3	1,441,506,471.197	133.210029	80,421.1	165.3	5,998.6	105,438.1	192,023.1
2022	4	1,106,824,884.513	132.754553	37,576.4	1,784.1	5,790.8	101,784.8	146,936.0
2022	5	869,879,412.069	132.40011	8,969.9	5,990.9	5,394.4	94,816.9	115,172.1
2022	6	966,945,957.476	132.192901	1,204.9	18,734.9	5,807.4	102,076.3	127,823.4

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Customers	Heating	Cooling	Lighting	Other	Total
2022	7	1,174,366,702.157	132.082949	4.1	38,161.6	6,295.3	110,652.9	155,113.8
2022	8	1,196,132,602.248	132.064817	0.0	43,059.6	6,185.4	108,722.0	157,967.0
2022	9	1,108,574,756.710	132.011143	17.3	34,537.2	6,017.6	105,772.4	146,344.5
2022	10	871,273,668.611	131.918254	2,866.3	12,364.5	5,367.2	94,338.9	114,936.9
2022	11	983,632,396.188	132.028241	24,009.0	1,644.1	5,609.8	98,604.3	129,867.3
2022	12	1,539,345,724.318	132.172541	64,877.9	120.1	7,453.3	131,007.9	203,459.2
2023	1	1,892,716,009.249	132.262289	93,949.3	32.7	8,340.7	148,012.3	250,335.0
2023	2	1,710,129,585.780	132.060841	106,050.2	25.5	6,388.9	113,376.5	225,841.2
2023	3	1,440,020,320.136	131.838792	78,223.6	160.1	5,946.2	105,520.6	189,850.5
2023	4	1,106,931,321.184	131.405798	36,663.9	1,733.9	5,711.1	101,348.3	145,457.2
2023	5	870,743,835.860	131.072765	8,777.5	5,839.2	5,308.6	94,205.6	114,130.8
2023	6	966,465,058.073	130.885884	1,182.0	18,305.6	5,708.4	101,300.7	126,496.6
2023	7	1,172,221,994.930	130.795203	4.0	37,360.1	6,185.7	109,771.1	153,321.0
2023	8	1,194,006,867.193	130.795506	0.0	42,225.3	6,078.4	107,867.0	156,170.7
2023	9	1,107,269,008.918	130.759788	17.1	33,895.9	5,914.6	104,958.7	144,786.3
2023	10	871,347,086.406	130.683568	2,825.0	12,139.2	5,276.2	93,630.4	113,870.7
2023	11	983,481,424.389	130.80986	23,662.2	1,614.1	5,514.4	97,858.3	128,649.1
2023	12	1,537,443,352.772	130.969915	63,921.2	117.9	7,325.3	129,994.4	201,358.8
2024	1	1,889,026,613.141	131.074971	92,554.1	32.2	8,237.5	146,780.3	247,604.1
2024	2	1,704,912,032.905	130.888333	104,396.8	25.1	6,309.3	112,421.9	223,153.1
2024	3	1,435,524,637.276	130.680659	76,948.7	157.4	5,871.3	104,617.9	187,595.3
2024	4	1,104,353,554.031	130.261645	36,043.4	1,703.2	5,638.5	100,469.8	143,854.9
2024	5	869,344,925.499	129.942171	8,622.5	5,731.5	5,240.1	93,370.5	112,964.6
2024	6	964,347,277.202	129.768518	1,160.4	17,956.6	5,634.1	100,390.9	125,141.9
2024	7	1,168,379,877.972	129.690727	4.0	36,630.9	6,105.3	108,787.9	151,528.0
2024	8	1,189,634,367.014	129.703551	0.0	41,393.0	5,999.8	106,907.0	154,299.8
2024	9	1,103,589,790.685	129.679986	16.8	33,227.7	5,838.3	104,030.7	143,113.5
2024	10	869,376,129.897	129.615554	2,772.4	11,901.1	5,208.2	92,802.9	112,684.7
2024	11	980,861,293.131	129.753264	23,228.8	1,582.9	5,444.5	97,013.7	127,270.0
2024	12	1,531,899,601.712	129.924372	62,773.3	115.6	7,234.5	128,907.7	199,031.1
2025	1	1,880,307,424.345	130.040084	90,773.2	31.6	8,090.5	145,620.1	244,515.3
2025	2	1,695,429,849.344	129.863767	102,415.7	24.6	6,196.9	111,537.6	220,174.9
2025	3	1,428,620,575.370	129.666617	75,513.8	154.4	5,767.5	103,808.0	185,243.8

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Customers	Heating	Cooling	Lighting	Other	Total
2025	4	1,100,775,766.501	129.2569	35,375.1	1,671.6	5,539.1	99,697.1	142,282.9
2025	5	867,849,998.333	128.946877	8,465.7	5,627.1	5,148.4	92,665.3	111,906.5
2025	6	962,454,857.843	128.782317	1,139.4	17,632.4	5,535.9	99,639.5	123,947.2
2025	7	1,165,082,829.437	128.713328	3.9	35,972.2	5,999.6	107,986.0	149,961.7
2025	8	1,185,979,582.161	128.734718	0.0	40,653.4	5,896.3	106,127.0	152,676.7
2025	9	1,100,549,577.331	128.719424	16.5	32,636.3	5,737.7	103,271.7	141,662.1
2025	10	867,797,799.770	128.663023	2,723.1	11,690.3	5,118.2	92,121.8	111,653.5
2025	11	978,393,093.681	128.808506	22,816.4	1,554.9	5,350.5	96,303.6	126,025.4
2025	12	1,526,202,865.690	128.987187	61,662.0	113.6	7,110.2	127,974.9	196,860.6
2026	1	1,874,014,071.387	129.11025	89,200.0	31.0	7,963.7	144,759.7	241,954.4
2026	2	1,688,216,763.090	128.94106	100,651.5	24.2	6,101.1	110,903.6	217,680.5
2026	3	1,423,526,909.768	128.750377	74,216.7	151.9	5,679.1	103,232.0	183,279.6
2026	4	1,098,816,403.083	128.347835	34,770.8	1,643.9	5,455.1	99,160.8	141,030.7
2026	5	867,703,818.635	128.044344	8,321.3	5,534.0	5,071.0	92,178.3	111,104.6
2026	6	962,139,472.653	127.886165	1,120.3	17,343.9	5,453.3	99,126.8	123,044.3
2026	7	1,163,658,274.030	127.823378	3.8	35,391.2	5,910.5	107,437.2	148,742.7
2026	8	1,184,202,324.290	127.850756	0.0	40,000.1	5,809.0	105,592.2	151,401.2
2026	9	1,099,402,550.613	127.841303	16.2	32,114.8	5,653.4	102,764.7	140,549.1
2026	10	867,915,879.144	127.790549	2,679.0	11,504.9	5,043.8	91,683.8	110,911.4
2026	11	977,819,568.815	127.941579	22,453.0	1,530.6	5,272.9	95,847.3	125,103.8
2026	12	1,523,164,637.214	128.12559	60,692.7	111.8	7,005.7	127,346.1	195,156.4
2027	1	1,868,943,848.556	128.25386	87,776.4	30.6	7,868.8	144,023.5	239,699.3
2027	2	1,682,315,364.570	128.089764	99,062.7	23.9	6,030.1	110,370.7	215,487.4
2027	3	1,419,663,511.467	127.90399	73,061.4	149.7	5,614.1	102,755.4	181,580.6
2027	4	1,097,758,354.616	127.50619	34,236.1	1,620.6	5,393.6	98,720.7	139,971.0
2027	5	868,254,869.211	127.207308	8,194.5	5,456.1	5,014.6	91,783.2	110,448.4
2027	6	962,531,063.426	127.053524	1,103.3	17,101.4	5,392.3	98,696.0	122,293.0
2027	7	1,163,057,265.945	126.995017	3.8	34,898.1	5,843.6	106,957.0	147,702.5
2027	8	1,183,277,804.677	127.026513	0.0	39,444.8	5,743.3	105,119.6	150,307.7
2027	9	1,099,012,147.627	127.021079	15.9	31,671.6	5,590.3	102,319.9	139,597.7
2027	10	868,478,277.703	126.974247	2,638.8	11,346.2	4,988.3	91,301.1	110,274.4
2027	11	977,523,907.426	127.128998	22,114.1	1,509.4	5,214.1	95,434.0	124,271.6
2027	12	1,520,323,079.423	127.316627	59,769.8	110.3	6,925.4	126,756.9	193,562.4

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Customers	Heating	Cooling	Lighting	Other	Total
2028	1	1,864,690,453.557	127,448389	86,474.0	30.2	7,798.1	143,349.6	237,651.8
2028	2	1,677,072,388.410	127,287593	97,590.8	23.6	5,977.3	109,878.9	213,470.5
2028	3	1,416,136,589.479	127,104986	71,976.4	147.8	5,565.5	102,308.4	179,998.0
2028	4	1,096,773,828.628	126,710263	33,726.4	1,599.4	5,347.4	98,299.4	138,972.5
2028	5	868,826,564.924	126,414386	8,072.9	5,385.0	4,972.2	91,402.2	109,832.2
2028	6	962,982,444.791	126,263528	1,086.9	16,878.3	5,346.2	98,278.1	121,589.6
2028	7	1,162,598,515.554	126,207876	3.7	34,442.1	5,793.0	106,490.4	146,729.1
2028	8	1,182,487,000.559	126,242179	0.0	38,928.0	5,693.3	104,658.4	149,279.7
2028	9	1,098,651,682.434	126,239492	15.7	31,255.5	5,542.1	101,879.9	138,693.2
2028	10	868,989,635.421	126,195333	2,599.2	11,196.8	4,946.0	90,920.4	109,662.4
2028	11	977,170,386.728	126,352754	21,782.4	1,489.5	5,169.4	95,026.9	123,468.2
2028	12	1,517,485,163.937	126,543043	58,872.2	108.8	6,864.2	126,182.0	192,027.2
2029	1	1,861,022,046.768	126,677403	85,259.2	29.8	7,733.6	142,726.8	235,749.4
2029	2	1,672,366,427.831	126,519252	96,208.8	23.3	5,929.2	109,425.3	211,586.5
2029	3	1,412,908,857.990	126,339309	70,947.1	146.0	5,521.0	101,891.9	178,505.9
2029	4	1,095,949,406.752	125,947244	33,240.7	1,580.0	5,305.0	97,906.1	138,031.8
2029	5	869,442,490.560	125,653988	7,955.6	5,319.2	4,933.0	91,041.1	109,248.9
2029	6	963,491,601.502	125,505757	1,071.0	16,670.7	5,303.5	97,878.5	120,923.7
2029	7	1,162,272,764.606	125,452655	3.6	34,016.6	5,746.0	106,044.0	145,810.2
2029	8	1,181,853,035.131	125,489526	0.0	38,445.5	5,647.0	104,217.7	148,310.2
2029	9	1,098,417,707.075	125,48939	15.5	30,866.6	5,497.6	101,460.1	137,839.8
2029	10	869,508,705.185	125,447684	2,560.5	11,056.4	4,906.7	90,554.3	109,077.9
2029	11	976,751,516.297	125,607539	21,456.6	1,470.7	5,127.6	94,632.4	122,687.4
2029	12	1,514,491,973.069	125,800215	57,987.1	107.5	6,806.8	125,622.1	190,523.4
2030	1	1,854,376,212.283	125,93697	83,853.5	29.4	7,572.1	142,079.5	233,534.5
2030	2	1,664,652,999.793	125,781154	94,614.6	23.0	5,805.9	108,938.5	209,382.0
2030	3	1,407,235,655.403	125,603515	69,762.1	144.0	5,406.3	101,441.3	176,753.7
2030	4	1,093,494,896.142	125,213672	32,684.1	1,558.8	5,195.3	97,482.3	136,920.5
2030	5	868,926,532.367	124,922582	7,821.2	5,247.2	4,831.1	90,648.9	108,548.5
2030	6	962,877,172.117	124,776496	1,052.8	16,443.3	5,193.8	97,454.5	120,144.4
2030	7	1,160,648,765.867	124,725455	3.6	33,548.9	5,627.0	105,582.9	144,762.4
2030	8	1,179,893,140.332	124,764326	0.0	37,915.2	5,530.1	103,763.4	147,208.6
2030	9	1,096,895,418.893	124,766057	15.2	30,440.8	5,383.6	101,015.7	136,855.3

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Customers	Heating	Cooling	Lighting	Other	Total
2030	10	868,979,725.817	124.726273	2,516.8	10,904.9	4,805.0	90,158.0	108,384.6
2030	11	975,064,888.135	124.887957	21,091.6	1,450.7	5,020.9	94,210.7	121,773.9
2030	12	1,509,598,906.854	125.082367	57,006.2	106.0	6,664.4	125,047.6	188,824.2
2031	1	1,849,345,472.049	125.220814	82,571.5	29.1	7,442.1	141,533.8	231,576.5
2031	2	1,658,695,970.403	125.066649	93,172.0	22.7	5,707.5	108,545.3	207,447.5
2031	3	1,403,225,884.392	124.890531	68,703.1	142.4	5,315.4	101,088.8	175,249.6
2031	4	1,092,478,710.712	124.502184	32,197.9	1,541.2	5,109.2	97,167.7	136,016.0
2031	5	869,707,350.265	124.212506	7,707.2	5,189.2	4,752.3	90,379.8	108,028.5
2031	6	963,840,681.369	124.067781	1,037.7	16,264.5	5,109.4	97,170.0	119,581.6
2031	7	1,161,109,559.768	124.018106	3.5	33,190.5	5,535.2	105,269.3	143,998.6
2031	8	1,180,222,411.792	124.058231	0.0	37,516.3	5,440.1	103,459.9	146,416.3
2031	9	1,097,637,711.646	124.061204	15.0	30,123.3	5,297.0	100,739.0	136,174.3
2031	10	870,315,116.977	124.02256	2,482.7	10,792.2	4,728.9	89,934.9	107,938.7
2031	11	975,612,280.514	124.185352	20,808.6	1,435.8	4,941.2	93,971.1	121,156.8
2031	12	1,508,233,472.328	124.380831	56,246.0	104.9	6,556.3	124,688.1	187,595.3
2032	1	1,846,845,687.093	124.520362	81,491.0	28.8	7,332.2	141,117.8	229,969.9
2032	2	1,655,144,360.787	124.367158	91,940.5	22.5	5,624.9	108,257.7	205,845.6
2032	3	1,401,022,914.598	124.191974	67,786.0	141.0	5,238.9	100,829.9	173,995.8
2032	4	1,092,449,736.469	123.804527	31,763.2	1,526.2	5,036.0	96,924.7	135,250.2
2032	5	871,033,462.391	123.515736	7,602.1	5,138.0	4,684.6	90,161.5	107,586.3
2032	6	965,209,577.331	123.371919	1,023.4	16,101.9	5,035.7	96,918.7	119,079.8
2032	7	1,161,830,878.502	123.3231	3.5	32,854.6	5,454.0	104,968.5	143,280.6
2032	8	1,180,665,983.658	123.36416	0.0	37,134.6	5,359.9	103,157.4	145,651.9
2032	9	1,098,386,365.553	123.368051	14.8	29,815.3	5,219.5	100,456.2	135,505.8
2032	10	871,542,757.102	123.330366	2,447.5	10,681.5	4,660.6	89,698.2	107,487.7
2032	11	975,859,343.948	123.49403	20,512.6	1,421.0	4,869.0	93,710.1	120,512.8
2032	12	1,506,046,115.793	123.690492	55,432.9	103.8	6,457.8	124,289.0	186,283.6
2033	1	1,843,891,871.140	123.830921	80,369.2	28.5	7,232.8	140,700.3	228,330.8
2033	2	1,651,194,521.255	123.678659	90,672.4	22.3	5,550.4	107,972.4	204,217.5
2033	3	1,398,630,888.660	123.504453	66,849.6	139.7	5,170.2	100,577.6	172,737.1
2033	4	1,092,424,790.238	123.117931	31,323.2	1,512.0	4,970.5	96,691.4	134,497.1
2033	5	872,478,519.085	122.829997	7,496.6	5,090.1	4,624.2	89,955.6	107,166.5
2033	6	966,821,286.905	122.686926	1,009.1	15,951.3	4,970.2	96,685.7	118,616.3



Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Customers	Heating	Cooling	Lighting	Other	Total
2033	7	1,162,938,430.326	122.638815	3.4	32,546.3	5,381.6	104,690.0	142,621.4
2033	8	1,181,524,862.119	122.680422	0.0	36,784.6	5,288.4	102,876.9	144,950.0
2033	9	1,099,520,103.093	122.684695	14.6	29,532.8	5,150.6	100,196.3	134,894.3
2033	10	873,050,481.621	122.647271	2,413.0	10,579.6	4,600.0	89,484.6	107,077.3
2033	11	976,355,847.226	122.811092	20,223.0	1,407.4	4,805.0	93,472.0	119,907.3
2033	12	1,504,341,207.502	123.00753	54,647.4	102.8	6,370.4	123,924.7	185,045.3
2034	1	1,841,943,514.738	123.147783	79,279.6	28.3	7,143.2	140,380.2	226,831.3
2034	2	1,648,167,042.444	122.995267	89,438.6	22.1	5,483.9	107,772.1	202,716.7
2034	3	1,397,081,352.755	122.820636	65,936.5	138.5	5,109.1	100,406.3	171,590.4
2034	4	1,093,191,116.563	122.433639	30,893.5	1,499.1	4,912.3	96,538.5	133,843.4
2034	5	874,673,860.882	122.145153	7,393.3	5,046.2	4,570.8	89,826.8	106,837.2
2034	6	969,258,703.875	122.001475	995.2	15,813.0	4,911.9	96,530.8	118,251.0
2034	7	1,164,958,765.136	121.952735	3.4	32,263.2	5,316.8	104,486.6	142,069.9
2034	8	1,183,304,739.176	121.993711	0.0	36,463.5	5,224.2	102,668.0	144,355.7
2034	9	1,101,586,155.597	121.997405	14.4	29,274.3	5,089.1	100,012.8	134,390.7
2034	10	875,384,281.708	121.959406	2,379.4	10,486.8	4,546.5	89,348.6	106,761.3
2034	11	977,685,163.783	122.122742	19,941.0	1,395.0	4,748.2	93,313.4	119,397.6
2034	12	1,503,697,704.249	122.318719	53,884.6	101.9	6,292.0	123,651.8	183,930.4
2035	1	1,840,031,660.887	122.458643	78,196.4	28.1	7,064.2	140,039.1	225,327.8
2035	2	1,645,228,142.790	122.305867	88,216.7	21.9	5,425.6	107,556.8	201,221.1
2035	3	1,395,644,039.196	122.131099	65,035.7	137.4	5,055.7	100,222.8	170,451.5
2035	4	1,094,056,037.406	121.74397	30,471.1	1,487.3	4,861.6	96,374.7	133,194.7
2035	5	876,969,866.695	121.455429	7,292.2	5,006.6	4,524.3	89,689.6	106,512.8
2035	6	971,865,296.877	121.311726	981.6	15,688.7	4,861.2	96,367.2	117,898.7
2035	7	1,167,259,700.990	121.262915	3.3	32,008.9	5,260.0	104,273.1	141,545.3
2035	8	1,185,392,544.914	121.303834	0.0	36,175.3	5,168.0	102,449.4	143,792.7
2035	9	1,103,907,915.446	121.307494	14.2	29,042.2	5,035.4	99,820.5	133,912.3
2035	10	877,846,334.149	121.269411	2,346.7	10,403.3	4,499.9	89,206.0	106,455.9
2035	11	979,112,593.340	121.432605	19,665.6	1,383.9	4,698.8	93,147.9	118,896.2
2035	12	1,503,216,530.192	121.628373	53,139.1	101.1	6,223.3	123,370.3	182,833.8
2036	1	1,838,715,827.804	121.768045	77,176.7	27.9	6,989.8	139,702.5	223,896.8
2036	2	1,642,882,447.002	121.61483	87,062.8	21.8	5,370.8	107,343.5	199,798.9
2036	3	1,394,633,131.747	121.439531	64,182.5	136.5	5,005.3	100,039.3	169,363.6



Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Customers	Heating	Cooling	Lighting	Other	Total
2036	4	1,095,144,538.936	121.05179	30,069.8	1,477.4	4,813.6	96,208.3	132,569.2
2036	5	879,386,317.901	120.762533	7,195.8	4,973.0	4,480.4	89,547.7	106,196.9
2036	6	974,666,700.064	120.618043	968.6	15,583.0	4,813.1	96,197.8	117,562.4
2036	7	1,169,894,453.988	120.56834	3.3	31,792.1	5,206.0	104,050.8	141,052.2
2036	8	1,187,861,386.214	120.608297	0.0	35,929.5	5,114.5	102,221.9	143,265.9
2036	9	1,106,550,018.371	120.610873	14.0	28,844.2	4,984.3	99,619.5	133,462.0
2036	10	880,469,084.798	120.571635	2,315.3	10,332.2	4,455.8	89,056.3	106,159.6
2036	11	980,716,181.747	120.733589	19,402.7	1,374.4	4,651.9	92,976.3	118,405.4
2036	12	1,503,111,267.722	120.928051	52,428.1	100.4	6,158.2	123,081.6	181,768.3
2037	1	1,837,628,652.484	121.066357	76,165.2	27.7	6,917.8	139,364.3	222,475.0
2037	2	1,640,801,448.082	120.911744	85,920.4	21.7	5,317.8	107,132.3	198,392.2
2037	3	1,393,880,408.305	120.73498	63,338.9	135.7	4,956.8	99,858.7	168,290.1
2037	4	1,096,479,786.388	120.34571	29,674.0	1,468.9	4,767.5	96,046.1	131,956.6
2037	5	882,056,854.152	120.054872	7,101.0	4,944.3	4,438.2	89,411.7	105,895.2
2037	6	977,817,320.926	119.908759	955.8	15,492.8	4,766.9	96,033.4	117,248.9
2037	7	1,173,036,531.770	119.857436	3.3	31,607.8	5,154.0	103,832.1	140,597.2
2037	8	1,190,870,369.485	119.895668	0.0	35,720.6	5,062.9	101,996.7	142,780.2
2037	9	1,109,688,676.450	119.896461	13.8	28,675.9	4,935.2	99,422.9	133,047.7
2037	10	883,423,033.686	119.855426	2,284.6	10,271.7	4,413.5	88,913.3	105,883.0
2037	11	982,622,563.832	120.01555	19,145.2	1,366.3	4,607.0	92,811.5	117,930.0
2037	12	1,503,430,557.838	120.208142	51,731.1	99.8	6,095.5	122,798.2	180,724.6
2038	1	1,836,706,761.861	120.344507	75,152.0	27.6	6,845.1	139,012.9	221,037.6
2038	2	1,638,855,150.995	120.187936	84,774.7	21.5	5,264.4	106,910.0	196,970.6
2038	3	1,393,248,881.090	120.009175	62,492.5	134.9	4,907.7	99,667.5	167,202.6
2038	4	1,097,908,652.243	119.617904	29,276.4	1,460.1	4,720.8	95,872.1	131,329.5
2038	5	884,803,882.109	119.325044	7,005.6	4,914.6	4,395.4	89,263.7	105,579.3
2038	6	981,042,676.523	119.176849	942.9	15,399.0	4,720.0	95,855.6	116,917.6
2038	7	1,176,225,233.585	119.123381	3.2	31,415.5	5,101.2	103,596.0	140,115.9
2038	8	1,193,914,885.293	119.15954	0.0	35,502.3	5,010.4	101,753.6	142,266.3
2038	9	1,112,866,192.856	119.158242	13.6	28,499.9	4,885.1	99,208.5	132,607.2
2038	10	886,431,972.551	119.115024	2,253.6	10,208.4	4,370.4	88,755.0	105,587.4
2038	11	984,589,260.956	119.272984	18,884.9	1,357.9	4,561.2	92,630.9	117,434.9
2038	12	1,503,823,146.405	119.463398	51,026.9	99.2	6,031.7	122,494.0	179,651.8

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Customers	Heating	Cooling	Lighting	Other	Total
2039	1	1,835,542,063.381	119,597589	74,108.8	27.4	6,772.1	138,618.2	219,526.4
2039	2	1,636,664,547.356	119,43891	83,595.9	21.4	5,210.5	106,653.7	195,481.4
2039	3	1,392,427,629.886	119,258039	61,621.9	134.0	4,858.3	99,444.0	166,058.2
2039	4	1,099,225,288.964	118,864666	28,867.7	1,450.5	4,673.7	95,667.1	130,659.0
2039	5	887,486,211.954	118,569745	6,907.6	4,882.1	4,352.3	89,087.0	105,229.0
2039	6	984,190,553.182	118,419436	929.7	15,297.0	4,672.8	95,647.8	116,547.3
2039	7	1,179,309,605.182	118,363949	3.2	31,207.1	5,048.1	103,329.4	139,587.7
2039	8	1,196,858,099.661	118,398063	0.0	35,266.5	4,957.8	101,481.4	141,705.7
2039	9	1,115,968,558.858	118,3948	13.4	28,310.7	4,834.9	98,965.9	132,124.9
2039	10	889,408,965.034	118,349701	2,222.0	10,140.6	4,327.1	88,571.6	105,261.3
2039	11	986,520,473.116	118,505826	18,620.0	1,348.9	4,515.3	92,424.2	116,908.4
2039	12	1,504,166,585.482	118,694439	50,311.8	98.5	5,967.9	122,157.9	178,536.2
2040	1	1,833,923,083.616	118,826881	73,075.8	27.2	6,593.9	138,222.5	217,919.4
2040	2	1,634,153,950.280	118,666645	82,431.7	21.3	5,075.4	106,391.0	193,919.2
2040	3	1,391,291,427.233	118,483881	60,764.6	133.2	4,733.0	99,214.9	164,845.6
2040	4	1,100,187,330.106	118,088868	28,466.4	1,441.0	4,553.8	95,458.7	129,919.9
2040	5	889,811,370.440	117,79232	6,811.7	4,850.0	4,241.4	88,909.8	104,812.9
2040	6	987,028,896.158	117,640476	916.8	15,196.6	4,553.3	95,447.9	116,114.5
2040	7	1,182,145,062.831	117,583427	3.1	31,002.3	4,917.3	103,077.9	139,000.7
2040	8	1,199,572,073.764	117,615979	0.0	35,035.5	4,828.9	101,224.5	141,088.8
2040	9	1,118,782,455.513	117,611169	13.2	28,125.2	4,710.0	98,732.8	131,581.3
2040	10	892,032,281.489	117,564528	2,191.2	10,074.2	4,216.6	88,389.4	104,871.4
2040	11	988,112,880.186	117,719048	18,362.4	1,340.1	4,399.2	92,218.0	116,319.7
2040	12	1,504,198,818.621	117,906125	49,615.9	97.9	5,811.8	121,828.6	177,354.3
2041	1	1,832,913,855.616	118,037053	72,079.8	27.0	6,439.2	137,805.7	216,351.7
2041	2	1,632,234,445.667	117,875095	81,306.6	21.1	4,958.3	106,113.8	192,399.8
2041	3	1,390,614,830.555	117,690987	59,934.0	132.3	4,624.6	98,971.9	163,662.8
2041	4	1,101,454,401.838	117,294416	28,076.6	1,431.8	4,450.1	95,236.0	129,194.5
2041	5	892,345,045.079	116,996264	6,718.2	4,818.9	4,145.5	88,718.3	104,401.0
2041	6	990,075,480.169	116,842817	904.2	15,099.0	4,449.8	95,230.3	115,683.2
2041	7	1,185,219,347.528	116,784181	3.1	30,802.9	4,803.7	102,805.2	138,414.9
2041	8	1,202,523,497.716	116,815167	0.0	34,810.0	4,716.9	100,946.2	140,473.0
2041	9	1,121,816,964.295	116,808782	13.1	27,944.0	4,601.6	98,479.4	131,038.1

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Customers	Heating	Cooling	Lighting	Other	Total
2041	10	894,832,926.184	116.760579	2,161.1	10,009.2	4,120.8	88,190.1	104,481.2
2041	11	989,904,210.006	116.913574	18,109.7	1,331.4	4,298.5	91,993.5	115,733.2
2041	12	1,504,537,126.050	117.099041	48,933.2	97.3	5,676.0	121,473.3	176,179.9
2042	1	1,832,375,715.036	117.228416	71,103.9	26.9	6,300.0	137,375.7	214,806.5
2042	2	1,630,791,090.303	117.064868	80,204.9	21.0	4,853.3	105,829.2	190,908.3
2042	3	1,390,357,617.760	116.87922	59,121.4	131.5	4,527.4	98,723.6	162,503.9
2042	4	1,103,051,894.995	116.481093	27,695.6	1,422.8	4,357.1	95,009.3	128,484.7
2042	5	895,145,195.864	116.181443	6,627.0	4,788.6	4,059.7	88,524.0	103,999.3
2042	6	993,400,710.008	116.026478	891.9	15,003.6	4,357.1	95,008.2	115,260.8
2042	7	1,188,611,919.144	115.966358	3.0	30,608.2	4,701.8	102,525.9	137,839.0
2042	8	1,205,794,423.910	115.995837	0.0	34,589.8	4,616.3	100,661.0	139,867.1
2042	9	1,125,159,367.820	115.987896	12.9	27,767.0	4,504.4	98,220.6	130,504.9
2042	10	897,898,918.848	115.938118	2,131.6	9,945.7	4,035.1	87,988.2	104,100.7
2042	11	991,996,431.783	116.089574	17,863.2	1,323.0	4,208.4	91,765.9	115,160.4
2042	12	1,505,310,509.775	116.273526	48,267.0	96.6	5,554.1	121,110.0	175,027.8
2043	1	1,832,684,397.475	116.401278	70,187.7	26.7	6,178.2	136,934.2	213,326.8
2043	2	1,630,230,041.379	116.236174	79,170.3	20.9	4,761.7	105,538.8	189,491.7
2043	3	1,390,805,441.383	116.04896	58,358.0	130.7	4,442.8	98,470.0	161,401.5
2043	4	1,105,112,527.359	115.649271	27,337.3	1,414.6	4,276.2	94,777.4	127,805.5
2043	5	898,257,278.641	115.348024	6,541.1	4,761.1	3,985.1	88,324.9	103,612.2
2043	6	997,070,026.111	115.191432	880.4	14,917.4	4,276.3	94,779.9	114,853.9
2043	7	1,192,433,555.080	115.129657	3.0	30,432.0	4,612.7	102,236.7	137,284.5
2043	8	1,209,515,661.485	115.15749	0.0	34,390.4	4,528.3	100,366.0	139,284.8
2043	9	1,128,925,290.855	115.147985	12.7	27,606.9	4,419.5	97,954.3	129,993.5
2043	10	901,290,654.933	115.096574	2,103.9	9,888.3	3,960.6	87,782.6	103,735.5
2043	11	994,478,914.905	115.246402	17,630.9	1,315.3	4,129.9	91,534.0	114,610.1
2043	12	1,506,731,636.280	115.428671	47,639.3	96.1	5,447.5	120,737.1	173,920.0
2044	1	1,833,261,622.851	115.554838	69,273.2	26.6	6,071.0	136,471.5	211,842.2
2044	2	1,629,920,948.567	115.38816	78,137.8	20.7	4,681.3	105,233.6	188,073.6
2044	3	1,391,479,560.846	115.199305	57,595.9	130.0	4,368.6	98,203.0	160,297.5
2044	4	1,107,372,098.148	114.797998	26,979.7	1,406.3	4,205.3	94,532.8	127,124.1
2044	5	901,543,106.038	114.495175	6,455.4	4,732.9	3,919.8	88,114.2	103,222.3
2044	6	1,000,903,866.346	114.337122	868.8	14,828.9	4,205.5	94,537.3	114,440.5

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Customers	Heating	Cooling	Lighting	Other	Total
2044	7	1,196,413,745.274	114.273882	3.0	30,250.8	4,534.4	101,930.7	136,718.8
2044	8	1,213,384,873.552	114.300341	0.0	34,185.1	4,450.9	100,054.3	138,690.3
2044	9	1,132,836,287.129	114.289481	12.5	27,441.6	4,345.0	97,672.2	129,471.3
2044	10	904,823,522.802	114.236908	2,076.1	9,828.9	3,895.3	87,563.9	103,364.2
2044	11	997,105,935.684	114.385592	17,397.9	1,307.4	4,061.0	91,288.2	114,054.6
2044	12	1,508,317,873.017	114.566831	47,009.4	95.5	5,353.6	120,344.7	172,803.2
2045	1	1,833,857,516.632	114.692009	68,360.0	26.4	5,970.9	135,971.5	210,328.8
2045	2	1,629,620,124.539	114.524394	77,105.7	20.6	4,606.4	104,898.5	186,631.3
2045	3	1,392,146,042.621	114.334736	56,833.9	129.2	4,299.4	97,908.1	159,170.7
2045	4	1,109,601,843.842	113.932612	26,621.9	1,397.8	4,139.3	94,260.9	126,419.8
2045	5	904,791,692.081	113.62903	6,369.6	4,704.3	3,859.0	87,877.6	102,810.6
2045	6	1,004,701,292.770	113.470231	857.2	14,739.0	4,139.6	94,267.8	114,003.7
2045	7	1,200,371,689.165	113.406278	2.9	30,067.4	4,461.5	101,597.9	136,129.7
2045	8	1,217,237,772.489	113.43199	0.0	33,977.7	4,378.9	99,717.1	138,073.7
2045	9	1,136,727,865.572	113.420345	12.4	27,275.1	4,275.6	97,365.0	128,928.1
2045	10	908,332,343.682	113.366913	2,048.5	9,769.2	3,834.6	87,322.5	102,974.8
2045	11	999,719,019.924	113.514737	17,166.4	1,299.5	3,997.0	91,020.0	113,482.8
2045	12	1,509,915,541.042	113.69502	46,384.1	94.9	5,266.2	119,924.6	171,669.9
2046	1	1,834,500,141.819	113.819269	67,444.4	26.2	5,873.7	135,457.2	208,801.5
2046	2	1,629,385,884.592	113.650653	76,073.0	20.5	4,533.6	104,553.6	185,180.8
2046	3	1,392,888,011.169	113.459917	56,072.2	128.4	4,232.3	97,604.1	158,037.0
2046	4	1,111,919,503.629	113.056739	26,264.7	1,389.2	4,075.2	93,980.9	125,710.0
2046	5	908,125,911.452	112.752077	6,284.1	4,675.1	3,800.0	87,633.8	102,393.1
2046	6	1,008,590,784.145	112.592127	845.7	14,647.5	4,075.6	93,990.5	113,559.4
2046	7	1,204,427,552.845	112.52707	2.9	29,880.8	4,390.7	101,256.4	135,530.7
2046	8	1,221,194,838.084	112.551622	0.0	33,767.0	4,308.9	99,371.6	137,447.5
2046	9	1,140,722,812.729	112.538878	12.2	27,105.8	4,208.2	97,049.4	128,375.7
2046	10	911,943,685.481	112.484305	2,021.0	9,708.6	3,775.7	87,074.1	102,579.4
2046	11	1,002,439,443.542	112.631008	16,935.9	1,291.4	3,934.8	90,743.7	112,905.8
2046	12	1,511,650,657.222	112.810273	45,761.5	94.3	5,181.4	119,492.5	170,529.7
2047	1	1,836,025,121.019	112.93351	66,586.9	26.1	5,778.4	134,957.3	207,348.8
2047	2	1,630,046,376.109	112.76391	75,105.0	20.4	4,462.5	104,222.5	183,810.4
2047	3	1,394,369,516.966	112.572269	55,358.4	127.7	4,166.7	97,314.6	156,967.3

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Customers	Heating	Cooling	Lighting	Other	Total
2047	4	1,114,751,819.244	112.168218	25,929.9	1,381.5	4,012.6	93,715.8	125,039.7
2047	5	911,836,542.607	111.862671	6,203.9	4,649.1	3,742.4	87,405.0	102,000.5
2047	6	1,012,889,507.284	111.701866	834.9	14,565.9	4,013.1	93,727.7	113,141.6
2047	7	1,208,981,988.849	111.635915	2.8	29,713.9	4,321.4	100,927.6	134,965.8
2047	8	1,225,659,991.419	111.659603	0.0	33,578.3	4,240.5	99,037.9	136,856.7
2047	9	1,145,189,759.019	111.646012	12.1	26,954.3	4,142.4	96,747.1	127,855.9
2047	10	915,910,634.243	111.590636	1,995.1	9,654.2	3,718.2	86,839.5	102,207.1
2047	11	1,005,563,137.329	111.736487	16,718.9	1,284.2	3,874.1	90,480.9	112,358.1
2047	12	1,514,019,160.999	111.914847	45,175.2	93.8	5,098.4	119,073.8	169,441.2
2048	1	1,837,833,409.919	112.03716	65,730.5	25.9	5,684.7	134,464.5	205,905.6
2048	2	1,630,967,804.257	111.866676	74,138.4	20.3	4,392.5	103,899.8	182,450.9
2048	3	1,396,096,251.978	111.674046	54,645.1	126.9	4,102.2	97,033.4	155,907.7
2048	4	1,117,822,335.627	111.269015	25,595.2	1,373.5	3,951.1	93,459.2	124,379.0
2048	5	915,780,015.368	110.962491	6,123.7	4,622.3	3,685.9	87,185.3	101,617.2
2048	6	1,017,428,226.433	110.800727	824.1	14,481.7	3,951.8	93,474.2	112,731.8
2048	7	1,213,771,881.010	110.733837	2.8	29,541.9	4,253.3	100,607.6	134,405.6
2048	8	1,230,351,461.480	110.756622	0.0	33,383.7	4,173.2	98,712.6	136,269.6
2048	9	1,149,891,969.495	110.74208	11.9	26,797.9	4,077.7	96,453.9	127,341.4
2048	10	920,116,623.499	110.685818	1,969.2	9,598.1	3,661.8	86,614.7	101,843.9
2048	11	1,008,938,016.335	110.830852	16,502.1	1,276.7	3,814.5	90,228.1	111,821.5
2048	12	1,516,680,731.601	111.008452	44,589.5	93.3	5,016.7	118,664.9	168,364.4
2049	1	1,840,535,385.386	111.130012	64,934.4	25.8	5,595.6	133,982.9	204,538.7
2049	2	1,632,815,622.170	110.958827	73,239.5	20.2	4,326.3	103,589.3	181,175.3
2049	3	1,398,583,765.382	110.765582	53,981.9	126.3	4,041.3	96,765.4	154,914.9
2049	4	1,121,419,924.764	110.359951	25,283.9	1,366.5	3,893.1	93,216.4	123,759.8
2049	5	920,094,679.552	110.052892	6,049.1	4,598.6	3,632.6	86,978.7	101,259.1
2049	6	1,022,369,368.485	109.890592	814.1	14,407.3	3,893.8	93,233.7	112,348.8
2049	7	1,219,050,366.565	109.82322	2.8	29,389.7	4,188.9	100,298.7	133,880.0
2049	8	1,235,541,067.279	109.84556	0.0	33,211.4	4,109.5	98,397.8	135,718.7
2049	9	1,155,054,626.262	109.830602	11.8	26,659.2	4,016.5	96,172.8	126,860.3
2049	10	924,680,435.683	109.773953	1,945.1	9,548.3	3,608.6	86,403.8	101,505.8
2049	11	1,012,720,000.085	109.918556	16,299.9	1,270.1	3,758.3	89,988.5	111,316.7
2049	12	1,519,991,026.083	110.095793	44,042.7	92.8	4,939.4	118,269.7	167,344.6

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Customers	Heating	Cooling	Lighting	Other	Total
2050	1	1,843,584,948.084	110.217072	64,145.8	25.7	5,516.8	133,506.2	203,194.5
2050	2	1,634,967,799.827	110.045608	72,348.7	20.1	4,268.0	103,284.3	179,921.0
2050	3	1,401,346,523.671	109.8521	53,324.5	125.6	3,987.8	96,503.0	153,940.9
2050	4	1,125,271,174.667	109.446253	24,975.5	1,359.3	3,842.2	92,979.8	123,156.7
2050	5	924,636,513.649	109.138996	5,975.2	4,574.3	3,585.9	86,778.5	100,913.9
2050	6	1,027,533,463.722	108.976541	804.1	14,330.8	3,843.0	92,999.2	111,977.0
2050	7	1,224,539,598.767	108.909087	2.7	29,233.6	4,132.1	99,995.1	133,363.5
2050	8	1,240,937,855.621	108.931385	0.0	33,035.1	4,053.3	98,088.7	135,177.1
2050	9	1,160,444,014.315	108.916435	11.6	26,517.8	3,962.8	95,899.2	126,391.4
2050	10	929,481,823.258	108.859774	1,921.4	9,497.7	3,562.1	86,202.0	101,183.2
2050	11	1,016,776,775.246	109.004457	16,101.1	1,263.4	3,709.1	89,759.6	110,833.2
2050	12	1,523,674,784.745	109.181843	43,506.5	92.3	4,871.4	117,887.4	166,357.6
2051	1	1,846,162,001.230	109.303307	63,338.0	25.5	5,429.2	132,998.8	201,791.6
2051	2	1,636,675,644.743	109.132075	71,438.1	19.9	4,202.7	102,953.0	178,613.8
2051	3	1,403,745,749.447	108.938837	52,653.9	124.9	3,927.7	96,215.9	152,922.4
2051	4	1,128,842,324.435	108.533323	24,661.4	1,351.9	3,784.9	92,718.8	122,517.0
2051	5	928,968,815.023	108.226459	5,900.1	4,549.4	3,533.4	86,556.1	100,539.0
2051	6	1,032,493,838.209	108.064455	794.0	14,252.9	3,785.9	92,743.1	111,575.9
2051	7	1,229,834,824.774	107.997446	2.7	29,075.3	4,068.8	99,672.3	132,819.0
2051	8	1,246,147,590.654	108.020234	0.0	32,856.9	3,990.8	97,761.5	134,609.2
2051	9	1,165,649,299.293	108.005826	11.5	26,375.3	3,902.8	95,607.3	125,896.9
2051	10	934,102,962.929	107.949812	1,897.4	9,446.9	3,509.9	85,982.0	100,836.2
2051	11	1,020,623,476.921	108.095186	15,900.8	1,256.7	3,654.1	89,513.0	110,324.5
2051	12	1,527,081,074.575	108.273222	42,966.8	91.8	4,796.0	117,487.3	165,342.0
2052	1	1,849,071,411.250	108.395388	62,557.1	25.4	5,343.4	132,504.9	200,430.8
2052	2	1,638,729,731.116	108.224852	70,559.0	19.8	4,138.8	102,633.7	177,351.3
2052	3	1,406,429,587.022	108.032379	52,006.7	124.3	3,868.9	95,940.0	151,939.9
2052	4	1,132,629,743.639	107.627571	24,358.6	1,344.9	3,728.9	92,469.7	121,902.2
2052	5	933,464,738.806	107.321429	5,827.8	4,526.0	3,481.9	86,345.0	100,180.8
2052	6	1,037,641,880.281	107.160197	784.3	14,180.0	3,730.1	92,499.5	111,193.9
2052	7	1,235,351,221.267	107.093936	2.7	28,927.3	4,006.8	99,361.8	132,298.6
2052	8	1,251,592,672.338	107.1175	0.0	32,690.7	3,929.6	97,447.1	134,067.5
2052	9	1,171,076,709.499	107.103879	11.3	26,242.6	3,844.2	95,328.7	125,426.9

Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Customers	Heating	Cooling	Lighting	Other	Total
2052	10	938,897,996.528	107,048601	1,874.4	9,399.6	3,458.9	85,774.8	100,507.7
2052	11	1,024,671,167.974	107,19471	15,708.6	1,250.4	3,600.3	89,280.0	109,839.3
2052	12	1,530,788,347.737	107,373548	42,449.1	91.4	4,722.3	117,103.5	164,366.2
2053	1	1,852,088,359.250	107,496363	61,789.4	25.3	5,259.0	132,019.1	199,092.8
2053	2	1,640,885,977.533	107,326472	69,694.4	19.7	4,076.0	102,320.3	176,110.5
2053	3	1,409,202,807.622	107,134712	51,370.3	123.7	3,811.0	95,669.6	150,974.5
2053	4	1,136,491,439.885	106,730559	24,060.8	1,338.1	3,673.9	92,225.7	121,298.4
2053	5	938,025,011.788	106,42509	5,756.6	4,503.0	3,431.4	86,138.4	99,829.4
2053	6	1,042,857,661.417	106,26458	774.7	14,108.3	3,675.2	92,260.6	110,818.8
2053	7	1,240,939,576.127	106,199018	2.6	28,781.5	3,946.0	99,056.4	131,786.6
2053	8	1,257,107,872.292	106,22331	0.0	32,526.9	3,869.5	97,137.7	133,534.2
2053	9	1,176,572,335.050	106,210429	11.2	26,111.9	3,786.6	95,054.6	124,964.3
2053	10	943,752,806.268	106,155842	1,851.7	9,353.0	3,408.8	85,571.4	100,184.9
2053	11	1,028,778,541.015	106,302639	15,519.2	1,244.3	3,547.4	89,051.0	109,361.9
2053	12	1,534,569,050.834	106,482236	41,938.6	90.9	4,649.8	116,725.0	163,404.3
2054	1	1,855,185,818.984	106,605657	61,032.6	25.2	5,176.2	131,539.4	197,773.3
2054	2	1,643,117,776.361	106,436369	68,842.2	19.6	4,014.2	102,011.5	174,887.5
2054	3	1,412,044,589.224	106,245279	50,742.8	123.0	3,754.2	95,403.1	150,023.1
2054	4	1,140,414,014.989	105,841741	23,767.1	1,331.3	3,619.7	91,985.4	120,703.4
2054	5	942,640,831.816	105,536906	5,686.4	4,480.3	3,381.6	85,935.1	99,483.4
2054	6	1,048,132,631.696	105,377078	765.3	14,037.4	3,621.2	92,025.2	110,449.2
2054	7	1,246,590,708.397	105,312176	2.6	28,637.4	3,886.1	98,755.1	131,281.2
2054	8	1,262,684,651.997	105,337157	0.0	32,364.9	3,810.4	96,832.3	133,007.6
2054	9	1,182,128,808.671	105,324979	11.1	25,982.5	3,729.8	94,784.3	124,507.7
2054	10	948,662,215.807	105,271045	1,829.4	9,306.9	3,359.4	85,371.0	99,866.7
2054	11	1,032,940,317.445	105,418494	15,332.3	1,238.2	3,495.3	88,825.2	108,891.0
2054	12	1,538,415,649.224	105,598811	41,434.9	90.5	4,578.5	116,351.0	162,454.9
2055	1	1,858,356,981.233	105,722804	60,286.0	25.0	5,094.6	131,065.1	196,470.7
2055	2	1,645,420,808.881	105,554085	68,001.4	19.5	3,953.4	101,706.5	173,680.9
2055	3	1,414,953,741.426	105,363632	50,123.8	122.4	3,698.2	95,140.2	149,084.7
2055	4	1,144,399,043.432	104,960676	23,477.4	1,324.6	3,566.4	91,748.5	120,116.9
2055	5	947,315,134.561	104,656441	5,617.2	4,457.8	3,332.6	85,735.0	99,142.6
2055	6	1,053,471,323.132	104,497264	756.0	13,967.3	3,568.1	91,793.5	110,084.9



Kentucky Power Company  
Residential Energy Model Output

Year	Month	Total Usage	Customers	Heating	Cooling	Lighting	Other	Total
2055	7	1,252,311,305.562	104,432991	2.6	28,495.0	3,827.2	98,457.9	130,782.6
2055	8	1,268,331,631.422	104,45863	0.0	32,205.0	3,752.3	96,530.9	132,488.2
2055	9	1,187,756,307.406	104,447123	10.9	25,854.8	3,674.0	94,518.0	124,057.7
2055	10	953,636,380.398	104,393812	1,807.3	9,261.4	3,310.8	85,174.2	99,553.7
2055	11	1,037,169,915.915	104,541883	15,148.1	1,232.2	3,444.1	88,603.3	108,427.7
2055	12	1,542,350,737.516	104,722891	40,938.6	90.0	4,508.4	115,982.4	161,519.4
2056	1	1,861,628,551.318	104,847428	59,550.6	24.9	5,014.5	130,597.0	195,187.0
2056	2	1,647,821,081.974	104,679251	67,173.4	19.4	3,893.7	101,406.1	172,492.7
2056	3	1,417,951,421.021	104,489406	49,514.3	121.8	3,643.1	94,881.7	148,160.9
2056	4	1,148,461,529.948	104,087006	23,192.2	1,318.0	3,513.9	91,515.8	119,539.9
2056	5	952,059,137.375	103,783346	5,549.0	4,435.7	3,284.4	85,538.8	98,807.9
2056	6	1,058,885,332.956	103,624793	746.8	13,898.2	3,515.8	91,565.9	109,726.8
2056	7	1,258,114,073.068	103,561122	2.5	28,354.7	3,769.2	98,165.2	130,291.7
2056	8	1,274,061,016.518	103,587394	0.0	32,047.4	3,695.1	96,234.2	131,976.7
2056	9	1,193,466,005.131	103,576532	10.8	25,729.0	3,619.1	94,256.1	123,615.1
2056	10	958,684,057.102	103,523819	1,785.6	9,216.5	3,263.0	84,981.5	99,246.6
2056	11	1,041,476,463.314	103,672488	14,966.9	1,226.2	3,393.7	88,385.6	107,972.5
2056	12	1,546,387,049.269	103,854162	40,450.2	89.6	4,439.4	115,619.6	160,598.7
2057	1	1,865,014,132.307	103,979221	58,826.9	24.8	4,935.7	130,135.3	193,922.7
2057	2	1,650,330,524.657	103,811563	66,358.4	19.3	3,834.9	101,110.7	171,323.4
2057	3	1,421,046,424.288	103,622305	48,914.3	121.2	3,589.0	94,627.6	147,252.1
2057	4	1,152,606,944.513	103,220439	22,911.4	1,311.5	3,462.3	91,287.4	118,972.6
2057	5	956,876,379.456	102,917332	5,481.9	4,413.9	3,237.0	85,346.4	98,479.2
2057	6	1,064,377,580.014	102,759381	737.8	13,830.1	3,464.4	91,342.4	109,374.8
2057	7	1,264,001,231.446	102,696292	2.5	28,216.5	3,712.2	97,877.0	129,808.2
2057	8	1,279,873,886.690	102,723176	0.0	31,892.1	3,638.8	95,941.7	131,472.7
2057	9	1,199,257,902.614	102,712938	10.7	25,605.0	3,565.1	93,998.5	123,179.3
2057	10	963,804,361.604	102,660803	1,764.3	9,172.4	3,216.0	84,792.4	98,944.9
2057	11	1,045,857,430.975	102,810049	14,788.3	1,220.4	3,344.1	88,171.8	107,524.7
2057	12	1,550,518,677.537	102,992368	39,969.0	89.2	4,371.6	115,261.9	159,691.6



## LONG-TERM COMMERCIAL

Kentucky Power Company  
Commercial Energy Model Input Variables

Year	Month	Sales	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on
2004	1	131,261.21	12,806.93	52.22	122,807.56	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2	125,201.65	16,506.19	17.41	109,598.38	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	3	109,248.07	9,587.83	156.76	108,547.45	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	4	106,039.03	5,301.06	868.96	113,563.91	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	5	102,893.62	1,309.56	4,820.84	109,932.36	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	6	117,520.06	90.73	13,222.61	115,746.28	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	7	118,976.06	0.00	16,901.89	113,361.80	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	8	114,443.78	0.00	16,686.59	108,842.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
2004	9	117,319.08	0.00	14,624.94	111,205.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
2004	10	105,855.61	222.05	4,349.56	111,349.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
2004	11	98,814.81	1,430.90	867.91	108,324.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
2004	12	117,815.55	6,595.30	126.07	120,523.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	1	129,923.75	11,079.96	0.00	120,670.04	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
2005	2	124,572.17	13,299.73	0.00	109,413.79	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
2005	3	117,738.85	11,349.19	0.00	108,695.92	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
2005	4	108,703.50	5,271.56	388.16	112,232.54	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
2005	5	100,091.47	1,521.66	1,427.81	107,426.38	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
2005	6	112,547.88	207.51	8,337.62	114,725.03	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
2005	7	123,433.60	0.00	23,743.62	111,947.24	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00
2005	8	128,530.45	0.00	30,276.26	108,222.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00
2005	9	129,452.72	0.00	22,802.19	112,587.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
2005	10	112,861.11	129.23	10,487.51	108,194.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00
2005	11	105,939.34	3,258.98	660.87	110,475.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
2005	12	127,394.44	11,065.30	97.38	118,338.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
2006	1	135,491.87	10,736.64	0.00	120,953.03	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
2006	2	120,935.03	9,120.31	0.00	109,030.33	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
2006	3	113,477.41	10,326.21	90.82	104,726.16	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
2006	4	104,629.62	5,357.33	1,092.55	105,329.89	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
2006	5	103,898.11	438.01	1,834.89	109,223.81	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
2006	6	112,025.55	84.36	6,917.92	112,451.70	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
2006	7	121,843.93	0.00	17,037.81	110,890.45	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00
2006	8	125,800.38	0.00	26,832.10	104,193.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00
2006	9	127,451.38	19.92	17,045.93	111,542.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00

Kentucky Power Company  
Commercial Energy Model Input Variables

Year	Month	Sales	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on
2006	10	107,090.52	824.63	2,400.63	107,019.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00
2006	11	105,875.30	4,534.98	165.31	106,558.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
2006	12	121,307.33	7,138.44	172.46	114,179.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
2007	1	127,171.78	7,448.30	19.14	116,980.68	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
2007	2	132,079.58	14,967.53	0.00	104,055.65	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
2007	3	122,153.43	12,603.01	146.24	102,914.82	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
2007	4	112,596.65	4,354.09	1,904.20	108,880.45	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
2007	5	109,476.17	1,642.50	3,304.75	106,204.50	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
2007	6	117,861.06	67.62	11,693.29	107,716.83	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
2007	7	122,280.24	0.00	19,043.54	106,748.81	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00
2007	8	125,107.34	0.00	22,323.35	104,026.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00
2007	9	135,178.77	0.00	24,624.59	107,746.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2007	10	116,735.40	138.63	11,450.34	105,169.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2007	11	108,929.70	2,709.50	1,943.44	106,801.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2007	12	122,828.83	7,708.82	0.00	114,004.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2008	1	135,988.54	10,160.03	0.00	115,403.29	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2008	2	128,780.73	12,401.26	0.00	102,488.23	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2008	3	122,687.26	10,604.68	0.00	102,905.16	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2008	4	112,736.81	4,780.81	93.78	105,925.61	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2008	5	103,319.37	1,061.20	1,221.79	102,294.06	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2008	6	114,938.69	72.68	7,253.97	107,205.85	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2008	7	122,829.36	0.00	15,072.67	105,514.16	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2008	8	124,863.56	0.00	18,219.04	103,538.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2008	9	127,141.73	0.00	16,895.08	105,374.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2008	10	111,421.47	174.59	6,553.39	101,709.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2008	11	106,285.45	3,413.40	421.68	101,759.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2008	12	131,453.16	11,078.65	0.00	110,350.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2009	1	140,607.60	11,771.23	0.00	112,077.23	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2009	2	135,440.16	14,288.27	0.00	100,164.79	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2009	3	117,944.09	9,213.66	265.67	97,051.18	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2009	4	108,021.95	3,549.65	201.46	101,329.25	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2009	5	105,589.96	915.93	3,853.30	100,415.70	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2009	6	114,602.84	88.69	7,747.04	101,872.14	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00

Kentucky Power Company  
Commercial Energy Model Input Variables

Year	Month	Sales	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on
2009	7	119,391.20	0.00	13,342.13	101,393.23	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2009	8	118,640.01	0.00	13,737.45	98,913.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2009	9	122,206.78	0.00	13,116.57	99,914.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2009	10	110,816.07	638.62	4,692.97	99,641.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2009	11	102,272.00	2,546.06	193.30	97,878.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2009	12	122,093.41	6,697.61	12.50	108,724.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2010	1	145,310.56	13,527.83	0.00	108,617.42	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2010	2	130,432.77	13,515.07	0.00	95,834.46	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2010	3	125,707.23	11,072.77	0.00	96,236.18	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2010	4	109,887.19	2,582.29	1,551.62	101,235.15	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2010	5	103,329.99	671.20	2,437.65	96,591.12	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2010	6	120,865.71	108.81	11,883.79	101,293.62	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2010	7	128,707.61	0.00	21,383.70	100,117.68	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2010	8	130,361.66	0.00	24,919.43	97,458.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2010	9	127,048.33	0.00	17,590.07	99,191.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2010	10	109,352.30	213.02	6,587.54	97,301.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2010	11	101,528.61	2,266.13	633.52	95,624.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2010	12	126,389.76	9,192.50	0.00	105,868.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2011	1	149,474.96	14,286.85	0.00	104,920.87	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2011	2	127,879.06	13,010.92	0.00	93,653.65	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2011	3	113,092.78	6,748.30	100.31	93,580.61	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2011	4	105,814.35	4,325.59	964.29	94,190.18	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2011	5	104,301.75	836.35	2,887.94	96,707.23	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2011	6	113,790.39	268.51	10,781.09	96,137.91	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2011	7	120,705.55	0.00	16,830.40	96,330.70	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2011	8	126,716.55	0.00	24,899.10	92,957.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2011	9	121,535.21	2.97	14,868.04	95,314.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2011	10	104,793.45	522.07	2,649.62	93,938.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2011	11	101,275.54	2,610.55	61.29	92,501.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2011	12	117,315.03	4,763.41	91.87	101,624.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2012	1	127,270.25	8,052.13	0.00	100,808.95	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2012	2	118,462.49	8,387.46	0.00	92,315.57	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2012	3	108,112.96	6,016.30	551.27	90,377.39	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00

Kentucky Power Company  
Commercial Energy Model Input Variables

Year	Month	Sales	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on
2012	4	99,605.52	1,267.01	2,298.78	92,815.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2012	5	101,832.00	860.71	3,346.45	92,954.74	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2012	6	110,870.17	4.36	9,914.64	94,983.50	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2012	7	122,720.07	0.00	22,219.46	95,950.97	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2012	8	118,371.52	0.00	21,872.56	90,546.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2012	9	120,105.28	10.50	15,426.45	94,984.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2012	10	102,106.00	697.84	3,712.53	91,406.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2012	11	101,170.20	3,629.94	477.53	92,351.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2012	12	116,894.04	5,933.57	0.00	99,792.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2013	1	127,144.10	8,975.04	0.00	100,566.90	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2013	2	121,020.08	10,518.59	0.00	90,839.81	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2013	3	117,121.12	9,092.96	0.00	91,140.51	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2013	4	110,335.01	5,943.16	1,093.59	93,773.90	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2013	5	98,184.08	721.52	2,945.93	92,023.57	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2013	6	108,408.73	126.05	10,788.17	94,165.39	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2013	7	114,707.62	0.00	18,792.16	92,524.17	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2013	8	115,109.27	0.00	17,544.80	91,045.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2013	9	116,211.82	0.00	15,145.66	92,590.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2013	10	104,867.08	174.73	5,994.35	91,002.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2013	11	99,749.84	2,932.76	863.05	90,319.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2013	12	122,293.12	7,919.83	25.63	99,796.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2014	1	138,723.64	10,111.84	48.87	100,014.20	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2014	2	132,750.57	13,407.36	0.00	88,421.60	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2014	3	118,767.78	9,549.36	0.00	88,491.20	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2014	4	102,879.64	4,654.94	383.25	88,867.85	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2014	5	101,231.35	569.56	2,063.55	91,812.43	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2014	6	108,895.04	156.93	7,950.01	90,529.17	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2014	7	116,182.32	0.00	16,773.74	90,505.43	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2014	8	110,607.90	0.00	11,872.81	88,232.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2014	9	116,968.69	0.00	13,751.63	89,943.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2014	10	100,313.15	282.29	3,479.52	86,539.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2014	11	98,442.65	3,160.22	325.10	87,112.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2014	12	119,843.22	7,582.13	0.99	94,941.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00

Kentucky Power Company  
Commercial Energy Model Input Variables

Year	Month	Sales	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on
2015	1	130,135.98	8,991.47	0.00	96,000.38	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2015	2	126,178.13	11,239.28	0.00	85,771.68	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2015	3	125,608.10	11,802.49	0.00	85,790.68	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2015	4	102,045.41	3,331.89	282.58	88,905.19	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2015	5	97,219.82	822.19	3,089.32	86,287.60	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2015	6	109,164.96	28.00	11,356.68	88,070.45	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2015	7	114,739.04	0.00	16,169.30	87,245.22	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2015	8	113,629.48	0.00	17,151.81	83,606.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2015	9	114,534.76	0.00	13,073.86	87,877.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2015	10	102,147.27	274.51	4,136.73	86,682.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2015	11	93,346.37	1,583.33	285.36	84,967.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2015	12	107,110.53	3,906.97	59.21	93,433.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2016	1	119,353.65	6,280.89	0.00	95,417.16	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2016	2	120,158.78	10,464.32	0.00	83,944.24	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2016	3	108,145.74	5,880.82	73.12	84,674.15	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2016	4	97,128.24	2,102.46	541.41	87,346.58	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2016	5	92,930.87	699.38	2,857.33	83,241.37	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2016	6	104,329.06	163.07	9,639.10	86,955.25	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2016	7	113,689.20	0.00	17,883.27	86,227.36	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2016	8	118,026.03	0.00	23,905.75	83,116.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2016	9	122,192.47	0.00	21,979.78	86,168.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2016	10	103,959.87	27.03	10,520.75	84,065.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2016	11	92,163.82	892.13	2,534.21	82,748.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2016	12	109,644.24	5,229.37	104.45	91,103.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2017	1	118,731.56	6,886.87	0.00	92,032.22	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2017	2	105,050.30	5,735.74	0.00	83,123.56	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2017	3	98,705.09	4,500.72	34.25	82,077.97	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2017	4	93,826.53	2,782.85	809.20	81,693.08	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2017	5	91,310.65	379.71	4,274.84	81,469.02	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2017	6	99,782.60	91.56	8,044.31	85,634.88	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2017	7	109,548.85	0.00	16,087.10	85,866.12	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2017	8	109,759.44	0.00	17,186.34	82,360.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2017	9	106,980.72	0.00	10,240.83	84,586.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00

Kentucky Power Company  
Commercial Energy Model Input Variables

Year	Month	Sales	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on
2017	10	98,745.79	49.95	7,552.63	83,177.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2017	11	93,083.14	2,026.14	1,374.88	82,987.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2017	12	108,115.36	5,452.32	51.44	90,207.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2018	1	131,950.31	10,744.86	106.34	91,100.08	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2018	2	115,602.93	8,710.93	179.43	82,453.72	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2018	3	98,366.54	4,853.28	360.63	81,669.14	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2018	4	99,837.08	4,666.03	415.81	85,391.39	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2018	5	91,876.04	1,145.26	4,517.52	81,588.74	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2018	6	109,326.56	15.43	15,209.72	87,006.01	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2018	7	112,046.81	0.00	20,280.83	84,687.54	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2018	8	108,104.13	0.00	18,517.82	81,095.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2018	9	113,014.22	0.00	18,755.45	84,143.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2018	10	102,370.79	290.52	11,745.59	81,959.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2018	11	92,160.43	2,812.58	1,715.76	83,113.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2018	12	108,179.47	6,477.69	9.47	88,383.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2019	1	114,290.52	6,532.49	0.00	91,040.86	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2019	2	110,973.66	8,121.42	0.00	81,582.46	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2019	3	100,286.48	6,377.24	49.02	80,367.10	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2019	4	91,402.91	3,217.88	575.20	80,873.82	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2019	5	93,168.03	290.73	3,654.77	84,838.67	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2019	6	100,460.50	4.47	10,149.69	84,545.29	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2019	7	108,346.66	0.00	17,627.64	84,533.44	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2019	8	110,692.35	0.00	20,488.26	81,849.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2019	9	112,581.55	0.00	17,162.26	84,355.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2019	10	101,520.97	107.58	13,500.72	81,002.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2019	11	89,012.20	2,482.21	1,135.61	80,707.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2019	12	107,718.49	5,997.89	0.00	89,163.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2020	1	111,379.78	5,308.14	105.49	91,164.66	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2020	2	100,545.72	6,548.34	105.51	80,201.62	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2020	3	98,639.38	5,443.97	7.54	80,337.60	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2020	4	83,184.56	1,974.21	1,025.36	83,609.63	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2020	5	76,900.06	1,543.94	1,265.27	82,392.15	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2020	6	88,274.61	417.17	9,568.69	83,387.43	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00

Kentucky Power Company  
Commercial Energy Model Input Variables

Year	Month	Sales	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on
2020	7	100,734.02	0.00	18,069.89	83,632.50	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2020	8	105,698.05	0.00	22,943.85	81,197.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2020	9	102,409.90	0.00	16,628.49	82,847.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2020	10	87,903.96	183.50	3,996.82	81,826.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2020	11	81,580.54	1,264.57	697.48	80,764.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2020	12	96,646.76	4,694.66	66.13	88,449.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2021	1	112,022.73	7,697.75	0.00	90,377.10	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2021	2	103,356.62	9,375.70	0.00	82,433.35	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2021	3	102,140.66	7,302.33	16.88	78,813.89	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2021	4	87,279.71	1,984.01	440.18	82,651.30	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2021	5	82,131.97	1,014.83	1,707.64	79,720.47	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2021	6	91,048.53	129.33	8,197.40	82,556.72	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2021	7	102,130.22	4.61	15,998.90	82,587.95	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2021	8	102,835.91	0.00	18,341.92	80,124.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2021	9	105,355.01	0.00	17,624.38	81,372.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2021	10	92,906.90	19.78	7,532.37	80,664.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2021	11	85,324.23	1,641.80	1,867.26	78,667.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2021	12	101,110.96	4,641.31	0.00	87,016.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2022	1	107,514.51	5,391.74	0.00	87,829.73	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2022	2		8,608.20	10.96	78,742.81	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2022	3		6,376.97	68.97	78,052.28	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2022	4		3,082.27	765.70	80,491.92	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2022	5		738.80	2,582.59	79,510.40	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2022	6		98.56	8,040.08	81,956.93	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2022	7		0.33	16,379.02	81,487.81	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2022	8		0.00	18,639.58	78,682.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2022	9		1.43	14,959.87	81,200.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2022	10		239.03	5,394.82	79,499.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2022	11		2,003.46	717.46	79,090.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2022	12		5,275.83	51.35	86,656.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2023	1		7,602.19	14.13	87,870.32	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2023	2		8,545.78	11.00	78,764.94	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2023	3		6,329.67	69.23	78,061.21	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00



Kentucky Power Company  
Commercial Energy Model Input Variables

Year	Month	Sales	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on
2023	4		3,058.98	768.53	80,489.85	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2023	5		733.11	2,591.77	79,496.98	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2023	6		97.73	8,062.43	81,879.77	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2023	7		0.33	16,411.86	81,348.18	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2023	8		0.00	18,674.06	78,535.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2023	9		1.42	14,984.87	81,034.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2023	10		236.70	5,402.71	79,320.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2023	11		1,983.36	718.32	78,890.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2023	12		5,210.67	51.29	86,235.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2024	1		7,497.54	14.11	87,480.17	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2024	2		8,426.35	10.99	78,398.56	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2024	3		6,239.87	69.12	77,681.41	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2024	4		3,014.85	767.12	80,078.77	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2024	5		722.38	2,586.45	79,073.69	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2024	6		96.28	8,044.47	81,429.48	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2024	7		0.33	16,373.01	80,889.57	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2024	8		0.00	18,626.91	78,080.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2024	9		1.40	14,944.92	80,553.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2024	10		233.05	5,387.55	78,838.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2024	11		1,952.62	716.22	78,402.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2024	12		5,129.46	51.14	85,694.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2025	1		7,364.23	14.03	86,941.90	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2025	2		8,274.56	10.92	77,897.71	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2025	3		6,126.01	68.72	77,166.85	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2025	4		2,959.09	762.46	79,528.32	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2025	5		708.84	2,570.09	78,510.47	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2025	6		94.46	7,991.82	80,831.52	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2025	7		0.32	16,262.25	80,277.73	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2025	8		0.00	18,496.08	77,469.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2025	9		1.37	14,836.10	79,902.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2025	10		228.40	5,346.84	78,179.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2025	11		1,913.08	710.60	77,724.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2025	12		5,024.19	50.72	84,929.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00

Kentucky Power Company  
Commercial Energy Model Input Variables

Year	Month	Sales	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on
2026	1		7,213.56	13.97	85,996.09	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2026	2		8,104.80	10.87	77,045.90	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2026	3		5,999.96	68.38	76,318.24	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2026	4		2,898.01	758.62	78,648.41	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2026	5		694.16	2,556.98	77,637.05	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2026	6		92.50	7,950.58	79,927.49	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2026	7		0.31	16,177.34	79,375.06	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2026	8		0.00	18,398.54	76,594.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2026	9		1.34	14,757.05	78,995.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2026	10		223.61	5,318.07	77,288.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2026	11		1,872.86	706.74	76,834.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2026	12		4,918.34	50.45	83,953.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2027	1		7,065.95	13.88	85,117.67	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2027	2		7,938.64	10.81	76,255.91	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2027	3		5,876.72	67.98	75,532.75	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2027	4		2,838.38	754.15	77,836.09	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2027	5		679.86	2,541.83	76,832.24	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2027	6		90.59	7,903.19	79,096.23	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2027	7		0.31	16,080.52	78,547.66	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2027	8		0.00	18,287.83	75,793.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2027	9		1.31	14,667.91	78,167.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2027	10		218.97	5,285.83	76,476.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2027	11		1,833.95	702.44	76,025.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2027	12		4,816.06	50.14	83,067.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2028	1		6,924.71	13.83	84,233.34	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2028	2		7,779.25	10.77	75,456.81	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2028	3		5,758.21	67.71	74,734.55	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2028	4		2,780.88	751.17	77,006.34	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2028	5		666.02	2,531.55	76,006.23	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2028	6		88.74	7,870.62	78,239.86	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2028	7		0.30	16,013.05	77,691.43	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2028	8		0.00	18,209.64	74,961.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2028	9		1.29	14,604.04	77,303.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00

Kentucky Power Company  
Commercial Energy Model Input Variables

Year	Month	Sales	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on
2028	10		214.43	5,262.36	75,624.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2028	11		1,795.77	699.26	75,171.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2028	12		4,715.44	49.91	82,128.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2029	1		6,776.18	13.80	83,326.81	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2029	2		7,613.11	10.74	74,651.79	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2029	3		5,635.77	67.55	73,944.23	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2029	4		2,722.02	749.43	76,199.60	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2029	5		651.99	2,525.94	75,217.52	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2029	6		86.87	7,853.88	77,434.70	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2029	7		0.29	15,980.33	76,898.35	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2029	8		0.00	18,174.11	74,202.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2029	9		1.26	14,576.84	76,528.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2029	10		210.01	5,253.06	74,872.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2029	11		1,758.89	698.09	74,432.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2029	12		4,618.98	49.83	81,327.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2030	1		6,633.76	13.78	82,270.77	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2030	2		7,451.01	10.72	73,684.99	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2030	3		5,514.17	67.43	72,965.36	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2030	4		2,662.47	747.89	75,167.69	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2030	5		637.53	2,519.97	74,176.04	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2030	6		84.92	7,833.28	76,342.69	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2030	7		0.29	15,934.35	75,794.49	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2030	8		0.00	18,116.69	73,117.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2030	9		1.23	14,526.78	75,387.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2030	10		205.07	5,233.53	73,736.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2030	11		1,717.04	695.29	73,280.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2030	12		4,507.86	49.61	80,047.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2031	1		6,496.82	13.69	81,100.03	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2031	2		7,298.98	10.65	72,654.12	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2031	3		5,403.00	67.00	71,962.52	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2031	4		2,609.49	743.28	74,154.34	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2031	5		625.01	2,505.12	73,195.45	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2031	6		83.28	7,788.90	75,350.81	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00

Kentucky Power Company  
Commercial Energy Model Input Variables

Year	Month	Sales	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on
2031	7	7	0.28	15,847.70	74,826.86	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2031	8	8	0.00	18,022.64	72,201.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2031	9	9	1.21	14,454.92	74,461.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2031	10	10	201.29	5,208.94	72,848.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2031	11	11	1,685.79	692.20	72,417.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2031	12	12	4,426.87	49.41	79,124.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2032	1	1	6,380.53	13.65	80,251.21	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2032	2	2	7,168.40	10.63	71,894.36	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2032	3	3	5,306.38	66.83	71,210.52	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2032	4	4	2,562.85	741.39	73,380.32	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2032	5	5	613.85	2,498.75	72,432.13	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2032	6	6	81.79	7,769.15	74,565.48	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2032	7	7	0.28	15,807.52	74,047.04	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2032	8	8	0.00	17,977.12	71,449.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2032	9	9	1.19	14,418.45	73,686.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2032	10	10	197.69	5,195.82	72,090.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2032	11	11	1,655.71	690.46	71,664.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2032	12	12	4,347.91	49.28	78,301.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2033	1	1	6,263.60	13.60	79,459.99	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2033	2	2	7,037.24	10.59	71,187.71	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2033	3	3	5,209.49	66.60	70,513.25	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2033	4	4	2,516.13	738.90	72,663.87	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2033	5	5	602.67	2,490.45	71,727.32	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2033	6	6	80.30	7,743.57	73,842.02	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2033	7	7	0.27	15,755.90	73,330.62	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2033	8	8	0.00	17,918.99	70,760.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2033	9	9	1.16	14,372.16	72,977.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2033	10	10	194.12	5,179.29	71,399.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2033	11	11	1,625.86	688.28	70,978.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2033	12	12	4,269.64	49.13	77,554.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2034	1	1	6,145.71	13.58	78,765.81	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2034	2	2	6,905.16	10.57	70,569.61	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2034	3	3	5,111.98	66.50	69,904.65	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00

Kentucky Power Company  
Commercial Energy Model Input Variables

Year	Month	Sales	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on
2034	4		2,469.19	737.80	72,041.16	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2034	5		591.46	2,486.87	71,116.53	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2034	6		78.81	7,732.83	73,216.92	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2034	7		0.27	15,734.83	72,713.46	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2034	8		0.00	17,895.91	70,168.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2034	9		1.14	14,354.46	72,371.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2034	10		190.56	5,173.20	70,809.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2034	11		1,596.13	687.52	70,397.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2034	12		4,191.78	49.07	76,922.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2035	1		6,031.42	13.57	78,188.11	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2035	2		6,776.72	10.57	70,051.71	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2035	3		5,016.87	66.46	69,391.31	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2035	4		2,423.23	737.34	71,511.73	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2035	5		580.45	2,485.32	70,593.66	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2035	6		77.35	7,727.92	72,677.87	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2035	7		0.26	15,724.75	72,177.67	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2035	8		0.00	17,884.24	69,650.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2035	9		1.12	14,344.98	71,836.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2035	10		187.01	5,169.73	70,285.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2035	11		1,566.32	687.04	69,875.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2035	12		4,113.45	49.04	76,351.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2036	1		5,917.70	13.57	77,660.18	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2036	2		6,648.82	10.57	69,577.28	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2036	3		4,922.11	66.45	68,920.32	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2036	4		2,377.42	737.28	71,025.09	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2036	5		569.47	2,485.07	70,112.05	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2036	6		75.88	7,727.10	72,181.62	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2036	7		0.26	15,722.83	71,683.77	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2036	8		0.00	17,881.97	69,173.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2036	9		1.10	14,343.01	71,344.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2036	10		183.46	5,168.98	69,803.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2036	11		1,536.60	686.94	69,394.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2036	12		4,035.38	49.03	75,826.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00

Kentucky Power Company  
Commercial Energy Model Input Variables

Year	Month	Sales	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on
2037	1	5,803.33	13.58	77,165.05	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2037	2	6,520.31	10.57	69,133.69	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2037	3	4,826.93	66.49	68,480.23	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2037	4	2,331.43	737.65	70,571.09	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2037	5	558.45	2,486.30	69,663.37	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2037	6	74.41	7,730.79	71,718.54	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2037	7	0.25	15,730.24	71,223.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2037	8	0.00	17,890.07	68,728.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2037	9	1.08	14,349.30	70,883.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2037	10	179.90	5,171.15	69,351.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2037	11	1,506.73	687.22	68,944.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2037	12	3,956.86	49.05	75,333.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2038	1	5,688.19	13.58	76,692.84	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2038	2	6,390.70	10.57	68,708.05	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2038	3	4,730.83	66.46	68,056.47	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2038	4	2,284.93	737.33	70,131.86	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2038	5	547.29	2,485.15	69,227.47	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2038	6	72.92	7,727.02	71,267.86	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2038	7	0.25	15,722.11	70,773.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2038	8	0.00	17,880.35	68,292.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2038	9	1.06	14,341.18	70,432.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2038	10	176.28	5,168.11	68,908.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2038	11	1,476.42	686.80	68,503.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2038	12	3,877.17	49.02	74,849.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2039	1	5,575.77	13.58	76,231.21	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2039	2	6,264.40	10.57	68,294.42	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2039	3	4,637.31	66.51	67,646.40	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2039	4	2,239.75	737.84	69,708.87	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2039	5	536.47	2,486.86	68,809.67	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2039	6	71.48	7,732.26	70,837.14	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2039	7	0.24	15,732.68	70,345.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2039	8	0.00	17,892.22	67,878.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2039	9	1.04	14,350.59	70,005.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00

Kentucky Power Company  
Commercial Energy Model Input Variables

Year	Month	Sales	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on
2039	10		172.79	5,171.45	68,490.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2039	11		1,447.13	687.23	68,085.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2039	12		3,800.24	49.05	74,392.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2040	1		5,465.58	13.58	75,715.76	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2040	2		6,140.19	10.57	67,828.11	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2040	3		4,545.05	66.45	67,179.99	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2040	4		2,195.04	737.22	69,223.45	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2040	5		525.72	2,484.59	68,325.84	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2040	6		70.04	7,724.75	70,334.91	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2040	7		0.24	15,716.46	69,842.70	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2040	8		0.00	17,872.67	67,389.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2040	9		1.02	14,333.96	69,496.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2040	10		169.27	5,165.13	67,987.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2040	11		1,417.61	686.35	67,581.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2040	12		3,722.47	48.99	73,836.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2041	1		5,355.88	13.58	75,202.01	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2041	2		6,017.18	10.57	67,370.52	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2041	3		4,454.18	66.47	66,729.40	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2041	4		2,151.24	737.40	68,761.91	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2041	5		515.25	2,485.30	67,872.86	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2041	6		68.65	7,727.22	69,870.99	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2041	7		0.23	15,722.00	69,384.28	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2041	8		0.00	17,879.61	66,949.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2041	9		1.00	14,339.98	69,044.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2041	10		165.93	5,167.48	67,548.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2041	11		1,389.66	686.68	67,147.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2041	12		3,649.18	49.01	73,364.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2042	1		5,247.08	13.59	74,760.77	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2042	2		5,895.12	10.58	66,977.22	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2042	3		4,363.99	66.52	66,342.34	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2042	4		2,107.76	738.01	68,365.77	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2042	5		504.86	2,487.43	67,484.37	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2042	6		67.27	7,734.08	69,473.18	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00

Kentucky Power Company  
Commercial Energy Model Input Variables

Year	Month	Sales	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on
2042	7	0.23	15,736.55	68,991.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2042	8	0.00	17,896.80	66,573.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2042	9	0.98	14,354.29	68,658.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2042	10	162.61	5,172.83	67,173.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2042	11	1,361.93	687.43	66,778.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2042	12	3,576.53	49.07	72,964.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2043	1	5,145.47	13.60	74,419.45	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2043	2	5,780.97	10.59	66,671.44	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2043	3	4,279.47	66.58	66,039.31	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2043	4	2,066.93	738.65	68,053.25	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2043	5	495.08	2,489.60	67,175.58	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2043	6	65.97	7,740.85	69,155.45	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2043	7	0.22	15,750.24	68,675.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2043	8	0.00	17,912.31	66,268.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2043	9	0.96	14,366.74	68,344.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2043	10	159.46	5,177.30	66,865.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2043	11	1,335.53	688.02	66,471.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2043	12	3,507.17	49.11	72,628.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2044	1	5,047.40	13.63	74,112.02	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2044	2	5,670.83	10.61	66,396.58	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2044	3	4,197.97	66.75	65,767.47	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2044	4	2,027.60	740.57	67,774.05	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2044	5	485.66	2,496.09	66,900.81	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2044	6	64.71	7,761.11	68,873.23	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2044	7	0.22	15,791.60	68,396.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2044	8	0.00	17,959.61	65,999.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2044	9	0.94	14,404.91	68,068.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2044	10	156.44	5,191.13	66,596.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2044	11	1,310.23	689.87	66,204.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2044	12	3,440.80	49.24	72,338.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2045	1	4,956.33	13.66	73,858.12	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2045	2	5,568.42	10.63	66,167.94	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2045	3	4,122.10	66.88	65,540.07	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00



Kentucky Power Company  
Commercial Energy Model Input Variables

Year	Month	Sales	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on
2045	4		1,990.90	742.00	67,538.17	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2045	5		476.86	2,500.87	66,666.68	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2045	6		63.54	7,775.82	68,631.03	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2045	7		0.22	15,821.27	68,154.65	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2045	8		0.00	17,992.92	65,764.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2045	9		0.92	14,431.30	67,824.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2045	10		153.59	5,200.51	66,356.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2045	11		1,286.33	691.09	65,964.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2045	12		3,377.94	49.33	72,074.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2046	1		4,867.50	13.71	73,626.77	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2046	2		5,468.48	10.67	65,959.09	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2046	3		4,047.98	67.13	65,330.92	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2046	4		1,955.04	744.68	67,320.48	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2046	5		468.26	2,509.82	66,449.56	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2046	6		62.39	7,803.44	68,405.56	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2046	7		0.21	15,877.03	67,928.87	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2046	8		0.00	18,055.82	65,544.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2046	9		0.90	14,481.26	67,595.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2046	10		150.79	5,218.37	66,130.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2046	11		1,262.89	693.44	65,737.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2046	12		3,316.29	49.49	71,824.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2047	1		4,778.97	13.75	73,417.02	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2047	2		5,369.05	10.70	65,771.47	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2047	3		3,974.42	67.32	65,145.87	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2047	4		1,919.54	746.81	67,130.46	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2047	5		459.76	2,517.02	66,262.81	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2047	6		61.26	7,825.89	68,213.80	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2047	7		0.21	15,922.83	67,738.94	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2047	8		0.00	18,108.13	65,362.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2047	9		0.89	14,523.43	67,408.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2047	10		148.06	5,233.63	65,948.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2047	11		1,240.05	695.48	65,557.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2047	12		3,256.36	49.64	71,628.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00

Kentucky Power Company  
Commercial Energy Model Input Variables

Year	Month	Sales	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on
2048	1		4,692.93	13.78	73,257.48	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2048	2		5,272.30	10.73	65,627.54	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2048	3		3,902.73	67.47	65,002.12	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2048	4		1,884.88	748.50	66,981.13	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2048	5		451.45	2,522.69	66,114.80	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2048	6		60.15	7,843.43	68,060.76	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2048	7		0.20	15,958.38	67,586.35	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2048	8		0.00	18,148.37	65,214.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2048	9		0.87	14,555.54	67,255.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2048	10		145.38	5,245.13	65,797.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2048	11		1,217.57	697.00	65,407.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2048	12		3,197.31	49.75	71,463.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2049	1		4,598.40	13.83	73,143.86	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2049	2		5,166.36	10.77	65,529.16	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2049	3		3,824.51	67.72	64,908.08	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2049	4		1,847.19	751.31	66,887.57	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2049	5		442.45	2,532.30	66,025.55	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2049	6		58.95	7,873.65	67,971.85	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2049	7		0.20	16,020.51	67,500.83	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2049	8		0.00	18,219.84	65,134.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2049	9		0.85	14,613.49	67,176.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2049	10		142.51	5,266.27	65,723.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2049	11		1,193.60	699.84	65,335.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2049	12		3,134.48	49.95	71,388.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2050	1		4,508.57	13.90	73,110.71	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2050	2		5,065.47	10.82	65,499.81	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2050	3		3,749.87	68.05	64,879.73	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2050	4		1,811.17	754.97	66,859.40	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2050	5		433.82	2,544.64	65,998.23	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2050	6		57.80	7,912.11	67,944.61	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2050	7		0.20	16,098.95	67,474.52	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2050	8		0.00	18,309.29	65,110.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2050	9		0.84	14,685.39	67,151.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00

Kentucky Power Company  
 Commercial Energy Model Input Variables

Year	Month	Sales	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on
2050	10		139.74	5,292.25	65,699.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2050	11		1,170.42	703.31	65,313.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2050	12		3,073.66	50.20	71,365.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2051	1		4,426.11	13.95	73,015.44	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2051	2		4,972.86	10.86	65,414.93	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2051	3		3,681.34	68.32	64,796.27	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2051	4		1,778.08	757.96	66,773.63	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2051	5		425.90	2,554.73	65,914.31	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2051	6		56.75	7,943.54	67,858.50	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2051	7		0.19	16,163.10	67,389.87	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2051	8		0.00	18,382.34	65,029.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2051	9		0.82	14,744.13	67,068.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2051	10		137.20	5,313.46	65,618.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2051	11		1,149.10	706.13	65,233.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2051	12		3,017.72	50.40	71,279.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2052	1		4,345.58	14.01	72,933.54	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2052	2		4,882.43	10.91	65,342.17	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2052	3		3,614.40	68.59	64,724.28	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2052	4		1,745.77	761.03	66,700.22	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2052	5		418.17	2,565.12	65,842.34	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2052	6		55.72	7,975.91	67,785.12	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2052	7		0.19	16,229.08	67,317.44	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2052	8		0.00	18,457.59	64,959.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2052	9		0.81	14,804.63	66,997.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2052	10		134.71	5,335.31	65,550.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2052	11		1,128.30	709.04	65,166.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2052	12		2,963.09	50.61	71,205.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2053	1		4,266.59	14.07	72,859.11	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2053	2		4,793.73	10.95	65,276.12	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2053	3		3,548.74	68.87	64,658.96	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2053	4		1,714.08	764.13	66,633.70	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2053	5		410.58	2,575.59	65,777.18	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2053	6		54.71	8,008.57	67,718.78	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00

Kentucky Power Company  
Commercial Energy Model Input Variables

Year	Month	Sales	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on
2053	7		0.19	16,295.65	67,252.02	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2053	8		0.00	18,533.53	64,897.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2053	9		0.79	14,865.69	66,933.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2053	10		132.27	5,357.35	65,488.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2053	11		1,107.89	711.98	65,105.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2053	12		2,909.51	50.82	71,140.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2054	1		4,189.12	14.12	72,792.23	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2054	2		4,706.74	11.00	65,216.85	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2054	3		3,484.35	69.15	64,600.37	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2054	4		1,682.99	767.26	66,574.12	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2054	5		403.14	2,586.17	65,718.89	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2054	6		53.72	8,041.54	67,659.52	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2054	7		0.18	16,362.83	67,193.64	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2054	8		0.00	18,610.18	64,842.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2054	9		0.78	14,927.32	66,877.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2054	10		129.88	5,379.61	65,433.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2054	11		1,087.87	714.95	65,052.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2054	12		2,856.96	51.03	71,081.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2055	1		4,113.14	14.18	72,732.88	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2055	2		4,621.42	11.04	65,164.33	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2055	3		3,421.20	69.44	64,548.48	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2055	4		1,652.51	770.42	66,521.45	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2055	5		395.84	2,596.84	65,667.44	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2055	6		52.75	8,074.80	67,607.31	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2055	7		0.18	16,430.65	67,142.27	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2055	8		0.00	18,687.54	64,793.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2055	9		0.76	14,989.53	66,827.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2055	10		127.54	5,402.07	65,385.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2055	11		1,068.24	717.94	65,005.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2055	12		2,805.43	51.25	71,030.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2056	1		4,038.63	14.24	72,681.02	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2056	2		4,537.74	11.09	65,118.53	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2056	3		3,359.26	69.72	64,503.27	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00

Kentucky Power Company  
Commercial Energy Model Input Variables

Year	Month	Sales	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on
2056	4		1,622.61	773.61	66,475.67	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2056	5		388.68	2,607.61	65,622.79	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2056	6		51.79	8,108.38	67,562.11	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2056	7		0.18	16,499.10	67,097.88	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2056	8		0.00	18,765.63	64,751.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2056	9		0.75	15,052.32	66,785.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2056	10		125.24	5,424.75	65,344.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2056	11		1,048.99	720.96	64,965.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2056	12		2,754.88	51.46	70,987.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2057	1		3,965.54	14.30	72,636.60	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2057	2		4,455.66	11.13	65,079.41	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2057	3		3,298.51	70.01	64,464.69	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2057	4		1,593.29	776.83	66,436.74	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2057	5		381.66	2,618.47	65,584.91	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2057	6		50.86	8,142.28	67,523.89	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
2057	7		0.17	16,568.19	67,060.43	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
2057	8		0.00	18,844.45	64,715.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
2057	9		0.74	15,115.71	66,749.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00
2057	10		122.98	5,447.64	65,310.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
2057	11		1,030.11	724.02	64,931.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
2057	12		2,705.31	51.68	70,951.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00











Kentucky Power Company  
 Commercial Energy Model Input Variables

Year	Month	D12on	dJan12on	dFeb12on	nov15on	nov16on	may18on	mayjun20	jan20on	Jul21on	XMissing	YMissing
2015	1	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2015	2	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2015	3	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2015	4	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2015	5	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2015	6	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2015	7	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2015	8	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2015	9	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2015	10	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2015	11	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2015	12	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2016	1	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2016	2	1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2016	3	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2016	4	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2016	5	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2016	6	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2016	7	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2016	8	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2016	9	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2016	10	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2016	11	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0
2016	12	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0
2017	1	1.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0
2017	2	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0
2017	3	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0
2017	4	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0
2017	5	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0
2017	6	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0
2017	7	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0
2017	8	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0
2017	9	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0

Kentucky Power Company  
 Commercial Energy Model Input Variables

Year	Month	D12on	dJan12on	dFeb12on	nov15on	nov16on	may18on	mayjun20	jan20on	Jul21on	XMissing	YMissing
2017	10	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0
2017	11	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0
2017	12	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0
2018	1	1.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0
2018	2	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0
2018	3	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0
2018	4	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0
2018	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0
2018	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0
2018	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0
2018	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0
2018	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0
2018	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0
2018	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0
2018	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0
2019	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0
2019	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0
2019	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0
2019	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0
2019	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0
2019	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0
2019	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0
2019	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0
2019	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0
2019	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0
2019	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0
2019	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0
2020	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0
2020	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0
2020	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0
2020	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0
2020	5	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0
2020	6	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0

Kentucky Power Company  
 Commercial Energy Model Input Variables

Year	Month	D12on	dJan12on	dFeb12on	nov15on	nov16on	may18on	mayjun20	jan20on	Jul21on	XMissing	YMissing
2020	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0
2020	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0
2020	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0
2020	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0
2020	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0
2020	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0
2021	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0
2021	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0
2021	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0
2021	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0
2021	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0
2021	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0
2021	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0
2021	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0
2021	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0
2021	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0
2021	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0
2021	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0
2022	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0
2022	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0
2022	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0
2022	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0
2022	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0
2022	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0
2022	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0
2022	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0
2022	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0
2022	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0
2022	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0
2022	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0
2023	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0
2023	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0
2023	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0

Kentucky Power Company  
 Commercial Energy Model Input Variables

Year	Month	D12on	dJan12on	dFeb12on	nov15on	nov16on	may18on	mayjun20	jan20on	Jul21on	XMissing	YMissing
2023	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2023	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2023	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2023	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2023	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2023	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2023	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2023	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2023	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2024	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2024	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2024	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2024	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2024	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2024	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2024	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2024	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2024	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2024	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2024	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2024	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2025	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2025	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2025	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2025	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2025	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2025	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2025	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2025	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2025	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2025	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2025	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2025	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1

Kentucky Power Company  
 Commercial Energy Model Input Variables

Year	Month	D12on	dJan12on	dFeb12on	nov15on	nov16on	may18on	mayjun20	jan20on	Jul21on	XMissing	YMissing
2026	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2026	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2026	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2026	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2026	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2026	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2026	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2026	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2026	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2026	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2026	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2026	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2027	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2027	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2027	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2027	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2027	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2027	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2027	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2027	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2027	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2027	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2027	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2027	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2028	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2028	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2028	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2028	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2028	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2028	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2028	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2028	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2028	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1

Kentucky Power Company  
 Commercial Energy Model Input Variables

Year	Month	D12on	dJan12on	dFeb12on	nov15on	nov16on	may18on	mayjun20	jan20on	Jul21on	XMissing	YMissing
2028	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2028	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2028	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2029	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2029	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2029	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2029	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2029	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2029	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2029	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2029	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2029	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2029	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2029	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2029	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2030	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2030	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2030	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2030	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2030	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2030	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2030	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2030	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2030	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2030	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2030	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2030	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2031	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2031	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2031	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2031	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2031	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2031	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1

Kentucky Power Company  
 Commercial Energy Model Input Variables

Year	Month	D12on	dJan12on	dFeb12on	nov15on	nov16on	may18on	mayjun20	jan20on	Jul21on	XMissing	YMissing
2031	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2031	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2031	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2031	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2031	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2031	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2032	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2032	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2032	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2032	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2032	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2032	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2032	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2032	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2032	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2032	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2032	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2032	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2033	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2033	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2033	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2033	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2033	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2033	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2033	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2033	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2033	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2033	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2033	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2033	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2034	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2034	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2034	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1



Kentucky Power Company  
 Commercial Energy Model Input Variables

Year	Month	D12on	dJan12on	dFeb12on	nov15on	nov16on	may18on	mayjun20	jan20on	Jul21on	XMissing	YMissing
2034	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2034	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2034	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2034	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2034	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2034	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2034	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2034	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2034	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2035	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2035	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2035	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2035	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2035	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2035	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2035	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2035	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2035	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2035	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2035	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2035	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2036	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2036	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2036	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2036	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2036	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2036	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2036	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2036	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2036	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2036	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2036	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2036	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1

Kentucky Power Company  
 Commercial Energy Model Input Variables

Year	Month	D12on	dJan12on	dFeb12on	nov15on	nov16on	may18on	mayjun20	jan20on	Jul21on	XMissing	YMissing
2037	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2037	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2037	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2037	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2037	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2037	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2037	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2037	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2037	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2037	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2037	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2037	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2038	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2038	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2038	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2038	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2038	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2038	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2038	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2038	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2038	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2038	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2038	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2038	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2039	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2039	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2039	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2039	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2039	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2039	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2039	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2039	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2039	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1

Kentucky Power Company  
 Commercial Energy Model Input Variables

Year	Month	D12on	dJan12on	dFeb12on	nov15on	nov16on	may18on	mayjun20	jan20on	Jul21on	XMissing	YMissing
2039	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2039	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2039	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2040	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2040	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2040	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2040	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2040	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2040	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2040	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2040	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2040	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2040	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2040	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2040	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2041	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2041	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2041	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2041	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2041	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2041	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2041	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2041	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2041	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2041	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2041	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2041	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2042	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2042	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2042	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2042	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2042	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2042	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1

Kentucky Power Company  
 Commercial Energy Model Input Variables

Year	Month	D12on	dJan12on	dFeb12on	nov15on	nov16on	may18on	mayjun20	jan20on	Jul21on	XMissing	YMissing
2042	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2042	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2042	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2042	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2042	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2042	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2043	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2043	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2043	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2043	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2043	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2043	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2043	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2043	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2043	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2043	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2043	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2043	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2044	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2044	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2044	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2044	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2044	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2044	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2044	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2044	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2044	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2044	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2044	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2044	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2045	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2045	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2045	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1

Kentucky Power Company  
 Commercial Energy Model Input Variables

Year	Month	D12on	dJan12on	dFeb12on	nov15on	nov16on	may18on	mayjun20	jan20on	Jul21on	XMissing	YMissing
2045	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2045	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2045	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2045	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2045	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2045	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2045	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2045	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2045	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2046	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2046	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2046	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2046	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2046	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2046	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2046	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2046	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2046	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2046	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2046	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2046	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2047	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2047	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2047	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2047	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2047	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2047	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2047	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2047	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2047	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2047	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2047	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2047	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1

Kentucky Power Company  
 Commercial Energy Model Input Variables

Year	Month	D12on	dJan12on	dFeb12on	nov15on	nov16on	may18on	mayjun20	jan20on	Jul21on	XMissing	YMissing
2048	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2048	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2048	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2048	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2048	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2048	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2048	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2048	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2048	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2048	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2048	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2048	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2049	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2049	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2049	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2049	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2049	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2049	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2049	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2049	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2049	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2049	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2049	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2049	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2050	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2050	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2050	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2050	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2050	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2050	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2050	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2050	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2050	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1

Kentucky Power Company  
 Commercial Energy Model Input Variables

Year	Month	D12on	dJan12on	dFeb12on	nov15on	nov16on	may18on	mayjun20	jan20on	Jul21on	XMissing	YMissing
2050	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2050	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2050	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2051	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2051	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2051	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2051	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2051	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2051	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2051	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2051	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2051	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2051	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2051	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2051	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2052	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2052	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2052	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2052	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2052	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2052	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2052	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2052	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2052	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2052	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2052	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2052	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2053	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2053	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2053	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2053	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2053	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2053	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1

Kentucky Power Company  
 Commercial Energy Model Input Variables

Year	Month	D12on	dJan12on	dFeb12on	nov15on	nov16on	may18on	mayjun20	jan20on	Jul21on	XMissing	YMissing
2053	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2053	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2053	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2053	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2053	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2053	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2054	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2054	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2054	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2054	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2054	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2054	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2054	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2054	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2054	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2054	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2054	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2054	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2055	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2055	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2055	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2055	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2055	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2055	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2055	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2055	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2055	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2055	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2055	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2055	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2056	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2056	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2056	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1



Kentucky Power Company  
 Commercial Energy Model Input Variables

Year	Month	D12on	dJan12on	dFeb12on	nov15on	nov16on	may18on	mayjun20	jan20on	Jul21on	XMissing	YMissing
2056	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2056	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2056	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2056	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2056	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2056	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2056	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2056	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2056	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2057	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2057	2	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2057	3	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2057	4	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2057	5	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2057	6	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2057	7	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2057	8	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2057	9	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2057	10	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2057	11	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1
2057	12	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0	1

Kentucky Power Company  
Commercial Energy Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value	Units	Definition
CONST	75237.817	7567.186	9.943	0.00%		Constant term
CommercialVars.XHeat	1.995	0.129	15.485	0.00%		Commercial Heating Component
CommercialVars.XCool	0.963	0.075	12.887	0.00%		Commercial Cooling Component
CommercialVars.XOther	0.236	0.062	3.786	0.02%		Commercial Other Component
BinaryVars.Jan	5545.164	1149.718	4.823	0.00%		January
BinaryVars.Feb	-4103.534	1377.529	-2.979	0.33%		February
BinaryVars.Mar	-5053.094	996.944	-5.069	0.00%		March
BinaryVars.Apr	-7113.221	975.445	-7.292	0.00%		April
BinaryVars.May	-6803.616	1244.103	-5.469	0.00%		May
BinaryVars.Jun	-1839.411	1438.973	-1.278	20.27%		June
BinaryVars.Jul	-1969.620	1836.708	-1.072	28.49%		July
BinaryVars.Aug	-2784.509	2045.940	-1.361	17.51%		August
BinaryVars.Sep	1520.561	1772.126	0.858	39.19%		September
BinaryVars.Oct	-3431.877	1373.788	-2.498	1.33%		October
BinaryVars.Nov	-8483.525	1091.589	-7.772	0.00%		November
BinaryVars.Sep07on	4856.027	749.713	6.477	0.00%		Binary Variable September 2007 On
BinaryVars.D05on	4074.301	801.570	5.083	0.00%		Binary Variable 2005 On
BinaryVars.D12on	-3512.491	760.564	-4.618	0.00%		Binary Variable 2012 On
BinaryVars.dJan12on	2905.024	1187.958	2.445	1.54%		Binary Variable 2012 On January
BinaryVars.dFeb12on	4751.722	1219.077	3.898	0.01%		Binary Variable 2012 On February
BinaryVars.nov15on	-2718.891	831.736	-3.269	0.13%		Binary Variable November 2015 On
BinaryVars.nov16on	-2047.728	868.685	-2.357	1.94%		Binary Variable November 2016 On
BinaryVars.may18on	-2081.655	766.894	-2.714	0.72%		Binary Variable May 2018 On
BinaryVars.mayjun20	-7685.656	1773.667	-4.333	0.00%		Binary Variable May June 2020
BinaryVars.jan20on	-5954.278	790.439	-7.533	0.00%		Binary Variable January 2020 On
BinaryVars.Jul21on	1420.894	1056.625	1.345	18.03%		Binary Variable July 2021 On

Kentucky Power Company

Commercial Energy Model Statistics

Model Statistics		Forecast Statistics	
Iterations	1	Forecast Observations	0
Adjusted Observations	217	Mean Abs. Dev. (MAD)	0.00
Deg. of Freedom for Error	191	Mean Abs. % Err. (MAPE)	0.00%
R-Squared	0.972	Avg. Forecast Error	0.00
Adjusted R-Squared	0.968	Mean % Error	0.00%
AIC	15.582	Root Mean-Square Error	0.00
BIC	15.987	Theil's Inequality Coefficient	0.0000
F-Statistic	261.883	-- Bias Proportion	0.00%
Prob (F-Statistic)	0.0000	-- Variance Proportion	0.00%
Log-Likelihood	-1,972.60	-- Covariance Proportion	0.00%
Model Sum of Squares	34,258,891,495.07		
Sum of Squared Errors	999,445,566.36		
Mean Squared Error	5,232,699.30		
Std. Error of Regression	2,287.51		
Mean Abs. Dev. (MAD)	1,612.10		
Mean Abs. % Err. (MAPE)	1.43%		
Durbin-Watson Statistic	1.420		
Durbin-H Statistic	#NA		
Ljung-Box Statistic	34.53		
Prob (Ljung-Box)	0.0757		
Skewness	0.268		
Kurtosis	3.903		
Jarque-Bera	9.974		
Prob (Jarque-Bera)	0.0068		

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun
2004	1	135,376.984	75,237.817	25,553.825	50.299	28,989.879	5,545.164	0.000	0.000	0.000	0.000	0.000
2004	2	129,957.791	75,237.817	32,935.006	16.774	25,871.727	0.000	-4,103.534	0.000	0.000	0.000	0.000
2004	3	115,090.081	75,237.817	19,130.713	150.999	25,623.646	0.000	0.000	-5,053.094	0.000	0.000	0.000
2004	4	106,346.731	75,237.817	10,577.267	837.039	26,807.828	0.000	0.000	0.000	-7,113.221	0.000	0.000
2004	5	101,641.475	75,237.817	2,612.985	4,643.723	25,950.566	0.000	0.000	0.000	0.000	-6,803.616	0.000
2004	6	113,639.254	75,237.817	181.025	12,736.825	27,322.997	0.000	0.000	0.000	0.000	0.000	-1,839.411
2004	7	116,309.241	75,237.817	0.000	16,280.926	26,760.118	0.000	0.000	0.000	0.000	0.000	0.000
2004	8	114,220.166	75,237.817	0.000	16,073.539	25,693.319	0.000	0.000	0.000	0.000	0.000	0.000
2004	9	117,097.016	75,237.817	0.000	14,087.638	26,251.000	0.000	0.000	0.000	0.000	0.000	0.000
2004	10	102,723.860	75,237.817	443.062	4,189.763	26,285.095	0.000	0.000	0.000	0.000	0.000	0.000
2004	11	96,016.362	75,237.817	2,855.083	836.021	25,570.966	0.000	0.000	0.000	0.000	0.000	0.000
2004	12	116,969.558	75,237.817	13,159.680	121.435	28,450.625	0.000	0.000	0.000	0.000	0.000	0.000
2005	1	135,450.571	75,237.817	22,107.991	0.000	28,485.298	5,545.164	0.000	0.000	0.000	0.000	0.000
2005	2	127,573.863	75,237.817	26,537.124	0.000	25,828.155	0.000	-4,103.534	0.000	0.000	0.000	0.000
2005	3	122,562.908	75,237.817	22,645.190	0.000	25,658.694	0.000	0.000	-5,053.094	0.000	0.000	0.000
2005	4	109,584.760	75,237.817	10,518.415	373.901	26,493.546	0.000	0.000	0.000	-7,113.221	0.000	0.000
2005	5	102,279.051	75,237.817	3,036.193	1,375.350	25,359.006	0.000	0.000	0.000	0.000	-6,803.616	0.000
2005	6	112,999.973	75,237.817	414.041	8,031.301	27,081.922	0.000	0.000	0.000	0.000	0.000	-1,839.411
2005	7	126,639.998	75,237.817	0.000	22,871.300	26,426.199	0.000	0.000	0.000	0.000	0.000	0.000
2005	8	131,238.584	75,237.817	0.000	29,163.941	25,547.034	0.000	0.000	0.000	0.000	0.000	0.000
2005	9	129,374.546	75,237.817	0.000	21,964.460	26,577.406	0.000	0.000	0.000	0.000	0.000	0.000
2005	10	111,780.662	75,237.817	257.850	10,102.210	25,540.361	0.000	0.000	0.000	0.000	0.000	0.000
2005	11	104,046.595	75,237.817	6,502.679	636.586	26,078.736	0.000	0.000	0.000	0.000	0.000	0.000
2005	12	129,419.668	75,237.817	22,078.730	93.806	27,935.014	0.000	0.000	0.000	0.000	0.000	0.000
2006	1	134,832.323	75,237.817	21,422.941	0.000	28,552.100	5,545.164	0.000	0.000	0.000	0.000	0.000
2006	2	119,144.079	75,237.817	18,197.861	0.000	25,737.634	0.000	-4,103.534	0.000	0.000	0.000	0.000
2006	3	119,672.124	75,237.817	20,604.018	87.488	24,721.594	0.000	0.000	-5,053.094	0.000	0.000	0.000
2006	4	108,804.966	75,237.817	10,689.552	1,052.407	24,864.110	0.000	0.000	0.000	-7,113.221	0.000	0.000
2006	5	100,933.253	75,237.817	873.966	1,767.477	25,783.308	0.000	0.000	0.000	0.000	-6,803.616	0.000
2006	6	110,850.073	75,237.817	168.323	6,663.761	26,545.281	0.000	0.000	0.000	0.000	0.000	-1,839.411
2006	7	119,931.088	75,237.817	0.000	16,411.856	26,176.734	0.000	0.000	0.000	0.000	0.000	0.000
2006	8	126,969.852	75,237.817	0.000	25,846.316	24,595.927	0.000	0.000	0.000	0.000	0.000	0.000
2006	9	123,622.703	75,237.817	39.744	16,419.681	26,330.598	0.000	0.000	0.000	0.000	0.000	0.000



Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun
2009	7	118,985.304	75,237.817	0.000	12,851.954	23,934.824	0.000	0.000	0.000	0.000	0.000	0.000
2009	8	117,965.951	75,237.817	0.000	13,232.752	23,349.563	0.000	0.000	0.000	0.000	0.000	0.000
2009	9	121,909.215	75,237.817	0.000	12,634.682	23,585.826	0.000	0.000	0.000	0.000	0.000	0.000
2009	10	110,052.402	75,237.817	1,274.245	4,520.552	23,521.337	0.000	0.000	0.000	0.000	0.000	0.000
2009	11	104,056.101	75,237.817	5,080.181	186.200	23,105.099	0.000	0.000	0.000	0.000	0.000	0.000
2009	12	123,209.383	75,237.817	13,363.829	12.038	25,665.369	0.000	0.000	0.000	0.000	0.000	0.000
2010	1	142,345.729	75,237.817	26,992.257	0.000	25,640.163	5,545.164	0.000	0.000	0.000	0.000	0.000
2010	2	129,654.016	75,237.817	26,966.780	0.000	22,622.625	0.000	-4,103.534	0.000	0.000	0.000	0.000
2010	3	123,926.136	75,237.817	22,093.630	0.000	22,717.454	0.000	0.000	-5,053.094	0.000	0.000	0.000
2010	4	107,599.536	75,237.817	5,152.485	1,494.617	23,897.509	0.000	0.000	0.000	-7,113.221	0.000	0.000
2010	5	103,853.124	75,237.817	1,339.260	2,348.093	22,801.242	0.000	0.000	0.000	0.000	-6,803.616	0.000
2010	6	117,904.343	75,237.817	217.109	11,447.188	23,911.311	0.000	0.000	0.000	0.000	0.000	-1,839.411
2010	7	126,430.329	75,237.817	0.000	20,598.084	23,633.719	0.000	0.000	0.000	0.000	0.000	0.000
2010	8	128,393.604	75,237.817	0.000	24,003.910	23,006.057	0.000	0.000	0.000	0.000	0.000	0.000
2010	9	126,047.720	75,237.817	0.000	16,943.828	23,415.185	0.000	0.000	0.000	0.000	0.000	0.000
2010	10	110,475.696	75,237.817	425.047	6,345.516	22,968.865	0.000	0.000	0.000	0.000	0.000	0.000
2010	11	103,389.547	75,237.817	4,521.628	610.248	22,573.051	0.000	0.000	0.000	0.000	0.000	0.000
2010	12	127,501.342	75,237.817	18,341.902	0.000	24,991.295	0.000	0.000	0.000	0.000	0.000	0.000
2011	1	142,987.605	75,237.817	28,506.738	0.000	24,767.558	5,545.164	0.000	0.000	0.000	0.000	0.000
2011	2	128,133.291	75,237.817	25,960.856	0.000	22,107.824	0.000	-4,103.534	0.000	0.000	0.000	0.000
2011	3	114,767.218	75,237.817	13,464.960	96.625	22,090.582	0.000	0.000	-5,053.094	0.000	0.000	0.000
2011	4	108,849.175	75,237.817	8,630.908	928.865	22,234.477	0.000	0.000	0.000	-7,113.221	0.000	0.000
2011	5	104,643.809	75,237.817	1,668.786	2,781.843	22,828.650	0.000	0.000	0.000	0.000	-6,803.616	0.000
2011	6	115,943.753	75,237.817	535.762	10,384.999	22,694.257	0.000	0.000	0.000	0.000	0.000	-1,839.411
2011	7	121,150.359	75,237.817	0.000	16,212.067	22,739.767	0.000	0.000	0.000	0.000	0.000	0.000
2011	8	127,311.527	75,237.817	0.000	23,984.331	21,943.559	0.000	0.000	0.000	0.000	0.000	0.000
2011	9	122,516.233	75,237.817	5,919	14,321.800	22,499.808	0.000	0.000	0.000	0.000	0.000	0.000
2011	10	106,505.368	75,237.817	1,041.693	2,552.279	22,175.127	0.000	0.000	0.000	0.000	0.000	0.000
2011	11	102,788.484	75,237.817	5,208.865	59.038	21,835.961	0.000	0.000	0.000	0.000	0.000	0.000
2011	12	117,750.448	75,237.817	9,504.498	88.497	23,989.307	0.000	0.000	0.000	0.000	0.000	0.000
2012	1	128,969.262	75,237.817	16,066.519	0.000	23,796.901	5,545.164	0.000	0.000	0.000	0.000	0.000
2012	2	119,831.395	75,237.817	16,735.594	0.000	21,791.959	0.000	-4,103.534	0.000	0.000	0.000	0.000
2012	3	109,472.409	75,237.817	12,004.396	531.020	21,334.432	0.000	0.000	-5,053.094	0.000	0.000	0.000

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun
2012	4	100,194.687	75,237.817	2,528.081	2,214.321	21,909.853	0.000	0.000	0.000	-7,113.221	0.000	0.000
2012	5	100,735.778	75,237.817	1,717.394	3,223.506	21,942.840	0.000	0.000	0.000	0.000	-6,803.616	0.000
2012	6	110,797.082	75,237.817	8.708	9,550.382	22,421.747	0.000	0.000	0.000	0.000	0.000	-1,839.411
2012	7	122,739.297	75,237.817	0.000	21,403.134	22,650.128	0.000	0.000	0.000	0.000	0.000	0.000
2012	8	120,314.464	75,237.817	0.000	21,068.978	21,374.340	0.000	0.000	0.000	0.000	0.000	0.000
2012	9	119,478.826	75,237.817	20.946	14,859.695	22,421.969	0.000	0.000	0.000	0.000	0.000	0.000
2012	10	103,769.751	75,237.817	1,392.401	3,576.137	21,577.436	0.000	0.000	0.000	0.000	0.000	0.000
2012	11	101,675.335	75,237.817	7,242.864	459.991	21,800.351	0.000	0.000	0.000	0.000	0.000	0.000
2012	12	116,051.913	75,237.817	11,839.321	0.000	23,556.938	0.000	0.000	0.000	0.000	0.000	0.000
2013	1	130,753.620	75,237.817	17,908.016	0.000	23,739.762	5,545.164	0.000	0.000	0.000	0.000	0.000
2013	2	123,735.316	75,237.817	20,987.880	0.000	21,443.592	0.000	-4,103.534	0.000	0.000	0.000	0.000
2013	3	115,260.426	75,237.817	18,143.291	0.000	21,514.574	0.000	0.000	-5,053.094	0.000	0.000	0.000
2013	4	108,590.510	75,237.817	11,858.451	1,053.414	22,136.211	0.000	0.000	0.000	-7,113.221	0.000	0.000
2013	5	99,852.427	75,237.817	1,439.665	2,837.696	21,723.028	0.000	0.000	0.000	0.000	-6,803.616	0.000
2013	6	111,688.200	75,237.817	251.506	10,391.824	22,228.627	0.000	0.000	0.000	0.000	0.000	-1,839.411
2013	7	118,628.989	75,237.817	0.000	18,101.754	21,841.201	0.000	0.000	0.000	0.000	0.000	0.000
2013	8	116,263.410	75,237.817	0.000	16,900.218	21,492.047	0.000	0.000	0.000	0.000	0.000	0.000
2013	9	118,622.253	75,237.817	0.000	14,589.225	21,856.813	0.000	0.000	0.000	0.000	0.000	0.000
2013	10	104,828.651	75,237.817	348.648	5,774.119	21,482.107	0.000	0.000	0.000	0.000	0.000	0.000
2013	11	100,176.043	75,237.817	5,851.766	831.338	21,320.811	0.000	0.000	0.000	0.000	0.000	0.000
2013	12	120,040.882	75,237.817	15,802.526	24.691	23,558.010	0.000	0.000	0.000	0.000	0.000	0.000
2014	1	132,938.491	75,237.817	20,176.286	47.072	23,609.291	5,545.164	0.000	0.000	0.000	0.000	0.000
2014	2	128,928.458	75,237.817	26,751.866	0.000	20,872.749	0.000	-4,103.534	0.000	0.000	0.000	0.000
2014	3	115,545.689	75,237.817	19,053.948	0.000	20,889.179	0.000	0.000	-5,053.094	0.000	0.000	0.000
2014	4	104,177.758	75,237.817	9,288.062	369.171	20,978.091	0.000	0.000	0.000	-7,113.221	0.000	0.000
2014	5	98,649.408	75,237.817	1,136.442	1,987.740	21,673.188	0.000	0.000	0.000	0.000	-6,803.616	0.000
2014	6	108,157.570	75,237.817	313.129	7,657.935	21,370.262	0.000	0.000	0.000	0.000	0.000	-1,839.411
2014	7	116,208.176	75,237.817	0.000	16,157.483	21,364.657	0.000	0.000	0.000	0.000	0.000	0.000
2014	8	110,135.759	75,237.817	0.000	11,436.614	20,828.000	0.000	0.000	0.000	0.000	0.000	0.000
2014	9	116,654.589	75,237.817	0.000	13,246.409	21,231.965	0.000	0.000	0.000	0.000	0.000	0.000
2014	10	101,567.118	75,237.817	563.253	3,351.685	20,428.403	0.000	0.000	0.000	0.000	0.000	0.000
2014	11	99,354.587	75,237.817	6,305.625	313.153	20,563.680	0.000	0.000	0.000	0.000	0.000	0.000
2014	12	118,197.096	75,237.817	15,128.722	0.952	22,411.769	0.000	0.000	0.000	0.000	0.000	0.000

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun
2015	1	129,708.426	75,237.817	17,940.791	0.000	22,661.792	5,545.164	0.000	0.000	0.000	0.000	0.000
2015	2	123,976.939	75,237.817	22,425.885	0.000	20,247.211	0.000	-4,103.534	0.000	0.000	0.000	0.000
2015	3	119,403.922	75,237.817	23,549.664	0.000	20,251.697	0.000	0.000	-5,053.094	0.000	0.000	0.000
2015	4	101,449.704	75,237.817	6,648.167	272.197	20,986.907	0.000	0.000	0.000	-7,113.221	0.000	0.000
2015	5	98,837.381	75,237.817	1,640.524	2,975.819	20,368.999	0.000	0.000	0.000	0.000	-6,803.616	0.000
2015	6	110,601.417	75,237.817	55.872	10,939.444	20,789.857	0.000	0.000	0.000	0.000	0.000	-1,839.411
2015	7	114,856.346	75,237.817	0.000	15,575.258	20,595.053	0.000	0.000	0.000	0.000	0.000	0.000
2015	8	114,128.977	75,237.817	0.000	16,521.668	19,736.164	0.000	0.000	0.000	0.000	0.000	0.000
2015	9	115,514.131	75,237.817	0.000	12,593.540	20,744.375	0.000	0.000	0.000	0.000	0.000	0.000
2015	10	102,218.392	75,237.817	547.726	3,984.753	20,462.136	0.000	0.000	0.000	0.000	0.000	0.000
2015	11	92,944.771	75,237.817	3,159.233	274.876	20,057.424	0.000	0.000	0.000	0.000	0.000	0.000
2015	12	107,845.161	75,237.817	7,795.617	57.032	22,055.749	0.000	0.000	0.000	0.000	0.000	0.000
2016	1	121,443.402	75,237.817	12,532.335	0.000	22,524.117	5,545.164	0.000	0.000	0.000	0.000	0.000
2016	2	119,280.368	75,237.817	20,879.589	0.000	19,815.827	0.000	-4,103.534	0.000	0.000	0.000	0.000
2016	3	104,676.301	75,237.817	11,734.065	70.438	19,988.128	0.000	0.000	-5,053.094	0.000	0.000	0.000
2016	4	96,159.096	75,237.817	4,195.056	521.516	20,618.981	0.000	0.000	0.000	-7,113.221	0.000	0.000
2016	5	94,930.897	75,237.817	1,395.490	2,752.353	19,649.907	0.000	0.000	0.000	0.000	-6,803.616	0.000
2016	6	106,234.314	75,237.817	325.385	9,284.971	20,526.604	0.000	0.000	0.000	0.000	0.000	-1,839.411
2016	7	113,548.175	75,237.817	0.000	17,226.251	20,354.780	0.000	0.000	0.000	0.000	0.000	0.000
2016	8	117,800.107	75,237.817	0.000	23,027.476	19,620.377	0.000	0.000	0.000	0.000	0.000	0.000
2016	9	120,970.587	75,237.817	0.000	21,172.264	20,340.998	0.000	0.000	0.000	0.000	0.000	0.000
2016	10	104,537.601	75,237.817	53.942	10,134.227	19,844.546	0.000	0.000	0.000	0.000	0.000	0.000
2016	11	91,160.239	75,237.817	1,780.075	2,441.109	19,533.545	0.000	0.000	0.000	0.000	0.000	0.000
2016	12	107,929.590	75,237.817	10,434.219	100.613	21,505.722	0.000	0.000	0.000	0.000	0.000	0.000
2017	1	119,805.749	75,237.817	13,741.456	0.000	21,725.070	5,545.164	0.000	0.000	0.000	0.000	0.000
2017	2	107,603.915	75,237.817	11,444.593	0.000	19,622.098	0.000	-4,103.534	0.000	0.000	0.000	0.000
2017	3	99,224.560	75,237.817	8,980.346	32.996	19,375.276	0.000	0.000	-5,053.094	0.000	0.000	0.000
2017	4	94,392.351	75,237.817	5,552.648	779.468	19,284.419	0.000	0.000	0.000	-7,113.221	0.000	0.000
2017	5	93,192.386	75,237.817	757.650	4,117.789	19,231.527	0.000	0.000	0.000	0.000	-6,803.616	0.000
2017	6	102,196.006	75,237.817	182.691	7,748.771	20,214.919	0.000	0.000	0.000	0.000	0.000	-1,839.411
2017	7	109,684.995	75,237.817	0.000	15,496.075	20,269.504	0.000	0.000	0.000	0.000	0.000	0.000
2017	8	109,101.352	75,237.817	0.000	16,554.933	19,441.892	0.000	0.000	0.000	0.000	0.000	0.000
2017	9	107,241.549	75,237.817	0.000	9,864.590	19,967.363	0.000	0.000	0.000	0.000	0.000	0.000





Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun
2020	7	103,031.738	75,237.817	0.000	17,406.018	19,742.237	0.000	0.000	0.000	0.000	0.000	0.000
2020	8	106,336.882	75,237.817	0.000	22,100.916	19,167.373	0.000	0.000	0.000	0.000	0.000	0.000
2020	9	104,948.182	75,237.817	0.000	16,017.574	19,556.945	0.000	0.000	0.000	0.000	0.000	0.000
2020	10	87,953.258	75,237.817	366.136	3,849.984	19,315.913	0.000	0.000	0.000	0.000	0.000	0.000
2020	11	81,629.877	75,237.817	2,523.214	671.860	19,065.227	0.000	0.000	0.000	0.000	0.000	0.000
2020	12	98,163.430	75,237.817	9,367.320	63.702	20,879.305	0.000	0.000	0.000	0.000	0.000	0.000
2021	1	112,997.064	75,237.817	15,359.411	0.000	21,334.363	5,545.164	0.000	0.000	0.000	0.000	0.000
2021	2	106,667.902	75,237.817	18,707.445	0.000	19,459.166	0.000	-4,103.534	0.000	0.000	0.000	0.000
2021	3	95,991.452	75,237.817	14,570.425	16.259	18,604.759	0.000	0.000	-5,053.094	0.000	0.000	0.000
2021	4	84,633.213	75,237.817	3,958.710	424.005	19,510.617	0.000	0.000	0.000	-7,113.221	0.000	0.000
2021	5	83,538.064	75,237.817	2,024.905	1,644.907	18,818.766	0.000	0.000	0.000	0.000	-6,803.616	0.000
2021	6	93,656.267	75,237.817	258.054	7,896.231	19,488.291	0.000	0.000	0.000	0.000	0.000	-1,839.411
2021	7	102,220.353	75,237.817	9.203	15,411.112	19,495.662	0.000	0.000	0.000	0.000	0.000	0.000
2021	8	103,071.744	75,237.817	0.000	17,668.056	18,914.201	0.000	0.000	0.000	0.000	0.000	0.000
2021	9	106,980.223	75,237.817	0.000	16,976.872	19,208.794	0.000	0.000	0.000	0.000	0.000	0.000
2021	10	92,178.850	75,237.817	39.464	7,255.641	19,041.626	0.000	0.000	0.000	0.000	0.000	0.000
2021	11	84,435.205	75,237.817	3,275.907	1,798.659	18,570.169	0.000	0.000	0.000	0.000	0.000	0.000
2021	12	99,075.947	75,237.817	9,260.858	0.000	20,541.093	0.000	0.000	0.000	0.000	0.000	0.000
2022	1	109,215.428	75,237.817	10,758.210	0.000	20,733.034	5,545.164	0.000	0.000	0.000	0.000	0.000
2022	2	105,696.774	75,237.817	17,176.055	10.555	18,587.980	0.000	-4,103.534	0.000	0.000	0.000	0.000
2022	3	95,436.351	75,237.817	12,724.042	66.432	18,424.974	0.000	0.000	-5,053.094	0.000	0.000	0.000
2022	4	88,049.308	75,237.817	6,150.093	737.565	19,000.874	0.000	0.000	0.000	-7,113.221	0.000	0.000
2022	5	85,201.395	75,237.817	1,474.134	2,487.705	18,769.177	0.000	0.000	0.000	0.000	-6,803.616	0.000
2022	6	94,722.652	75,237.817	196.666	7,744.698	19,346.703	0.000	0.000	0.000	0.000	0.000	-1,839.411
2022	7	102,318.274	75,237.817	0.668	15,777.266	19,235.964	0.000	0.000	0.000	0.000	0.000	0.000
2022	8	103,017.986	75,237.817	0.000	17,954.781	18,573.718	0.000	0.000	0.000	0.000	0.000	0.000
2022	9	104,375.871	75,237.817	2.858	14,410.256	19,168.199	0.000	0.000	0.000	0.000	0.000	0.000
2022	10	90,282.249	75,237.817	476.941	5,196.621	18,766.568	0.000	0.000	0.000	0.000	0.000	0.000
2022	11	84,149.134	75,237.817	3,997.537	691.104	18,670.023	0.000	0.000	0.000	0.000	0.000	0.000
2022	12	100,306.529	75,237.817	10,526.924	49.465	20,456.144	0.000	0.000	0.000	0.000	0.000	0.000
2023	1	113,649.159	75,237.817	15,168.753	13.607	20,742.616	5,545.164	0.000	0.000	0.000	0.000	0.000
2023	2	105,577.482	75,237.817	17,051.497	10.597	18,593.204	0.000	-4,103.534	0.000	0.000	0.000	0.000
2023	3	95,344.336	75,237.817	12,629.665	66.687	18,427.082	0.000	0.000	-5,053.094	0.000	0.000	0.000

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun
2023	4	88,005.078	75,237.817	6,103.622	740.294	19,000.387	0.000	0.000	0.000	-7,113.221	0.000	0.000
2023	5	85,195.724	75,237.817	1,462.786	2,496.550	18,766.009	0.000	0.000	0.000	0.000	-6,803.616	0.000
2023	6	94,724.304	75,237.817	195.001	7,766.228	19,328.490	0.000	0.000	0.000	0.000	0.000	-1,839.411
2023	7	102,316.939	75,237.817	0.662	15,808.899	19,203.002	0.000	0.000	0.000	0.000	0.000	0.000
2023	8	103,016.494	75,237.817	0.000	17,987.991	18,539.017	0.000	0.000	0.000	0.000	0.000	0.000
2023	9	104,360.715	75,237.817	2.831	14,434.342	19,128.985	0.000	0.000	0.000	0.000	0.000	0.000
2023	10	90,242.860	75,237.817	472.282	5,204.215	18,724.245	0.000	0.000	0.000	0.000	0.000	0.000
2023	11	84,062.789	75,237.817	3,957.431	691.930	18,622.958	0.000	0.000	0.000	0.000	0.000	0.000
2023	12	100,077.129	75,237.817	10,396.915	49.408	20,356.810	0.000	0.000	0.000	0.000	0.000	0.000
2024	1	113,348.234	75,237.817	14,959.942	13.591	20,650.517	5,545.164	0.000	0.000	0.000	0.000	0.000
2024	2	105,252.682	75,237.817	16,813.197	10.583	18,506.718	0.000	-4,103.534	0.000	0.000	0.000	0.000
2024	3	95,075.396	75,237.817	12,450.486	66.581	18,337.427	0.000	0.000	-5,053.094	0.000	0.000	0.000
2024	4	87,818.623	75,237.817	6,015.566	738.936	18,903.347	0.000	0.000	0.000	-7,113.221	0.000	0.000
2024	5	85,069.258	75,237.817	1,441.367	2,491.425	18,666.087	0.000	0.000	0.000	0.000	-6,803.616	0.000
2024	6	94,597.816	75,237.817	192.112	7,748.924	19,222.195	0.000	0.000	0.000	0.000	0.000	-1,839.411
2024	7	102,171.254	75,237.817	0.652	15,771.482	19,094.743	0.000	0.000	0.000	0.000	0.000	0.000
2024	8	102,863.635	75,237.817	0.000	17,942.571	18,431.578	0.000	0.000	0.000	0.000	0.000	0.000
2024	9	104,208.628	75,237.817	2.788	14,395.853	19,015.430	0.000	0.000	0.000	0.000	0.000	0.000
2024	10	90,107.267	75,237.817	465.016	5,189.619	18,610.514	0.000	0.000	0.000	0.000	0.000	0.000
2024	11	83,884.138	75,237.817	3,896.090	689.908	18,507.669	0.000	0.000	0.000	0.000	0.000	0.000
2024	12	99,787.171	75,237.817	10,234.877	49.260	20,229.039	0.000	0.000	0.000	0.000	0.000	0.000
2025	1	112,955.092	75,237.817	14,693.936	13.518	20,523.454	5,545.164	0.000	0.000	0.000	0.000	0.000
2025	2	104,831.522	75,237.817	16,510.326	10.524	18,388.488	0.000	-4,103.534	0.000	0.000	0.000	0.000
2025	3	94,726.362	75,237.817	12,223.307	66.193	18,215.960	0.000	0.000	-5,053.094	0.000	0.000	0.000
2025	4	87,572.947	75,237.817	5,904.317	734.447	18,773.408	0.000	0.000	0.000	-7,113.221	0.000	0.000
2025	5	84,893.542	75,237.817	1,414.357	2,475.670	18,533.136	0.000	0.000	0.000	0.000	-6,803.616	0.000
2025	6	94,402.307	75,237.817	188.470	7,698.211	19,081.040	0.000	0.000	0.000	0.000	0.000	-1,839.411
2025	7	101,920.114	75,237.817	0.640	15,664.785	18,950.313	0.000	0.000	0.000	0.000	0.000	0.000
2025	8	102,593.442	75,237.817	0.000	17,816.550	18,287.405	0.000	0.000	0.000	0.000	0.000	0.000
2025	9	103,950.125	75,237.817	2.733	14,291.037	18,861.798	0.000	0.000	0.000	0.000	0.000	0.000
2025	10	89,903.288	75,237.817	455.736	5,150.403	18,455.030	0.000	0.000	0.000	0.000	0.000	0.000
2025	11	83,639.718	75,237.817	3,817.195	684.490	18,347.562	0.000	0.000	0.000	0.000	0.000	0.000
2025	12	99,396.116	75,237.817	10,024.822	48.859	20,048.439	0.000	0.000	0.000	0.000	0.000	0.000

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun
2026	1	112,431.127	75,237.817	14,393.305	13.452	20,300.185	5,545.164	0.000	0.000	0.000	0.000	0.000
2026	2	104,291.677	75,237.817	16,171.612	10.472	18,187.409	0.000	-4,103.534	0.000	0.000	0.000	0.000
2026	3	94,274.194	75,237.817	11,971.790	65.864	18,015.638	0.000	0.000	-5,053.094	0.000	0.000	0.000
2026	4	87,239.650	75,237.817	5,782.433	730.745	18,565.697	0.000	0.000	0.000	-7,113.221	0.000	0.000
2026	5	84,645.451	75,237.817	1,385.075	2,463.041	18,326.955	0.000	0.000	0.000	0.000	-6,803.616	0.000
2026	6	94,145.262	75,237.817	184.557	7,658.484	18,867.636	0.000	0.000	0.000	0.000	0.000	-1,839.411
2026	7	101,625.228	75,237.817	0.626	15,582.996	18,737.229	0.000	0.000	0.000	0.000	0.000	0.000
2026	8	102,292.897	75,237.817	0.000	17,722.590	18,080.820	0.000	0.000	0.000	0.000	0.000	0.000
2026	9	103,659.818	75,237.817	2.675	14,214.887	18,647.699	0.000	0.000	0.000	0.000	0.000	0.000
2026	10	89,655.575	75,237.817	446.175	5,122.691	18,244.591	0.000	0.000	0.000	0.000	0.000	0.000
2026	11	83,345.741	75,237.817	3,736.950	680.777	18,137.543	0.000	0.000	0.000	0.000	0.000	0.000
2026	12	98,954.265	75,237.817	9,813.632	48.592	19,818.045	0.000	0.000	0.000	0.000	0.000	0.000
2027	1	111,929.161	75,237.817	14,098.777	13.375	20,092.825	5,545.164	0.000	0.000	0.000	0.000	0.000
2027	2	103,773.595	75,237.817	15,840.074	10.411	18,000.925	0.000	-4,103.534	0.000	0.000	0.000	0.000
2027	3	93,842.492	75,237.817	11,725.895	65.478	17,830.217	0.000	0.000	-5,053.094	0.000	0.000	0.000
2027	4	86,924.615	75,237.817	5,663.457	726.442	18,373.941	0.000	0.000	0.000	-7,113.221	0.000	0.000
2027	5	84,412.321	75,237.817	1,356.525	2,448.444	18,136.973	0.000	0.000	0.000	0.000	-6,803.616	0.000
2027	6	93,899.573	75,237.817	180.746	7,612.833	18,671.409	0.000	0.000	0.000	0.000	0.000	-1,839.411
2027	7	101,336.643	75,237.817	0.613	15,489.739	18,541.914	0.000	0.000	0.000	0.000	0.000	0.000
2027	8	101,997.205	75,237.817	0.000	17,615.954	17,891.764	0.000	0.000	0.000	0.000	0.000	0.000
2027	9	103,378.493	75,237.817	2.620	14,129.029	18,452.287	0.000	0.000	0.000	0.000	0.000	0.000
2027	10	89,423.649	75,237.817	436.918	5,091.630	18,052.982	0.000	0.000	0.000	0.000	0.000	0.000
2027	11	83,072.934	75,237.817	3,659.309	676.629	17,946.525	0.000	0.000	0.000	0.000	0.000	0.000
2027	12	98,540.741	75,237.817	9,609.536	48.295	19,608.915	0.000	0.000	0.000	0.000	0.000	0.000
2028	1	111,438.535	75,237.817	13,816.953	13.326	19,884.073	5,545.164	0.000	0.000	0.000	0.000	0.000
2028	2	103,266.880	75,237.817	15,522.034	10.372	17,812.290	0.000	-4,103.534	0.000	0.000	0.000	0.000
2028	3	93,417.353	75,237.817	11,489.433	65.226	17,641.793	0.000	0.000	-5,053.094	0.000	0.000	0.000
2028	4	86,611.146	75,237.817	5,548.730	723.570	18,178.071	0.000	0.000	0.000	-7,113.221	0.000	0.000
2028	5	84,179.829	75,237.817	1,328.923	2,438.540	17,941.986	0.000	0.000	0.000	0.000	-6,803.616	0.000
2028	6	93,662.351	75,237.817	177.055	7,581.457	18,469.255	0.000	0.000	0.000	0.000	0.000	-1,839.411
2028	7	101,069.514	75,237.817	0.601	15,424.745	18,339.793	0.000	0.000	0.000	0.000	0.000	0.000
2028	8	101,725.433	75,237.817	0.000	17,540.633	17,695.313	0.000	0.000	0.000	0.000	0.000	0.000
2028	9	103,112.853	75,237.817	2.566	14,067.499	18,248.231	0.000	0.000	0.000	0.000	0.000	0.000



Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun
2031	7	100,233.992	75,237.817	0.564	15,265.469	17,663.583	0.000	0.000	0.000	0.000	0.000	0.000
2031	8	100,893.840	75,237.817	0.000	17,360.508	17,043.846	0.000	0.000	0.000	0.000	0.000	0.000
2031	9	102,298.265	75,237.817	2.408	13,923.858	17,577.441	0.000	0.000	0.000	0.000	0.000	0.000
2031	10	88,457.972	75,237.817	401.628	5,017.573	17,196.652	0.000	0.000	0.000	0.000	0.000	0.000
2031	11	81,915.761	75,237.817	3,363.668	666.772	17,094.850	0.000	0.000	0.000	0.000	0.000	0.000
2031	12	96,832.550	75,237.817	8,832.989	47.590	18,677.975	0.000	0.000	0.000	0.000	0.000	0.000
2032	1	109,412.537	75,237.817	12,731.152	13.149	18,944.052	5,545.164	0.000	0.000	0.000	0.000	0.000
2032	2	101,206.947	75,237.817	14,303.188	10.235	16,971.338	0.000	-4,103.534	0.000	0.000	0.000	0.000
2032	3	91,683.070	75,237.817	10,587.884	64.372	16,809.911	0.000	0.000	-5,053.094	0.000	0.000	0.000
2032	4	85,310.732	75,237.817	5,113.693	714.149	17,322.115	0.000	0.000	0.000	-7,113.221	0.000	0.000
2032	5	83,200.426	75,237.817	1,224.813	2,406.949	17,098.284	0.000	0.000	0.000	0.000	-6,803.616	0.000
2032	6	92,683.379	75,237.817	163.195	7,483.718	17,601.881	0.000	0.000	0.000	0.000	0.000	-1,839.411
2032	7	100,011.194	75,237.817	0.554	15,226.764	17,479.500	0.000	0.000	0.000	0.000	0.000	0.000
2032	8	100,672.536	75,237.817	0.000	17,316.661	16,866.388	0.000	0.000	0.000	0.000	0.000	0.000
2032	9	102,080.137	75,237.817	2.366	13,888.734	17,394.481	0.000	0.000	0.000	0.000	0.000	0.000
2032	10	88,259.205	75,237.817	394.463	5,004.927	17,017.696	0.000	0.000	0.000	0.000	0.000	0.000
2032	11	81,676.195	75,237.817	3,303.663	665.092	16,916.969	0.000	0.000	0.000	0.000	0.000	0.000
2032	12	96,480.599	75,237.817	8,675.447	47.471	18,483.686	0.000	0.000	0.000	0.000	0.000	0.000
2033	1	108,992.404	75,237.817	12,497.838	13.104	18,757.278	5,545.164	0.000	0.000	0.000	0.000	0.000
2033	2	100,778.405	75,237.817	14,041.493	10.200	16,804.527	0.000	-4,103.534	0.000	0.000	0.000	0.000
2033	3	91,324.929	75,237.817	10,394.558	64.154	16,645.315	0.000	0.000	-5,053.094	0.000	0.000	0.000
2033	4	85,045.981	75,237.817	5,020.463	711.753	17,152.990	0.000	0.000	0.000	-7,113.221	0.000	0.000
2033	5	83,003.766	75,237.817	1,202.523	2,398.956	16,931.907	0.000	0.000	0.000	0.000	-6,803.616	0.000
2033	6	92,484.995	75,237.817	160.229	7,459.078	17,431.102	0.000	0.000	0.000	0.000	0.000	-1,839.411
2033	7	99,792.346	75,237.817	0.544	15,177.045	17,310.381	0.000	0.000	0.000	0.000	0.000	0.000
2033	8	100,453.870	75,237.817	0.000	17,260.659	16,703.724	0.000	0.000	0.000	0.000	0.000	0.000
2033	9	101,868.138	75,237.817	2.323	13,844.137	17,227.121	0.000	0.000	0.000	0.000	0.000	0.000
2033	10	88,072.953	75,237.817	387.339	4,989.011	16,854.484	0.000	0.000	0.000	0.000	0.000	0.000
2033	11	81,452.797	75,237.817	3,244.097	662.997	16,755.232	0.000	0.000	0.000	0.000	0.000	0.000
2033	12	96,148.076	75,237.817	8,519.268	47.322	18,307.490	0.000	0.000	0.000	0.000	0.000	0.000
2034	1	108,593.289	75,237.817	12,262.613	13.082	18,593.409	5,545.164	0.000	0.000	0.000	0.000	0.000
2034	2	100,368.950	75,237.817	13,777.962	10.184	16,658.620	0.000	-4,103.534	0.000	0.000	0.000	0.000
2034	3	90,986.609	75,237.817	10,200.003	64.054	16,501.650	0.000	0.000	-5,053.094	0.000	0.000	0.000

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun
2034	4	84,804.257	75,237.817	4,926.799	710.692	17,005.992	0.000	0.000	0.000	-7,113.221	0.000	0.000
2034	5	82,833.766	75,237.817	1,180.153	2,395.508	16,787.725	0.000	0.000	0.000	0.000	-6,803.616	0.000
2034	6	92,324.119	75,237.817	157.257	7,448.734	17,283.543	0.000	0.000	0.000	0.000	0.000	-1,839.411
2034	7	99,626.357	75,237.817	0.534	15,156.751	17,164.696	0.000	0.000	0.000	0.000	0.000	0.000
2034	8	100,291.881	75,237.817	0.000	17,238.431	16,563.964	0.000	0.000	0.000	0.000	0.000	0.000
2034	9	101,707.884	75,237.817	2.280	13,827.094	17,083.952	0.000	0.000	0.000	0.000	0.000	0.000
2034	10	87,920.810	75,237.817	380.233	4,983.140	16,715.319	0.000	0.000	0.000	0.000	0.000	0.000
2034	11	81,255.379	75,237.817	3,184.769	662.257	16,617.882	0.000	0.000	0.000	0.000	0.000	0.000
2034	12	95,843.527	75,237.817	8,363.903	47.272	18,158.356	0.000	0.000	0.000	0.000	0.000	0.000
2035	1	108,228.873	75,237.817	12,034.576	13.074	18,457.039	5,545.164	0.000	0.000	0.000	0.000	0.000
2035	2	99,990.408	75,237.817	13,521.682	10.178	16,536.364	0.000	-4,103.534	0.000	0.000	0.000	0.000
2035	3	90,675.619	75,237.817	10,010.231	64.015	16,380.471	0.000	0.000	-5,053.094	0.000	0.000	0.000
2035	4	84,587.151	75,237.817	4,835.108	710.250	16,881.017	0.000	0.000	0.000	-7,113.221	0.000	0.000
2035	5	82,686.875	75,237.817	1,158.186	2,394.012	16,664.297	0.000	0.000	0.000	0.000	-6,803.616	0.000
2035	6	92,189.214	75,237.817	154.328	7,444.007	17,156.293	0.000	0.000	0.000	0.000	0.000	-1,839.411
2035	7	99,490.158	75,237.817	0.524	15,147.040	17,038.218	0.000	0.000	0.000	0.000	0.000	0.000
2035	8	100,158.394	75,237.817	0.000	17,227.186	16,441.721	0.000	0.000	0.000	0.000	0.000	0.000
2035	9	101,572.483	75,237.817	2.237	13,817.959	16,957.729	0.000	0.000	0.000	0.000	0.000	0.000
2035	10	87,786.704	75,237.817	373.138	4,979.797	16,591.651	0.000	0.000	0.000	0.000	0.000	0.000
2035	11	81,072.258	75,237.817	3,125.296	661.803	16,494.689	0.000	0.000	0.000	0.000	0.000	0.000
2035	12	95,552.394	75,237.817	8,207.620	47.239	18,023.539	0.000	0.000	0.000	0.000	0.000	0.000
2036	1	107,877.342	75,237.817	11,807.670	13.074	18,332.415	5,545.164	0.000	0.000	0.000	0.000	0.000
2036	2	99,623.198	75,237.817	13,266.465	10.177	16,424.371	0.000	-4,103.534	0.000	0.000	0.000	0.000
2036	3	90,375.344	75,237.817	9,821.143	64.011	16,269.288	0.000	0.000	-5,053.094	0.000	0.000	0.000
2036	4	84,380.797	75,237.817	4,743.692	710.191	16,766.139	0.000	0.000	0.000	-7,113.221	0.000	0.000
2036	5	82,551.027	75,237.817	1,136.268	2,393.770	16,550.609	0.000	0.000	0.000	0.000	-6,803.616	0.000
2036	6	92,068.353	75,237.817	151.406	7,443.211	17,039.151	0.000	0.000	0.000	0.000	0.000	-1,839.411
2036	7	99,371.709	75,237.817	0.514	15,145.192	16,921.627	0.000	0.000	0.000	0.000	0.000	0.000
2036	8	100,043.633	75,237.817	0.000	17,225.007	16,329.139	0.000	0.000	0.000	0.000	0.000	0.000
2036	9	101,454.240	75,237.817	2.195	13,816.059	16,841.429	0.000	0.000	0.000	0.000	0.000	0.000
2036	10	87,664.978	75,237.817	366.060	4,979.072	16,477.727	0.000	0.000	0.000	0.000	0.000	0.000
2036	11	80,899.479	75,237.817	3,065.996	661.701	16,381.311	0.000	0.000	0.000	0.000	0.000	0.000
2036	12	95,272.641	75,237.817	8,051.847	47.232	17,899.567	0.000	0.000	0.000	0.000	0.000	0.000

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun
2037	1	107,532.259	75,237.817	11,579.459	13.081	18,215.535	5,545.164	0.000	0.000	0.000	0.000	0.000
2037	2	99,262.084	75,237.817	13,010.060	10.183	16,319.657	0.000	-4,103.534	0.000	0.000	0.000	0.000
2037	3	90,081.576	75,237.817	9,631.230	64.043	16,165.401	0.000	0.000	-5,053.094	0.000	0.000	0.000
2037	4	84,182.223	75,237.817	4,651.931	710.547	16,658.969	0.000	0.000	0.000	-7,113.221	0.000	0.000
2037	5	82,424.308	75,237.817	1,114.281	2,394.954	16,444.694	0.000	0.000	0.000	0.000	-6,803.616	0.000
2037	6	91,959.666	75,237.817	148.474	7,446.772	16,929.834	0.000	0.000	0.000	0.000	0.000	-1,839.411
2037	7	99,270.143	75,237.817	0.504	15,152.324	16,812.939	0.000	0.000	0.000	0.000	0.000	0.000
2037	8	99,946.253	75,237.817	0.000	17,232.806	16,223.961	0.000	0.000	0.000	0.000	0.000	0.000
2037	9	101,351.554	75,237.817	2.152	13,822.123	16,732.721	0.000	0.000	0.000	0.000	0.000	0.000
2037	10	87,553.298	75,237.817	358.950	4,981.165	16,371.065	0.000	0.000	0.000	0.000	0.000	0.000
2037	11	80,733.866	75,237.817	3,006.397	661.970	16,275.028	0.000	0.000	0.000	0.000	0.000	0.000
2037	12	94,999.517	75,237.817	7,895.180	47.250	17,783.092	0.000	0.000	0.000	0.000	0.000	0.000
2038	1	107,191.036	75,237.817	11,349.711	13.077	18,104.065	5,545.164	0.000	0.000	0.000	0.000	0.000
2038	2	98,902.993	75,237.817	12,751.449	10.179	16,219.181	0.000	-4,103.534	0.000	0.000	0.000	0.000
2038	3	89,789.774	75,237.817	9,439.485	64.018	16,065.369	0.000	0.000	-5,053.094	0.000	0.000	0.000
2038	4	83,985.456	75,237.817	4,559.153	710.243	16,555.285	0.000	0.000	0.000	-7,113.221	0.000	0.000
2038	5	82,298.042	75,237.817	1,092.021	2,393.848	16,341.794	0.000	0.000	0.000	0.000	-6,803.616	0.000
2038	6	91,846.670	75,237.817	145.504	7,443.133	16,823.447	0.000	0.000	0.000	0.000	0.000	-1,839.411
2038	7	99,156.176	75,237.817	0.494	15,144.492	16,706.814	0.000	0.000	0.000	0.000	0.000	0.000
2038	8	99,834.064	75,237.817	0.000	17,223.447	16,121.131	0.000	0.000	0.000	0.000	0.000	0.000
2038	9	101,237.241	75,237.817	2.109	13,814.295	16,626.279	0.000	0.000	0.000	0.000	0.000	0.000
2038	10	87,438.676	75,237.817	351.735	4,978.240	16,266.582	0.000	0.000	0.000	0.000	0.000	0.000
2038	11	80,568.780	75,237.817	2,945.909	661.568	16,170.833	0.000	0.000	0.000	0.000	0.000	0.000
2038	12	94,726.240	75,237.817	7,736.164	47.220	17,668.861	0.000	0.000	0.000	0.000	0.000	0.000
2039	1	106,857.777	75,237.817	11,125.413	13.086	17,995.095	5,545.164	0.000	0.000	0.000	0.000	0.000
2039	2	98,553.347	75,237.817	12,499.437	10.186	16,121.540	0.000	-4,103.534	0.000	0.000	0.000	0.000
2039	3	89,506.414	75,237.817	9,252.880	64.063	15,968.569	0.000	0.000	-5,053.094	0.000	0.000	0.000
2039	4	83,795.941	75,237.817	4,468.998	710.733	16,455.434	0.000	0.000	0.000	-7,113.221	0.000	0.000
2039	5	82,179.464	75,237.817	1,070.422	2,395.492	16,243.170	0.000	0.000	0.000	0.000	-6,803.616	0.000
2039	6	91,747.165	75,237.817	142.625	7,448.182	16,721.773	0.000	0.000	0.000	0.000	0.000	-1,839.411
2039	7	99,065.293	75,237.817	0.484	15,154.680	16,605.752	0.000	0.000	0.000	0.000	0.000	0.000
2039	8	99,747.822	75,237.817	0.000	17,234.873	16,023.463	0.000	0.000	0.000	0.000	0.000	0.000
2039	9	101,145.415	75,237.817	2.067	13,823.359	16,525.431	0.000	0.000	0.000	0.000	0.000	0.000





Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun
2042	7	98,749.406	75,237.817	0.455	15,158.401	16,286.173	0.000	0.000	0.000	0.000	0.000	0.000
2042	8	99,444.029	75,237.817	0.000	17,239.286	15,715.256	0.000	0.000	0.000	0.000	0.000	0.000
2042	9	100,831.028	75,237.817	1.946	13,826.925	16,207.600	0.000	0.000	0.000	0.000	0.000	0.000
2042	10	87,006.319	75,237.817	324.462	4,982.788	15,856.950	0.000	0.000	0.000	0.000	0.000	0.000
2042	11	79,933.707	75,237.817	2,717.483	662.171	15,763.583	0.000	0.000	0.000	0.000	0.000	0.000
2042	12	93,681.454	75,237.817	7,136.303	47.263	17,223.892	0.000	0.000	0.000	0.000	0.000	0.000
2043	1	105,571.524	75,237.817	10,266.829	13.100	17,567.412	5,545.164	0.000	0.000	0.000	0.000	0.000
2043	2	97,205.642	75,237.817	11,534.840	10.197	15,738.420	0.000	-4,103.534	0.000	0.000	0.000	0.000
2043	3	88,413.122	75,237.817	8,538.887	64.133	15,589.200	0.000	0.000	-5,053.094	0.000	0.000	0.000
2043	4	83,061.079	75,237.817	4,124.179	711.516	16,064.609	0.000	0.000	0.000	-7,113.221	0.000	0.000
2043	5	81,713.776	75,237.817	987.833	2,398.136	15,857.427	0.000	0.000	0.000	0.000	-6,803.616	0.000
2043	6	91,347.463	75,237.817	131.622	7,456.461	16,324.795	0.000	0.000	0.000	0.000	0.000	-1,839.411
2043	7	98,688.017	75,237.817	0.447	15,171.594	16,211.601	0.000	0.000	0.000	0.000	0.000	0.000
2043	8	99,386.957	75,237.817	0.000	17,254.228	15,643.242	0.000	0.000	0.000	0.000	0.000	0.000
2043	9	100,768.730	75,237.817	1.908	13,838.921	16,133.343	0.000	0.000	0.000	0.000	0.000	0.000
2043	10	86,931.623	75,237.817	318.173	4,987.092	15,784.240	0.000	0.000	0.000	0.000	0.000	0.000
2043	11	79,809.221	75,237.817	2,664.793	662.739	15,691.218	0.000	0.000	0.000	0.000	0.000	0.000
2043	12	93,463.908	75,237.817	6,997.892	47.303	17,144.716	0.000	0.000	0.000	0.000	0.000	0.000
2044	1	105,303.293	75,237.817	10,071.137	13.134	17,494.839	5,545.164	0.000	0.000	0.000	0.000	0.000
2044	2	96,921.020	75,237.817	11,315.076	10.223	15,673.536	0.000	-4,103.534	0.000	0.000	0.000	0.000
2044	3	88,186.487	75,237.817	8,376.256	64.299	15,525.030	0.000	0.000	-5,053.094	0.000	0.000	0.000
2044	4	82,918.526	75,237.817	4,045.686	713.362	15,998.702	0.000	0.000	0.000	-7,113.221	0.000	0.000
2044	5	81,636.376	75,237.817	969.044	2,404.388	15,792.564	0.000	0.000	0.000	0.000	-6,803.616	0.000
2044	6	91,297.849	75,237.817	129.120	7,475.971	16,258.173	0.000	0.000	0.000	0.000	0.000	-1,839.411
2044	7	98,661.838	75,237.817	0.438	15,211.433	16,145.592	0.000	0.000	0.000	0.000	0.000	0.000
2044	8	99,369.050	75,237.817	0.000	17,299.789	15,579.775	0.000	0.000	0.000	0.000	0.000	0.000
2044	9	100,740.268	75,237.817	1.872	13,875.690	16,068.149	0.000	0.000	0.000	0.000	0.000	0.000
2044	10	86,875.360	75,237.817	312.141	5,000.415	15,720.686	0.000	0.000	0.000	0.000	0.000	0.000
2044	11	79,697.610	75,237.817	2,614.319	664.521	15,628.299	0.000	0.000	0.000	0.000	0.000	0.000
2044	12	93,263.169	75,237.817	6,865.467	47.431	17,076.274	0.000	0.000	0.000	0.000	0.000	0.000
2045	1	105,061.680	75,237.817	9,889.433	13.160	17,434.903	5,545.164	0.000	0.000	0.000	0.000	0.000
2045	2	96,662.723	75,237.817	11,110.732	10.243	15,619.563	0.000	-4,103.534	0.000	0.000	0.000	0.000
2045	3	87,981.545	75,237.817	8,224.869	64.424	15,471.350	0.000	0.000	-5,053.094	0.000	0.000	0.000

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun
2045	4	82,791.010	75,237.817	3,972.476	714.740	15,943.019	0.000	0.000	0.000	-7,113.221	0.000	0.000
2045	5	81,568.154	75,237.817	951.490	2,408.987	15,737.297	0.000	0.000	0.000	0.000	-6,803.616	0.000
2045	6	91,252.508	75,237.817	126.779	7,490.143	16,201.001	0.000	0.000	0.000	0.000	0.000	-1,839.411
2045	7	98,633.365	75,237.817	0.430	15,240.013	16,088.545	0.000	0.000	0.000	0.000	0.000	0.000
2045	8	99,345.714	75,237.817	0.000	17,331.875	15,524.352	0.000	0.000	0.000	0.000	0.000	0.000
2045	9	100,708.126	75,237.817	1.838	13,901.108	16,010.624	0.000	0.000	0.000	0.000	0.000	0.000
2045	10	86,822.018	75,237.817	306.454	5,009.446	15,664.000	0.000	0.000	0.000	0.000	0.000	0.000
2045	11	79,594.343	75,237.817	2,566.622	665.704	15,571.547	0.000	0.000	0.000	0.000	0.000	0.000
2045	12	93,075.385	75,237.817	6,740.040	47.515	17,013.835	0.000	0.000	0.000	0.000	0.000	0.000
2046	1	104,829.869	75,237.817	9,712.186	13.208	17,380.292	5,545.164	0.000	0.000	0.000	0.000	0.000
2046	2	96,414.060	75,237.817	10,911.332	10.281	15,570.262	0.000	-4,103.534	0.000	0.000	0.000	0.000
2046	3	87,784.516	75,237.817	8,076.978	64.659	15,421.977	0.000	0.000	-5,053.094	0.000	0.000	0.000
2046	4	82,670.653	75,237.817	3,900.922	717.324	15,891.632	0.000	0.000	0.000	-7,113.221	0.000	0.000
2046	5	81,508.356	75,237.817	934.320	2,417.613	15,686.043	0.000	0.000	0.000	0.000	-6,803.616	0.000
2046	6	91,223.596	75,237.817	124.487	7,516.748	16,147.775	0.000	0.000	0.000	0.000	0.000	-1,839.411
2046	7	98,633.771	75,237.817	0.422	15,293.725	16,035.247	0.000	0.000	0.000	0.000	0.000	0.000
2046	8	99,354.433	75,237.817	0.000	17,392.463	15,472.483	0.000	0.000	0.000	0.000	0.000	0.000
2046	9	100,702.194	75,237.817	1.804	13,949.236	15,956.596	0.000	0.000	0.000	0.000	0.000	0.000
2046	10	86,780.373	75,237.817	300.880	5,026.654	15,610.721	0.000	0.000	0.000	0.000	0.000	0.000
2046	11	79,496.351	75,237.817	2,519.855	667.968	15,518.057	0.000	0.000	0.000	0.000	0.000	0.000
2046	12	92,893.609	75,237.817	6,617.037	47.675	16,954.901	0.000	0.000	0.000	0.000	0.000	0.000
2047	1	104,603.751	75,237.817	9,535.544	13.246	17,330.778	5,545.164	0.000	0.000	0.000	0.000	0.000
2047	2	96,171.395	75,237.817	10,712.927	10.310	15,525.973	0.000	-4,103.534	0.000	0.000	0.000	0.000
2047	3	87,594.247	75,237.817	7,930.207	64.843	15,378.294	0.000	0.000	-5,053.094	0.000	0.000	0.000
2047	4	82,557.000	75,237.817	3,830.074	719.374	15,846.777	0.000	0.000	0.000	-7,113.221	0.000	0.000
2047	5	81,454.252	75,237.817	917.363	2,424.551	15,641.959	0.000	0.000	0.000	0.000	-6,803.616	0.000
2047	6	91,197.697	75,237.817	122.229	7,538.374	16,102.509	0.000	0.000	0.000	0.000	0.000	-1,839.411
2047	7	98,633.041	75,237.817	0.415	15,337.837	15,990.413	0.000	0.000	0.000	0.000	0.000	0.000
2047	8	99,361.755	75,237.817	0.000	17,442.850	15,429.418	0.000	0.000	0.000	0.000	0.000	0.000
2047	9	100,698.606	75,237.817	1.772	13,989.856	15,912.421	0.000	0.000	0.000	0.000	0.000	0.000
2047	10	86,746.607	75,237.817	295.435	5,041.355	15,567.699	0.000	0.000	0.000	0.000	0.000	0.000
2047	11	79,410.167	75,237.817	2,474.286	669.930	15,475.480	0.000	0.000	0.000	0.000	0.000	0.000
2047	12	92,727.865	75,237.817	6,497.457	47.816	16,908.597	0.000	0.000	0.000	0.000	0.000	0.000





Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Pred	CONST	XHeat	XCool	XOther	Jan	Feb	Mar	Apr	May	Jun
2053	7	98,877.178	75,237.817	0.370	15,696.959	15,875.472	0.000	0.000	0.000	0.000	0.000	0.000
2053	8	99,661.797	75,237.817	0.000	17,852.628	15,319.683	0.000	0.000	0.000	0.000	0.000	0.000
2053	9	100,916.062	75,237.817	1.583	14,319.540	15,800.382	0.000	0.000	0.000	0.000	0.000	0.000
2053	10	86,725.778	75,237.817	263.927	5,160.531	15,459.201	0.000	0.000	0.000	0.000	0.000	0.000
2053	11	79,055.741	75,237.817	2,210.583	685.822	15,368.865	0.000	0.000	0.000	0.000	0.000	0.000
2053	12	91,921.596	75,237.817	5,805.377	48.953	16,793.270	0.000	0.000	0.000	0.000	0.000	0.000
2054	1	103,279.689	75,237.817	8,358.609	13.605	17,183.291	5,545.164	0.000	0.000	0.000	0.000	0.000
2054	2	94,719.233	75,237.817	9,391.408	10.591	15,395.050	0.000	-4,103.534	0.000	0.000	0.000	0.000
2054	3	86,489.410	75,237.817	6,952.370	66.613	15,249.524	0.000	0.000	-5,053.094	0.000	0.000	0.000
2054	4	81,973.394	75,237.817	3,358.097	739.076	15,715.446	0.000	0.000	0.000	-7,113.221	0.000	0.000
2054	5	81,279.474	75,237.817	804.381	2,491.152	15,513.562	0.000	0.000	0.000	0.000	-6,803.616	0.000
2054	6	91,259.532	75,237.817	107.184	7,746.097	15,971.666	0.000	0.000	0.000	0.000	0.000	-1,839.411
2054	7	98,928.110	75,237.817	0.364	15,761.679	15,861.691	0.000	0.000	0.000	0.000	0.000	0.000
2054	8	99,722.518	75,237.817	0.000	17,926.457	15,306.574	0.000	0.000	0.000	0.000	0.000	0.000
2054	9	100,962.041	75,237.817	1.554	14,378.906	15,787.024	0.000	0.000	0.000	0.000	0.000	0.000
2054	10	86,729.502	75,237.817	259.156	5,181.968	15,446.259	0.000	0.000	0.000	0.000	0.000	0.000
2054	11	79,005.987	75,237.817	2,170.648	688.680	15,356.189	0.000	0.000	0.000	0.000	0.000	0.000
2054	12	91,803.192	75,237.817	5,700.531	49.157	16,779.507	0.000	0.000	0.000	0.000	0.000	0.000
2055	1	103,114.135	75,237.817	8,207.009	13.661	17,169.281	5,545.164	0.000	0.000	0.000	0.000	0.000
2055	2	94,536.640	75,237.817	9,221.169	10.635	15,382.652	0.000	-4,103.534	0.000	0.000	0.000	0.000
2055	3	86,351.424	75,237.817	6,826.358	66.887	15,237.276	0.000	0.000	-5,053.094	0.000	0.000	0.000
2055	4	81,903.179	75,237.817	3,297.271	742.119	15,703.014	0.000	0.000	0.000	-7,113.221	0.000	0.000
2055	5	81,263.043	75,237.817	789.817	2,501.431	15,501.416	0.000	0.000	0.000	0.000	-6,803.616	0.000
2055	6	91,277.314	75,237.817	105.245	7,778.144	15,959.340	0.000	0.000	0.000	0.000	0.000	-1,839.411
2055	7	98,981.300	75,237.817	0.357	15,827.002	15,849.565	0.000	0.000	0.000	0.000	0.000	0.000
2055	8	99,785.527	75,237.817	0.000	18,000.976	15,295.064	0.000	0.000	0.000	0.000	0.000	0.000
2055	9	101,010.227	75,237.817	1.526	14,438.828	15,775.316	0.000	0.000	0.000	0.000	0.000	0.000
2055	10	86,735.137	75,237.817	254.477	5,203.607	15,434.935	0.000	0.000	0.000	0.000	0.000	0.000
2055	11	78,958.638	75,237.817	2,131.481	691.564	15,345.122	0.000	0.000	0.000	0.000	0.000	0.000
2055	12	91,688.568	75,237.817	5,597.702	49.364	16,767.507	0.000	0.000	0.000	0.000	0.000	0.000
2056	1	102,953.261	75,237.817	8,058.322	13.717	17,157.037	5,545.164	0.000	0.000	0.000	0.000	0.000
2056	2	94,358.904	75,237.817	9,054.201	10.678	15,371.840	0.000	-4,103.534	0.000	0.000	0.000	0.000
2056	3	86,217.437	75,237.817	6,702.770	67.163	15,226.603	0.000	0.000	-5,053.094	0.000	0.000	0.000



Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on	D12on	dJan12on	dFeb12on	nov15on
2004	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2004	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2004	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2004	4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2004	5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2004	6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2004	7	-1,969.620	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2004	8	0.000	-2,784.509	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2004	9	0.000	0.000	1,520.561	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2004	10	0.000	0.000	0.000	-3,431.877	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2004	11	0.000	0.000	0.000	0.000	-8,483.525	0.000	0.000	0.000	0.000	0.000	0.000
2004	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2005	1	0.000	0.000	0.000	0.000	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2005	2	0.000	0.000	0.000	0.000	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2005	3	0.000	0.000	0.000	0.000	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2005	4	0.000	0.000	0.000	0.000	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2005	5	0.000	0.000	0.000	0.000	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2005	6	0.000	0.000	0.000	0.000	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2005	7	-1,969.620	0.000	0.000	0.000	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2005	8	0.000	-2,784.509	0.000	0.000	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2005	9	0.000	0.000	1,520.561	0.000	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2005	10	0.000	0.000	0.000	-3,431.877	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2005	11	0.000	0.000	0.000	0.000	-8,483.525	0.000	4,074.301	0.000	0.000	0.000	0.000
2005	12	0.000	0.000	0.000	0.000	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2006	1	0.000	0.000	0.000	0.000	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2006	2	0.000	0.000	0.000	0.000	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2006	3	0.000	0.000	0.000	0.000	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2006	4	0.000	0.000	0.000	0.000	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2006	5	0.000	0.000	0.000	0.000	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2006	6	0.000	0.000	0.000	0.000	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2006	7	-1,969.620	0.000	0.000	0.000	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2006	8	0.000	-2,784.509	0.000	0.000	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2006	9	0.000	0.000	1,520.561	0.000	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000



Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on	D12on	dJan12on	dFeb12on	nov15on
2006	10	0.000	0.000	0.000	-3,431.877	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2006	11	0.000	0.000	0.000	0.000	-8,483.525	0.000	4,074.301	0.000	0.000	0.000	0.000
2006	12	0.000	0.000	0.000	0.000	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2007	1	0.000	0.000	0.000	0.000	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2007	2	0.000	0.000	0.000	0.000	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2007	3	0.000	0.000	0.000	0.000	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2007	4	0.000	0.000	0.000	0.000	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2007	5	0.000	0.000	0.000	0.000	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2007	6	0.000	0.000	0.000	0.000	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2007	7	-1,969.620	0.000	0.000	0.000	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2007	8	0.000	-2,784.509	0.000	0.000	0.000	0.000	4,074.301	0.000	0.000	0.000	0.000
2007	9	0.000	0.000	1,520.561	0.000	0.000	0.000	4,856.027	0.000	0.000	0.000	0.000
2007	10	0.000	0.000	0.000	-3,431.877	0.000	0.000	4,856.027	0.000	0.000	0.000	0.000
2007	11	0.000	0.000	0.000	0.000	-8,483.525	0.000	4,856.027	0.000	0.000	0.000	0.000
2007	12	0.000	0.000	0.000	0.000	0.000	0.000	4,856.027	0.000	0.000	0.000	0.000
2008	1	0.000	0.000	0.000	0.000	0.000	0.000	4,856.027	0.000	0.000	0.000	0.000
2008	2	0.000	0.000	0.000	0.000	0.000	0.000	4,856.027	0.000	0.000	0.000	0.000
2008	3	0.000	0.000	0.000	0.000	0.000	0.000	4,856.027	0.000	0.000	0.000	0.000
2008	4	0.000	0.000	0.000	0.000	0.000	0.000	4,856.027	0.000	0.000	0.000	0.000
2008	5	0.000	0.000	0.000	0.000	0.000	0.000	4,856.027	0.000	0.000	0.000	0.000
2008	6	0.000	0.000	0.000	0.000	0.000	0.000	4,856.027	0.000	0.000	0.000	0.000
2008	7	-1,969.620	0.000	0.000	0.000	0.000	0.000	4,856.027	0.000	0.000	0.000	0.000
2008	8	0.000	-2,784.509	0.000	0.000	0.000	0.000	4,856.027	0.000	0.000	0.000	0.000
2008	9	0.000	0.000	1,520.561	0.000	0.000	0.000	4,856.027	0.000	0.000	0.000	0.000
2008	10	0.000	0.000	0.000	-3,431.877	0.000	0.000	4,856.027	0.000	0.000	0.000	0.000
2008	11	0.000	0.000	0.000	0.000	-8,483.525	0.000	4,856.027	0.000	0.000	0.000	0.000
2008	12	0.000	0.000	0.000	0.000	0.000	0.000	4,856.027	0.000	0.000	0.000	0.000
2009	1	0.000	0.000	0.000	0.000	0.000	0.000	4,856.027	0.000	0.000	0.000	0.000
2009	2	0.000	0.000	0.000	0.000	0.000	0.000	4,856.027	0.000	0.000	0.000	0.000
2009	3	0.000	0.000	0.000	0.000	0.000	0.000	4,856.027	0.000	0.000	0.000	0.000
2009	4	0.000	0.000	0.000	0.000	0.000	0.000	4,856.027	0.000	0.000	0.000	0.000
2009	5	0.000	0.000	0.000	0.000	0.000	0.000	4,856.027	0.000	0.000	0.000	0.000
2009	6	0.000	0.000	0.000	0.000	0.000	0.000	4,856.027	0.000	0.000	0.000	0.000

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on	D12on	dJan12on	dFeb12on	nov15on
2009	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2009	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2009	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2009	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2009	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2009	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2010	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2010	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2010	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2010	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2010	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2010	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2010	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2010	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2010	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2010	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2010	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2010	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2011	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2011	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2011	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2011	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2011	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2011	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2011	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2011	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2011	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2011	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2011	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2011	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2012	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	0.000	0.000	0.000	0.000
2012	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	0.000
2012	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	0.000
2012									-3,512.491	0.000	0.000	0.000

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on	D12on	dJan12on	dFeb12on	nov15on
2012	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2012	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2012	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2012	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2012	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2012	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2012	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2012	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2012	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2013	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	0.000
2013	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	0.000
2013	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2013	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2013	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2013	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2013	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2013	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2013	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2013	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2013	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2013	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2014	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	0.000
2014	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	0.000
2014	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2014	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2014	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2014	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2014	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2014	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2014	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2014	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2014	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2014	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on	D12on	dJan12on	dFeb12on	nov15on
2015	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	0.000
2015	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	0.000
2015	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2015	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2015	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2015	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2015	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2015	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2015	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2015	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	0.000
2015	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2015	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2016	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2016	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2016	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2016	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2016	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2016	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2016	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2016	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2016	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2016	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2016	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2016	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2017	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2017	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2017	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2017	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2017	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2017	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2017	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2017	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2017	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on	D12on	dJan12on	dFeb12on	nov15on
2017	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2017	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2017	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2018	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2018	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2018	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2018	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2018	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2018	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2018	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2018	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2018	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2018	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2018	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2018	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2019	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2019	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2019	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2019	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2019	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2019	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2019	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2019	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2019	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2019	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2019	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2019	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2020	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2020	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2020	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2020	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2020	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2020	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on	D12on	dJan12on	dFeb12on	nov15on
2020	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2020	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2020	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2020	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2020	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2020	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2021	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2021	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2021	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2021	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2021	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2021	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2021	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2021	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2021	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2021	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2021	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2021	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2022	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2022	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2022	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2022	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2022	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2022	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2022	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2022	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2022	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2022	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2022	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2022	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2023	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2023	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2023	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on	D12on	dJan12on	dFeb12on	nov15on
2023	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2023	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2023	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2023	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2023	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2023	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2023	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2023	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2023	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2024	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2024	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2024	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2024	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2024	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2024	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2024	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2024	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2024	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2024	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2024	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2024	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2025	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2025	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2025	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2025	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2025	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2025	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2025	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2025	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2025	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2025	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2025	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2025	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on	D12on	dJan12on	dFeb12on	nov15on
2026	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2026	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2026	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2026	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2026	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2026	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2026	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2026	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2026	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2026	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2026	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2026	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2027	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2027	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2027	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2027	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2027	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2027	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2027	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2027	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2027	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2027	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2027	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2027	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2028	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2028	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2028	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2028	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2028	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2028	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2028	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2028	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2028	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891



Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on	D12on	dJan12on	dFeb12on	nov15on
2028	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2028	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2028	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2029	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2029	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2029	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2029	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2029	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2029	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2029	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2029	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2029	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2029	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2029	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2029	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2030	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2030	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2030	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2030	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2030	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2030	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2030	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2030	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2030	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2030	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2030	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2030	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2031	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2031	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2031	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2031	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2031	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2031	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on	D12on	dJan12on	dFeb12on	nov15on
2031	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2031	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2031	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2031	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2031	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2031	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2032	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2032	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2032	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2032	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2032	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2032	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2032	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2032	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2032	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2032	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2032	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2032	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2033	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2033	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2033	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2033	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2033	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2033	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2033	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2033	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2033	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2033	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2033	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2033	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2034	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2034	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2034	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on	D12on	dJan12on	dFeb12on	nov15on
2034	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2034	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2034	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2034	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2034	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2034	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2034	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2034	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2034	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2035	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2035	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2035	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2035	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2035	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2035	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2035	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2035	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2035	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2035	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2035	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2035	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2036	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2036	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2036	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2036	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2036	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2036	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2036	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2036	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2036	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2036	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2036	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2036	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on	D12on	dJan12on	dFeb12on	nov15on
2037	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2037	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2037	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2037	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2037	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2037	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2037	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2037	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2037	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2037	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2037	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2037	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2038	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2038	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2038	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2038	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2038	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2038	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2038	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2038	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2038	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2038	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2038	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2038	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2039	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2039	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2039	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2039	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2039	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2039	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2039	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2039	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2039	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on	D12on	dJan12on	dFeb12on	nov15on
2039	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2039	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2039	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2040	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2040	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2040	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2040	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2040	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2040	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2040	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2040	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2040	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2040	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2040	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2040	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2041	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2041	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2041	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2041	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2041	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2041	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2041	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2041	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2041	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2041	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2041	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2041	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2042	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2042	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2042	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2042	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2042	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2042	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on	D12on	dJan12on	dFeb12on	nov15on
2042	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2042	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2042	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2042	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2042	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2042	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2043	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2043	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2043	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2043	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2043	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2043	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2043	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2043	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2043	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2043	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2043	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2043	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2044	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2044	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2044	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2044	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2044	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2044	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2044	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2044	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2044	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2044	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2044	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2044	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2045	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2045	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2045	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on	D12on	dJan12on	dFeb12on	nov15on
2045	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2045	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2045	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2045	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2045	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2045	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2045	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2045	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2045	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2046	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2046	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2046	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2046	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2046	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2046	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2046	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2046	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2046	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2046	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2046	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2046	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2047	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2047	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2047	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2047	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2047	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2047	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2047	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2047	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2047	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2047	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2047	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2047	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on	D12on	dJan12on	dFeb12on	nov15on
2048	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2048	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2048	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2048	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2048	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2048	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2048	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2048	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2048	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2048	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2048	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2048	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2049	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2049	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2049	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2049	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2049	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2049	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2049	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2049	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2049	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2049	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2049	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2049	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2050	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2050	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2050	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2050	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2050	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2050	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2050	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2050	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2050	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891



Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on	D12on	dJan12on	dFeb12on	nov15on
2050	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2050	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2050	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2051	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2051	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2051	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2051	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2051	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2051	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2051	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2051	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2051	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2051	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2051	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2051	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2052	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2052	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2052	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2052	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2052	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2052	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2052	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2052	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2052	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2052	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2052	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2052	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2053	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2053	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2053	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2053	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2053	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2053	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on	D12on	dJan12on	dFeb12on	nov15on
2053	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2053	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2053	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2053	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2053	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2053	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2054	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2054	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2054	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2054	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2054	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2054	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2054	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2054	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2054	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2054	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2054	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2054	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2055	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2055	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2055	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2055	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2055	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2055	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2055	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2055	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2055	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2055	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2055	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2055	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2056	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2056	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2056	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Jul	Aug	Sep	Oct	Nov	Sep07on	D05on	D12on	dJan12on	dFeb12on	nov15on
2056	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2056	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2056	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2056	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2056	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2056	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2056	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2056	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2056	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2057	1	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	2,905.024	0.000	-2,718.891
2057	2	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	4,751.722	-2,718.891
2057	3	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2057	4	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2057	5	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2057	6	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2057	7	-1,969.620	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2057	8	0.000	-2,784.509	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2057	9	0.000	0.000	1,520.561	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2057	10	0.000	0.000	0.000	-3,431.877	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2057	11	0.000	0.000	0.000	0.000	-8,483.525	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891
2057	12	0.000	0.000	0.000	0.000	0.000	4,856.027	4,074.301	-3,512.491	0.000	0.000	-2,718.891

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	nov16on	may18on	mayjun20	jan20on	Jul21on	X-Missing	Heating	Cooling	Other
2004	1	0.000	0.000	0.000	0.000	0.000	0.000	25,553.825	50.299	109,772.860445854
2004	2	0.000	0.000	0.000	0.000	0.000	0.000	32,935.006	16.774	97,006.010370613
2004	3	0.000	0.000	0.000	0.000	0.000	0.000	19,130.713	150.999	95,808.369610782
2004	4	0.000	0.000	0.000	0.000	0.000	0.000	10,577.267	837.039	94,932.424813032
2004	5	0.000	0.000	0.000	0.000	0.000	0.000	2,612.985	4,643.723	94,384.767363220
2004	6	0.000	0.000	0.000	0.000	0.000	0.000	181.025	12,736.825	100,721.403762376
2004	7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16,280.926	100,028.315848560
2004	8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16,073.539	98,146.626972839
2004	9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	14,087.638	103,009.378878931
2004	10	0.000	0.000	0.000	0.000	0.000	0.000	443.062	4,189.763	98,091.035067234
2004	11	0.000	0.000	0.000	0.000	0.000	0.000	2,855.083	836.021	92,325.257514694
2004	12	0.000	0.000	0.000	0.000	0.000	0.000	13,159.680	121.435	103,688.441809909
2005	1	0.000	0.000	0.000	0.000	0.000	0.000	22,107.991	0.000	113,342.580668582
2005	2	0.000	0.000	0.000	0.000	0.000	0.000	26,537.124	0.000	101,036.739443420
2005	3	0.000	0.000	0.000	0.000	0.000	0.000	22,645.190	0.000	99,917.718293669
2005	4	0.000	0.000	0.000	0.000	0.000	0.000	10,518.415	373.901	98,692.443576533
2005	5	0.000	0.000	0.000	0.000	0.000	0.000	3,036.193	1,375.350	97,867.508019437
2005	6	0.000	0.000	0.000	0.000	0.000	0.000	414.041	8,031.301	104,554.629953223
2005	7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	22,871.300	103,768.697786609
2005	8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	29,163.941	102,074.643266223
2005	9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	21,964.460	107,410.085923597
2005	10	0.000	0.000	0.000	0.000	0.000	0.000	257.850	10,102.210	101,420.602135685
2005	11	0.000	0.000	0.000	0.000	0.000	0.000	6,502.679	636.586	96,907.329173157
2005	12	0.000	0.000	0.000	0.000	0.000	0.000	22,078.730	93.806	107,247.132555006
2006	1	0.000	0.000	0.000	0.000	0.000	0.000	21,422.941	0.000	113,409.382098986
2006	2	0.000	0.000	0.000	0.000	0.000	0.000	18,197.861	0.000	100,946.218520249
2006	3	0.000	0.000	0.000	0.000	0.000	0.000	20,604.018	87.488	98,980.618901241
2006	4	0.000	0.000	0.000	0.000	0.000	0.000	10,689.552	1,052.407	97,063.007384424
2006	5	0.000	0.000	0.000	0.000	0.000	0.000	873.966	1,767.477	98,291.810202929
2006	6	0.000	0.000	0.000	0.000	0.000	0.000	168.323	6,663.761	104,017.988893396
2006	7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16,411.856	103,519.232127326
2006	8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	25,846.316	101,123.536510257
2006	9	0.000	0.000	0.000	0.000	0.000	0.000	39.744	16,419.681	107,163.277703389

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	nov16on	may18on	mayjun20	jan20on	Jul21on	X-Missing	Heating	Cooling	Other
2006	10	0.000	0.000	0.000	0.000	0.000	0.000	1,645.399	2,312.437	101,143.122864501
2006	11	0.000	0.000	0.000	0.000	0.000	0.000	9,048.709	159.241	95,982.639921831
2006	12	0.000	0.000	0.000	0.000	0.000	0.000	14,243.415	166.129	106,265.184181655
2007	1	0.000	0.000	0.000	0.000	0.000	0.000	14,861.693	18.438	112,471.671482015
2007	2	0.000	0.000	0.000	0.000	0.000	0.000	29,864.904	0.000	99,771.899422620
2007	3	0.000	0.000	0.000	0.000	0.000	0.000	25,146.949	140.867	98,553.034204270
2007	4	0.000	0.000	0.000	0.000	0.000	0.000	8,687.767	1,834.237	97,901.151695714
2007	5	0.000	0.000	0.000	0.000	0.000	0.000	3,277.298	3,183.332	97,579.073409867
2007	6	0.000	0.000	0.000	0.000	0.000	0.000	134.925	11,263.686	102,900.277147946
2007	7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	18,343.897	102,541.557617330
2007	8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	21,503.209	101,084.153571274
2007	9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	23,719.902	111,123.173286924
2007	10	0.000	0.000	0.000	0.000	0.000	0.000	276.601	11,029.662	105,562.476013341
2007	11	0.000	0.000	0.000	0.000	0.000	0.000	5,406.301	1,872.038	100,896.055779320
2007	12	0.000	0.000	0.000	0.000	0.000	0.000	15,381.504	0.000	111,080.094178846
2008	1	0.000	0.000	0.000	0.000	0.000	0.000	20,272.431	0.000	116,955.341944729
2008	2	0.000	0.000	0.000	0.000	0.000	0.000	24,744.382	0.000	104,257.921464582
2008	3	0.000	0.000	0.000	0.000	0.000	0.000	21,159.649	0.000	103,406.782507733
2008	4	0.000	0.000	0.000	0.000	0.000	0.000	9,539.217	90.336	102,059.659611101
2008	5	0.000	0.000	0.000	0.000	0.000	0.000	2,117.431	1,176.903	101,512.004727490
2008	6	0.000	0.000	0.000	0.000	0.000	0.000	145.010	6,987.469	107,635.683447654
2008	7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	14,518.913	107,106.134924987
2008	8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	17,549.686	105,824.871067266
2008	9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16,274.372	110,563.365639280
2008	10	0.000	0.000	0.000	0.000	0.000	0.000	348.357	6,312.628	104,745.800120599
2008	11	0.000	0.000	0.000	0.000	0.000	0.000	6,810.798	406.186	99,705.928393482
2008	12	0.000	0.000	0.000	0.000	0.000	0.000	22,105.361	0.000	110,217.388932489
2009	1	0.000	0.000	0.000	0.000	0.000	0.000	23,487.280	0.000	116,170.192688064
2009	2	0.000	0.000	0.000	0.000	0.000	0.000	28,509.557	0.000	103,709.452276590
2009	3	0.000	0.000	0.000	0.000	0.000	0.000	18,384.121	255.906	102,024.895111570
2009	4	0.000	0.000	0.000	0.000	0.000	0.000	7,082.660	194.055	100,974.646056189
2009	5	0.000	0.000	0.000	0.000	0.000	0.000	1,827.565	3,711.737	101,068.599976353
2009	6	0.000	0.000	0.000	0.000	0.000	0.000	176.959	7,462.421	106,376.609951657

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	nov16on	may18on	mayjun20	jan20on	Jul21on	X-Missing	Heating	Cooling	Other
2009	7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	12,851.954	106,133.349580634
2009	8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	13,232.752	104,733.198831382
2009	9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	12,634.682	109,274.532698044
2009	10	0.000	0.000	0.000	0.000	0.000	0.000	1,274.245	4,520.552	104,257.604534920
2009	11	0.000	0.000	0.000	0.000	0.000	0.000	5,080.181	186.200	98,789.719160046
2009	12	0.000	0.000	0.000	0.000	0.000	0.000	13,363.829	12.038	109,833.514696692
2010	1	0.000	0.000	0.000	0.000	0.000	0.000	26,992.257	0.000	115,353.472182475
2010	2	0.000	0.000	0.000	0.000	0.000	0.000	26,966.780	0.000	102,687.236702657
2010	3	0.000	0.000	0.000	0.000	0.000	0.000	22,093.630	0.000	101,832.505545420
2010	4	0.000	0.000	0.000	0.000	0.000	0.000	5,152.485	1,494.617	100,952.433761175
2010	5	0.000	0.000	0.000	0.000	0.000	0.000	1,339.260	2,348.093	100,165.771137163
2010	6	0.000	0.000	0.000	0.000	0.000	0.000	217.109	11,447.188	106,240.045967647
2010	7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	20,598.084	105,832.244626259
2010	8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	24,003.910	104,389.693218613
2010	9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16,943.828	109,103.891873920
2010	10	0.000	0.000	0.000	0.000	0.000	0.000	425.047	6,345.516	103,705.132980125
2010	11	0.000	0.000	0.000	0.000	0.000	0.000	4,521.628	610.248	98,257.670724421
2010	12	0.000	0.000	0.000	0.000	0.000	0.000	18,341.902	0.000	109,159.440180126
2011	1	0.000	0.000	0.000	0.000	0.000	0.000	28,506.738	0.000	114,480.867398032
2011	2	0.000	0.000	0.000	0.000	0.000	0.000	25,960.856	0.000	102,172.435464513
2011	3	0.000	0.000	0.000	0.000	0.000	0.000	13,464.960	96.625	101,205.633588714
2011	4	0.000	0.000	0.000	0.000	0.000	0.000	8,630.908	928.865	99,289.401943076
2011	5	0.000	0.000	0.000	0.000	0.000	0.000	1,668.786	2,781.843	100,193.179343089
2011	6	0.000	0.000	0.000	0.000	0.000	0.000	535.762	10,384.999	105,022.991347952
2011	7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16,212.067	104,938.292183844
2011	8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	23,984.331	103,327.195644680
2011	9	0.000	0.000	0.000	0.000	0.000	0.000	5.919	14,321.800	108,188.514346306
2011	10	0.000	0.000	0.000	0.000	0.000	0.000	1,041.693	2,552.279	102,911.395353261
2011	11	0.000	0.000	0.000	0.000	0.000	0.000	5,208.865	59.038	97,520.581071967
2011	12	0.000	0.000	0.000	0.000	0.000	0.000	9,504.498	88.497	108,157.452624552
2012	1	0.000	0.000	0.000	0.000	0.000	0.000	16,066.519	0.000	112,902.743260949
2012	2	0.000	0.000	0.000	0.000	0.000	0.000	16,735.594	0.000	103,095.801680966
2012	3	0.000	0.000	0.000	0.000	0.000	0.000	12,004.396	531.020	96,936.992381869

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	nov16on	may18on	mayjun20	jan20on	Jul21on	X-Missing	Heating	Cooling	Other
2012	4	0.000	0.000	0.000	0.000	0.000	0.000	2,528.081	2,214.321	95,452.286142470
2012	5	0.000	0.000	0.000	0.000	0.000	0.000	1,717.394	3,223.506	95,794.878237283
2012	6	0.000	0.000	0.000	0.000	0.000	0.000	8.708	9,550.382	101,237.990948205
2012	7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	21,403.134	101,336.163188078
2012	8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	21,068.978	99,245.485736578
2012	9	0.000	0.000	0.000	0.000	0.000	0.000	20.946	14,859.695	104,598.184799197
2012	10	0.000	0.000	0.000	0.000	0.000	0.000	1,392.401	3,576.137	98,801.213278135
2012	11	0.000	0.000	0.000	0.000	0.000	0.000	7,242.864	459.991	93,972.480234473
2012	12	0.000	0.000	0.000	0.000	0.000	0.000	11,839.321	0.000	104,212.592540872
2013	1	0.000	0.000	0.000	0.000	0.000	0.000	17,908.016	0.000	112,845.604097649
2013	2	0.000	0.000	0.000	0.000	0.000	0.000	20,987.880	0.000	102,747.435314306
2013	3	0.000	0.000	0.000	0.000	0.000	0.000	18,143.291	0.000	97,117.134821057
2013	4	0.000	0.000	0.000	0.000	0.000	0.000	11,858.451	1,053.414	95,678.644665908
2013	5	0.000	0.000	0.000	0.000	0.000	0.000	1,439.665	2,837.696	95,575.066494001
2013	6	0.000	0.000	0.000	0.000	0.000	0.000	251.506	10,391.824	101,044.870388094
2013	7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	18,101.754	100,527.235486720
2013	8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16,900.218	99,363.192025872
2013	9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	14,589.225	104,033.028578605
2013	10	0.000	0.000	0.000	0.000	0.000	0.000	348.648	5,774.119	98,705.884265434
2013	11	0.000	0.000	0.000	0.000	0.000	0.000	5,851.766	831.338	93,492.939539905
2013	12	0.000	0.000	0.000	0.000	0.000	0.000	15,802.526	24.691	104,213.664241503
2014	1	0.000	0.000	0.000	0.000	0.000	0.000	20,176.286	47.072	112,715.133506149
2014	2	0.000	0.000	0.000	0.000	0.000	0.000	26,751.866	0.000	102,176.591955518
2014	3	0.000	0.000	0.000	0.000	0.000	0.000	19,053.948	0.000	96,491.740205397
2014	4	0.000	0.000	0.000	0.000	0.000	0.000	9,288.062	369.171	94,520.524307605
2014	5	0.000	0.000	0.000	0.000	0.000	0.000	1,136.442	1,987.740	95,525.226040331
2014	6	0.000	0.000	0.000	0.000	0.000	0.000	313.129	7,657.935	100,186.505471686
2014	7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16,157.483	100,050.692098313
2014	8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	11,436.614	98,699.145513679
2014	9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	13,246.409	103,408.180765281
2014	10	0.000	0.000	0.000	0.000	0.000	0.000	563.253	3,351.685	97,652.179920709
2014	11	0.000	0.000	0.000	0.000	0.000	0.000	6,305.625	313.153	92,735.809189521
2014	12	0.000	0.000	0.000	0.000	0.000	0.000	15,128.722	0.952	103,067.422975933

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	nov16on	may18on	mayjun20	jan20on	Jul21on	X-Missing	Heating	Cooling	Other
2015	1	0.000	0.000	0.000	0.000	0.000	0.000	17,940.791	0.000	111,767.634441621
2015	2	0.000	0.000	0.000	0.000	0.000	0.000	22,425.885	0.000	101,551.054523550
2015	3	0.000	0.000	0.000	0.000	0.000	0.000	23,549.664	0.000	95,854.258234892
2015	4	0.000	0.000	0.000	0.000	0.000	0.000	6,648.167	272.197	94,529.340357092
2015	5	0.000	0.000	0.000	0.000	0.000	0.000	1,640.524	2,975.819	94,221.037545641
2015	6	0.000	0.000	0.000	0.000	0.000	55.872	10,939.444	15,575.258	99,606.100947517
2015	7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16,521.668	99,281.088003428
2015	8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	12,593.540	97,607.309044666
2015	9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3,984.753	102,920.590809367
2015	10	0.000	0.000	0.000	0.000	0.000	547.726	3,159.233	7,795.617	97,685.912963879
2015	11	0.000	0.000	0.000	0.000	0.000	3,159.233	274.876	57.032	89,510.661931067
2015	12	0.000	0.000	0.000	0.000	0.000	7,795.617	12,532.335	0.000	99,992.512357154
2016	1	0.000	0.000	0.000	0.000	0.000	12,532.335	20,879.589	0.000	108,911.067563964
2016	2	0.000	0.000	0.000	0.000	0.000	20,879.589	11,734.065	0.000	98,400.779219898
2016	3	0.000	0.000	0.000	0.000	0.000	11,734.065	70.438	0.000	92,871.798010893
2016	4	0.000	0.000	0.000	0.000	0.000	4,195.056	521.516	0.000	91,442.522926379
2016	5	0.000	0.000	0.000	0.000	0.000	1,395.490	2,752.353	0.000	90,783.054282881
2016	6	0.000	0.000	0.000	0.000	0.000	325.385	9,284.971	17,226.251	96,623.957102444
2016	7	0.000	0.000	0.000	0.000	0.000	0.000	23,027.476	21,172.264	96,321.923226038
2016	8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	10,134.227	94,772.631206695
2016	9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2,441.109	99,798.323036500
2016	10	0.000	0.000	0.000	0.000	0.000	53.942	10,434.219	100.613	94,349.431601257
2016	11	-2,047.728	0.000	0.000	0.000	0.000	1,780.075	13,741.456	0.000	86,939.055040542
2016	12	-2,047.728	0.000	0.000	0.000	0.000	10,434.219	11,444.593	0.000	97,394.757943842
2017	1	-2,047.728	0.000	0.000	0.000	0.000	13,741.456	8,980.346	0.000	106,064.293353016
2017	2	-2,047.728	0.000	0.000	0.000	0.000	11,444.593	32.996	0.000	96,159.322211092
2017	3	-2,047.728	0.000	0.000	0.000	0.000	8,980.346	779.468	0.000	90,211.217575363
2017	4	-2,047.728	0.000	0.000	0.000	0.000	5,552.648	4,117.789	0.000	88,060.233916138
2017	5	-2,047.728	0.000	0.000	0.000	0.000	757.650	7,748.771	0.000	88,316.946926510
2017	6	-2,047.728	0.000	0.000	0.000	0.000	182.691	15,496.075	0.000	94,264.544178251
2017	7	-2,047.728	0.000	0.000	0.000	0.000	0.000	16,554.933	0.000	94,188.920094405
2017	8	-2,047.728	0.000	0.000	0.000	0.000	0.000	9,864.590	0.000	92,546.418938365
2017	9	-2,047.728	0.000	0.000	0.000	0.000	0.000	0.000	0.000	97,376.959881631



Kentucky Power Company  
Commercial Energy Model Output

Year	Month	nov16on	may18on	mayjun20	jan20on	Jul21on	X-Missing	Heating	Cooling	Other
2017	10	-2,047.728	0.000	0.000	0.000	0.000	0.000	99.667	7,275.150	92,091.881313060
2017	11	-2,047.728	0.000	0.000	0.000	0.000	0.000	4,042.782	1,324.372	86,995.467316749
2017	12	-2,047.728	0.000	0.000	0.000	0.000	0.000	10,879.088	49.552	97,183.312369391
2018	1	-2,047.728	0.000	0.000	0.000	0.000	0.000	21,439.351	102.434	105,844.254107881
2018	2	-2,047.728	0.000	0.000	0.000	0.000	0.000	17,381.031	172.840	96,001.199906594
2018	3	-2,047.728	0.000	0.000	0.000	0.000	0.000	9,683.816	347.377	90,114.709108120
2018	4	-2,047.728	0.000	0.000	0.000	0.000	0.000	9,310.187	400.532	88,933.254935880
2018	5	-2,047.728	-2,081.655	0.000	0.000	0.000	0.000	2,285.156	4,351.546	86,263.554009277
2018	6	-2,047.728	-2,081.655	0.000	0.000	0.000	0.000	30.789	14,650.929	92,506.555249318
2018	7	-2,047.728	-2,081.655	0.000	0.000	0.000	0.000	0.000	19,535.726	91,829.051284036
2018	8	-2,047.728	-2,081.655	0.000	0.000	0.000	0.000	0.000	17,837.493	90,166.202321481
2018	9	-2,047.728	-2,081.655	0.000	0.000	0.000	0.000	0.000	18,066.389	95,190.917707506
2018	10	-2,047.728	-2,081.655	0.000	0.000	0.000	0.000	579.687	11,314.064	89,722.900915729
2018	11	-2,047.728	-2,081.655	0.000	0.000	0.000	0.000	5,611.967	1,652.727	84,943.597899983
2018	12	-2,047.728	-2,081.655	0.000	0.000	0.000	0.000	12,925.019	9.126	94,671.0711716234
2019	1	-2,047.728	-2,081.655	0.000	0.000	0.000	0.000	13,034.366	0.000	103,748.617688894
2019	2	-2,047.728	-2,081.655	0.000	0.000	0.000	0.000	16,204.777	0.000	93,713.876008896
2019	3	-2,047.728	-2,081.655	0.000	0.000	0.000	0.000	12,724.577	47.223	87,725.696090143
2019	4	-2,047.728	-2,081.655	0.000	0.000	0.000	0.000	6,420.684	554.068	85,785.184452373
2019	5	-2,047.728	-2,081.655	0.000	0.000	0.000	0.000	580.102	3,520.495	87,030.730099649
2019	6	-2,047.728	-2,081.655	0.000	0.000	0.000	0.000	8.922	9,776.795	91,925.680917275
2019	7	-2,047.728	-2,081.655	0.000	0.000	0.000	0.000	0.000	16,980.015	91,792.673248960
2019	8	-2,047.728	-2,081.655	0.000	0.000	0.000	0.000	0.000	19,735.544	90,344.265086476
2019	9	-2,047.728	-2,081.655	0.000	0.000	0.000	0.000	0.000	16,531.734	95,240.771787862
2019	10	-2,047.728	-2,081.655	0.000	0.000	0.000	0.000	214.655	13,004.716	89,496.877679553
2019	11	-2,047.728	-2,081.655	0.000	0.000	0.000	0.000	4,952.780	1,093.885	84,375.543989541
2019	12	-2,047.728	-2,081.655	0.000	0.000	0.000	0.000	11,967.674	0.000	94,855.358490866
2020	1	-2,047.728	-2,081.655	0.000	-5,954.278	0.000	0.000	10,591.396	101.618	97,823.563779497
2020	2	-2,047.728	-2,081.655	0.000	-5,954.278	0.000	0.000	13,065.994	101.632	87,433.636319244
2020	3	-2,047.728	-2,081.655	0.000	-5,954.278	0.000	0.000	10,862.419	7.264	81,764.454429786
2020	4	-2,047.728	-2,081.655	0.000	-5,954.278	0.000	0.000	3,939.162	987.686	80,476.721213732
2020	5	-2,047.728	-2,081.655	-7,685.656	-5,954.278	0.000	0.000	3,080.650	1,218.787	72,813.271423028
2020	6	-2,047.728	-2,081.655	-7,685.656	-5,954.278	0.000	0.000	832.390	9,217.149	78,012.422872352

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	nov16on	may18on	mayjun20	jan20on	Jul21on	X-Missing	Heating	Cooling	Other
2020	7	-2,047.728	-2,081.655	0.000	-5,954.278	0.000	0.000	0.000	17,406.018	85,625.719242963
2020	8	-2,047.728	-2,081.655	0.000	-5,954.278	0.000	0.000	0.000	22,100.916	84,235.965566285
2020	9	-2,047.728	-2,081.655	0.000	-5,954.278	0.000	0.000	0.000	16,017.574	88,930.608482149
2020	10	-2,047.728	-2,081.655	0.000	-5,954.278	0.000	0.000	366.136	3,849.984	83,737.138021389
2020	11	-2,047.728	-2,081.655	0.000	-5,954.278	0.000	0.000	2,523.214	671.860	78,434.803219346
2020	12	-2,047.728	-2,081.655	0.000	-5,954.278	0.000	0.000	9,367.320	63.702	88,732.407394894
2021	1	-2,047.728	-2,081.655	0.000	-5,954.278	0.000	0.000	15,359.411	0.000	97,637.653127179
2021	2	-2,047.728	-2,081.655	0.000	-5,954.278	0.000	0.000	18,707.445	0.000	87,960.456691283
2021	3	-2,047.728	-2,081.655	0.000	-5,954.278	0.000	0.000	14,570.425	16.259	81,404.767677264
2021	4	-2,047.728	-2,081.655	0.000	-5,954.278	0.000	0.000	3,958.710	424.005	80,250.498148343
2021	5	-2,047.728	-2,081.655	0.000	-5,954.278	0.000	0.000	2,024.905	1,644.907	79,868.252040417
2021	6	-2,047.728	-2,081.655	0.000	-5,954.278	0.000	0.000	258.054	7,896.231	85,501.982403076
2021	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	9.203	15,411.112	86,800.037966059
2021	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,668.056	85,403.687981019
2021	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	16,976.872	90,003.351436572
2021	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	39.464	7,255.641	84,883.744881456
2021	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,275.907	1,798.659	79,360.639247056
2021	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	9,260.858	0.000	89,815.089070782
2022	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	10,758.210	0.000	98,457.217795025
2022	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	17,176.055	10.555	88,510.164497603
2022	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	12,724.042	66.432	82,645.876512074
2022	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	6,150.093	737.565	81,161.649043603
2022	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1,474.134	2,487.705	81,239.556606824
2022	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	196.666	7,744.698	86,781.288539685
2022	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.668	15,777.266	86,540.339651221
2022	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,954.781	85,063.204419529
2022	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2.858	14,410.256	89,962.756496322
2022	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	476.941	5,196.621	84,608.686563670
2022	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,997.537	691.104	79,460.493125383
2022	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	10,526.924	49.465	89,730.139899306
2023	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	15,168.753	13.607	98,466.799456197
2023	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	17,051.497	10.597	88,515.388032115
2023	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	12,629.665	66.687	82,647.983747304

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	nov16on	may18on	mayjun20	jan20on	Jul21on	X-Missing	Heating	Cooling	Other
2023	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	6,103.622	740.294	81,161.161868703
2023	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1,462.786	2,496.550	81,236.389107253
2023	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	195.001	7,766.228	86,763.074931967
2023	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.662	15,808.899	86,507.378215053
2023	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,987.991	85,028.503294934
2023	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2.831	14,434.342	89,923.542376807
2023	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	472.282	5,204.215	84,566.363028131
2023	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,957.431	691.930	79,413.428156856
2023	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	10,396.915	49.408	89,630.805584903
2024	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	14,959.942	13.591	98,374.700812888
2024	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	16,813.197	10.583	88,428.902271982
2024	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	12,450.486	66.581	82,558.329074852
2024	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	6,015.566	738.936	81,064.121645623
2024	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1,441.367	2,491.425	81,136.466506297
2024	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	192.112	7,748.924	86,656.780659166
2024	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.652	15,771.482	86,399.119599870
2024	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,942.571	84,921.064628352
2024	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2.788	14,395.853	89,809.987030027
2024	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	465.016	5,189.619	84,452.632155584
2024	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,896.090	689.908	79,298.139379164
2024	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	10,234.877	49.260	89,503.034370234
2025	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	14,693.936	13.518	98,247.637259082
2025	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	16,510.326	10.524	88,310.672124072
2025	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	12,223.307	66.193	82,436.862579188
2025	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	5,904.317	734.447	80,934.182763859
2025	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1,414.357	2,475.670	81,003.515428772
2025	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	188.470	7,698.211	86,515.625621255
2025	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.640	15,664.785	86,254.688808288
2025	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,816.550	84,776.891767379
2025	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2.733	14,291.037	89,656.355578706
2025	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	455.736	5,150.403	84,297.148852069
2025	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,817.195	684.490	79,138.032330133
2025	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	10,024.822	48.859	89,322.434658689

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	nov16on	may18on	mayjun20	jan20on	Jul21on	X-Missing	Heating	Cooling	Other
2026	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	14,393.305	13.452	98,024.368619503
2026	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	16,171.612	10.472	88,109.593337567
2026	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	11,971.790	65.864	82,236.539684622
2026	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	5,782.433	730.745	80,726.471679275
2026	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1,385.075	2,463.041	80,797.334443980
2026	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	184.557	7,658.484	86,302.221500226
2026	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.626	15,582.996	86,041.605136860
2026	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,722.590	84,570.307065788
2026	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2.675	14,214.887	89,442.255741219
2026	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	446.175	5,122.691	84,086.709135193
2026	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,736.950	680.777	78,928.013623166
2026	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	9,813.632	48.592	89,092.041082889
2027	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	14,098.777	13.375	97,817.008790356
2027	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	15,840.074	10.411	87,923.109748435
2027	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	11,725.895	65.478	82,051.118688628
2027	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	5,663.457	726.442	80,534.715816536
2027	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1,356.525	2,448.444	80,607.352472244
2027	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	180.746	7,612.833	86,105.993846489
2027	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.613	15,489.739	85,846.290629448
2027	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,615.954	84,381.251212015
2027	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2.620	14,129.029	89,246.844666709
2027	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	436.918	5,091.630	83,895.100682193
2027	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,659.309	676.629	78,736.995506567
2027	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	9,609.536	48.295	88,882.910549142
2028	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	13,816.953	13.326	97,608.256115760
2028	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	15,522.034	10.372	87,734.474223960
2028	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	11,489.433	65.226	81,862.694706981
2028	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	5,548.730	723.570	80,338.846249451
2028	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1,328.923	2,438.540	80,412.365985003
2028	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	177.055	7,581.457	85,903.839781790
2028	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.601	15,424.745	85,644.168802649
2028	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,540.633	84,184.799320699
2028	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2.566	14,067.499	89,042.787963580

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	nov16on	may18on	mayjun20	jan20on	Jul21on	X-Missing	Heating	Cooling	Other
2028	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	427.859	5,069.030	83,693.953146635
2028	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,583.128	673.568	78,535.512332742
2028	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	9,408.776	48.073	88,661.315079791
2029	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	13,520.593	13.291	97,394.260096002
2029	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	15,190.538	10.346	87,544.441057616
2029	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	11,245.123	65.068	81,676.133309051
2029	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	5,431.284	721.896	80,148.406721843
2029	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1,300.926	2,433.142	80,226.182040459
2029	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	173.340	7,565.331	85,713.773714945
2029	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.588	15,393.226	85,456.953991379
2029	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,506.411	84,005.784722572
2029	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2.513	14,041.296	88,859.778970845
2029	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	419.032	5,060.065	83,516.585829205
2029	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,509.532	672.439	78,360.850101680
2029	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	9,216.314	47.996	88,472.134715218
2030	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	13,236.430	13.275	97,144.973070882
2030	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	14,867.099	10.331	87,316.218214309
2030	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	11,002.489	64.955	81,445.061670794
2030	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	5,312.456	720.412	79,904.813987633
2030	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1,272.071	2,427.392	79,980.330462079
2030	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	169.451	7,545.495	85,455.994294633
2030	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.575	15,348.933	85,196.377298038
2030	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,451.104	83,749.462023352
2030	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2.454	13,993.075	88,590.513594813
2030	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	409.182	5,041.258	83,248.209218213
2030	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,426.022	669.742	78,088.944424835
2030	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	8,994.586	47.791	88,169.947194254
2031	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	12,963.188	13.183	96,868.608736969
2031	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	14,563.742	10.262	87,072.872888129
2031	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	10,780.678	64.537	81,208.332134633
2031	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	5,206.744	715.976	79,665.604734892
2031	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1,247.089	2,413.085	79,748.853913517
2031	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	166.162	7,502.747	85,221.851816714

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	nov16on	may18on	mayjun20	jan20on	Jul21on	X-Missing	Heating	Cooling	Other
2031	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.564	15,265.469	84,967.958786560
2031	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,360.508	83,533.332450225
2031	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2.408	13,923.858	88,371.998141947
2031	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	401.628	5,017.573	83,038.770849724
2031	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,363.668	666.772	77,885.320911509
2031	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	8,832.989	47.590	87,951.970677250
2032	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	12,731.152	13.149	96,668.235145691
2032	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	14,303.188	10.235	86,893.522972773
2032	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	10,587.884	64.372	81,030.813665751
2032	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	5,113.693	714.149	79,482.890381576
2032	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1,224.813	2,406.949	79,568.664242178
2032	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	163.195	7,483.718	85,036.466720699
2032	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.554	15,226.764	84,783.876366655
2032	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,316.661	83,355.875041034
2032	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2.366	13,888.734	88,189.038213754
2032	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	394.463	5,004.927	82,859.814596809
2032	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,303.663	665.092	77,707.439664002
2032	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	8,675.447	47.471	87,757.682094010
2033	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	12,497.838	13.104	96,481.461690392
2033	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	14,041.493	10.200	86,726.711865695
2033	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	10,394.558	64.154	80,866.217536971
2033	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	5,020.463	711.753	79,313.764802309
2033	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1,202.523	2,398.956	79,402.287082979
2033	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	160.229	7,459.078	84,865.687267092
2033	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.544	15,177.045	84,614.757286958
2033	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,260.659	83,193.211121336
2033	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2.323	13,844.137	88,021.678676666
2033	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	387.339	4,989.011	82,696.602930828
2033	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,244.097	662.997	77,545.702793269
2033	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	8,519.268	47.322	87,581.485396650
2034	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	12,262.613	13.082	96,317.592862265
2034	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	13,777.962	10.184	86,580.804878922
2034	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	10,200.003	64.054	80,722.551793986

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	nov16on	may18on	mayjun20	jan20on	Jul21on	X-Missing	Heating	Cooling	Other
2034	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	4,926.799	710.692	79,166.766964244
2034	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1,180.153	2,395.508	79,258.105190874
2034	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	157.257	7,448.734	84,718.127942104
2034	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.534	15,156.751	84,469.072536821
2034	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,238.431	83,053.450386727
2034	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2.280	13,827.094	87,878.509612985
2034	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	380.233	4,983.140	82,557.437661008
2034	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,184.769	662.257	77,408.352813315
2034	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	8,363.903	47.272	87,432.352214444
2035	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	12,034.576	13.074	96,181.222287083
2035	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	13,521.682	10.178	86,458.548275077
2035	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	10,010.231	64.015	80,601.373263729
2035	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	4,835.108	710.250	79,041.791850174
2035	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1,158.186	2,394.012	79,134.677151066
2035	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	154.328	7,444.007	84,590.878757195
2035	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.524	15,147.040	84,342.593909109
2035	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,227.186	82,931.207680343
2035	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2.237	13,817.959	87,752.286646685
2035	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	373.138	4,979.797	82,433.769221621
2035	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,125.296	661.803	77,285.159186817
2035	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	8,207.620	47.239	87,297.534685602
2036	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	11,807.670	13.074	96,056.598217755
2036	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	13,266.465	10.177	86,346.555649421
2036	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	9,821.143	64.011	80,490.190499780
2036	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	4,743.692	710.191	78,926.914455901
2036	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1,136.268	2,393.770	79,020.988629350
2036	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	151.406	7,443.211	84,473.735957817
2036	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.514	15,145.192	84,226.003088288
2036	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,225.007	82,818.625813550
2036	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2.195	13,816.059	87,635.986203620
2036	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	366.060	4,979.072	82,319.845968098
2036	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,065.996	661.701	77,171.781900524
2036	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	8,051.847	47.232	87,173.563217956

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	nov16on	may18on	mayjun20	jan20on	Jul21on	X-Missing	Heating	Cooling	Other
2037	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	11,579.459	13.081	95,939.718866534
2037	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	13,010.060	10.183	86,241.841886693
2037	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	9,631.230	64.043	80,386.303140307
2037	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	4,651.931	710.547	78,819.744237276
2037	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1,114.281	2,394.954	78,915.073412296
2037	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	148.474	7,446.772	84,364.419677523
2037	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.504	15,152.324	84,117.314874385
2037	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,232.806	82,713.447732210
2037	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2.152	13,822.123	87,527.278034875
2037	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	358.950	4,981.165	82,213.183114828
2037	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,006.397	661.970	77,065.498641405
2037	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	7,895.180	47.250	87,057.087834662
2038	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	11,349.711	13.077	95,828.248819165
2038	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	12,751.449	10.179	86,141.365735003
2038	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	9,439.485	64.018	80,286.271051197
2038	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	4,559.153	710.243	78,716.059976571
2038	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1,092.021	2,393.848	78,812.173685737
2038	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	145.504	7,443.133	84,258.032767302
2038	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.494	15,144.492	84,011.189907686
2038	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,223.447	82,610.617686492
2038	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2.109	13,814.295	87,420.836374828
2038	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	351.735	4,978.240	82,108.700882828
2038	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2,945.909	661.568	76,961.303484763
2038	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	7,736.164	47.220	86,942.856729226
2039	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	11,125.413	13.086	95,719.278198033
2039	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	12,499.437	10.186	86,043.724349156
2039	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	9,252.880	64.063	80,189.471175652
2039	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	4,468.998	710.733	78,616.208868196
2039	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1,070.422	2,395.492	78,713.549570250
2039	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	142.625	7,448.182	84,156.358150016
2039	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.484	15,154.680	83,910.128580664
2039	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,234.873	82,512.949952371
2039	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2.067	13,823.359	87,319.988402512



Kentucky Power Company  
Commercial Energy Model Output

Year	Month	nov16on	may18on	mayjun20	jan20on	Jul21on	X-Missing	Heating	Cooling	Other
2039	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	344.765	4,981.459	82,009.881487361
2039	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2,887.476	661.983	76,862.769543223
2039	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	7,582.664	47.249	86,835.083245144
2040	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	10,905.547	13.077	95,597.600924041
2040	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	12,251.600	10.179	85,933.648614481
2040	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	9,068.804	64.013	80,079.370358621
2040	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	4,379.790	710.134	78,501.622244479
2040	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1,048.983	2,393.308	78,599.336194636
2040	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	139.760	7,440.951	84,037.802116194
2040	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.474	15,139.055	83,791.401411006
2040	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,216.043	82,397.407289666
2040	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2.026	13,807.344	87,199.741472914
2040	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	337.755	4,975.370	81,891.213712118
2040	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2,828.578	661.130	76,743.749565171
2040	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	7,427.494	47.185	86,703.862246785
2041	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	10,686.652	13.079	95,476.324151931
2041	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	12,006.158	10.181	85,825.629483320
2041	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	8,887.474	64.027	79,973.003963711
2041	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	4,292.388	710.310	78,392.669809830
2041	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1,028.089	2,393.992	78,492.405438609
2041	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	136.981	7,443.331	83,928.289685149
2041	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.465	15,144.390	83,683.187025382
2041	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,222.726	82,293.559434790
2041	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1.985	13,813.141	87,093.162766409
2041	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	331.083	4,977.627	81,787.487309453
2041	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2,772.800	661.454	76,641.202417942
2041	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	7,281.263	47.210	86,592.380036373
2042	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	10,469.564	13.088	95,372.165865343
2042	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	11,762.615	10.188	85,732.787160411
2042	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	8,707.522	64.076	79,881.635465966
2042	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	4,205.643	710.892	78,299.158624647
2042	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1,007.350	2,396.043	78,400.699322415
2042	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	134.222	7,449.936	83,834.382527898

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	nov16on	may18on	mayjun20	jan20on	Jul21on	X-Missing	Heating	Cooling	Other
2042	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.455	15,158.401	83,590.549300512
2042	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,239.286	82,204.742813740
2042	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1.946	13,826.925	87,002.157049302
2042	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	324.462	4,982.788	81,699.068863167
2042	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2,717.483	662.171	76,554.053321442
2042	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	7,136.303	47.263	86,497.888070280
2043	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	10,266.829	13.100	95,291.595450011
2043	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	11,534.840	10.197	85,660.604728149
2043	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	8,538.887	64.133	79,810.102042753
2043	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	4,124.179	711.516	78,225.383590480
2043	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	987.833	2,398.136	78,327.807073947
2043	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	131.622	7,456.461	83,759.380335273
2043	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.447	15,171.594	83,515.977035413
2043	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,254.228	82,132.728944050
2043	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1.908	13,838.921	86,927.900186034
2043	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	318.173	4,987.092	81,626.358126327
2043	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2,664.793	662.739	76,481.688713576
2043	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	6,997.892	47.303	86,418.712152980
2044	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	10,071.137	13.134	95,219.022128175
2044	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	11,315.076	10.223	85,595.720671247
2044	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	8,376.256	64.299	79,745.932596845
2044	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	4,045.686	713.362	78,159.477368115
2044	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	969.044	2,404.388	78,262.943739308
2044	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	129.120	7,475.971	83,692.758508458
2044	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.438	15,211.433	83,449.967741624
2044	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,299.789	82,069.261409767
2044	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1.872	13,875.690	86,862.706365153
2044	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	312.141	5,000.415	81,562.804416337
2044	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2,614.319	664.521	76,418.769862539
2044	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	6,865.467	47.431	86,350.269909613
2045	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	9,889.433	13.160	95,159.086932457
2045	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	11,110.732	10.243	85,541.747727452
2045	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	8,224.869	64.424	79,692.252115430

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	nov16on	may18on	mayjun20	jan20on	Jul21on	X-Missing	Heating	Cooling	Other
2045	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,972.476	714.740	78,103.794010927
2045	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	951.490	2,408.987	78,207.676269607
2045	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	126.779	7,490.143	83,635.585952419
2045	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.430	15,240.013	83,392.9212229685
2045	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,331.875	82,013.839157665
2045	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1.838	13,901.108	86,805.180965208
2045	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	306.454	5,009.446	81,506.118732290
2045	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2,566.622	665.704	76,362.017365630
2045	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	6,740.040	47.515	86,287.830650435
2046	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	9,712.186	13.208	95,104.475317850
2046	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	10,911.332	10.281	85,492.446927764
2046	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	8,076.978	64.659	79,642.879157155
2046	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,900.922	717.324	78,052.407157381
2046	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	934.320	2,417.613	78,156.422879898
2046	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	124.487	7,516.748	83,582.360318826
2046	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.422	15,293.725	83,339.623552343
2046	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,392.463	81,961.969997757
2046	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1.804	13,949.236	86,751.153583976
2046	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	300.880	5,026.654	81,452.839550570
2046	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2,519.855	667.968	76,308.527595699
2046	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	6,617.037	47.675	86,228.896929868
2047	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	9,535.544	13.246	95,054.961411529
2047	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	10,712.927	10.310	85,448.157304788
2047	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	7,930.207	64.843	79,599.196628532
2047	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,830.074	719.374	78,007.551719124
2047	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	917.363	2,424.551	78,112.338746788
2047	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	122.229	7,538.374	83,537.094009545
2047	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.415	15,337.837	83,294.789397053
2047	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,442.850	81,918.905002448
2047	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1.772	13,989.856	86,706.977816536
2047	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	295.435	5,041.355	81,409.817141930
2047	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2,474.286	669.930	76,265.950909239
2047	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	6,497.457	47.816	86,182.592432764

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	nov16on	may18on	mayjun20	jan20on	Jul21on	X-Missing	Heating	Cooling	Other
2048	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	9,363.868	13.276	95,017.300974538
2048	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	10,519.893	10.334	85,414.181965191
2048	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	7,787.171	64.991	79,565.262738135
2048	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,760.924	721.000	77,972.300769360
2048	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	900.792	2,430.011	78,077.400872244
2048	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	120.020	7,555.274	83,500.966615093
2048	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.407	15,372.084	83,258.769740138
2048	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,481.619	81,883.991648318
2048	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1.740	14,020.785	86,670.784203030
2048	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	290.083	5,052.432	81,374.199031613
2048	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2,429.442	671.397	76,230.433504729
2048	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	6,379.638	47.920	86,143.629568296
2049	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	9,175.235	13.324	94,990.480379109
2049	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	10,308.508	10.372	85,390.958415608
2049	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	7,631.098	65.232	79,543.065343437
2049	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,685.730	723.712	77,950.213726558
2049	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	882.823	2,439.265	78,056.330712990
2049	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	117.631	7,584.379	83,479.978977671
2049	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.399	15,431.933	83,238.581070300
2049	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,550.464	81,865.197238027
2049	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1.705	14,076.607	86,652.084844440
2049	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	284.359	5,072.792	81,356.652162289
2049	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2,381.604	674.130	76,213.627848449
2049	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	6,254.264	48.117	86,125.930131125
2050	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	8,996.011	13.389	94,982.653852912
2050	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	10,107.202	10.422	85,384.031436250
2050	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	7,482.159	65.549	79,536.373450507
2050	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,613.851	727.232	77,943.563931637
2050	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	865.613	2,451.149	78,049.883233281
2050	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	115.339	7,621.426	83,473.548327277
2050	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.391	15,507.485	83,232.371420031
2050	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,636.625	81,859.411915133
2050	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1.672	14,145.865	86,646.287524415

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	nov16on	may18on	mayjun20	jan20on	Jul21on	X-Missing	Heating	Cooling	Other
2050	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	278.833	5,097.815	81,351.1749222233
2050	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2,335.356	677.467	76,208.437014700
2050	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	6,132.911	48.356	86,120.531666219
2051	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	8,831.469	13.441	94,960.165278158
2051	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	9,922.407	10.463	85,363.994722548
2051	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	7,345.429	65.808	79,516.671286155
2051	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,547.824	730.110	77,923.318943954
2051	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	849.807	2,460.875	78,030.072547008
2051	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	113.233	7,651.700	83,453.221591560
2051	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.384	15,569.283	83,212.387915624
2051	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,706.989	81,840.199881735
2051	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1.642	14,202.442	86,626.629205213
2051	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	273.752	5,118.249	81,332.079583055
2051	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2,292.819	680.187	76,189.544308709
2051	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	6,021.285	48.550	86,100.110518902
2052	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	8,670.787	13.496	94,940.832080293
2052	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	9,741.967	10.505	85,346.817941219
2052	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	7,211.861	66.074	79,499.677673617
2052	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,483.352	733.072	77,905.989871729
2052	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	834.370	2,470.877	78,013.082399556
2052	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	111.178	7,682.883	83,435.900143997
2052	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.377	15,632.835	83,195.290528659
2052	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,779.480	81,823.884315276
2052	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1.612	14,260.725	86,609.956583983
2052	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	268.792	5,139.293	81,315.887067900
2052	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2,251.302	682.991	76,173.629295027
2052	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	5,912.281	48.751	86,082.798662130
2053	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	8,513.182	13.550	94,923.260895768
2053	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	9,564.985	10.548	85,331.225300601
2053	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	7,080.855	66.342	79,484.257016033
2053	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,420.116	736.060	77,890.285209505
2053	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	819.230	2,480.968	77,997.701095136
2053	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	109.161	7,714.345	83,420.239898364

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	nov16on	may18on	mayjun20	jan20on	Jul21on	X-Missing	Heating	Cooling	Other
2053	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.370	15,696.959	83,179.847771603
2053	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,852.628	81,809.169609051
2053	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1.583	14,319.540	86,594.939575021
2053	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	263.927	5,160.531	81,301.319863138
2053	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2,210.583	685.822	76,159.335534886
2053	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	5,805.377	48.953	86,067.265765251
2054	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	8,358.609	13.605	94,907.474630813
2054	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	9,391.408	10.591	85,317.234215485
2054	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	6,952.370	66.613	79,470.426589649
2054	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,358.097	739.076	77,876.220957408
2054	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	804.381	2,491.152	77,983.941413692
2054	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	107.184	7,746.097	83,406.251098864
2054	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.364	15,761.679	83,166.067299422
2054	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	17,926.457	81,796.060831581
2054	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1.554	14,378.906	86,581.580977105
2054	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	259.156	5,181.968	81,288.377769874
2054	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2,170.648	688.680	76,146.659157691
2054	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	5,700.531	49.157	86,053.503254621
2055	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	8,207.009	13.661	94,893.464182847
2055	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	9,221.169	10.635	85,304.836597484
2055	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	6,826.358	66.887	79,458.178416193
2055	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,297.271	742.119	77,863.788967869
2055	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	789.817	2,501.431	77,971.795369244
2055	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	105.245	7,778.144	83,393.925594656
2055	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.357	15,827.002	83,153.941076255
2055	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	18,000.976	81,784.550302958
2055	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1.526	14,438.828	86,569.872938641
2055	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	254.477	5,203.607	81,277.053165848
2055	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2,131.481	691.564	76,135.592662953
2055	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	5,597.702	49.364	86,041.502990598
2056	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	8,058.322	13.717	94,881.220877352
2056	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	9,054.201	10.678	85,294.024742812
2056	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	6,702.770	67.163	79,447.504900304

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	nov16on	may18on	mayjun20	jan20on	Jul21on	X-Missing	Heating	Cooling	Other
2056	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,237.615	745.190	77,852.981488568
2056	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	775.534	2,511.804	77,961.255367051
2056	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	103.342	7,810.489	83,383.255638519
2056	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.351	15,892.935	83,143.461468206
2056	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	18,076.195	81,774.630731923
2056	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1.498	14,499.315	86,559.808009826
2056	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	249.888	5,225.451	81,267.338823097
2056	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2,093.067	694.476	76,126.128942921
2056	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	5,496.849	49.572	86,031.257264223
2057	1	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	7,912.492	13.774	94,870.736464347
2057	2	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	8,890.440	10.723	85,284.791329156
2057	3	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	6,581.556	67.441	79,438.398826439
2057	4	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	3,179.105	748.290	77,843.791159267
2057	5	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	761.525	2,522.274	77,952.314200497
2057	6	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	101.477	7,843.136	83,374.233883681
2057	7	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.344	15,959.487	83,134.621240210
2057	8	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	0.000	18,152.121	81,766.295212872
2057	9	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	1.471	14,560.372	86,551.379139577
2057	10	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	245.386	5,247.502	81,259.227904968
2057	11	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	2,055.390	697.415	76,118.261279636
2057	12	-2,047.728	-2,081.655	0.000	-5,954.278	1,420.894	0.000	5,397.934	49.782	86,022.758794021

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Total	Actual	Heating	Cooling	Other	Total	Add Factor	Add Factor
2004	1	135,376.984	131261.2	25,553.825	50.299	105,657.084280634	131,261.208		
2004	2	129,957.791	125201.7	32,935.006	16.774	92,249.871101976	125,201.652		
2004	3	115,090.081	109248.1	19,130.713	150.999	89,966.356162005	109,248.068		
2004	4	106,346.731	106039	10,577.267	837.039	94,624.721020403	106,039.027		
2004	5	101,641.475	102893.6	2,612.985	4,643.723	95,636.911330465	102,893.619		
2004	6	113,639.254	117520.1	181.025	12,736.825	104,602.206175965	117,520.056		
2004	7	116,309.241	118976.1	0.000	16,280.926	102,695.132411005	118,976.058		
2004	8	114,220.166	114443.8	0.000	16,073.539	98,370.242463282	114,443.781		
2004	9	117,097.016	117319.1	0.000	14,087.638	103,231.442486623	117,319.080		
2004	10	102,723.860	105855.6	443.062	4,189.763	101,222.786138511	105,855.611		
2004	11	96,016.362	98814.81	2,855.083	836.021	95,123.702605376	98,814.807		
2004	12	116,969.558	117815.6	13,159.680	121.435	104,534.436281527	117,815.552		
2005	1	135,450.571	129923.7	22,107.991	0.000	107,815.756403787	129,923.747		
2005	2	127,573.863	124572.2	26,537.124	0.000	98,035.050489241	124,572.174		
2005	3	122,562.908	117738.9	22,645.190	0.000	95,093.664399799	117,738.854		
2005	4	109,584.760	108703.5	10,518.415	373.901	97,811.187070235	108,703.503		
2005	5	102,279.051	100091.5	3,036.193	1,375.350	95,679.922624705	100,091.466		
2005	6	112,999.973	112547.9	414.041	8,031.301	104,102.539199344	112,547.882		
2005	7	126,639.998	123433.6	0.000	22,871.300	100,562.300003707	123,433.600		
2005	8	131,238.584	128530.4	0.000	29,163.941	99,366.507995093	128,530.449		
2005	9	129,374.546	129452.7	0.000	21,964.460	107,488.256048924	129,452.716		
2005	10	111,780.662	112861.1	257.850	10,102.210	102,501.050777745	112,861.111		
2005	11	104,046.595	105939.3	6,502.679	636.586	98,800.077443860	105,939.343		
2005	12	129,419.668	127394.4	22,078.730	93.806	105,221.902781722	127,394.438		
2006	1	134,832.323	135491.9	21,422.941	0.000	114,068.923717015	135,491.865		
2006	2	119,144.079	120935	18,197.861	0.000	102,737.165449485	120,935.026		
2006	3	119,672.124	113477.4	20,604.018	87.488	92,785.901501733	113,477.407		
2006	4	108,804.966	104629.6	10,689.552	1,052.407	92,887.656316475	104,629.615		
2006	5	100,933.253	103898.1	873.966	1,767.477	101,256.661761339	103,898.105		
2006	6	110,850.073	112025.5	168.323	6,663.761	105,193.463488151	112,025.548		
2006	7	119,931.088	121843.9	0.000	16,411.856	105,432.071357880	121,843.927		
2006	8	126,969.852	125800.4	0.000	25,846.316	99,954.064457507	125,800.380		
2006	9	123,622.703	127451.4	39.744	16,419.681	110,991.950854712	127,451.376		



Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Total	Actual	Heating	Cooling	Other	Total	Add Factor	Add Factor
2006	10	105,100.958	107090.5	1,645.399	2,312.437	103,132.681808949	107,090.517		
2006	11	105,190.590	105875.3	9,048.709	159.241	96,667.349713965	105,875.300		
2006	12	120,674.727	121307.3	14,243.415	166.129	106,897.790751084	121,307.334		
2007	1	127,351.803	127171.8	14,861.693	18.438	112,291.648371694	127,171.780		
2007	2	129,636.803	132079.6	29,864.904	0.000	102,214.677945829	132,079.582		
2007	3	123,840.850	122153.4	25,146.949	140.867	96,865.609536542	122,153.425		
2007	4	108,423.156	112596.6	8,687.767	1,834.237	102,074.642452127	112,596.647		
2007	5	104,039.703	109476.2	3,277.298	3,183.332	103,015.544184418	109,476.174		
2007	6	114,298.888	117861.1	134.925	11,263.686	106,462.450749047	117,861.062		
2007	7	120,885.454	122280.2	0.000	18,343.897	103,936.347149097	122,280.244		
2007	8	122,587.363	125107.3	0.000	21,503.209	103,604.131850678	125,107.341		
2007	9	134,843.076	135178.8	0.000	23,719.902	111,458.862671441	135,178.765		
2007	10	116,868.739	116735.4	276.601	11,029.662	105,429.138951212	116,735.402		
2007	11	108,174.395	108929.7	5,406.301	1,872.038	101,651.360121321	108,929.699		
2007	12	126,461.599	122828.8	15,381.504	0.000	107,447.324609564	122,828.829		
2008	1	137,227.773	135988.5	20,272.431	0.000	115,716.109622353	135,988.541		
2008	2	129,002.303	128780.7	24,744.382	0.000	104,036.350030977	128,780.732		
2008	3	124,566.432	122687.3	21,159.649	0.000	101,527.614754651	122,687.264		
2008	4	111,689.213	112736.8	9,539.217	90.336	103,107.254041545	112,736.807		
2008	5	104,806.338	103319.4	2,117.431	1,176.903	100,025.032886322	103,319.366		
2008	6	114,768.163	114938.7	145.010	6,987.469	107,806.207740520	114,938.687		
2008	7	121,625.048	122829.4	0.000	14,518.913	108,310.442222062	122,829.355		
2008	8	123,374.557	124863.6	0.000	17,549.686	107,313.873143670	124,863.559		
2008	9	126,837.738	127141.7	0.000	16,274.372	110,867.360995057	127,141.733		
2008	10	111,406.784	111421.5	348.357	6,312.628	104,760.481641587	111,421.466		
2008	11	106,922.912	106285.5	6,810.798	406.186	99,068.466004684	106,285.450		
2008	12	132,322.750	131453.2	22,105.361	0.000	109,347.796034105	131,453.157		
2009	1	139,657.472	140607.6	23,487.280	0.000	117,120.321420313	140,607.601		
2009	2	132,219.009	135440.2	28,509.557	0.000	106,930.606917023	135,440.164		
2009	3	120,664.921	117944.1	18,384.121	255.906	99,304.066886627	117,944.093		
2009	4	108,251.361	108022	7,082.660	194.055	100,745.238743385	108,021.954		
2009	5	106,607.902	105590	1,827.565	3,711.737	100,050.658866329	105,589.961		
2009	6	114,015.990	114602.8	176.959	7,462.421	106,963.456910391	114,602.837		

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Total	Actual	Heating	Cooling	Other	Total	Add Factor	Add Factor
2009	7	118,985.304	119391.2	0.000	12,851.954	106,539.240927443	119,391.195		
2009	8	117,965.951	118640	0.000	13,232.752	105,407.254001930	118,640.006		
2009	9	121,909.215	122206.8	0.000	12,634.682	109,572.100665092	122,206.783		
2009	10	110,052.402	110816.1	1,274.245	4,520.552	105,021.271845651	110,816.069		
2009	11	104,056.101	102272	5,080.181	186.200	97,005.622380234	102,272.004		
2009	12	123,209.383	122093.4	13,363.829	12.038	108,717.546098393	122,093.414		
2010	1	142,345.729	145310.6	26,992.257	0.000	118,318.301854685	145,310.559		
2010	2	129,654.016	130432.8	26,966.780	0.000	103,465.992242709	130,432.772		
2010	3	123,926.136	125707.2	22,093.630	0.000	103,613.603503207	125,707.234		
2010	4	107,599.536	109887.2	5,152.485	1,494.617	103,240.084936634	109,887.187		
2010	5	103,853.124	103330	1,339.260	2,348.093	99,642.636795940	103,329.990		
2010	6	117,904.343	120865.7	217.109	11,447.188	109,201.410886231	120,865.708		
2010	7	126,430.329	128707.6	0.000	20,598.084	108,109.523997347	128,707.608		
2010	8	128,393.604	130361.7	0.000	24,003.910	106,357.750591066	130,361.661		
2010	9	126,047.720	127048.3	0.000	16,943.828	110,104.505927366	127,048.334		
2010	10	110,475.696	109352.3	425.047	6,345.516	102,581.738317225	109,352.301		
2010	11	103,389.547	101528.6	4,521.628	610.248	96,396.728710569	101,528.605		
2010	12	127,501.342	126389.8	18,341.902	0.000	108,047.856468248	126,389.758		
2011	1	142,987.605	149475	28,506.738	0.000	120,968.223238131	149,474.961		
2011	2	128,133.291	127879.1	25,960.856	0.000	101,918.199487876	127,879.055		
2011	3	114,767.218	113092.8	13,464.960	96.625	99,531.198874817	113,092.783		
2011	4	108,849.175	105814.3	8,630.908	928.865	96,254.576314322	105,814.349		
2011	5	104,643.809	104301.7	1,668.786	2,781.843	99,851.119536269	104,301.749		
2011	6	115,943.753	113790.4	535.762	10,384.999	102,869.632486597	113,790.394		
2011	7	121,150.359	120705.5	0.000	16,212.067	104,493.481760057	120,705.549		
2011	8	127,311.527	126716.5	0.000	23,984.331	102,732.215927265	126,716.547		
2011	9	122,516.233	121535.2	5.919	14,321.800	107,207.490912040	121,535.210		
2011	10	106,505.368	104793.4	1,041.693	2,552.279	101,199.476795133	104,793.449		
2011	11	102,788.484	101275.5	5,208.865	59.038	96,007.636277832	101,275.539		
2011	12	117,750.448	117315	9,504.498	88.497	107,722.029835833	117,315.025		
2012	1	128,969.262	127270.3	16,066.519	0.000	111,203.735191919	127,270.254		
2012	2	119,831.395	118462.5	16,735.594	0.000	101,726.899451430	118,462.493		
2012	3	109,472.409	108113	12,004.396	531.020	95,577.543427650	108,112.960		

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Total	Actual	Heating	Cooling	Other	Total	Add Factor	Add Factor
2012	4	100,194.687	99605.52	2,528.081	2,214.321	94,863.120645237	99,605.522		
2012	5	100,735.778	101832	1,717.394	3,223.506	96,891.103825291	101,832.004		
2012	6	110,797.082	110870.2	8.708	9,550.382	101,311.076264351	110,870.167		
2012	7	122,739.297	122720.1	0.000	21,403.134	101,316.935757606	122,720.070		
2012	8	120,314.464	118371.5	0.000	21,068.978	97,302.541894390	118,371.520		
2012	9	119,478.826	120105.3	20.946	14,859.695	105,224.636868749	120,105.278		
2012	10	103,769.751	102106	1,392.401	3,576.137	97,137.464855553	102,106.003		
2012	11	101,675.335	101170.2	7,242.864	459.991	93,467.343119675	101,170.198		
2012	12	116,051.913	116894	11,839.321	0.000	105,054.722182235	116,894.043		
2013	1	130,753.620	127144.1	17,908.016	0.000	109,236.084621688	127,144.101		
2013	2	123,735.316	121020.1	20,987.880	0.000	100,032.199728887	121,020.080		
2013	3	115,260.426	117121.1	18,143.291	0.000	98,977.831512026	117,121.123		
2013	4	108,590.510	110335	11,858.451	1,053.414	97,423.149092765	110,335.014		
2013	5	99,852.427	98184.08	1,439.665	2,837.696	93,906.716104128	98,184.077		
2013	6	111,688.200	108408.7	251.506	10,391.824	97,765.398002620	108,408.728		
2013	7	118,628.989	114707.6	0.000	18,101.754	96,605.870216318	114,707.624		
2013	8	116,263.410	115109.3	0.000	16,900.218	98,209.049903800	115,109.268		
2013	9	118,622.253	116211.8	0.000	14,589.225	101,622.592348172	116,211.817		
2013	10	104,828.651	104867.1	348.648	5,774.119	98,744.312357659	104,867.079		
2013	11	100,176.043	99749.84	5,851.766	831.338	93,066.735306854	99,749.839		
2013	12	120,040.882	122293.1	15,802.526	24.691	106,465.901547863	122,293.119		
2014	1	132,938.491	138723.6	20,176.286	47.072	118,500.280775609	138,723.638		
2014	2	128,928.458	132750.6	26,751.866	0.000	105,998.706286003	132,750.572		
2014	3	115,545.689	118767.8	19,053.948	0.000	99,713.828548287	118,767.777		
2014	4	104,177.758	102879.6	9,288.062	369.171	93,222.407347995	102,879.641		
2014	5	98,649.408	101231.3	1,136.442	1,987.740	98,107.165957087	101,231.348		
2014	6	108,157.570	108895	313.129	7,657.935	100,923.974471514	108,895.039		
2014	7	116,208.176	116182.3	0.000	16,157.483	100,024.839504727	116,182.323		
2014	8	110,135.759	110607.9	0.000	11,436.614	99,171.284267526	110,607.898		
2014	9	116,654.589	116968.7	0.000	13,246.409	103,722.279286619	116,968.688		
2014	10	101,567.118	100313.1	563.253	3,351.685	96,398.207809475	100,313.146		
2014	11	99,354.587	98442.65	6,305.625	313.153	91,823.876327523	98,442.654		
2014	12	118,197.096	119843.2	15,128.722	0.952	104,713.544942150	119,843.218		

Kentucky Power Company

Commercial Energy Model Output

Year	Month	Total	Actual	Heating	Cooling	Other	Total	Add Factor	Add Factor
2015	1	129,708.426	130136	17,940.791	0.000	112,195.192815626	130,135.984		
2015	2	123,976.939	126178.1	22,425.885	0.000	103,752.242460613	126,178.127		
2015	3	119,403.922	125608.1	23,549.664	0.000	102,058.431170711	125,608.095		
2015	4	101,449.704	102045.4	6,648.167	272.197	95,125.042980563	102,045.407		
2015	5	98,837.381	97219.82	1,640.524	2,975.819	92,603.473357557	97,219.817		
2015	6	110,601.417	109165	55.872	10,939.444	98,169.638671248	109,164.955		
2015	7	114,856.346	114739	0.000	15,575.258	99,163.785075716	114,739.043		
2015	8	114,128.977	113629.5	0.000	16,521.668	97,107.815129096	113,629.483		
2015	9	115,514.131	114534.8	0.000	12,593.540	101,941.220102158	114,534.760		
2015	10	102,218.392	102147.3	547.726	3,984.753	97,614.789654551	102,147.269		
2015	11	92,944.771	93346.37	3,159.233	274.876	89,912.258017728	93,346.367		
2015	12	107,845.161	107110.5	7,795.617	57.032	99,257.879023343	107,110.528		
2016	1	121,443.402	119353.7	12,532.335	0.000	106,821.318370319	119,353.653		
2016	2	119,280.368	120158.8	20,879.589	0.000	99,279.186013115	120,158.775		
2016	3	104,676.301	108145.7	11,734.065	70.438	96,341.231810815	108,145.735		
2016	4	96,159.096	97128.24	4,195.056	521.516	92,411.668281700	97,128.241		
2016	5	94,930.897	92930.87	1,395.490	2,752.353	88,783.021984690	92,930.865		
2016	6	106,234.314	104329.1	325.385	9,284.971	94,718.704487407	104,329.061		
2016	7	113,548.175	113689.2	0.000	17,226.251	96,462.945623561	113,689.197		
2016	8	117,800.107	118026	0.000	23,027.476	94,998.549792932	118,026.026		
2016	9	120,970.587	122192.5	0.000	21,172.264	101,020.202819475	122,192.467		
2016	10	104,537.601	103959.9	53.942	10,134.227	93,771.696239938	103,959.866		
2016	11	91,160.239	92163.82	1,780.075	2,441.109	87,942.638848595	92,163.823		
2016	12	107,929.590	109644.2	10,434.219	100.613	99,109.406980522	109,644.239		
2017	1	119,805.749	118731.6	13,741.456	0.000	104,990.103179164	118,731.559		
2017	2	107,603.915	105050.3	11,444.593	0.000	93,605.707025589	105,050.300		
2017	3	99,224.560	98705.09	8,980.346	32.996	89,691.749333972	98,705.092		
2017	4	94,392.351	93826.53	5,552.648	779.468	87,494.411212488	93,826.528		
2017	5	93,192.386	91310.65	757.650	4,117.789	86,435.214382433	91,310.653		
2017	6	102,196.006	99782.6	182.691	7,748.771	91,851.140588073	99,782.602		
2017	7	109,684.995	109548.9	0.000	15,496.075	94,052.777460765	109,548.852		
2017	8	109,101.352	109759.4	0.000	16,554.933	93,204.505212694	109,759.438		
2017	9	107,241.549	106980.7	0.000	9,864.590	97,116.130447896	106,980.720		

Kentucky Power Company

Commercial Energy Model Output

Year	Month	Total	Actual	Heating	Cooling	Other	Total	Add Factor	Add Factor
2017	10	99,466.698	98745.79	99.667	7,275.150	91,370.973001181	98,745.790		
2017	11	92,362.621	93083.14	4,042.782	1,324.372	87,715.982804839	93,083.136		
2017	12	108,111.952	108115.4	10,879.088	49.552	97,186.723989943	108,115.364		
2018	1	127,386.039	131950.3	21,439.351	102.434	110,408.521898226	131,950.307		
2018	2	113,555.071	115602.9	17,381.031	172.840	98,049.056255135	115,602.927		
2018	3	100,145.902	98366.54	9,683.816	347.377	88,335.346328216	98,366.539		
2018	4	98,643.974	99837.08	9,310.187	400.532	90,126.360166884	99,837.079		
2018	5	92,900.256	91876.04	2,285.156	4,351.546	85,239.337390888	91,876.039		
2018	6	107,188.273	109326.6	30.789	14,650.929	94,644.840661760	109,326.558		
2018	7	111,364.778	112046.8	0.000	19,535.726	92,511.081552635	112,046.808		
2018	8	108,003.696	108104.1	0.000	17,837.493	90,266.631724383	108,104.125		
2018	9	113,257.307	113014.2	0.000	18,066.389	94,947.832708027	113,014.222		
2018	10	101,616.652	102370.8	579.687	11,314.064	90,477.035986004	102,370.787		
2018	11	92,208.293	92160.43	5,611.967	1,652.727	84,895.738399371	92,160.433		
2018	12	107,605.217	108179.5	12,925.019	9.126	95,245.328615292	108,179.474		
2019	1	116,782.983	114290.5	13,034.366	0.000	101,256.157244576	114,290.523		
2019	2	109,918.653	110973.7	16,204.777	0.000	94,768.886539998	110,973.664		
2019	3	100,497.496	100286.5	12,724.577	47.223	87,514.682977185	100,286.483		
2019	4	92,759.937	91402.91	6,420.684	554.068	84,428.157883825	91,402.910		
2019	5	91,131.327	93168.03	580.102	3,520.495	89,067.429313205	93,168.026		
2019	6	101,711.398	100460.5	8.922	9,776.795	90,674.780042560	100,460.497		
2019	7	108,772.688	108346.7	0.000	16,980.015	91,366.640229170	108,346.655		
2019	8	110,079.809	110692.4	0.000	19,735.544	90,956.810102372	110,692.354		
2019	9	111,772.506	112581.5	0.000	16,531.734	96,049.815151727	112,581.549		
2019	10	102,716.249	101521	214.655	13,004.716	88,301.593588332	101,520.965		
2019	11	90,422.209	89012.2	4,952.780	1,093.885	82,965.534860369	89,012.200		
2019	12	106,823.032	107718.5	11,967.674	0.000	95,750.811132106	107,718.485		
2020	1	108,516.578	111379.8	10,591.396	101.618	100,686.770091943	111,379.784		
2020	2	100,601.262	100545.7	13,065.994	101.632	87,378.092288558	100,545.718		
2020	3	92,634.137	98639.38	10,862.419	7.264	87,769.692845924	98,639.375		
2020	4	85,403.570	83184.56	3,939.162	987.686	78,257.711445975	83,184.560		
2020	5	77,112.709	76900.06	3,080.650	1,218.787	72,600.621607127	76,900.059		
2020	6	88,061.962	88274.61	832.390	9,217.149	78,225.072688228	88,274.612		

Kentucky Power Company

Commercial Energy Model Output

Year	Month	Total	Actual	Heating	Cooling	Other	Total	Add Factor	Add Factor
2020	7	103,031.738	100734	0.000	17,406.018	83,328.005580928	100,734.024		
2020	8	106,336.882	105698.1	0.000	22,100.916	83,597.137029208	105,698.053		
2020	9	104,948.182	102409.9	0.000	16,017.574	86,392.324117120	102,409.898		
2020	10	87,953.258	87903.96	366.136	3,849.984	83,687.836085232	87,903.956		
2020	11	81,629.877	81580.54	2,523.214	671.860	78,385.461654388	81,580.535		
2020	12	98,163.430	96646.76	9,367.320	63.702	87,215.733519685	96,646.756		
2021	1	112,997.064	112022.7	15,359.411	0.000	96,663.315831753	112,022.727		
2021	2	106,667.902	103356.6	18,707.445	0.000	84,649.177781883	103,356.623		
2021	3	95,991.452	102140.7	14,570.425	16.259	87,553.972723773	102,140.657		
2021	4	84,633.213	87279.71	3,958.710	424.005	82,896.989954330	87,279.705		
2021	5	83,538.064	82131.97	2,024.905	1,644.907	78,462.159370126	82,131.971		
2021	6	93,656.267	91048.53	258.054	7,896.231	82,894.247435811	91,048.532		
2021	7	102,220.353	102130.2	9.203	15,411.112	86,709.907704307	102,130.223		
2021	8	103,071.744	102835.9	0.000	17,668.056	85,167.857016524	102,835.913		
2021	9	106,980.223	105355	0.000	16,976.872	88,378.133223575	105,355.005		
2021	10	92,178.850	92906.9	39.464	7,255.641	85,611.798056089	92,906.903		
2021	11	84,435.205	85324.23	3,275.907	1,798.659	80,249.666749683	85,324.233		
2021	12	99,075.947	101111	9,260.858	0.000	91,850.102926865	101,110.961		
2022	1	109,215.428	10758.210	10,758.210	0.000	98,457.217795025	109,215.428		
2022	2	105,696.774	17,176.055	17,176.055	10.555	88,510.164497603	105,696.774		
2022	3	95,436.351	12,724.042	12,724.042	66.432	82,645.876512074	95,436.351		
2022	4	88,049.308	6,150.093	6,150.093	737.565	81,161.649043603	88,049.308		
2022	5	85,201.395	1,474.134	1,474.134	2,487.705	81,239.556606824	85,201.395		
2022	6	94,722.652	196.666	196.666	7,744.698	86,781.288539685	94,722.652		
2022	7	102,318.274	0.668	0.668	15,777.266	86,540.339651221	102,318.274		
2022	8	103,017.986	0.000	0.000	17,954.781	85,063.204419529	103,017.986		
2022	9	104,375.871	2.858	2.858	14,410.256	89,962.756496322	104,375.871		
2022	10	90,282.249	476.941	476.941	5,196.621	84,608.686563670	90,282.249		
2022	11	84,149.134	3,997.537	3,997.537	691.104	79,460.493125383	84,149.134		
2022	12	100,306.529	10,526.924	10,526.924	49.465	89,730.139899306	100,306.529		
2023	1	113,649.159	15,168.753	15,168.753	13.607	98,466.799456197	113,649.159		
2023	2	105,577.482	17,051.497	17,051.497	10.597	88,515.388032115	105,577.482		
2023	3	95,344.336	12,629.665	12,629.665	66.687	82,647.983747304	95,344.336		

Kentucky Power Company

Commercial Energy Model Output

Year	Month	Total	Actual	Heating	Cooling	Other	Total	Add Factor	Add Factor
2023	4	88,005.078		6,103.622	740.294	81,161.161868703	88,005.078		
2023	5	85,195.724		1,462.786	2,496.550	81,236.389107253	85,195.724		
2023	6	94,724.304		195.001	7,766.228	86,763.074931967	94,724.304		
2023	7	102,316.939		0.662	15,808.899	86,507.378215053	102,316.939		
2023	8	103,016.494		0.000	17,987.991	85,028.503294934	103,016.494		
2023	9	104,360.715		2.831	14,434.342	89,923.542376807	104,360.715		
2023	10	90,242.860		472.282	5,204.215	84,566.363028131	90,242.860		
2023	11	84,062.789		3,957.431	691.930	79,413.428156856	84,062.789		
2023	12	100,077.129		10,396.915	49.408	89,630.805584903	100,077.129		
2024	1	113,348.234		14,959.942	13.591	98,374.700812888	113,348.234		
2024	2	105,252.682		16,813.197	10.583	88,428.902271982	105,252.682		
2024	3	95,075.396		12,450.486	66.581	82,558.329074852	95,075.396		
2024	4	87,818.623		6,015.566	738.936	81,064.121645623	87,818.623		
2024	5	85,069.258		1,441.367	2,491.425	81,136.466506297	85,069.258		
2024	6	94,597.816		192.112	7,748.924	86,656.780659166	94,597.816		
2024	7	102,171.254		0.652	15,771.482	86,399.119599870	102,171.254		
2024	8	102,863.635		0.000	17,942.571	84,921.064628352	102,863.635		
2024	9	104,208.628		2.788	14,395.853	89,809.987030027	104,208.628		
2024	10	90,107.267		465.016	5,189.619	84,452.632155584	90,107.267		
2024	11	83,884.138		3,896.090	689.908	79,298.139379164	83,884.138		
2024	12	99,787.171		10,234.877	49.260	89,503.034370234	99,787.171		
2025	1	112,955.092		14,693.936	13.518	98,247.637259082	112,955.092		
2025	2	104,831.522		16,510.326	10.524	88,310.672124072	104,831.522		
2025	3	94,726.362		12,223.307	66.193	82,436.862579188	94,726.362		
2025	4	87,572.947		5,904.317	734.447	80,934.182763859	87,572.947		
2025	5	84,893.542		1,414.357	2,475.670	81,003.515428772	84,893.542		
2025	6	94,402.307		188.470	7,698.211	86,515.625621255	94,402.307		
2025	7	101,920.114		0.640	15,664.785	86,254.688808288	101,920.114		
2025	8	102,593.442		0.000	17,816.550	84,776.891767379	102,593.442		
2025	9	103,950.125		2.733	14,291.037	89,656.355578706	103,950.125		
2025	10	89,903.288		455.736	5,150.403	84,297.148852069	89,903.288		
2025	11	83,639.718		3,817.195	684.490	79,138.032330133	83,639.718		
2025	12	99,396.116		10,024.822	48.859	89,322.434658689	99,396.116		



Kentucky Power Company

Commercial Energy Model Output

Year	Month	Total	Actual	Heating	Cooling	Other	Total	Add Factor	Add Factor
2026	1	112,431.127		14,393.305	13.452	98,024.368619503	112,431.127		
2026	2	104,291.677		16,171.612	10.472	88,109.593337567	104,291.677		
2026	3	94,274.194		11,971.790	65.864	82,236.539684622	94,274.194		
2026	4	87,239.650		5,782.433	730.745	80,726.471679275	87,239.650		
2026	5	84,645.451		1,385.075	2,463.041	80,797.334443980	84,645.451		
2026	6	94,145.262		184.557	7,658.484	86,302.221500226	94,145.262		
2026	7	101,625.228		0.626	15,582.996	86,041.605136860	101,625.228		
2026	8	102,292.897		0.000	17,722.590	84,570.307065788	102,292.897		
2026	9	103,659.818		2.675	14,214.887	89,442.255741219	103,659.818		
2026	10	89,655.575		446.175	5,122.691	84,086.709135193	89,655.575		
2026	11	83,345.741		3,736.950	680.777	78,928.013623166	83,345.741		
2026	12	98,954.265		9,813.632	48.592	89,092.041082889	98,954.265		
2027	1	111,929.161		14,098.777	13.375	97,817.008790356	111,929.161		
2027	2	103,773.595		15,840.074	10.411	87,923.109748435	103,773.595		
2027	3	93,842.492		11,725.895	65.478	82,051.118688628	93,842.492		
2027	4	86,924.615		5,663.457	726.442	80,534.715816536	86,924.615		
2027	5	84,412.321		1,356.525	2,448.444	80,607.352472244	84,412.321		
2027	6	93,899.573		180.746	7,612.833	86,105.993846489	93,899.573		
2027	7	101,336.643		0.613	15,489.739	85,846.290629448	101,336.643		
2027	8	101,997.205		0.000	17,615.954	84,381.251212015	101,997.205		
2027	9	103,378.493		2.620	14,129.029	89,246.844666709	103,378.493		
2027	10	89,423.649		436.918	5,091.630	83,895.100682193	89,423.649		
2027	11	83,072.934		3,659.309	676.629	78,736.995506567	83,072.934		
2027	12	98,540.741		9,609.536	48.295	88,882.910549142	98,540.741		
2028	1	111,438.535		13,816.953	13.326	97,608.256115760	111,438.535		
2028	2	103,266.880		15,522.034	10.372	87,734.474223960	103,266.880		
2028	3	93,417.353		11,489.433	65.226	81,862.694706981	93,417.353		
2028	4	86,611.146		5,548.730	723.570	80,338.846249451	86,611.146		
2028	5	84,179.829		1,328.923	2,438.540	80,412.365985003	84,179.829		
2028	6	93,662.351		177.055	7,581.457	85,903.839781790	93,662.351		
2028	7	101,069.514		0.601	15,424.745	85,644.168802649	101,069.514		
2028	8	101,725.433		0.000	17,540.633	84,184.799320699	101,725.433		
2028	9	103,112.853		2.566	14,067.499	89,042.787963580	103,112.853		



Kentucky Power Company

Commercial Energy Model Output

Year	Month	Total	Actual	Heating	Cooling	Other	Total	Add Factor	Add Factor
2028	10	89,190.842		427.859	5,069.030	83,693.953146635	89,190.842		
2028	11	82,792.208		3,583.128	673.568	78,535.512332742	82,792.208		
2028	12	98,118.164		9,408.776	48.073	88,661.315079791	98,118.164		
2029	1	110,928.144		13,520.593	13.291	97,394.260096002	110,928.144		
2029	2	102,745.324		15,190.538	10.346	87,544.441057616	102,745.324		
2029	3	92,986.325		11,245.123	65.068	81,676.133309051	92,986.325		
2029	4	86,301.587		5,431.284	721.896	80,148.406721843	86,301.587		
2029	5	83,960.249		1,300.926	2,433.142	80,226.182040459	83,960.249		
2029	6	93,452.445		173.340	7,565.331	85,713.773714945	93,452.445		
2029	7	100,850.768		0.588	15,393.226	85,456.953991379	100,850.768		
2029	8	101,512.196		0.000	17,506.411	84,005.784722572	101,512.196		
2029	9	102,903.588		2.513	14,041.296	88,859.778970845	102,903.588		
2029	10	88,995.682		419.032	5,060.065	83,516.585829205	88,995.682		
2029	11	82,542.821		3,509.532	672.439	78,360.850101680	82,542.821		
2029	12	97,736.445		9,216.314	47.996	88,472.134715218	97,736.445		
2030	1	110,394.679		13,236.430	13.275	97,144.973070882	110,394.679		
2030	2	102,193.648		14,867.099	10.331	87,316.218214309	102,193.648		
2030	3	92,512.506		11,002.489	64.955	81,445.061670794	92,512.506		
2030	4	85,937.682		5,312.456	720.412	79,904.813987633	85,937.682		
2030	5	83,679.794		1,272.071	2,427.392	79,980.330462079	83,679.794		
2030	6	93,170.940		169.451	7,545.495	85,455.994294633	93,170.940		
2030	7	100,545.885		0.575	15,348.933	85,196.377298038	100,545.885		
2030	8	101,200.566		0.000	17,451.104	83,749.462023352	101,200.566		
2030	9	102,586.043		2.454	13,993.075	88,590.513594813	102,586.043		
2030	10	88,698.649		409.182	5,041.258	83,248.209218213	88,698.649		
2030	11	82,184.708		3,426.022	669.742	78,088.944424835	82,184.708		
2030	12	97,212.324		8,994.586	47.791	88,169.947194254	97,212.324		
2031	1	109,844.980		12,963.188	13.183	96,868.608736969	109,844.980		
2031	2	101,646.877		14,563.742	10.262	87,072.872888129	101,646.877		
2031	3	92,053.548		10,780.678	64.537	81,208.332134633	92,053.548		
2031	4	85,588.325		5,206.744	715.976	79,665.604734892	85,588.325		
2031	5	83,409.027		1,247.089	2,413.085	79,748.853913517	83,409.027		
2031	6	92,890.760		166.162	7,502.747	85,221.851816714	92,890.760		

Kentucky Power Company

Commercial Energy Model Output

Year	Month	Total	Actual	Heating	Cooling	Other	Total	Add Factor	Add Factor
2031	7	100,233.992		0.564	15,265.469	84,967.958786560	100,233.992		
2031	8	100,893.840		0.000	17,360.508	83,533.332450225	100,893.840		
2031	9	102,298.265		2.408	13,923.858	88,371.998141947	102,298.265		
2031	10	88,457.972		401.628	5,017.573	83,038.770849724	88,457.972		
2031	11	81,915.761		3,363.668	666.772	77,885.320911509	81,915.761		
2031	12	96,832.550		8,832.989	47.590	87,951.970677250	96,832.550		
2032	1	109,412.537		12,731.152	13.149	96,668.235145691	109,412.537		
2032	2	101,206.947		14,303.188	10.235	86,893.522972773	101,206.947		
2032	3	91,683.070		10,587.884	64.372	81,030.813665751	91,683.070		
2032	4	85,310.732		5,113.693	714.149	79,482.890381576	85,310.732		
2032	5	83,200.426		1,224.813	2,406.949	79,568.664242178	83,200.426		
2032	6	92,683.379		163.195	7,483.718	85,036.466720699	92,683.379		
2032	7	100,011.194		0.554	15,226.764	84,783.876366655	100,011.194		
2032	8	100,672.536		0.000	17,316.661	83,355.875041034	100,672.536		
2032	9	102,080.137		2.366	13,888.734	88,189.038213754	102,080.137		
2032	10	88,259.205		394.463	5,004.927	82,859.814596809	88,259.205		
2032	11	81,676.195		3,303.663	665.092	77,707.439664002	81,676.195		
2032	12	96,480.599		8,675.447	47.471	87,757.682094010	96,480.599		
2033	1	108,992.404		12,497.838	13.104	96,481.461690392	108,992.404		
2033	2	100,778.405		14,041.493	10.200	86,726.711865695	100,778.405		
2033	3	91,324.929		10,394.558	64.154	80,866.217536971	91,324.929		
2033	4	85,045.981		5,020.463	711.753	79,313.764802309	85,045.981		
2033	5	83,003.766		1,202.523	2,398.956	79,402.287082979	83,003.766		
2033	6	92,484.995		160.229	7,459.078	84,865.687267092	92,484.995		
2033	7	99,792.346		0.544	15,177.045	84,614.757286958	99,792.346		
2033	8	100,453.870		0.000	17,260.659	83,193.211121336	100,453.870		
2033	9	101,868.138		2.323	13,844.137	88,021.678676666	101,868.138		
2033	10	88,072.953		387.339	4,989.011	82,696.602930828	88,072.953		
2033	11	81,452.797		3,244.097	662.997	77,545.702793269	81,452.797		
2033	12	96,148.076		8,519.268	47.322	87,581.485396650	96,148.076		
2034	1	108,593.289		12,262.613	13.082	96,317.592862265	108,593.289		
2034	2	100,368.950		13,777.962	10.184	86,580.804878922	100,368.950		
2034	3	90,986.609		10,200.003	64.054	80,722.551793986	90,986.609		

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Total	Actual	Heating	Cooling	Other	Total	Add Factor	Add Factor
2034	4	84,804.257		4,926.799	710.692	79,166.766964244	84,804.257		
2034	5	82,833.766		1,180.153	2,395.508	79,258.105190874	82,833.766		
2034	6	92,324.119		157.257	7,448.734	84,718.127942104	92,324.119		
2034	7	99,626.357		0.534	15,156.751	84,469.072536821	99,626.357		
2034	8	100,291.881		0.000	17,238.431	83,053.450386727	100,291.881		
2034	9	101,707.884		2.280	13,827.094	87,878.509612985	101,707.884		
2034	10	87,920.810		380.233	4,983.140	82,557.437661008	87,920.810		
2034	11	81,255.379		3,184.769	662.257	77,408.352813315	81,255.379		
2034	12	95,843.527		8,363.903	47.272	87,432.352214444	95,843.527		
2035	1	108,228.873		12,034.576	13.074	96,181.222287083	108,228.873		
2035	2	99,990.408		13,521.682	10.178	86,458.548275077	99,990.408		
2035	3	90,675.619		10,010.231	64.015	80,601.373263729	90,675.619		
2035	4	84,587.151		4,835.108	710.250	79,041.791850174	84,587.151		
2035	5	82,686.875		1,158.186	2,394.012	79,134.677151066	82,686.875		
2035	6	92,189.214		154.328	7,444.007	84,590.878757195	92,189.214		
2035	7	99,490.158		0.524	15,147.040	84,342.593909109	99,490.158		
2035	8	100,158.394		0.000	17,227.186	82,931.207680343	100,158.394		
2035	9	101,572.483		2.237	13,817.959	87,752.286646685	101,572.483		
2035	10	87,786.704		373.138	4,979.797	82,433.769221621	87,786.704		
2035	11	81,072.258		3,125.296	661.803	77,285.159186817	81,072.258		
2035	12	95,552.394		8,207.620	47.239	87,297.534685602	95,552.394		
2036	1	107,877.342		11,807.670	13.074	96,056.598217755	107,877.342		
2036	2	99,623.198		13,266.465	10.177	86,346.555649421	99,623.198		
2036	3	90,375.344		9,821.143	64.011	80,490.190499780	90,375.344		
2036	4	84,380.797		4,743.692	710.191	78,926.914455901	84,380.797		
2036	5	82,551.027		1,136.268	2,393.770	79,020.988629350	82,551.027		
2036	6	92,068.353		151.406	7,443.211	84,473.735957817	92,068.353		
2036	7	99,371.709		0.514	15,145.192	84,226.003088288	99,371.709		
2036	8	100,043.633		0.000	17,225.007	82,818.625813550	100,043.633		
2036	9	101,454.240		2.195	13,816.059	87,635.986203620	101,454.240		
2036	10	87,664.978		366.060	4,979.072	82,319.845968098	87,664.978		
2036	11	80,899.479		3,065.996	661.701	77,171.781900524	80,899.479		
2036	12	95,272.641		8,051.847	47.232	87,173.563217956	95,272.641		

Kentucky Power Company

Commercial Energy Model Output

Year	Month	Total	Actual	Heating	Cooling	Other	Total	Add Factor	Add Factor
2037	1	107,532.259		11,579.459	13.081	95,939.718866534	107,532.259		
2037	2	99,262.084		13,010.060	10.183	86,241.841886693	99,262.084		
2037	3	90,081.576		9,631.230	64.043	80,386.303140307	90,081.576		
2037	4	84,182.223		4,651.931	710.547	78,819.744237276	84,182.223		
2037	5	82,424.308		1,114.281	2,394.954	78,915.073412296	82,424.308		
2037	6	91,959.666		148.474	7,446.772	84,364.419677523	91,959.666		
2037	7	99,270.143		0.504	15,152.324	84,117.314874385	99,270.143		
2037	8	99,946.253		0.000	17,232.806	82,713.447732210	99,946.253		
2037	9	101,351.554		2.152	13,822.123	87,527.278034875	101,351.554		
2037	10	87,553.298		358.950	4,981.165	82,213.183114828	87,553.298		
2037	11	80,733.866		3,006.397	661.970	77,065.498641405	80,733.866		
2037	12	94,999.517		7,895.180	47.250	87,057.087834662	94,999.517		
2038	1	107,191.036		11,349.711	13.077	95,828.248819165	107,191.036		
2038	2	98,902.993		12,751.449	10.179	86,141.365735003	98,902.993		
2038	3	89,789.774		9,439.485	64.018	80,286.271051197	89,789.774		
2038	4	83,985.456		4,559.153	710.243	78,716.059976571	83,985.456		
2038	5	82,298.042		1,092.021	2,393.848	78,812.173685737	82,298.042		
2038	6	91,846.670		145.504	7,443.133	84,258.032767302	91,846.670		
2038	7	99,156.176		0.494	15,144.492	84,011.189907686	99,156.176		
2038	8	99,834.064		0.000	17,223.447	82,610.617686492	99,834.064		
2038	9	101,237.241		2.109	13,814.295	87,420.836374828	101,237.241		
2038	10	87,438.676		351.735	4,978.240	82,108.700882828	87,438.676		
2038	11	80,568.780		2,945.909	661.568	76,961.303484763	80,568.780		
2038	12	94,726.240		7,736.164	47.220	86,942.856729226	94,726.240		
2039	1	106,857.777		11,125.413	13.086	95,719.278198033	106,857.777		
2039	2	98,553.347		12,499.437	10.186	86,043.724349156	98,553.347		
2039	3	89,506.414		9,252.880	64.063	80,189.471175652	89,506.414		
2039	4	83,795.941		4,468.998	710.733	78,616.208868196	83,795.941		
2039	5	82,179.464		1,070.422	2,395.492	78,713.549570250	82,179.464		
2039	6	91,747.165		142.625	7,448.182	84,156.358150016	91,747.165		
2039	7	99,065.293		0.484	15,154.680	83,910.128580664	99,065.293		
2039	8	99,747.822		0.000	17,234.873	82,512.949952371	99,747.822		
2039	9	101,145.415		2.067	13,823.359	87,319.988402512	101,145.415		

Kentucky Power Company

Commercial Energy Model Output

Year	Month	Total	Actual	Heating	Cooling	Other	Total	Add Factor	Add Factor
2039	10	87,336.105		344.765	4,981.459	82,009.881487361	87,336.105		
2039	11	80,412.228		2,887.476	661.983	76,862.769543223	80,412.228		
2039	12	94,464.997		7,582.664	47.249	86,835.083245144	94,464.997		
2040	1	106,516.225		10,905.547	13.077	95,597.600924041	106,516.225		
2040	2	98,195.428		12,251.600	10.179	85,933.648614481	98,195.428		
2040	3	89,212.187		9,068.804	64.013	80,079.370358621	89,212.187		
2040	4	83,591.546		4,379.790	710.134	78,501.622244479	83,591.546		
2040	5	82,041.627		1,048.983	2,393.308	78,599.336194636	82,041.627		
2040	6	91,618.513		139.760	7,440.951	84,037.802116194	91,618.513		
2040	7	98,930.931		0.474	15,139.055	83,791.401411006	98,930.931		
2040	8	99,613.451		0.000	17,216.043	82,397.407289666	99,613.451		
2040	9	101,009.111		2.026	13,807.344	87,199.741472914	101,009.111		
2040	10	87,204.339		337.755	4,975.370	81,891.213712118	87,204.339		
2040	11	80,233.458		2,828.578	661.130	76,743.749565171	80,233.458		
2040	12	94,178.542		7,427.494	47.185	86,703.862246785	94,178.542		
2041	1	106,176.055		10,686.652	13.079	95,476.324151931	106,176.055		
2041	2	97,841.968		12,006.158	10.181	85,825.629483320	97,841.968		
2041	3	88,924.505		8,887.474	64.027	79,973.003963711	88,924.505		
2041	4	83,395.368		4,292.388	710.310	78,392.669809830	83,395.368		
2041	5	81,914.486		1,028.089	2,393.992	78,492.405438609	81,914.486		
2041	6	91,508.602		136.981	7,443.331	83,928.289685149	91,508.602		
2041	7	98,828.042		0.465	15,144.390	83,683.187025382	98,828.042		
2041	8	99,516.286		0.000	17,222.726	82,293.559434790	99,516.286		
2041	9	100,908.289		1.985	13,813.141	87,093.162766409	100,908.289		
2041	10	87,096.197		331.083	4,977.627	81,787.487309453	87,096.197		
2041	11	80,075.456		2,772.800	661.454	76,641.202417942	80,075.456		
2041	12	93,920.853		7,281.263	47.210	86,592.380036373	93,920.853		
2042	1	105,854.818		10,469.564	13.088	95,372.165865343	105,854.818		
2042	2	97,505.591		11,762.615	10.188	85,732.787160411	97,505.591		
2042	3	88,653.234		8,707.522	64.076	79,881.635465966	88,653.234		
2042	4	83,215.694		4,205.643	710.892	78,299.158624647	83,215.694		
2042	5	81,804.092		1,007.350	2,396.043	78,400.699322415	81,804.092		
2042	6	91,418.540		134.222	7,449.936	83,834.382527898	91,418.540		

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Total	Actual	Heating	Cooling	Other	Total	Add Factor	Add Factor
2042	7	98,749.406		0.455	15,158.401	83,590.549300512	98,749.406		
2042	8	99,444.029		0.000	17,239.286	82,204.742813740	99,444.029		
2042	9	100,831.028		1.946	13,826.925	87,002.157049302	100,831.028		
2042	10	87,006.319		324.462	4,982.788	81,699.068863167	87,006.319		
2042	11	79,933.707		2,717.483	662.171	76,554.053321442	79,933.707		
2042	12	93,681.454		7,136.303	47.263	86,497.888070280	93,681.454		
2043	1	105,571.524		10,266.829	13.100	95,291.595450011	105,571.524		
2043	2	97,205.642		11,534.840	10.197	85,660.604728149	97,205.642		
2043	3	88,413.122		8,538.887	64.133	79,810.102042753	88,413.122		
2043	4	83,061.079		4,124.179	711.516	78,225.383590480	83,061.079		
2043	5	81,713.776		987.833	2,398.136	78,327.807073947	81,713.776		
2043	6	91,347.463		131.622	7,456.461	83,759.380335273	91,347.463		
2043	7	98,688.017		0.447	15,171.594	83,515.977035413	98,688.017		
2043	8	99,386.957		0.000	17,254.228	82,132.728944050	99,386.957		
2043	9	100,768.730		1.908	13,838.921	86,927.900186034	100,768.730		
2043	10	86,931.623		318.173	4,987.092	81,626.358126327	86,931.623		
2043	11	79,809.221		2,664.793	662.739	76,481.688713576	79,809.221		
2043	12	93,463.908		6,997.892	47.303	86,418.712152980	93,463.908		
2044	1	105,303.293		10,071.137	13.134	95,219.022128175	105,303.293		
2044	2	96,921.020		11,315.076	10.223	85,595.720671247	96,921.020		
2044	3	88,186.487		8,376.256	64.299	79,745.932596845	88,186.487		
2044	4	82,918.526		4,045.686	713.362	78,159.477368115	82,918.526		
2044	5	81,636.376		969.044	2,404.388	78,262.943739308	81,636.376		
2044	6	91,297.849		129.120	7,475.971	83,692.758508458	91,297.849		
2044	7	98,661.838		0.438	15,211.433	83,449.967741624	98,661.838		
2044	8	99,369.050		0.000	17,299.789	82,069.261409767	99,369.050		
2044	9	100,740.268		1.872	13,875.690	86,862.706365153	100,740.268		
2044	10	86,875.360		312.141	5,000.415	81,562.804416337	86,875.360		
2044	11	79,697.610		2,614.319	664.521	76,418.769862539	79,697.610		
2044	12	93,263.169		6,865.467	47.431	86,350.269909613	93,263.169		
2045	1	105,061.680		9,889.433	13.160	95,159.086932457	105,061.680		
2045	2	96,662.723		11,110.732	10.243	85,541.747727452	96,662.723		
2045	3	87,981.545		8,224.869	64.424	79,692.252115430	87,981.545		

## Kentucky Power Company

## Commercial Energy Model Output

Year	Month	Total	Actual	Heating	Cooling	Other	Total	Add Factor	Add Factor
2045	4	82,791.010		3,972.476	714.740	78,103.794010927	82,791.010		
2045	5	81,568.154		951.490	2,408.987	78,207.676269607	81,568.154		
2045	6	91,252.508		126.779	7,490.143	83,635.585952419	91,252.508		
2045	7	98,633.365		0.430	15,240.013	83,392.921229685	98,633.365		
2045	8	99,345.714		0.000	17,331.875	82,013.839157665	99,345.714		
2045	9	100,708.126		1.838	13,901.108	86,805.180965208	100,708.126		
2045	10	86,822.018		306.454	5,009.446	81,506.118732290	86,822.018		
2045	11	79,594.343		2,566.622	665.704	76,362.017365630	79,594.343		
2045	12	93,075.385		6,740.040	47.515	86,287.830650435	93,075.385		
2046	1	104,829.869		9,712.186	13.208	95,104.475317850	104,829.869		
2046	2	96,414.060		10,911.332	10.281	85,492.446927764	96,414.060		
2046	3	87,784.516		8,076.978	64.659	79,642.879157155	87,784.516		
2046	4	82,670.653		3,900.922	717.324	78,052.407157381	82,670.653		
2046	5	81,508.356		934.320	2,417.613	78,156.422879898	81,508.356		
2046	6	91,223.596		124.487	7,516.748	83,582.360318826	91,223.596		
2046	7	98,633.771		0.422	15,293.725	83,339.623552343	98,633.771		
2046	8	99,354.433		0.000	17,392.463	81,961.969997757	99,354.433		
2046	9	100,702.194		1.804	13,949.236	86,751.153583976	100,702.194		
2046	10	86,780.373		300.880	5,026.654	81,452.839550570	86,780.373		
2046	11	79,496.351		2,519.855	667.968	76,308.527595699	79,496.351		
2046	12	92,893.609		6,617.037	47.675	86,228.896929868	92,893.609		
2047	1	104,603.751		9,535.544	13.246	95,054.961411529	104,603.751		
2047	2	96,171.395		10,712.927	10.310	85,448.157304788	96,171.395		
2047	3	87,594.247		7,930.207	64.843	79,599.196628532	87,594.247		
2047	4	82,557.000		3,830.074	719.374	78,007.551719124	82,557.000		
2047	5	81,454.252		917.363	2,424.551	78,112.338746788	81,454.252		
2047	6	91,197.697		122.229	7,538.374	83,537.094009545	91,197.697		
2047	7	98,633.041		0.415	15,337.837	83,294.789397053	98,633.041		
2047	8	99,361.755		0.000	17,442.850	81,918.905002448	99,361.755		
2047	9	100,698.606		1.772	13,989.856	86,706.977816536	100,698.606		
2047	10	86,746.607		295.435	5,041.355	81,409.817141930	86,746.607		
2047	11	79,410.167		2,474.286	669.930	76,265.950909239	79,410.167		
2047	12	92,727.865		6,497.457	47.816	86,182.592432764	92,727.865		

Kentucky Power Company

Commercial Energy Model Output

Year	Month	Total	Actual	Heating	Cooling	Other	Total	Add Factor	Add Factor
2048	1	104,394.445		9,363.868	13.276	95,017.300974538	104,394.445		
2048	2	95,944.409		10,519.893	10.334	85,414.181965191	95,944.409		
2048	3	87,417.425		7,787.171	64.991	79,565.262738135	87,417.425		
2048	4	82,454.225		3,760.924	721.000	77,972.300769360	82,454.225		
2048	5	81,408.204		900.792	2,430.011	78,077.400872244	81,408.204		
2048	6	91,176.260		120.020	7,555.274	83,500.966615093	91,176.260		
2048	7	98,631.261		0.407	15,372.084	83,258.769740138	98,631.261		
2048	8	99,365.610		0.000	17,481.619	81,883.991648318	99,365.610		
2048	9	100,693.309		1.740	14,020.785	86,670.784203030	100,693.309		
2048	10	86,716.714		290.083	5,052.432	81,374.199031613	86,716.714		
2048	11	79,331.273		2,429.442	671.397	76,230.433504729	79,331.273		
2048	12	92,571.188		6,379.638	47.920	86,143.629568296	92,571.188		
2049	1	104,179.040		9,175.235	13.324	94,990.480379109	104,179.040		
2049	2	95,709.838		10,308.508	10.372	85,390.958415608	95,709.838		
2049	3	87,239.395		7,631.098	65.232	79,543.065343437	87,239.395		
2049	4	82,359.656		3,685.730	723.712	77,950.213726558	82,359.656		
2049	5	81,378.419		882.823	2,439.265	78,056.330712990	81,378.419		
2049	6	91,181.989		117.631	7,584.379	83,479.978977671	91,181.989		
2049	7	98,670.914		0.399	15,431.933	83,238.581070300	98,670.914		
2049	8	99,415.661		0.000	17,550.464	81,865.197238027	99,415.661		
2049	9	100,730.397		1.705	14,076.607	86,652.084844440	100,730.397		
2049	10	86,713.804		284.359	5,072.792	81,356.652162289	86,713.804		
2049	11	79,269.363		2,381.604	674.130	76,213.627848449	79,269.363		
2049	12	92,428.310		6,254.264	48.117	86,125.930131125	92,428.310		
2050	1	103,992.053		8,996.011	13.389	94,982.653852912	103,992.053		
2050	2	95,501.656		10,107.202	10.422	85,384.031436250	95,501.656		
2050	3	87,084.081		7,482.159	65.549	79,536.373450507	87,084.081		
2050	4	82,284.647		3,613.851	727.232	77,943.563931637	82,284.647		
2050	5	81,366.645		865.613	2,451.149	78,049.883233281	81,366.645		
2050	6	91,210.314		115.339	7,621.426	83,473.548327277	91,210.314		
2050	7	98,740.248		0.391	15,507.485	83,232.371420031	98,740.248		
2050	8	99,496.037		0.000	17,636.625	81,859.411915133	99,496.037		
2050	9	100,793.825		1.672	14,145.865	86,646.287524415	100,793.825		



Kentucky Power Company

Commercial Energy Model Output

Year	Month	Total	Actual	Heating	Cooling	Other	Total	Add Factor	Add Factor
2050	10	86,727.822		278.833	5,097.815	81,351.174922233	86,727.822		
2050	11	79,221.260		2,335.356	677.467	76,208.437014700	79,221.260		
2050	12	92,301.799		6,132.911	48.356	86,120.531666219	92,301.799		
2051	1	103,805.075		8,831.469	13.441	94,960.165278158	103,805.075		
2051	2	95,296.865		9,922.407	10.463	85,363.994722548	95,296.865		
2051	3	86,927.908		7,345.429	65.808	79,516.671286155	86,927.908		
2051	4	82,201.253		3,547.824	730.110	77,923.318943954	82,201.253		
2051	5	81,340.754		849.807	2,460.875	78,030.072547008	81,340.754		
2051	6	91,218.155		113.233	7,651.700	83,453.221591560	91,218.155		
2051	7	98,782.055		0.384	15,569.283	83,212.387915624	98,782.055		
2051	8	99,547.189		0.000	17,706.989	81,840.199881735	99,547.189		
2051	9	100,830.713		1.642	14,202.442	86,626.629205213	100,830.713		
2051	10	86,724.081		273.752	5,118.249	81,332.079583055	86,724.081		
2051	11	79,162.550		2,292.819	680.187	76,189.544308709	79,162.550		
2051	12	92,169.946		6,021.285	48.550	86,100.110518902	92,169.946		
2052	1	103,625.115		8,670.787	13.496	94,940.832080293	103,625.115		
2052	2	95,099.291		9,741.967	10.505	85,346.817941219	95,099.291		
2052	3	86,777.613		7,211.861	66.074	79,499.677673617	86,777.613		
2052	4	82,122.414		3,483.352	733.072	77,905.989871729	82,122.414		
2052	5	81,318.330		834.370	2,470.877	78,013.082399556	81,318.330		
2052	6	91,229.961		111.178	7,682.883	83,435.900143997	91,229.961		
2052	7	98,828.503		0.377	15,632.835	83,195.290528659	98,828.503		
2052	8	99,603.364		0.000	17,779.480	81,823.884315276	99,603.364		
2052	9	100,872.293		1.612	14,260.725	86,609.956583983	100,872.293		
2052	10	86,723.972		268.792	5,139.293	81,315.887067900	86,723.972		
2052	11	79,107.922		2,251.302	682.991	76,173.629295027	79,107.922		
2052	12	92,043.831		5,912.281	48.751	86,082.798662130	92,043.831		
2053	1	103,449.993		8,513.182	13.550	94,923.260895768	103,449.993		
2053	2	94,906.758		9,564.985	10.548	85,331.225300601	94,906.758		
2053	3	86,631.454		7,080.855	66.342	79,484.257016033	86,631.454		
2053	4	82,046.461		3,420.116	736.060	77,890.285209505	82,046.461		
2053	5	81,297.899		819.230	2,480.968	77,997.701095136	81,297.899		
2053	6	91,243.746		109.161	7,714.345	83,420.239898364	91,243.746		

## Kentucky Power Company

## Commercial Energy Model Output

Year	Month	Total	Actual	Heating	Cooling	Other	Total	Add Factor	Add Factor
2053	7	98,877.178		0.370	15,696.959	83,179.847771603	98,877.178		
2053	8	99,661.797		0.000	17,852.628	81,809.169609051	99,661.797		
2053	9	100,916.062		1.583	14,319.540	86,594.939575021	100,916.062		
2053	10	86,725.778		263.927	5,160.531	81,301.319863138	86,725.778		
2053	11	79,055.741		2,210.583	685.822	76,159.335534886	79,055.741		
2053	12	91,921.596		5,805.377	48.953	86,067.265765251	91,921.596		
2054	1	103,279.689		8,358.609	13.605	94,907.474630813	103,279.689		
2054	2	94,719.233		9,391.408	10.591	85,317.234215485	94,719.233		
2054	3	86,489.410		6,952.370	66.613	79,470.426589649	86,489.410		
2054	4	81,973.394		3,358.097	739.076	77,876.220957408	81,973.394		
2054	5	81,279.474		804.381	2,491.152	77,983.941413692	81,279.474		
2054	6	91,259.532		107.184	7,746.097	83,406.251098864	91,259.532		
2054	7	98,928.110		0.364	15,761.679	83,166.067299422	98,928.110		
2054	8	99,722.518		0.000	17,926.457	81,796.060831581	99,722.518		
2054	9	100,962.041		1.554	14,378.906	86,581.580977105	100,962.041		
2054	10	86,729.502		259.156	5,181.968	81,288.377769874	86,729.502		
2054	11	79,005.987		2,170.648	688.680	76,146.659157691	79,005.987		
2054	12	91,803.192		5,700.531	49.157	86,053.503254621	91,803.192		
2055	1	103,114.135		8,207.009	13.661	94,893.464182847	103,114.135		
2055	2	94,536.640		9,221.169	10.635	85,304.836597484	94,536.640		
2055	3	86,351.424		6,826.358	66.887	79,458.178416193	86,351.424		
2055	4	81,903.179		3,297.271	742.119	77,863.788967869	81,903.179		
2055	5	81,263.043		789.817	2,501.431	77,971.795369244	81,263.043		
2055	6	91,277.314		105.245	7,778.144	83,393.925594656	91,277.314		
2055	7	98,981.300		0.357	15,827.002	83,153.941076255	98,981.300		
2055	8	99,785.527		0.000	18,000.976	81,784.550302958	99,785.527		
2055	9	101,010.227		1.526	14,438.828	86,569.872938641	101,010.227		
2055	10	86,735.137		254.477	5,203.607	81,277.053165848	86,735.137		
2055	11	78,958.638		2,131.481	691.564	76,135.592662953	78,958.638		
2055	12	91,688.568		5,597.702	49.364	86,041.502990598	91,688.568		
2056	1	102,953.261		8,058.322	13.717	94,881.220877352	102,953.261		
2056	2	94,358.904		9,054.201	10.678	85,294.024742812	94,358.904		
2056	3	86,217.437		6,702.770	67.163	79,447.504900304	86,217.437		

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Total	Actual	Heating	Cooling	Other	Total	Add Factor	Add Factor
2056	4	81,835.787		3,237.615	745.190	77,852.981488568	81,835.787		
2056	5	81,248.593		775.534	2,511.804	77,961.255367051	81,248.593		
2056	6	91,297.087		103.342	7,810.489	83,383.255638519	91,297.087		
2056	7	99,036.747		0.351	15,892.935	83,143.461468206	99,036.747		
2056	8	99,850.826		0.000	18,076.195	81,774.630731923	99,850.826		
2056	9	101,060.621		1.498	14,499.315	86,559.808009826	101,060.621		
2056	10	86,742.677		249.888	5,225.451	81,267.338823097	86,742.677		
2056	11	78,913.672		2,093.067	694.476	76,126.128942921	78,913.672		
2056	12	91,577.678		5,496.849	49.572	86,031.257264223	91,577.678		
2057	1	102,797.002		7,912.492	13.774	94,870.736464347	102,797.002		
2057	2	94,185.954		8,890.440	10.723	85,284.791329156	94,185.954		
2057	3	86,087.396		6,581.556	67.441	79,438.398826439	86,087.396		
2057	4	81,771.186		3,179.105	748.290	77,843.791159267	81,771.186		
2057	5	81,236.113		761.525	2,522.274	77,952.314200497	81,236.113		
2057	6	91,318.847		101.477	7,843.136	83,374.233883681	91,318.847		
2057	7	99,094.452		0.344	15,959.487	83,134.621240210	99,094.452		
2057	8	99,918.416		0.000	18,152.121	81,766.295212872	99,918.416		
2057	9	101,113.223		1.471	14,560.372	86,551.379139577	101,113.223		
2057	10	86,752.116		245.386	5,247.502	81,259.227904968	86,752.116		
2057	11	78,871.067		2,055.390	697.415	76,118.261279636	78,871.067		
2057	12	91,470.475		5,397.934	49.782	86,022.758794021	91,470.475		

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Add Factor	Heating	Cooling	Other	Total
2004	1	0	25553.8245	50.299	105,657.084280634	131261.208
2004	2	0	32935.00648	16.774	92,249.871101976	125201.652
2004	3	0	19130.71264	150.999	89,966.356162005	109248.068
2004	4	0	10577.2672	837.039	94,624.721020403	106039.027
2004	5	0	2612.984752	4,643.723	95,636.911330465	102893.619
2004	6	0	181.0252073	12,736.825	104,602.206175965	117520.056
2004	7	0	0	16,280.926	102,695.132411005	118976.058
2004	8	0	0	16,073.539	98,370.242463282	114443.781
2004	9	0	0	14,087.638	103,231.442486623	117319.08
2004	10	0	443.0619538	4,189.763	101,222.786138511	105855.611
2004	11	0	2855.08333	836.021	95,123.702605376	98814.807
2004	12	0	13159.68034	121.435	104,534.436281527	117815.552
2005	1	0	22107.9906	0.000	107,815.756403787	129923.747
2005	2	0	26537.12351	0.000	98,035.050489241	124572.174
2005	3	0	22645.1896	0.000	95,093.664399799	117738.854
2005	4	0	10518.41524	373.901	97,811.187070235	108703.503
2005	5	0	3036.193034	1,375.350	95,679.922624705	100091.466
2005	6	0	414.0413206	8,031.301	104,102.539199344	112547.882
2005	7	0	0	22,871.300	100,562.300003707	123433.6
2005	8	0	0	29,163.941	99,366.507995093	128530.449
2005	9	0	0	21,964.460	107,488.256048924	129452.716
2005	10	0	257.8499243	10,102.210	102,501.050777745	112861.111
2005	11	0	6502.679279	636.586	98,800.077443860	105939.343
2005	12	0	22078.72962	93.806	105,221.902781722	127394.438
2006	1	0	21422.94128	0.000	114,068.923717015	135491.865
2006	2	0	18197.86055	0.000	102,737.165449485	120935.026
2006	3	0	20604.01763	87.488	92,785.901501733	113477.407
2006	4	0	10689.55157	1,052.407	92,887.656316475	104629.615
2006	5	0	873.9657716	1,767.477	101,256.661761339	103898.105
2006	6	0	168.3234303	6,663.761	105,193.463488151	112025.548
2006	7	0	0	16,411.856	105,432.071357880	121843.927
2006	8	0	0	25,846.316	99,954.064457507	125800.38
2006	9	0	39.74434576	16,419.681	110,991.950854712	127451.376

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Add Factor	Heating	Cooling	Other	Total
2006	10	0	1645.398523	2,312.437	103,132.681808949	107090.517
2006	11	0	9048.709448	159.241	96,667.349713965	105875.3
2006	12	0	14243.4145	166.129	106,897.790751084	121307.334
2007	1	0	14861.6934	18.438	112,291.648371694	127171.78
2007	2	0	29864.90405	0.000	102,214.677945829	132079.582
2007	3	0	25146.94857	140.867	96,865.609536542	122153.425
2007	4	0	8687.767351	1,834.237	102,074.642452127	112596.647
2007	5	0	3277.297615	3,183.332	103,015.544184418	109476.174
2007	6	0	134.9254381	11,263.686	106,462.450749047	117861.062
2007	7	0	0	18,343.897	103,936.347149097	122280.244
2007	8	0	0	21,503.209	103,604.131850678	125107.341
2007	9	0	0	23,719.902	111,458.862671441	135178.765
2007	10	0	276.6014254	11,029.662	105,429.138951212	116735.402
2007	11	0	5406.30057	1,872.038	101,651.360121321	108929.699
2007	12	0	15381.50439	0.000	107,447.324609564	122828.829
2008	1	0	20272.43138	0.000	115,716.109622353	135988.541
2008	2	0	24744.38197	0.000	104,036.350030977	128780.732
2008	3	0	21159.64925	0.000	101,527.614754651	122687.264
2008	4	0	9539.216625	90.336	103,107.254041545	112736.807
2008	5	0	2117.430579	1,176.903	100,025.032886322	103319.366
2008	6	0	145.009782	6,987.469	107,806.207740520	114938.687
2008	7	0	0	14,518.913	108,310.442222062	122829.355
2008	8	0	0	17,549.686	107,313.873143670	124863.559
2008	9	0	0	16,274.372	110,867.360995057	127141.733
2008	10	0	348.3566787	6,312.628	104,760.481641587	111421.466
2008	11	0	6810.798046	406.186	99,068.466004684	106285.45
2008	12	0	22105.36097	0.000	109,347.796034105	131453.157
2009	1	0	23487.27958	0.000	117,120.321420313	140607.601
2009	2	0	28509.55708	0.000	106,930.606917023	135440.164
2009	3	0	18384.12051	255.906	99,304.066886627	117944.093
2009	4	0	7082.659905	194.055	100,745.238743385	108021.954
2009	5	0	1827.564993	3,711.737	100,050.658866329	105589.961
2009	6	0	176.9593403	7,462.421	106,963.456910391	114602.837

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Add Factor	Heating	Cooling	Other	Total
2009	7	0	0	12,851.954	106,539.240927443	119391.195
2009	8	0	0	13,232.752	105,407.254001930	118640.006
2009	9	0	0	12,634.682	109,572.100665092	122206.783
2009	10	0	1274.244884	4,520.552	105,021.271845651	110816.069
2009	11	0	5080.181319	186.200	97,005.622380234	102272.004
2009	12	0	13363.82944	12.038	108,717.546098393	122093.414
2010	1	0	26992.25715	0.000	118,318.301854685	145310.559
2010	2	0	26966.77976	0.000	103,465.992242709	130432.772
2010	3	0	22093.6305	0.000	103,613.603503207	125707.234
2010	4	0	5152.484771	1,494.617	103,240.084936634	109887.187
2010	5	0	1339.259959	2,348.093	99,642.636795940	103329.99
2010	6	0	217.1092096	11,447.188	109,201.410886231	120865.708
2010	7	0	0	20,598.084	108,109.523997347	128707.608
2010	8	0	0	24,003.910	106,357.750591066	130361.661
2010	9	0	0	16,943.828	110,104.505927366	127048.334
2010	10	0	425.0465491	6,345.516	102,581.738317225	109352.301
2010	11	0	4521.627954	610.248	96,396.728710569	101528.605
2010	12	0	18341.90153	0.000	108,047.856468248	126389.758
2011	1	0	28506.73776	0.000	120,968.223238131	149474.961
2011	2	0	25960.85551	0.000	101,918.199487876	127879.055
2011	3	0	13464.95952	96.625	99,531.198874817	113092.783
2011	4	0	8630.907851	928.865	96,254.576314322	105814.349
2011	5	0	1668.78638	2,781.843	99,851.119536269	104301.749
2011	6	0	535.7623032	10,384.999	102,869.632486597	113790.394
2011	7	0	0	16,212.067	104,493.481760057	120705.549
2011	8	0	0	23,984.331	102,732.215927265	126716.547
2011	9	0	5,918885085	14,321.800	107,207.490912040	121535.21
2011	10	0	1041.693011	2,552.279	101,199.476795133	104793.449
2011	11	0	5208.864589	59.038	96,007.636277832	101275.539
2011	12	0	9504.498185	88.497	107,722.029835833	117315.025
2012	1	0	16066.51881	0.000	111,203.735191919	127270.254
2012	2	0	16735.59355	0.000	101,726.899451430	118462.493
2012	3	0	12004.39634	531.020	95,577.543427650	108112.96

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Add Factor	Heating	Cooling	Other	Total
2012	4	0	2528.080669	2,214.321	94,863.120645237	99605.522
2012	5	0	1717.39392	3,223.506	96,891.103825291	101832.004
2012	6	0	8.708404223	9,550.382	101,311.076264351	110870.167
2012	7	0	0	21,403.134	101,316.935757606	122720.07
2012	8	0	0	21,068.978	97,302.541894390	118371.52
2012	9	0	20.94603878	14,859.695	105,224.636868749	120105.278
2012	10	0	1392.401359	3,576.137	97,137.464855553	102106.003
2012	11	0	7242.864149	459.991	93,467.343119675	101170.198
2012	12	0	11839.32082	0.000	105,054.722182235	116894.043
2013	1	0	17908.01638	0.000	109,236.084621688	127144.101
2013	2	0	20987.88027	0.000	100,032.199728887	121020.08
2013	3	0	18143.29149	0.000	98,977.831512026	117121.123
2013	4	0	11858.45116	1,053.414	97,423.149092765	110335.014
2013	5	0	1439.664559	2,837.696	93,906.716104128	98184.077
2013	6	0	251.5057879	10,391.824	97,765.398002620	108408.728
2013	7	0	0	18,101.754	96,605.870216318	114707.624
2013	8	0	0	16,900.218	98,209.049903800	115109.268
2013	9	0	0	14,589.225	101,622.592348172	116211.817
2013	10	0	348.6480734	5,774.119	98,744.312357659	104867.079
2013	11	0	5851.76587	831.338	93,066.735306854	99749.839
2013	12	0	15802.52643	24.691	106,465.901547863	122293.119
2014	1	0	20176.28571	47.072	118,500.280775609	138723.638
2014	2	0	26751.86571	0.000	105,998.706286003	132750.572
2014	3	0	19053.94845	0.000	99,713.828548287	118767.777
2014	4	0	9288.062153	369.171	93,222.407347995	102879.641
2014	5	0	1136.441852	1,987.740	98,107.165957087	101231.348
2014	6	0	313.1294724	7,657.935	100,923.974471514	108895.039
2014	7	0	0	16,157.483	100,024.839504727	116182.323
2014	8	0	0	11,436.614	99,171.284267526	110607.898
2014	9	0	0	13,246.409	103,722.279286619	116968.688
2014	10	0	563.2529901	3,351.685	96,398.207809475	100313.146
2014	11	0	6305.625072	313.153	91,823.876327523	98442.654
2014	12	0	15128.72155	0.952	104,713.544942150	119843.218

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Add Factor	Heating	Cooling	Other	Total
2015	1	0	17940.79118	0.000	112,195.192815626	130135.984
2015	2	0	22425.88454	0.000	103,752.242460613	126178.127
2015	3	0	23549.66383	0.000	102,058.431170711	125608.095
2015	4	0	6648.166942	272.197	95,125.042980563	102045.407
2015	5	0	1640.524169	2,975.819	92,603.473357557	97219.817
2015	6	0	55.87210671	10,939.444	98,169.638671248	109164.955
2015	7	0	0	15,575.258	99,163.785075716	114739.043
2015	8	0	0	16,521.668	97,107.815129096	113629.483
2015	9	0	0	12,593.540	101,941.220102158	114534.76
2015	10	0	547.7260686	3,984.753	97,614.789654551	102147.269
2015	11	0	3159.232654	274.876	89,912.258017728	93346.367
2015	12	0	7795.616819	57.032	99,257.879023343	107110.528
2016	1	0	12532.33463	0.000	106,821.318370319	119353.653
2016	2	0	20879.58899	0.000	99,279.186013115	120158.775
2016	3	0	11734.06539	70.438	96,341.231810815	108145.735
2016	4	0	4195.056485	521.516	92,411.668281700	97128.241
2016	5	0	1395.489877	2,752.353	88,783.021984690	92930.865
2016	6	0	325.3851174	9,284.971	94,718.704487407	104329.061
2016	7	0	0	17,226.251	96,462.945623561	113689.197
2016	8	0	0	23,027.476	94,998.549792932	118026.026
2016	9	0	0	21,172.264	101,020.202819475	122192.467
2016	10	0	53.94229453	10,134.227	93,771.696239938	103959.866
2016	11	0	1780.075382	2,441.109	87,942.638848595	92163.823
2016	12	0	10434.21905	100.613	99,109.406980522	109644.239
2017	1	0	13741.45582	0.000	104,990.103179164	118731.559
2017	2	0	11444.59297	0.000	93,605.707025589	105050.3
2017	3	0	8980.346407	32.996	89,691.749333972	98705.092
2017	4	0	5552.64831	779.468	87,494.411212488	93826.528
2017	5	0	757.6500098	4,117.789	86,435.214382433	91310.653
2017	6	0	182.6905747	7,748.771	91,851.140588073	99782.602
2017	7	0	0	15,496.075	94,052.777460765	109548.852
2017	8	0	0	16,554.933	93,204.505212694	109759.438
2017	9	0	0	9,864.590	97,116.130447896	106980.72



Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Add Factor	Heating	Cooling	Other	Total
2017	10	0	99,667,26994	7,275.150	91,370.973001181	98745.79
2017	11	0	4042.781571	1,324.372	87,715.982804839	93083.136
2017	12	0	10879.0884	49.552	97,186.723989943	108115.364
2018	1	0	21439.35096	102.434	110,408.521898226	131950.307
2018	2	0	17381.03119	172.840	98,049.056255135	115602.927
2018	3	0	9683.81563	347.377	88,335.346328216	98366.539
2018	4	0	9310.187319	400.532	90,126.360166884	99837.079
2018	5	0	2285.155823	4,351.546	85,239.337390888	91876.039
2018	6	0	30,788,67401	14,650.929	94,644.840661760	109326.558
2018	7	0	0	19,535.726	92,511.081552635	112046.808
2018	8	0	0	17,837.493	90,266.631724383	108104.125
2018	9	0	0	18,066.389	94,947.832708027	113014.222
2018	10	0	579.686872	11,314.064	90,477.035986004	102370.787
2018	11	0	5611.967415	1,652.727	84,895.738399371	92160.433
2018	12	0	12925.01906	9.126	95,245.328615292	108179.474
2019	1	0	13034.36576	0.000	101,256.157244576	114290.523
2019	2	0	16204.77746	0.000	94,768.886539998	110973.664
2019	3	0	12724.57682	47.223	87,514.682977185	100286.483
2019	4	0	6420.683723	554.068	84,428.157883825	91402.91
2019	5	0	580.101845	3,520.495	89,067.429313205	93168.026
2019	6	0	8,921,541,149	9,776.795	90,674.780042560	100460.497
2019	7	0	0	16,980.015	91,366.640229170	108346.655
2019	8	0	0	19,735.544	90,956.810102372	110692.354
2019	9	0	0	16,531.734	96,049.815151727	112581.549
2019	10	0	214,655,2343	13,004.716	88,301.593588332	101520.965
2019	11	0	4952.779662	1,093.885	82,965.534860369	89012.2
2019	12	0	11967.67387	0.000	95,750.811132106	107718.485
2020	1	0	10591.39622	101.618	100,686.770091943	111379.784
2020	2	0	13065.99357	101.632	87,378.092288558	100545.718
2020	3	0	10862.41859	7.264	87,769.692845924	98639.375
2020	4	0	3939.16221	987.686	78,257.711445975	83184.56
2020	5	0	3080.649895	1,218.787	72,600.621607127	76900.059
2020	6	0	832.3902373	9,217.149	78,225.072688228	88274.612

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Add Factor	Heating	Cooling	Other	Total
2020	7	0	0	17,406.018	83,328.005580928	100734.024
2020	8	0	0	22,100.916	83,597.137029208	105698.053
2020	9	0	0	16,017.574	86,392.324117120	102409.898
2020	10	0	366.1362811	3,849.984	83,687.836085232	87903.956
2020	11	0	2523.213587	671.860	78,385.461654388	81580.535
2020	12	0	9367.320068	63.702	87,215.733519685	96646.756
2021	1	0	15359.41117	0.000	96,663.315831753	112022.727
2021	2	0	18707.44522	0.000	84,649.177781883	103356.623
2021	3	0	14570.42479	16.259	87,553.972723773	102140.657
2021	4	0	3958.709968	424.005	82,896.989954330	87279.705
2021	5	0	2024.905017	1,644.907	78,462.159370126	82131.971
2021	6	0	258.0535889	7,896.231	82,894.247435811	91048.532
2021	7	0	9.20290303	15,411.112	86,709.907704307	102130.223
2021	8	0	0	17,668.056	85,167.857016524	102835.913
2021	9	0	0	16,976.872	88,378.133223575	105355.005
2021	10	0	39,464,20742	7,255.641	85,611.798056089	92906.903
2021	11	0	3275.907186	1,798.659	80,249.666749683	85324.233
2021	12	0	9260.858073	0.000	91,850.102926865	101110.961
2022	1	0	10758.2103	0.000	98,457.217795025	109215.4281
2022	2	0	17176.05468	10.555	88,510.164497603	105696.7742
2022	3	0	12724.04235	66.432	82,645.876512074	95436.3508
2022	4	0	6150.093438	737.565	81,161.649043603	88049.30796
2022	5	0	1474.133951	2,487.705	81,239.556606824	85201.39519
2022	6	0	196.6655534	7,744.698	86,781.288539685	94722.65222
2022	7	0	0.668209233	15,777.266	86,540.339651221	102318.2741
2022	8	0	0	17,954.781	85,063.204419529	103017.9856
2022	9	0	2.858047797	14,410.256	89,962.756496322	104375.8707
2022	10	0	476.9413437	5,196.621	84,608.686563670	90282.2492
2022	11	0	3997.536587	691.104	79,460.493125383	84149.13368
2022	12	0	10526.92392	49.465	89,730.139899306	100306.5288
2023	1	4106.25	15168.75328	13.607	102,573.049456197	117755.4094
2023	2	4106.25	17051.49697	10.597	92,621.638032115	109683.7323
2023	3	4106.25	12629.66538	66.687	86,754.233747304	99450.58614

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Add Factor	Heating	Cooling	Other	Total
2023	4	4106.25	6103.622288	740.294	85,267.411868703	92111.32799
2023	5	4106.25	1462.785754	2,496.550	85,342.639107253	89301.97449
2023	6	4106.25	195.0007666	7,766.228	90,869.324931967	98830.55358
2023	7	4106.25	0.662040759	15,808.899	90,613.628215053	106423.1892
2023	8	4106.25	0	17,987.991	89,134.753294934	107122.744
2023	9	4106.25	2.830721695	14,434.342	94,029.792376807	108466.9654
2023	10	4106.25	472.2821028	5,204.215	88,672.613028131	94349.10978
2023	11	4106.25	3957.430807	691.930	83,519.678156856	88169.03852
2023	12	4106.25	10396.91515	49.408	93,737.055584903	104183.3789
2024	1	41062.5	14959.94191	13.591	139,437.200812888	154410.7335
2024	2	41062.5	16813.19699	10.583	129,491.402271982	146315.182
2024	3	41062.5	12450.48564	66.581	123,620.829074852	136137.8956
2024	4	41062.5	6015.566266	738.936	122,126.621645623	128881.1235
2024	5	41062.5	1441.367363	2,491.425	122,198.966506297	126131.7584
2024	6	41062.5	192.1117805	7,748.924	127,719.280659166	135660.3162
2024	7	41062.5	0.652141799	15,771.482	127,461.619599870	143233.7539
2024	8	41062.5	0	17,942.571	125,983.564628352	143926.1353
2024	9	41062.5	2.787558562	14,395.853	130,872.487030027	145271.1276
2024	10	41062.5	465.0162766	5,189.619	125,515.132155584	131169.7671
2024	11	41062.5	3896.090227	689.908	120,360.639379164	124946.6375
2024	12	41062.5	10234.87715	49.260	130,565.534370234	140849.6711
2025	1	41062.5	14693.93638	13.518	139,310.137259082	154017.5917
2025	2	41062.5	16510.32597	10.524	129,373.172124072	145894.0217
2025	3	41062.5	12223.30662	66.193	123,499.362579188	135788.8623
2025	4	41062.5	5904.317002	734.447	121,996.682763859	128635.4466
2025	5	41062.5	1414.357005	2,475.670	122,066.015428772	125956.0424
2025	6	41062.5	188.4698115	7,698.211	127,578.125621255	135464.8068
2025	7	41062.5	0.639636629	15,664.785	127,317.188808288	142982.6136
2025	8	41062.5	0	17,816.550	125,839.391767379	143655.9419
2025	9	41062.5	2.732685724	14,291.037	130,718.855578706	145012.625
2025	10	41062.5	455.7359566	5,150.403	125,359.648852068	130965.788
2025	11	41062.5	3817.195309	684.490	120,200.532330133	124702.2177
2025	12	41062.5	10024.82243	48.859	130,384.934658689	140458.6162

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Add Factor	Heating	Cooling	Other	Total
2026	1	41062.5	14393.30549	13.452	139,086.868619503	153493.6265
2026	2	41062.5	16171.6116	10.472	129,172.093337567	145354.1768
2026	3	41062.5	11971.79039	65.864	123,299.039684622	135336.694
2026	4	41062.5	5782.433422	730.745	121,788.971679275	128302.1504
2026	5	41062.5	1385.074978	2,463.041	121,859.834443980	125707.9507
2026	6	41062.5	184.5568111	7,658.484	127,364.721500226	135207.7623
2026	7	41062.5	0.626318367	15,582.996	127,104.105136860	142687.7276
2026	8	41062.5	0	17,722.590	125,632.807065788	143355.3973
2026	9	41062.5	2.67549822	14,214.887	130,504.755741219	144722.3183
2026	10	41062.5	446.175266	5,122.691	125,149.209135193	130718.075
2026	11	41062.5	3736.950252	680.777	119,990.513623166	124408.2407
2026	12	41062.5	9813.632294	48.592	130,154.541082889	140016.7652
2027	1	41062.5	14098.77737	13.375	138,879.508790356	152991.6609
2027	2	41062.5	15840.07381	10.411	128,985.609748435	144836.0946
2027	3	41062.5	11725.8946	65.478	123,113.618688628	134904.9917
2027	4	41062.5	5663.456946	726.442	121,597.215816536	127987.1149
2027	5	41062.5	1356.52461	2,448.444	121,669.852472244	125474.8206
2027	6	41062.5	180.7463623	7,612.833	127,168.493846489	134962.0734
2027	7	41062.5	0.613372437	15,489.739	126,908.790629448	142399.1426
2027	8	41062.5	0	17,615.954	125,443.751212015	143059.7047
2027	9	41062.5	2.620049753	14,129.029	130,309.344666709	144440.9933
2027	10	41062.5	436.918286	5,091.630	124,957.600682193	130486.1494
2027	11	41062.5	3659.309361	676.629	119,799.495506567	124135.4339
2027	12	41062.5	9609.536114	48.295	129,945.410549142	139603.2414
2028	1	41062.5	13816.95324	13.326	138,670.756115760	152501.0349
2028	2	41062.5	15522.03383	10.372	128,796.974223960	144329.3798
2028	3	41062.5	11489.43262	65.226	122,925.194706981	134479.853
2028	4	41062.5	5548.730019	723.570	121,401.346249451	127673.6463
2028	5	41062.5	1328.923248	2,438.540	121,474.865985003	125242.3291
2028	6	41062.5	177.0550636	7,581.457	126,966.339781790	134724.8513
2028	7	41062.5	0.600800945	15,424.745	126,706.668802649	142132.0144
2028	8	41062.5	0	17,540.633	125,247.299320699	142787.9327
2028	9	41062.5	2.56594057	14,067.499	130,105.287963580	144175.3533

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Add Factor	Heating	Cooling	Other	Total
2028	10	41062.5	427.8589549	5,069.030	124,756.453146635	130253.3417
2028	11	41062.5	3583.127717	673.568	119,598.012332741	123854.7079
2028	12	41062.5	9408.776019	48.073	129,723.815079791	139180.6637
2029	1	41062.5	13520.59316	13.291	138,456.760096002	151990.6441
2029	2	41062.5	15190.53751	10.346	128,606.941057616	143807.8243
2029	3	41062.5	11245.12331	65.068	122,738.633309051	134048.8249
2029	4	41062.5	5431.284173	721.896	121,210.906721843	127364.0867
2029	5	41062.5	1300.925501	2,433.142	121,288.682040459	125022.7493
2029	6	41062.5	173.3399401	7,565.331	126,776.273714945	134514.9451
2029	7	41062.5	0.588243639	15,393.226	126,519.453991379	141913.2681
2029	8	41062.5	0	17,506.411	125,068.284722572	142574.696
2029	9	41062.5	2.512764992	14,041.296	129,922.278970845	143966.0882
2029	10	41062.5	419.0316728	5,060.065	124,579.085829205	130058.1822
2029	11	41062.5	3509.531555	672.439	119,423.350101680	123605.3212
2029	12	41062.5	9216.313595	47.996	129,534.634715218	138798.9445
2030	1	41062.5	13236.43034	13.275	138,207.473070882	151457.1786
2030	2	41062.5	14867.09893	10.331	128,378.718214309	143256.1478
2030	3	41062.5	11002.4894	64.955	122,507.561670794	133575.0056
2030	4	41062.5	5312.455734	720.412	120,967.313987633	127000.1817
2030	5	41062.5	1272.071	2,427.392	121,042.830462079	124742.2937
2030	6	41062.5	169.4512504	7,545.495	126,518.494294633	134233.4403
2030	7	41062.5	0.574899792	15,348.933	126,258.877298038	141608.3848
2030	8	41062.5	0	17,451.104	124,811.962023352	142263.0657
2030	9	41062.5	2.454393604	13,993.075	129,653.013594813	143648.5433
2030	10	41062.5	409.1815674	5,041.258	124,310.709218213	129761.1486
2030	11	41062.5	3426.021631	669.742	119,151.444424835	123247.2084
2030	12	41062.5	8994.586011	47.791	129,232.447194254	138274.8241
2031	1	41062.5	12963.18803	13.183	137,931.108736969	150907.4802
2031	2	41062.5	14563.74186	10.262	128,135.372888129	142709.3765
2031	3	41062.5	10780.67844	64.537	122,270.832134633	133116.0479
2031	4	41062.5	5206.743993	715.976	120,728.104734892	126650.8247
2031	5	41062.5	1247.088599	2,413.085	120,811.353913517	124471.527
2031	6	41062.5	166.1616285	7,502.747	126,284.351816713	133953.2603

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Add Factor	Heating	Cooling	Other	Total
2031	7	41062.5	0.563868094	15,265.469	126,030.458786560	141296.4919
2031	8	41062.5	0	17,360.508	124,595.832450225	141956.3404
2031	9	41062.5	2.408485398	13,923.858	129,434.498141947	143360.7647
2031	10	41062.5	401.6282224	5,017.573	124,101.270849724	129520.4718
2031	11	41062.5	3363.66787	666.772	118,947.820911509	122978.2609
2031	12	41062.5	8832.989119	47.590	129,014.470677250	137895.05
2032	1	41062.5	12731.15213	13.149	137,730.735145691	150475.0367
2032	2	41062.5	14303.18849	10.235	127,956.022972773	142269.4468
2032	3	41062.5	10587.88438	64.372	122,093.313665751	132745.5699
2032	4	41062.5	5113.692526	714.149	120,545.390381576	126373.2317
2032	5	41062.5	1224.813065	2,406.949	120,631.164242178	124262.9265
2032	6	41062.5	163.1946694	7,483.718	126,098.966720699	133745.8792
2032	7	41062.5	0.553800174	15,226.764	125,846.376366655	141073.6938
2032	8	41062.5	0	17,316.661	124,418.375041034	141735.0362
2032	9	41062.5	2.365512222	13,888.734	129,251.538213753	143142.6373
2032	10	41062.5	394.4631384	5,004.927	123,922.314596809	129321.7049
2032	11	41062.5	3303.662778	665.092	118,769.939664002	122738.6947
2032	12	41062.5	8675.446742	47.471	128,820.182094010	137543.0993
2033	1	41062.5	12497.83777	13.104	137,543.961690392	150054.9035
2033	2	41062.5	14041.49319	10.200	127,789.211865695	141840.9054
2033	3	41062.5	10394.55774	64.154	121,928.717536971	132387.4294
2033	4	41062.5	5020.462627	711.753	120,376.264802309	126108.4809
2033	5	41062.5	1202.522965	2,398.956	120,464.787082979	124066.2659
2033	6	41062.5	160.2293039	7,459.078	125,928.187267092	133547.4945
2033	7	41062.5	0.543752081	15,177.045	125,677.257286958	140854.8459
2033	8	41062.5	0	17,260.659	124,255.711121336	141516.37
2033	9	41062.5	2.322718942	13,844.137	129,084.178676666	142930.6381
2033	10	41062.5	387.3391177	4,989.011	123,759.102930828	129135.4531
2033	11	41062.5	3244.096994	662.997	118,608.202793269	122515.2971
2033	12	41062.5	8519.267985	47.322	128,643.985396649	137210.5757
2034	1	41062.5	12262.61346	13.082	137,380.092862265	149655.7886
2034	2	41062.5	13777.96151	10.184	127,643.304878922	141431.4504
2034	3	41062.5	10200.00287	64.054	121,785.051793986	132049.1092

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Add Factor	Heating	Cooling	Other	Total
2034	4	41062.5	4926.798753	710.692	120,229.266964244	125866.7573
2034	5	41062.5	1180.152955	2,395.508	120,320.605190874	123896.2662
2034	6	41062.5	157.2565749	7,448.734	125,780.627942104	133386.6187
2034	7	41062.5	0.533690377	15,156.751	125,531.572536821	140688.8573
2034	8	41062.5	0	17,238.431	124,115.950386727	141354.3811
2034	9	41062.5	2.279981078	13,827.094	128,941.009612985	142770.3838
2034	10	41062.5	380.2327358	4,983.140	123,619.937661008	128983.3102
2034	11	41062.5	3184.769464	662.257	118,470.852813315	122317.879
2034	12	41062.5	8363.902553	47.272	128,494.852214444	136906.0267
2035	1	41062.5	12034.57612	13.074	137,243.722287083	149291.3728
2035	2	41062.5	13521.68203	10.178	127,521.048275077	141052.9081
2035	3	41062.5	10010.23068	64.015	121,663.873263729	131738.119
2035	4	41062.5	4835.108481	710.250	120,104.291850174	125649.6506
2035	5	41062.5	1158.185741	2,394.012	120,197.177151066	123749.3753
2035	6	41062.5	154.3278404	7,444.007	125,653.378757195	133251.7139
2035	7	41062.5	0.523747757	15,147.040	125,405.093909109	140552.6576
2035	8	41062.5	0	17,227.186	123,993.707680343	141220.8939
2035	9	41062.5	2.237460399	13,817.959	128,814.786646684	142634.9826
2035	10	41062.5	373.1377542	4,979.797	123,496.269221620	128849.2036
2035	11	41062.5	3125.296392	661.803	118,347.659186817	122134.7582
2035	12	41062.5	8207.620388	47.239	128,360.034685602	136614.894
2036	1	41062.5	11807.67004	13.074	137,119.098217755	148939.8422
2036	2	41062.5	13266.46494	10.177	127,409.055649421	140685.6978
2036	3	41062.5	9821.142571	64.011	121,552.690499780	131437.8439
2036	4	41062.5	4743.691689	710.191	119,989.414455901	125443.2968
2036	5	41062.5	1136.268438	2,393.770	120,083.488629350	123613.527
2036	6	41062.5	151.406499	7,443.211	125,536.235957817	133130.8532
2036	7	41062.5	0.513825779	15,145.192	125,288.503088288	140434.2086
2036	8	41062.5	0	17,225.007	123,881.125813550	141106.1331
2036	9	41062.5	2.195039581	13,816.059	128,698.486203620	142516.74
2036	10	41062.5	366.0603359	4,979.072	123,382.345968097	128727.4779
2036	11	41062.5	3065.995513	661.701	118,234.281900524	121961.9788
2036	12	41062.5	8051.846571	47.232	128,236.063217956	136335.1413

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Add Factor	Heating	Cooling	Other	Total
2037	1	41062.5	11579.45912	13.081	137,002.218866534	148594.7587
2037	2	41062.5	13010.05998	10.183	127,304.341886692	140324.5844
2037	3	41062.5	9631.229683	64.043	121,448.803140307	131144.0762
2037	4	41062.5	4651.931442	710.547	119,882.244237276	125244.7229
2037	5	41062.5	1114.280561	2,394.954	119,977.573412296	123486.8081
2037	6	41062.5	148.4742303	7,446.772	125,426.919677523	133022.1658
2037	7	41062.5	0.503870813	15,152.324	125,179.814874385	140332.643
2037	8	41062.5	0	17,232.806	123,775.947732210	141008.7533
2037	9	41062.5	2.152443604	13,822.123	128,589.778034875	142414.0539
2037	10	41062.5	358.9501008	4,981.165	123,275.683114828	128615.7985
2037	11	41062.5	3006.39746	661.970	118,127.998641405	121796.3658
2037	12	41062.5	7895.179899	47.250	128,119.587834662	136062.0175
2038	1	41062.5	11349.71053	13.077	136,890.748819165	148253.5359
2038	2	41062.5	12751.44882	10.179	127,203.865735003	139965.4934
2038	3	41062.5	9439.485072	64.018	121,348.771051197	130852.2744
2038	4	41062.5	4559.153179	710.243	119,778.559976571	125047.9561
2038	5	41062.5	1092.020623	2,393.848	119,874.673685737	123360.5425
2038	6	41062.5	145.5042615	7,443.133	125,320.532767302	132909.1704
2038	7	41062.5	0.493777785	15,144.492	125,073.689907686	140218.676
2038	8	41062.5	0	17,223.447	123,673.117686492	140896.5642
2038	9	41062.5	2.109223629	13,814.295	128,483.336374828	142299.7408
2038	10	41062.5	351.7351879	4,978.240	123,171.200882828	128501.1758
2038	11	41062.5	2945.909378	661.568	118,023.803484763	121631.2804
2038	12	41062.5	7736.163684	47.220	128,005.356729226	135788.7405
2039	1	41062.5	11125.41297	13.086	136,781.778198033	147920.2769
2039	2	41062.5	12499.43705	10.186	127,106.224349156	139615.8474
2039	3	41062.5	9252.879967	64.063	121,251.971175652	130568.914
2039	4	41062.5	4468.998279	710.733	119,678.708868196	124858.4406
2039	5	41062.5	1070.422482	2,395.492	119,776.049570250	123241.9644
2039	6	41062.5	142.6252318	7,448.182	125,218.858150016	132809.665
2039	7	41062.5	0.484004948	15,154.680	124,972.628580664	140127.7929
2039	8	41062.5	0	17,234.873	123,575.449952371	140810.3225
2039	9	41062.5	2.067443676	13,823.359	128,382.488402512	142207.9151



Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Add Factor	Heating	Cooling	Other	Total
2039	10	41062.5	344.7646753	4,981.459	123,072.381487361	128398.6051
2039	11	41062.5	2887.475597	661.983	117,925.269543223	121474.7283
2039	12	41062.5	7582.664313	47.249	127,897.583245143	135527.497
2040	1	41062.5	10905.54669	13.077	136,660.100924041	147578.7249
2040	2	41062.5	12251.60024	10.179	126,996.148614481	139257.9277
2040	3	41062.5	9068.803737	64.013	121,141.870358621	130274.6874
2040	4	41062.5	4379.789711	710.134	119,564.122244479	124654.0458
2040	5	41062.5	1048.983229	2,393.308	119,661.836194636	123104.127
2040	6	41062.5	139.7603957	7,440.951	125,100.302116194	132681.0132
2040	7	41062.5	0.474254418	15,139.055	124,853.901411006	139993.4309
2040	8	41062.5	0	17,216.043	123,459.907289666	140675.9508
2040	9	41062.5	2.025535402	13,807.344	128,262.241472913	142071.6114
2040	10	41062.5	337.7545591	4,975.370	122,953.713712118	128266.8387
2040	11	41062.5	2828.57774	661.130	117,806.249565171	121295.9578
2040	12	41062.5	7427.494226	47.185	127,766.362246785	135241.0418
2041	1	41062.5	10686.65158	13.079	136,538.824151931	147238.5547
2041	2	41062.5	12006.15812	10.181	126,888.129483320	138904.4681
2041	3	41062.5	8887.474223	64.027	121,035.503963711	129987.0047
2041	4	41062.5	4292.388128	710.310	119,455.169809830	124457.8678
2041	5	41062.5	1028.089151	2,393.992	119,554.905438609	122976.9862
2041	6	41062.5	136.9812628	7,443.331	124,990.789685149	132571.102
2041	7	41062.5	0.464838966	15,144.390	124,745.687025382	139890.5418
2041	8	41062.5	0	17,222.726	123,356.059434790	140578.7858
2041	9	41062.5	1.985455929	13,813.141	128,155.662766409	141970.7891
2041	10	41062.5	331.0825655	4,977.627	122,849.987309453	128158.6973
2041	11	41062.5	2772.800059	661.454	117,703.702417942	121137.9562
2041	12	41062.5	7281.262882	47.210	127,654.880036373	134983.3529
2042	1	41062.5	10469.56413	13.088	136,434.665865343	146917.3183
2042	2	41062.5	11762.61528	10.188	126,795.287160411	138568.0905
2042	3	41062.5	8707.52156	64.076	120,944.135465966	129715.7335
2042	4	41062.5	4205.643158	710.892	119,361.658624647	124278.1937
2042	5	41062.5	1007.350163	2,396.043	119,463.199322415	122866.5925
2042	6	41062.5	134.2221088	7,449.936	124,896.882527897	132481.0405

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Add Factor	Heating	Cooling	Other	Total
2042	7	41062.5	0.455493125	15,158.401	124,653.049300512	139811.9056
2042	8	41062.5	0	17,239.286	123,267.242813740	140506.5286
2042	9	41062.5	1.945678716	13,826.925	128,064.657049302	141893.5282
2042	10	41062.5	324.4621415	4,982.788	122,761.568863167	128068.819
2042	11	41062.5	2717.482694	662.171	117,616.553321442	120996.2068
2042	12	41062.5	7136.302664	47.263	127,560.388070280	134743.9539
2043	1	41062.5	10266.82854	13.100	136,354.095450011	146634.0239
2043	2	41062.5	11534.84038	10.197	126,723.104728149	138268.1422
2043	3	41062.5	8538.887143	64.133	120,872.602042753	129475.6222
2043	4	41062.5	4124.179107	711.516	119,287.883590480	124123.5786
2043	5	41062.5	987.8333541	2,398.136	119,390.307073947	122776.2764
2043	6	41062.5	131.6219438	7,456.461	124,821.880335273	132409.9633
2043	7	41062.5	0.446666792	15,171.594	124,578.477035413	139750.5174
2043	8	41062.5	0	17,254.228	123,195.228944050	140449.4571
2043	9	41062.5	1.907971013	13,838.921	127,990.400186034	141831.2295
2043	10	41062.5	318.1727725	4,987.092	122,688.858126327	127994.1227
2043	11	41062.5	2664.793128	662.739	117,544.188713576	120871.7211
2043	12	41062.5	6997.892205	47.303	127,481.212152980	134526.4078
2044	1	41062.5	10071.13712	13.134	136,281.522128175	146365.7928
2044	2	41062.5	11315.0763	10.223	126,658.220671247	137983.5203
2044	3	41062.5	8376.256207	64.299	120,808.432596845	129248.9873
2044	4	41062.5	4045.686002	713.362	119,221.977368115	123981.0256
2044	5	41062.5	969.0443329	2,404.388	119,325.443739308	122698.8762
2044	6	41062.5	129.1196539	7,475.971	124,755.258508458	132360.3493
2044	7	41062.5	0.438179211	15,211.433	124,512.467741624	139724.3385
2044	8	41062.5	0	17,299.789	123,131.761409767	140431.5499
2044	9	41062.5	1.871773545	13,875.690	127,925.206365153	141802.768
2044	10	41062.5	312.1410467	5,000.415	122,625.304416336	127937.8604
2044	11	41062.5	2614.319147	664.521	117,481.269862539	120760.1099
2044	12	41062.5	6865.467347	47.431	127,412.769909613	134325.6687
2045	1	41062.5	9889.433141	13.160	136,221.586932457	146124.1797
2045	2	41062.5	11110.73184	10.243	126,604.247727452	137725.223
2045	3	41062.5	8224.868946	64.424	120,754.752115430	129044.0453

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Add Factor	Heating	Cooling	Other	Total
2045	4	41062.5	3972.475817	714.740	119,166.294010927	123853.5102
2045	5	41062.5	951.4904046	2,408.987	119,270.176269607	122630.6538
2045	6	41062.5	126.7785357	7,490.143	124,698.085952418	132315.0079
2045	7	41062.5	0.430227199	15,240.013	124,455.421229685	139695.8649
2045	8	41062.5	0	17,331.875	123,076.339157665	140408.2138
2045	9	41062.5	1.837718497	13,901.108	127,867.680965208	141770.6263
2045	10	41062.5	306.4540439	5,009.446	122,568.618732290	127884.5183
2045	11	41062.5	2566.622066	665.704	117,424.517365630	120656.8433
2045	12	41062.5	6740.040182	47.515	127,350.330650435	134137.8855
2046	1	41062.5	9712.185568	13.208	136,166.975317850	145892.3693
2046	2	41062.5	10911.33195	10.281	126,554.946927764	137476.56
2046	3	41062.5	8076.977687	64.659	120,705.379157155	128847.016
2046	4	41062.5	3900.921917	717.324	119,114.907157381	123733.153
2046	5	41062.5	934.3202147	2,417.613	119,218.922879898	122570.8561
2046	6	41062.5	124.4871823	7,516.748	124,644.860318826	132286.0957
2046	7	41062.5	0.422439783	15,293.725	124,402.123552343	139696.2705
2046	8	41062.5	0	17,392.463	123,024.469997757	140416.933
2046	9	41062.5	1.804342795	13,949.236	127,813.653583976	141764.6943
2046	10	41062.5	300.880259	5,026.654	122,515.339550570	127842.8735
2046	11	41062.5	2519.855094	667.968	117,371.027595699	120558.8507
2046	12	41062.5	6617.037405	47.675	127,291.396929868	133956.1092
2047	1	41062.5	9535.543901	13.246	136,117.461411529	145666.2511
2047	2	41062.5	10712.92741	10.310	126,510.657304788	137233.895
2047	3	41062.5	7930.206751	64.843	120,661.696628532	128656.7466
2047	4	41062.5	3830.074287	719.374	119,070.051719124	123619.4997
2047	5	41062.5	917.3625123	2,424.551	119,174.838746788	122516.7524
2047	6	41062.5	122.2286444	7,538.374	124,599.594009545	132260.1968
2047	7	41062.5	0.414778598	15,337.837	124,357.289397053	139695.5411
2047	8	41062.5	0	17,442.850	122,981.405002448	140424.255
2047	9	41062.5	1.771668833	13,989.856	127,769.477816536	141761.1058
2047	10	41062.5	295.4354814	5,041.355	122,472.317141930	127809.1072
2047	11	41062.5	2474.285824	669.930	117,328.450909239	120472.6665
2047	12	41062.5	6497.456748	47.816	127,245.092432764	133790.3647

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Add Factor	Heating	Cooling	Other	Total
2048	1	41062.5	9363.867763	13.276	136,079.800974538	145456.9451
2048	2	41062.5	10519.89308	10.334	126,476.681965191	137006.9091
2048	3	41062.5	7787.170795	64.991	120,627.762738135	128479.9246
2048	4	41062.5	3760.924422	721.000	119,034.800769360	123516.7255
2048	5	41062.5	900.7918145	2,430.011	119,139.900872244	122470.7037
2048	6	41062.5	120.0195764	7,555.274	124,563.466615093	132238.7605
2048	7	41062.5	0.407278534	15,372.084	124,321.269740138	139693.7611
2048	8	41062.5	0	17,481.619	122,946.491648318	140428.1104
2048	9	41062.5	1.739595046	14,020.785	127,733.284203030	141755.8087
2048	10	41062.5	290.0831062	5,052.432	122,436.699031613	127779.2142
2048	11	41062.5	2429.442081	671.397	117,292.933504729	120393.7727
2048	12	41062.5	6379.638275	47.920	127,206.129568296	133633.6876
2049	1	41062.5	9175.235183	13.324	136,052.980379109	145241.5398
2049	2	41062.5	10308.50822	10.372	126,453.458415608	136772.3384
2049	3	41062.5	7631.097613	65.232	120,605.565343437	128301.8952
2049	4	41062.5	3685.730182	723.712	119,012.713726558	123422.156
2049	5	41062.5	882.8232036	2,439.265	119,118.830712990	122440.9192
2049	6	41062.5	117.6306285	7,584.379	124,542.478977671	132244.4887
2049	7	41062.5	0.399188147	15,431.933	124,301.081070300	139733.4136
2049	8	41062.5	0	17,550.464	122,927.697238027	140478.1612
2049	9	41062.5	1.705188364	14,076.607	127,714.584844440	141792.8973
2049	10	41062.5	284.3593746	5,072.792	122,419.152162289	127776.3037
2049	11	41062.5	2381.604293	674.130	117,276.127848449	120331.8626
2049	12	41062.5	6254.26357	48.117	127,188.430131125	133490.8105
2050	1	41062.5	8996.010522	13.389	136,045.153852912	145054.553
2050	2	41062.5	10107.20215	10.422	126,446.531436250	136564.1556
2050	3	41062.5	7482.159188	65.549	120,598.873450507	128146.5812
2050	4	41062.5	3613.851047	727.232	119,006.063931637	123347.1474
2050	5	41062.5	865.6128588	2,451.149	119,112.383233281	122429.1448
2050	6	41062.5	115.3389463	7,621.426	124,536.048327277	132272.8138
2050	7	41062.5	0.391415492	15,507.485	124,294.871420031	139802.7482
2050	8	41062.5	0	17,636.625	122,921.911915133	140558.537
2050	9	41062.5	1.672026712	14,145.865	127,708.787524415	141856.3247

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Add Factor	Heating	Cooling	Other	Total
2050	10	41062.5	278.8327957	5,097.815	122,413.674922233	127790.3224
2050	11	41062.5	2335.355853	677.467	117,270.937014700	120283.7598
2050	12	41062.5	6132.911323	48.356	127,183.031666219	133364.2987
2051	1	41062.5	8831.468783	13.441	136,022.665278158	144867.5754
2051	2	41062.5	9922.407314	10.463	126,426.494722548	136359.3651
2051	3	41062.5	7345.428844	65.808	120,579.171286155	127990.4078
2051	4	41062.5	3547.824005	730.110	118,985.818943953	123263.7528
2051	5	41062.5	849.8071149	2,460.875	119,092.572547008	122403.2543
2051	6	41062.5	113.2333854	7,651.700	124,515.721591560	132280.6553
2051	7	41062.5	0.384274932	15,569.283	124,274.887915624	139844.5548
2051	8	41062.5	0	17,706.989	122,902.699881735	140609.689
2051	9	41062.5	1.641547864	14,202.442	127,689.129205213	141893.2129
2051	10	41062.5	273.7524797	5,118.249	122,394.579583055	127786.5812
2051	11	41062.5	2292.819288	680.187	117,252.044308709	120225.0501
2051	12	41062.5	6021.284917	48.550	127,162.610518902	133232.4459
2052	1	41062.5	8670.786834	13.496	136,003.332080293	144687.6145
2052	2	41062.5	9741.967466	10.505	126,409.317941219	136161.7908
2052	3	41062.5	7211.861356	66.074	120,562.177673617	127840.1129
2052	4	41062.5	3483.351751	733.072	118,968.489871729	123184.9136
2052	5	41062.5	834.3703561	2,470.877	119,075.582399556	122380.83
2052	6	41062.5	111.1776793	7,682.883	124,498.400143997	132292.4612
2052	7	41062.5	0.377301056	15,632.835	124,257.790528659	139891.0028
2052	8	41062.5	0	17,779.480	122,886.384315276	140665.8638
2052	9	41062.5	1.611791794	14,260.725	127,672.456583983	141934.7931
2052	10	41062.5	268.7922948	5,139.293	122,378.387067900	127786.4721
2052	11	41062.5	2251.301869	682.991	117,236.129295027	120170.4224
2052	12	41062.5	5912.28143	48.751	127,145.298662130	133106.331
2053	1	41062.5	8513.181918	13.550	135,985.760895768	144512.4931
2053	2	41062.5	9564.98507	10.548	126,393.725300601	135969.2585
2053	3	41062.5	7080.854799	66.342	120,546.757016033	127693.9542
2053	4	41062.5	3420.115781	736.060	118,952.785209505	123108.9611
2053	5	41062.5	819.229791	2,480.968	119,060.201095136	122360.3992
2053	6	41062.5	109.1614328	7,714.345	124,482.739898364	132306.2461

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Add Factor	Heating	Cooling	Other	Total
2053	7	41062.5	0.370461122	15,696.959	124,242.347771603	139939.6777
2053	8	41062.5	0	17,852.628	122,871.669609051	140724.2971
2053	9	41062.5	1.582607583	14,319.540	127,657.439575021	141978.5624
2053	10	41062.5	263.9274979	5,160.531	122,363.819863138	127788.278
2053	11	41062.5	2210.583245	685.822	117,221.835534886	120118.2408
2053	12	41062.5	5805.377336	48.953	127,129.765765251	132984.0963
2054	1	41062.5	8358.60938	13.605	135,969.974630813	144342.1895
2054	2	41062.5	9391.40794	10.591	126,379.734215485	135781.7333
2054	3	41062.5	6952.370469	66.613	120,532.926589649	127551.9105
2054	4	41062.5	3358.097001	739.076	118,938.720957407	123035.8936
2054	5	41062.5	804.3806796	2,491.152	119,046.441413692	122341.9745
2054	6	41062.5	107.1839938	7,746.097	124,468.751098864	132322.032
2054	7	41062.5	0.363752854	15,761.679	124,228.567299422	139990.6103
2054	8	41062.5	0	17,926.457	122,858.560831581	140785.0178
2054	9	41062.5	1.553985016	14,378.906	127,644.080977105	142024.5407
2054	10	41062.5	259.1563325	5,181.968	122,350.877769874	127792.002
2054	11	41062.5	2170.648162	688.680	117,209.159157691	120068.4868
2054	12	41062.5	5700.530983	49.157	127,116.003254621	132865.6916
2055	1	41062.5	8207.00917	13.661	135,955.964182847	144176.6345
2055	2	41062.5	9221.168633	10.635	126,367.336597483	135599.1398
2055	3	41062.5	6826.358369	66.887	120,520.678416193	127413.9237
2055	4	41062.5	3297.271288	742.119	118,926.288967869	122965.6792
2055	5	41062.5	789.8172441	2,501.431	119,034.295369244	122325.5432
2055	6	41062.5	105.2445929	7,778.144	124,456.425594656	132339.8139
2055	7	41062.5	0.357173642	15,827.002	124,216.441076255	140043.8002
2055	8	41062.5	0	18,000.976	122,847.050302958	140848.0267
2055	9	41062.5	1.525912956	14,438.828	127,632.372938641	142072.7269
2055	10	41062.5	254.4769418	5,203.607	122,339.553165848	127797.6373
2055	11	41062.5	2131.481082	691.564	117,198.092662953	120021.1378
2055	12	41062.5	5597.701551	49.364	127,104.002990598	132751.0681
2056	1	41062.5	8058.322434	13.717	135,943.720877352	144015.7607
2056	2	41062.5	9054.201048	10.678	126,356.524742812	135421.4043
2056	3	41062.5	6702.769502	67.163	120,510.004900303	127279.9373

Kentucky Power Company  
Commercial Energy Model Output

Year	Month	Add Factor	Heating	Cooling	Other	Total
2056	4	41062.5	3237.614998	745.190	118,915.481488568	122898.2868
2056	5	41062.5	775.5338222	2,511.804	119,023.755367051	122311.0932
2056	6	41062.5	103.3424763	7,810.489	124,445.755638519	132359.5868
2056	7	41062.5	0.350720927	15,892.935	124,205.961468206	140099.2473
2056	8	41062.5	0	18,076.195	122,837.130731923	140913.3255
2056	9	41062.5	1.49838049	14,499.315	127,622.308009826	142123.1209
2056	10	41062.5	249.8875059	5,225.451	122,329.838823097	127805.1774
2056	11	41062.5	2093.066779	694.476	117,188.628942921	119976.1716
2056	12	41062.5	5496.849034	49.572	127,093.757264223	132640.178
2057	1	41062.5	7912.4915	13.774	135,933.236464347	143859.5021
2057	2	41062.5	8890.44041	10.723	126,347.291329156	135248.4545
2057	3	41062.5	6581.555849	67.441	120,500.898826439	127149.8961
2057	4	41062.5	3179.104961	748.290	118,906.291159267	122833.6863
2057	5	41062.5	761.524865	2,522.274	119,014.814200497	122298.6132
2057	6	41062.5	101.476905	7,843.136	124,436.733883681	132381.3466
2057	7	41062.5	0.344392201	15,959.487	124,197.121240210	140156.9522
2057	8	41062.5	0	18,152.121	122,828.795212872	140980.9162
2057	9	41062.5	1.471376924	14,560.372	127,613.879139577	142175.7228
2057	10	41062.5	245.3862416	5,247.502	122,321.727904968	127814.6164
2057	11	41062.5	2055.39033	697.415	117,180.761279636	119933.5671
2057	12	41062.5	5397.934229	49.782	127,085.258794021	132532.9748

## LONG-TERM INDUSTRIAL



The MEANS Procedure

Variable	Label	Mean
year	year	2028.50
month	month	6.5000000
eix_kpc	BILLED KWH	174.8827227

KENTUCKY POWER COMPANY  
 MANUFACTURING ENERGY SALES  
 ENDOGENOUS VARIABLES

Obs	year	month	eix_kpc
1	2000	1	96.5857
2	2000	2	239.9814
3	2000	3	178.1322
4	2000	4	177.0319
5	2000	5	171.32
6	2000	6	176.8782
7	2000	7	175.2005
8	2000	8	175.8487
9	2000	9	169.5559
10	2000	10	164.9528
11	2000	11	166.955
12	2000	12	91.3502
13	2001	1	257.2551
14	2001	2	153.8066
15	2001	3	163.7331
16	2001	4	164.493
17	2001	5	172.8755
18	2001	6	168.9733
19	2001	7	175.6969
20	2001	8	175.826
21	2001	9	159.5207
22	2001	10	167.6823
23	2001	11	167.3748
24	2001	12	168.1846
25	2002	1	163.0547
26	2002	2	157.6664
27	2002	3	163.2886
28	2002	4	174.5769
29	2002	5	172.5964
30	2002	6	166.8382
31	2002	7	176.0262
32	2002	8	177.4838
33	2002	9	167.6092
34	2002	10	173.7344
35	2002	11	170.7431
36	2002	12	173.3954
37	2003	1	162.0759
38	2003	2	144.1667
39	2003	3	156.723
40	2003	4	146.6467
41	2003	5	154.4638
42	2003	6	150.4372
43	2003	7	151.3213
44	2003	8	161.3528
45	2003	9	151.9628
46	2003	10	165.758
47	2003	11	154.9
48	2003	12	151.4198
49	2004	1	150.2265

KENTUCKY POWER COMPANY  
 MANUFACTURING ENERGY SALES  
 ENDOGENOUS VARIABLES

Obs	year	month	eix_kpc
50	2004	2	152.708
51	2004	3	176.7512
52	2004	4	155.4812
53	2004	5	190.1718
54	2004	6	179.9617
55	2004	7	186.8921
56	2004	8	183.7176
57	2004	9	163.6366
58	2004	10	183.6503
59	2004	11	183.1642
60	2004	12	195.5
61	2005	1	189.6027
62	2005	2	184.252
63	2005	3	166.0976
64	2005	4	183.3147
65	2005	5	184.8925
66	2005	6	187.828
67	2005	7	180.5771
68	2005	8	187.4632
69	2005	9	186.1975
70	2005	10	199.0122
71	2005	11	192.5707
72	2005	12	200.932
73	2006	1	190.0371
74	2006	2	187.4473
75	2006	3	181.3609
76	2006	4	182.9056
77	2006	5	188.3365
78	2006	6	186.2461
79	2006	7	179.4359
80	2006	8	189.2983
81	2006	9	189.433
82	2006	10	170.3618
83	2006	11	179.2338
84	2006	12	189.0356
85	2007	1	192.0406
86	2007	2	159.0628
87	2007	3	186.9283
88	2007	4	190.1511
89	2007	5	190.165
90	2007	6	191.4638
91	2007	7	191.4421
92	2007	8	191.6024
93	2007	9	158.3397
94	2007	10	174.8257
95	2007	11	130.1767
96	2007	12	190.2448
97	2008	1	191.7303
98	2008	2	180.9209

KENTUCKY POWER COMPANY  
 MANUFACTURING ENERGY SALES  
 ENDOGENOUS VARIABLES

Obs	year	month	eix_kpc
99	2008	3	185.4784
100	2008	4	180.503
101	2008	5	194.4632
102	2008	6	189.1128
103	2008	7	193.6167
104	2008	8	190.6955
105	2008	9	191.561
106	2008	10	190.0602
107	2008	11	187.2236
108	2008	12	183.3511
109	2009	1	178.4798
110	2009	2	166.9064
111	2009	3	186.8112
112	2009	4	188.0262
113	2009	5	178.8184
114	2009	6	179.7588
115	2009	7	185.2579
116	2009	8	176.3657
117	2009	9	179.7113
118	2009	10	206.7615
119	2009	11	174.5805
120	2009	12	192.1277
121	2010	1	187.7286
122	2010	2	181.0226
123	2010	3	176.5991
124	2010	4	180.2086
125	2010	5	178.4375
126	2010	6	202.5519
127	2010	7	181.6589
128	2010	8	210.1764
129	2010	9	191.1023
130	2010	10	177.5866
131	2010	11	205.819
132	2010	12	199.885
133	2011	1	201.0961
134	2011	2	193.7141
135	2011	3	177.9262
136	2011	4	192.5663
137	2011	5	192.7699
138	2011	6	200.8508
139	2011	7	197.1301
140	2011	8	185.1926
141	2011	9	187.6814
142	2011	10	182.7747
143	2011	11	189.7456
144	2011	12	199.0305
145	2012	1	197.6217
146	2012	2	187.9472
147	2012	3	188.0615

KENTUCKY POWER COMPANY  
 MANUFACTURING ENERGY SALES  
 ENDOGENOUS VARIABLES

Obs	year	month	eix_kpc
148	2012	4	192.6353
149	2012	5	195.2819
150	2012	6	192.8064
151	2012	7	180.1194
152	2012	8	192.0667
153	2012	9	187.1749
154	2012	10	194.8102
155	2012	11	191.116
156	2012	12	190.6118
157	2013	1	198.3459
158	2013	2	165.6118
159	2013	3	175.7906
160	2013	4	190.6073
161	2013	5	186.6246
162	2013	6	186.3787
163	2013	7	189.6882
164	2013	8	185.6613
165	2013	9	178.3423
166	2013	10	175.2521
167	2013	11	184.2143
168	2013	12	193.3185
169	2014	1	194.7378
170	2014	2	174.3046
171	2014	3	178.8797
172	2014	4	186.4871
173	2014	5	194.0551
174	2014	6	185.8802
175	2014	7	184.3423
176	2014	8	193.5153
177	2014	9	165.7648
178	2014	10	162.6614
179	2014	11	182.8524
180	2014	12	194.6141
181	2015	1	197.0836
182	2015	2	175.859
183	2015	3	188.1474
184	2015	4	185.9501
185	2015	5	185.8286
186	2015	6	184.6503
187	2015	7	187.3489
188	2015	8	170.0669
189	2015	9	178.1424
190	2015	10	174.6272
191	2015	11	168.1423
192	2015	12	179.2309
193	2016	1	163.5506
194	2016	2	162.799
195	2016	3	178.6663
196	2016	4	170.2656

KENTUCKY POWER COMPANY  
 MANUFACTURING ENERGY SALES  
 ENDOGENOUS VARIABLES

Obs	year	month	eix_kpc
197	2016	5	171.1286
198	2016	6	170.0487
199	2016	7	164.2589
200	2016	8	172.4751
201	2016	9	170.5608
202	2016	10	169.581
203	2016	11	163.3348
204	2016	12	175.661
205	2017	1	175.031
206	2017	2	166.2818
207	2017	3	167.5044
208	2017	4	170.0184
209	2017	5	161.0974
210	2017	6	179.5135
211	2017	7	172.26
212	2017	8	174.4949
213	2017	9	165.8472
214	2017	10	159.1613
215	2017	11	161.4583
216	2017	12	181.097
217	2018	1	177.8296
218	2018	2	161.6849
219	2018	3	169.7577
220	2018	4	166.1884
221	2018	5	172.2954
222	2018	6	169.5113
223	2018	7	178.2211
224	2018	8	174.7209
225	2018	9	171.5007
226	2018	10	171.1693
227	2018	11	161.9548
228	2018	12	177.1488
229	2019	1	175.2097
230	2019	2	159.2235
231	2019	3	163.4111
232	2019	4	164.6593
233	2019	5	166.1324
234	2019	6	167.6401
235	2019	7	170.1879
236	2019	8	166.0922
237	2019	9	165.4967
238	2019	10	163.3005
239	2019	11	166.0841
240	2019	12	162.371
241	2020	1	162.1882
242	2020	2	151.0069
243	2020	3	152.254
244	2020	4	144.4332
245	2020	5	145.0615

KENTUCKY POWER COMPANY  
 MANUFACTURING ENERGY SALES  
 ENDOGENOUS VARIABLES

Obs	year	month	eix_kpc
246	2020	6	138.6726
247	2020	7	145.2156
248	2020	8	147.3412
249	2020	9	144.1141
250	2020	10	132.4489
251	2020	11	136.6682
252	2020	12	146.2437
253	2021	1	155.7295
254	2021	2	129.2337
255	2021	3	155.6403
256	2021	4	146.5731
257	2021	5	143.7552
258	2021	6	151.1427
259	2021	7	158.6841
260	2021	8	157.2274
261	2021	9	154.0972
262	2021	10	134.1537
263	2021	11	123.6756
264	2021	12	156.0669
265	2022	1	153.9365
266	2022	2	.
267	2022	3	.
268	2022	4	.
269	2022	5	.
270	2022	6	.
271	2022	7	.
272	2022	8	.
273	2022	9	.
274	2022	10	.
275	2022	11	.
276	2022	12	.
277	2023	1	.
278	2023	2	.
279	2023	3	.
280	2023	4	.
281	2023	5	.
282	2023	6	.
283	2023	7	.
284	2023	8	.
285	2023	9	.
286	2023	10	.
287	2023	11	.
288	2023	12	.
289	2024	1	.
290	2024	2	.
291	2024	3	.
292	2024	4	.
293	2024	5	.
294	2024	6	.

KENTUCKY POWER COMPANY  
MANUFACTURING ENERGY SALES  
ENDOGENOUS VARIABLES

Obs	year	month	eix_kpc
295	2024	7	.
296	2024	8	.
297	2024	9	.
298	2024	10	.
299	2024	11	.
300	2024	12	.
301	2025	1	.
302	2025	2	.
303	2025	3	.
304	2025	4	.
305	2025	5	.
306	2025	6	.
307	2025	7	.
308	2025	8	.
309	2025	9	.
310	2025	10	.
311	2025	11	.
312	2025	12	.
313	2026	1	.
314	2026	2	.
315	2026	3	.
316	2026	4	.
317	2026	5	.
318	2026	6	.
319	2026	7	.
320	2026	8	.
321	2026	9	.
322	2026	10	.
323	2026	11	.
324	2026	12	.
325	2027	1	.
326	2027	2	.
327	2027	3	.
328	2027	4	.
329	2027	5	.
330	2027	6	.
331	2027	7	.
332	2027	8	.
333	2027	9	.
334	2027	10	.
335	2027	11	.
336	2027	12	.
337	2028	1	.
338	2028	2	.
339	2028	3	.
340	2028	4	.
341	2028	5	.
342	2028	6	.
343	2028	7	.



KENTUCKY POWER COMPANY  
MANUFACTURING ENERGY SALES  
ENDOGENOUS VARIABLES

Obs	year	month	eix_kpc
344	2028	8	.
345	2028	9	.
346	2028	10	.
347	2028	11	.
348	2028	12	.
349	2029	1	.
350	2029	2	.
351	2029	3	.
352	2029	4	.
353	2029	5	.
354	2029	6	.
355	2029	7	.
356	2029	8	.
357	2029	9	.
358	2029	10	.
359	2029	11	.
360	2029	12	.
361	2030	1	.
362	2030	2	.
363	2030	3	.
364	2030	4	.
365	2030	5	.
366	2030	6	.
367	2030	7	.
368	2030	8	.
369	2030	9	.
370	2030	10	.
371	2030	11	.
372	2030	12	.
373	2031	1	.
374	2031	2	.
375	2031	3	.
376	2031	4	.
377	2031	5	.
378	2031	6	.
379	2031	7	.
380	2031	8	.
381	2031	9	.
382	2031	10	.
383	2031	11	.
384	2031	12	.
385	2032	1	.
386	2032	2	.
387	2032	3	.
388	2032	4	.
389	2032	5	.
390	2032	6	.
391	2032	7	.
392	2032	8	.

KENTUCKY POWER COMPANY  
MANUFACTURING ENERGY SALES  
ENDOGENOUS VARIABLES

Obs	year	month	eix_kpc
393	2032	9	.
394	2032	10	.
395	2032	11	.
396	2032	12	.
397	2033	1	.
398	2033	2	.
399	2033	3	.
400	2033	4	.
401	2033	5	.
402	2033	6	.
403	2033	7	.
404	2033	8	.
405	2033	9	.
406	2033	10	.
407	2033	11	.
408	2033	12	.
409	2034	1	.
410	2034	2	.
411	2034	3	.
412	2034	4	.
413	2034	5	.
414	2034	6	.
415	2034	7	.
416	2034	8	.
417	2034	9	.
418	2034	10	.
419	2034	11	.
420	2034	12	.
421	2035	1	.
422	2035	2	.
423	2035	3	.
424	2035	4	.
425	2035	5	.
426	2035	6	.
427	2035	7	.
428	2035	8	.
429	2035	9	.
430	2035	10	.
431	2035	11	.
432	2035	12	.
433	2036	1	.
434	2036	2	.
435	2036	3	.
436	2036	4	.
437	2036	5	.
438	2036	6	.
439	2036	7	.
440	2036	8	.
441	2036	9	.

KENTUCKY POWER COMPANY  
MANUFACTURING ENERGY SALES  
ENDOGENOUS VARIABLES

Obs	year	month	eix_kpc
442	2036	10	.
443	2036	11	.
444	2036	12	.
445	2037	1	.
446	2037	2	.
447	2037	3	.
448	2037	4	.
449	2037	5	.
450	2037	6	.
451	2037	7	.
452	2037	8	.
453	2037	9	.
454	2037	10	.
455	2037	11	.
456	2037	12	.
457	2038	1	.
458	2038	2	.
459	2038	3	.
460	2038	4	.
461	2038	5	.
462	2038	6	.
463	2038	7	.
464	2038	8	.
465	2038	9	.
466	2038	10	.
467	2038	11	.
468	2038	12	.
469	2039	1	.
470	2039	2	.
471	2039	3	.
472	2039	4	.
473	2039	5	.
474	2039	6	.
475	2039	7	.
476	2039	8	.
477	2039	9	.
478	2039	10	.
479	2039	11	.
480	2039	12	.
481	2040	1	.
482	2040	2	.
483	2040	3	.
484	2040	4	.
485	2040	5	.
486	2040	6	.
487	2040	7	.
488	2040	8	.
489	2040	9	.
490	2040	10	.

KENTUCKY POWER COMPANY  
MANUFACTURING ENERGY SALES  
ENDOGENOUS VARIABLES

Obs	year	month	eix_kpc
491	2040	11	.
492	2040	12	.
493	2041	1	.
494	2041	2	.
495	2041	3	.
496	2041	4	.
497	2041	5	.
498	2041	6	.
499	2041	7	.
500	2041	8	.
501	2041	9	.
502	2041	10	.
503	2041	11	.
504	2041	12	.
505	2042	1	.
506	2042	2	.
507	2042	3	.
508	2042	4	.
509	2042	5	.
510	2042	6	.
511	2042	7	.
512	2042	8	.
513	2042	9	.
514	2042	10	.
515	2042	11	.
516	2042	12	.
517	2043	1	.
518	2043	2	.
519	2043	3	.
520	2043	4	.
521	2043	5	.
522	2043	6	.
523	2043	7	.
524	2043	8	.
525	2043	9	.
526	2043	10	.
527	2043	11	.
528	2043	12	.
529	2044	1	.
530	2044	2	.
531	2044	3	.
532	2044	4	.
533	2044	5	.
534	2044	6	.
535	2044	7	.
536	2044	8	.
537	2044	9	.
538	2044	10	.
539	2044	11	.

KENTUCKY POWER COMPANY  
MANUFACTURING ENERGY SALES  
ENDOGENOUS VARIABLES

Obs	year	month	eix_kpc
540	2044	12	.
541	2045	1	.
542	2045	2	.
543	2045	3	.
544	2045	4	.
545	2045	5	.
546	2045	6	.
547	2045	7	.
548	2045	8	.
549	2045	9	.
550	2045	10	.
551	2045	11	.
552	2045	12	.
553	2046	1	.
554	2046	2	.
555	2046	3	.
556	2046	4	.
557	2046	5	.
558	2046	6	.
559	2046	7	.
560	2046	8	.
561	2046	9	.
562	2046	10	.
563	2046	11	.
564	2046	12	.
565	2047	1	.
566	2047	2	.
567	2047	3	.
568	2047	4	.
569	2047	5	.
570	2047	6	.
571	2047	7	.
572	2047	8	.
573	2047	9	.
574	2047	10	.
575	2047	11	.
576	2047	12	.
577	2048	1	.
578	2048	2	.
579	2048	3	.
580	2048	4	.
581	2048	5	.
582	2048	6	.
583	2048	7	.
584	2048	8	.
585	2048	9	.
586	2048	10	.
587	2048	11	.
588	2048	12	.

KENTUCKY POWER COMPANY  
MANUFACTURING ENERGY SALES  
ENDOGENOUS VARIABLES

Obs	year	month	eix_kpc
589	2049	1	.
590	2049	2	.
591	2049	3	.
592	2049	4	.
593	2049	5	.
594	2049	6	.
595	2049	7	.
596	2049	8	.
597	2049	9	.
598	2049	10	.
599	2049	11	.
600	2049	12	.
601	2050	1	.
602	2050	2	.
603	2050	3	.
604	2050	4	.
605	2050	5	.
606	2050	6	.
607	2050	7	.
608	2050	8	.
609	2050	9	.
610	2050	10	.
611	2050	11	.
612	2050	12	.
613	2051	1	.
614	2051	2	.
615	2051	3	.
616	2051	4	.
617	2051	5	.
618	2051	6	.
619	2051	7	.
620	2051	8	.
621	2051	9	.
622	2051	10	.
623	2051	11	.
624	2051	12	.
625	2052	1	.
626	2052	2	.
627	2052	3	.
628	2052	4	.
629	2052	5	.
630	2052	6	.
631	2052	7	.
632	2052	8	.
633	2052	9	.
634	2052	10	.
635	2052	11	.
636	2052	12	.
637	2053	1	.

KENTUCKY POWER COMPANY  
MANUFACTURING ENERGY SALES  
ENDOGENOUS VARIABLES

Obs	year	month	eix_kpc
638	2053	2	.
639	2053	3	.
640	2053	4	.
641	2053	5	.
642	2053	6	.
643	2053	7	.
644	2053	8	.
645	2053	9	.
646	2053	10	.
647	2053	11	.
648	2053	12	.
649	2054	1	.
650	2054	2	.
651	2054	3	.
652	2054	4	.
653	2054	5	.
654	2054	6	.
655	2054	7	.
656	2054	8	.
657	2054	9	.
658	2054	10	.
659	2054	11	.
660	2054	12	.
661	2055	1	.
662	2055	2	.
663	2055	3	.
664	2055	4	.
665	2055	5	.
666	2055	6	.
667	2055	7	.
668	2055	8	.
669	2055	9	.
670	2055	10	.
671	2055	11	.
672	2055	12	.
673	2056	1	.
674	2056	2	.
675	2056	3	.
676	2056	4	.
677	2056	5	.
678	2056	6	.
679	2056	7	.
680	2056	8	.
681	2056	9	.
682	2056	10	.
683	2056	11	.
684	2056	12	.
685	2057	1	.
686	2057	2	.

KENTUCKY POWER COMPANY  
MANUFACTURING ENERGY SALES  
ENDOGENOUS VARIABLES

Obs	year	month	eix_kpc
687	2057	3	.
688	2057	4	.
689	2057	5	.
690	2057	6	.
691	2057	7	.
692	2057	8	.
693	2057	9	.
694	2057	10	.
695	2057	11	.
696	2057	12	.



The MEANS Procedure

Variable	Label	Mean
year	year	2028.50
month	month	6.5000000
gpi_ky	REAL INDUSTRIAL NATURAL GAS PRICE-KENTUCKY	4.8532118
LM_KPC	SERVICE AREA MANUFACTURING EMPLOYMENT	5.7248815
d09on	BINARY VARIABLE-2009 ON	0.8448276
Lfrb324	FRB IND. PROD.-PETROLEUM, LOG	4.5874090
d1	BINARY VARIABLE-JANUARY	0.0833333
d2	BINARY VARIABLE-FEBRUARY	0.0833333
d3	BINARY VARIABLE-MARCH	0.0833333
d4	BINARY VARIABLE-APRIL	0.0833333
d5	BINARY VARIABLE-MAY	0.0833333
d6	BINARY VARIABLE-JUNE	0.0833333
d7	BINARY VARIABLE-JULY	0.0833333
d8	BINARY VARIABLE-AUGUST	0.0833333
d9	BINARY VARIABLE-SEPTEMBER	0.0833333
d10	BINARY VARIABLE-OCTOBER	0.0833333
d11	BINARY VARIABLE-NOVEMBER	0.0833333
Jan00	BINARY VARIABLE-JANUARY 2000	0.0014368
Feb00	BINARY VARIABLE-FEBRUARY 2000	0.0014368
Dec00	BINARY VARIABLE-DECEMBER 2000	0.0014368
nov07	BINARY VARIABLE-NOVEMBER 2007	0.0014368
d011	BINARY VARIABLE-2001 1ST QTR	0.0014368
jun15on	BINARY VARIABLE-JUNE 2015 ON	0.7341954
d16on	BINARY VARIABLE-2016 ON	0.7241379
feb19on	BINARY VARIABLE-FEBRUARY 2019 ON	0.6709770





KENTUCKY POWER COMPANY  
 MANUFACTURING ENERGY SALES  
 EXOGENOUS VARIABLES

Year	Month	g	L	M	d	r	f	J	F	D	n	o	d	1	1	1	P	
																		0
87	2007	3	9.3725	7.794	0	4.58127	0	0	1	0	0	0	0	0	0	0	0	CONFID.
88	2007	4	9.2789	7.775	0	4.57692	0	0	0	1	0	0	0	0	0	0	0	CONFID.
89	2007	5	9.4277	7.758	0	4.57257	0	0	0	0	1	0	0	0	0	0	0	CONFID.
90	2007	6	9.3933	7.746	0	4.57169	0	0	0	0	0	1	0	0	0	0	0	CONFID.
91	2007	7	8.9599	7.739	0	4.57330	0	0	0	0	0	0	1	0	0	0	0	CONDID.
92	2007	8	8.2363	7.741	0	4.57487	0	0	0	0	0	0	0	1	0	0	0	CONFID.
93	2007	9	7.4283	7.744	0	4.57439	0	0	0	0	0	0	0	0	1	0	0	CONFID.
94	2007	10	8.4789	7.749	0	4.57152	0	0	0	0	0	0	0	0	0	1	0	CONFID.
95	2007	11	9.3431	7.753	0	4.56648	0	0	0	0	0	0	0	0	0	0	1	CONFID.
96	2007	12	9.8617	7.758	0	4.55991	0	0	0	0	0	0	0	0	0	0	0	CONFID.
97	2008	1	9.3120	7.755	0	4.55400	1	0	0	0	0	0	0	0	0	0	0	CONFID.
98	2008	2	9.9201	7.744	0	4.55167	0	1	0	0	0	0	0	0	0	0	0	CONFID.
99	2008	3	10.4355	7.728	0	4.55337	0	0	1	0	0	0	0	0	0	0	0	CONFID.
100	2008	4	11.1410	7.697	0	4.55339	0	0	0	1	0	0	0	0	0	0	0	CONFID.
101	2008	5	12.5268	7.657	0	4.54368	0	0	0	0	1	0	0	0	0	0	0	CONFID.
102	2008	6	13.0540	7.599	0	4.52062	0	0	0	0	0	1	0	0	0	0	0	CONFID.
103	2008	7	14.9041	7.523	0	4.49473	0	0	0	0	0	0	1	0	0	0	0	CONDID.
104	2008	8	11.8291	7.430	0	4.48248	0	0	0	0	0	0	0	1	0	0	0	CONFID.
105	2008	9	11.0466	7.326	0	4.49418	0	0	0	0	0	0	0	0	1	0	0	CONFID.
106	2008	10	10.3815	7.210	0	4.51736	0	0	0	0	0	0	0	0	0	1	0	CONFID.
107	2008	11	9.7719	7.084	0	4.53375	0	0	0	0	0	0	0	0	0	0	1	CONFID.
108	2008	12	10.3072	6.961	0	4.53199	0	0	0	0	0	0	0	0	0	0	0	CONFID.
109	2009	1	10.3043	6.832	1	4.51892	1	0	0	0	0	0	0	0	0	0	0	CONFID.
110	2009	2	8.4408	6.712	1	4.50810	0	1	0	0	0	0	0	0	0	0	0	CONFID.
111	2009	3	8.2017	6.598	1	4.50780	0	0	1	0	0	0	0	0	0	0	0	CONFID.
112	2009	4	5.3519	6.491	1	4.51529	0	0	0	1	0	0	0	0	0	0	0	CONFID.
113	2009	5	4.7965	6.394	1	4.52372	0	0	0	0	1	0	0	0	0	0	0	CONFID.
114	2009	6	5.3675	6.314	1	4.52775	0	0	0	0	0	1	0	0	0	0	0	CONFID.
115	2009	7	5.4617	6.255	1	4.52732	0	0	0	0	0	0	1	0	0	0	0	CONDID.
116	2009	8	4.7307	6.217	1	4.52405	0	0	0	0	0	0	0	1	0	0	0	CONFID.
117	2009	9	3.9249	6.197	1	4.51920	0	0	0	0	0	0	0	0	1	0	0	CONFID.
118	2009	10	4.9803	6.190	1	4.51232	0	0	0	0	0	0	0	0	0	1	0	CONFID.
119	2009	11	6.1599	6.201	1	4.50256	0	0	0	0	0	0	0	0	0	0	1	CONFID.
120	2009	12	6.6693	6.224	1	4.49037	0	0	0	0	0	0	0	0	0	0	0	CONFID.
121	2010	1	7.2840	6.259	1	4.48051	1	0	0	0	0	0	0	0	0	0	0	CONFID.
122	2010	2	6.9845	6.299	1	4.47951	0	1	0	0	0	0	0	0	0	0	0	CONFID.
123	2010	3	6.6081	6.347	1	4.48992	0	0	1	0	0	0	0	0	0	0	0	CONFID.
124	2010	4	4.8320	6.398	1	4.50593	0	0	0	1	0	0	0	0	0	0	0	CONFID.
125	2010	5	5.2303	6.454	1	4.51797	0	0	0	0	1	0	0	0	0	0	0	CONFID.
126	2010	6	5.2868	6.513	1	4.52008	0	0	0	0	0	1	0	0	0	0	0	CONFID.
127	2010	7	5.8227	6.570	1	4.51549	0	0	0	0	0	0	1	0	0	0	0	CONDID.
128	2010	8	5.8467	6.623	1	4.51049	0	0	0	0	0	0	0	1	0	0	0	CONFID.
129	2010	9	4.7060	6.675	1	4.50975	0	0	0	0	0	0	0	0	1	0	0	CONFID.





































The SYSLIN Procedure  
 Ordinary Least Squares Estimation

Model LEIX  
 Dependent Variable LEIX

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	24	2.628253	0.109511	38.22	<.0001
Error	240	0.687665	0.002865		
Corrected Total	264	3.315918			

Root MSE 0.05353 R-Square 0.79262  
 Dependent Mean 5.15816 Adj R-Sq 0.77188  
 Coeff Var 1.03774

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t	Variable Label
Intercept	1	1.997731	0.370531	5.39	<.0001	Intercept
LPIxGPI36	1	-0.04624	0.018787	-2.46	0.0146	MANUF. ELEC./IND. GAS PRICE RATIO, LOG
LLM	1	0.170007	0.072600	2.34	0.0200	SERVICE AREA MANUFACTURING EMPLOYMENT, LOG
Lfrb324	1	0.648345	0.069870	9.28	<.0001	FRB IND. PROD.-PETROLEUM, LOG
d011	1	0.423255	0.055725	7.60	<.0001	BINARY VARIABLE-2001 1ST QTR
d1	1	-0.01402	0.016602	-0.84	0.3993	BINARY VARIABLE-JANUARY
d2	1	-0.09060	0.016668	-5.44	<.0001	BINARY VARIABLE-FEBRUARY
d3	1	-0.04304	0.016494	-2.61	0.0096	BINARY VARIABLE-MARCH
d4	1	-0.03862	0.016485	-2.34	0.0200	BINARY VARIABLE-APRIL
d5	1	-0.02177	0.016479	-1.32	0.1877	BINARY VARIABLE-MAY
d6	1	-0.01561	0.016449	-0.95	0.3434	BINARY VARIABLE-JUNE
d7	1	-0.01561	0.016434	-0.95	0.3431	BINARY VARIABLE-JULY
d8	1	-0.00793	0.016418	-0.48	0.6294	BINARY VARIABLE-AUGUST

The SYSLIN Procedure  
 Ordinary Least Squares Estimation

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t	Variable Label
d9	1	-0.04595	0.016363	-2.81	0.0054	BINARY VARIABLE - SEPTEMBER
d10	1	-0.04432	0.016352	-2.71	0.0072	BINARY VARIABLE - OCTOBER
d11	1	-0.04669	0.016544	-2.82	0.0052	BINARY VARIABLE - NOVEMBER
Jan00	1	-0.57659	0.056030	-10.29	<.0001	BINARY VARIABLE - JANUARY 2000
Feb00	1	0.411310	0.055895	7.36	<.0001	BINARY VARIABLE - FEBRUARY 2000
Dec00	1	-0.62575	0.055811	-11.21	<.0001	BINARY VARIABLE - DECEMBER 2000
d09on	1	0.107755	0.025457	4.23	<.0001	BINARY VARIABLE - 2009 ON
nov07	1	-0.32660	0.055291	-5.91	<.0001	BINARY VARIABLE - NOVEMBER 2007
jun15on	1	-0.03659	0.022127	-1.65	0.0996	BINARY VARIABLE - JUNE 2015 ON
d16on	1	-0.07254	0.023436	-3.10	0.0022	BINARY VARIABLE - 2016 ON
feb19on	1	-0.04375	0.015723	-2.78	0.0058	BINARY VARIABLE - FEBRUARY 2019 ON
sep21on	1	-0.10583	0.026604	-3.98	<.0001	BINARY VARIABLE - SEPTEMBER 2021 ON

Durbin-Watson 1.217789  
 Number of Observations 265  
 First-Order Autocorrelation 0.39019

time Residual Values  
Sum

2000.000000			-0.000000
2000.0833333			0.000000
2000.1666667		*****	0.064807
2000.2500000		*****	0.052865
2000.3333333			0.001897
2000.4166667		*****	0.028830
2000.5000000		****	0.022150
2000.5833333		****	0.022071
2000.6666667		*****	0.028269
2000.7500000		*	0.003386
2000.8333333		****	0.021534
2000.9166667			0.000000
2001.0000000			-0.000000
2001.0833333		***	-0.016270
2001.1666667		*	-0.003553
2001.2500000		*	-0.005634
2001.3333333		*****	0.026965
2001.4166667			-0.002244
2001.5000000		*****	0.037213
2001.5833333		*****	0.029864
2001.6666667		*****	-0.031685
2001.7500000		**	0.011783
2001.8333333		*	0.005490
2001.9166667		*****	-0.044425
2002.0000000		*****	-0.070237
2002.0833333		*****	-0.033747
2002.1666667		*****	-0.049494
2002.2500000		**	0.011800
2002.3333333		***	-0.014944
2002.4166667		*****	-0.050490
2002.5000000		*	0.005515
2002.5833333		**	0.008202
2002.6666667		**	-0.010833
2002.7500000		****	0.022350
2002.8333333		*	0.005761
2002.9166667		*****	-0.025616
2003.0000000		*****	-0.077497
2003.0833333		*****	-0.113260
2003.1666667		*****	-0.070826
2003.2500000		*****	-0.133299
2003.3333333		*****	-0.090902
2003.4166667		*****	-0.119361
2003.5000000		*****	-0.113197
2003.5833333		*****	-0.060195
2003.6666667		*****	-0.089517
2003.7500000		***	-0.012785
2003.8333333		*****	-0.085066
2003.9166667		*****	-0.158532

KENTUCKY POWER COMPANY  
MANUFACTURING ENERGY SALES  
MODEL RESIDUALS

2004.000000	*****	-0.153454
2004.0833333	*****	-0.062329
2004.1666667	*****	0.032426
2004.2500000	*****	-0.105654
2004.3333333	*****	0.073376
2004.4166667	**	0.008145
2004.5000000	*****	0.041830
2004.5833333	**	0.011978
2004.6666667	*****	-0.075046
2004.7500000	*****	0.030702
2004.8333333	*****	0.023734
2004.9166667	*****	0.039420
2005.0000000	*****	0.022625
2005.0833333	*****	0.069089
2005.1666667	*****	-0.086161
2005.2500000	*	0.004603
2005.3333333		-0.002447
2005.4166667	***	0.014782
2005.5000000	***	-0.012855
2005.5833333	*****	0.028968
2005.6666667	*****	0.068120
2005.7500000	*****	0.135735
2005.8333333	*****	0.102101
2005.9166667	*****	0.089827
2006.0000000	*****	0.039051
2006.0833333	*****	0.096333
2006.1666667	***	0.017405
2006.2500000	*****	0.024508
2006.3333333	*****	0.035583
2006.4166667	**	0.009712
2006.5000000	*****	-0.038759
2006.5833333		-0.001341
2006.6666667	*****	0.038451
2006.7500000	*****	-0.063944
2006.8333333	*	-0.006927
2006.9166667	*	-0.003070
2007.0000000	****	0.021543
2007.0833333	*****	-0.093931
2007.1666667	****	0.020591
2007.2500000	*****	0.036504
2007.3333333	****	0.022435
2007.4166667	*****	0.024458
2007.5000000	*****	0.023250
2007.5833333	***	0.015613
2007.6666667	*****	-0.136707
2007.7500000	*****	-0.036975
2007.8333333		-0.000000
2007.9166667	**	0.010681
2008.0000000	*****	0.036838
2008.0833333	*****	0.056860
2008.1666667	*****	0.033407

KENTUCKY POWER COMPANY  
MANUFACTURING ENERGY SALES  
MODEL RESIDUALS

2008.2500000		*	0.002901
2008.3333333		*****	0.067199
2008.4166667		*****	0.049152
2008.5000000		*****	0.091345
2008.5833333		*****	0.078597
2008.6666667		*****	0.116209
2008.7500000		*****	0.095677
2008.8333333		*****	0.076532
2008.9166667		***	0.014166
2009.0000000	*****		-0.093539
2009.0833333	*****		-0.073180
2009.1666667		*	-0.003719
2009.2500000		*	-0.003058
2009.3333333	*****		-0.071842
2009.4166667	*****		-0.072260
2009.5000000	*****		-0.039538
2009.5833333	*****		-0.091901
2009.6666667	*****		-0.030369
2009.7500000		*****	0.113554
2009.8333333	*****		-0.046969
2009.9166667		**	0.010371
2010.0000000		*	0.006672
2010.0833333		*****	0.047400
2010.1666667	*****		-0.032825
2010.2500000	*****		-0.027388
2010.3333333	*****		-0.062430
2010.4166667		*****	0.056294
2010.5000000	*****		-0.050567
2010.5833333		*****	0.090521
2010.6666667		*****	0.032555
2010.7500000	*****		-0.043793
2010.8333333		*****	0.104972
2010.9166667		*****	0.029417
2011.0000000		*****	0.051375
2011.0833333		*****	0.092617
2011.1666667	*****		-0.039112
2011.2500000		*****	0.034386
2011.3333333		***	0.015234
2011.4166667		*****	0.044025
2011.5000000		****	0.018867
2011.5833333	*****		-0.054504
2011.6666667			-0.002294
2011.7500000	*****		-0.026196
2011.8333333		****	0.018129
2011.9166667		****	0.022144
2012.0000000		*****	0.031923
2012.0833333		*****	0.060823
2012.1666667		****	0.017729
2012.2500000		*****	0.041244
2012.3333333		*****	0.041671
2012.4166667		*****	0.025349

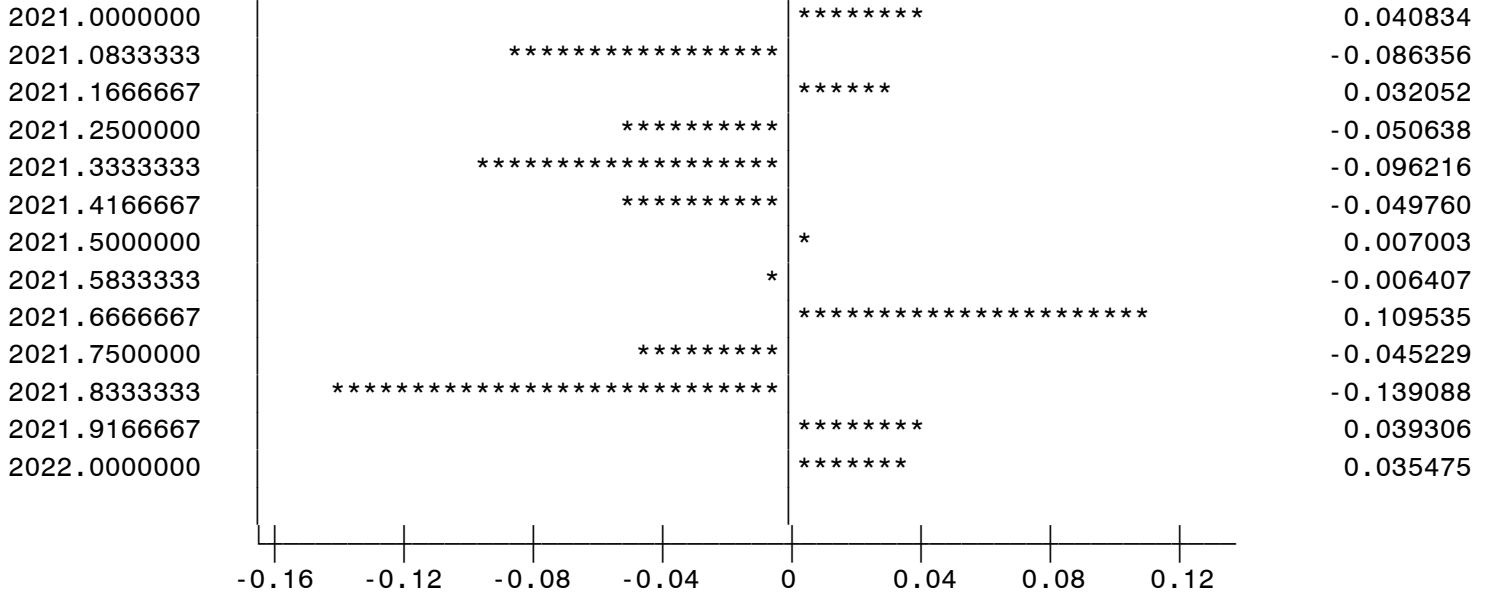
KENTUCKY POWER COMPANY  
MANUFACTURING ENERGY SALES  
MODEL RESIDUALS

2012.500000	*****	-0.041309
2012.5833333	***	0.015684
2012.6666667	*****	0.028214
2012.7500000	*****	0.064196
2012.8333333	*****	0.042532
2012.9166667	***	-0.013995
2013.0000000	*****	0.032157
2013.0833333	*****	-0.076244
2013.1666667	*****	-0.064597
2013.2500000	***	0.013467
2013.3333333	*****	-0.023489
2013.4166667	*****	-0.032170
2013.5000000	***	-0.017275
2013.5833333	*****	-0.048854
2013.6666667	*****	-0.051219
2013.7500000	*****	-0.068705
2013.8333333	***	-0.013616
2013.9166667	**	-0.008241
2014.0000000	****	0.017762
2014.0833333	***	-0.013874
2014.1666667	*****	-0.029830
2014.2500000	**	0.010778
2014.3333333	*****	0.036760
2014.4166667	**	-0.010416
2014.5000000	***	-0.016697
2014.5833333	*****	0.028544
2014.6666667	*****	-0.083673
2014.7500000	*****	-0.098879
2014.8333333	*****	0.024576
2014.9166667	*****	0.041251
2015.0000000	*****	0.068177
2015.0833333	*****	0.031548
2015.1666667	*****	0.053015
2015.2500000	*****	0.039639
2015.3333333	*****	0.022998
2015.4166667	*****	0.045023
2015.5000000	*****	0.055847
2015.5833333	*****	-0.053579
2015.6666667	*****	0.024857
2015.7500000		-0.001210
2015.8333333	*****	-0.041683
2015.9166667	*****	-0.029255
2016.0000000	*****	-0.038490
2016.0833333	*****	0.031319
2016.1666667	*****	0.077099
2016.2500000	*****	0.025939
2016.3333333	***	0.014377
2016.4166667		-0.002282
2016.5000000	*****	-0.041911
2016.5833333	*	-0.004478
2016.6666667	****	0.021100



KENTUCKY POWER COMPANY  
MANUFACTURING ENERGY SALES  
MODEL RESIDUALS

2016.750000		***	0.015544
2016.833333		***	-0.016215
2016.916667		**	0.012105
2017.000000		****	0.021735
2017.083333		*****	0.041792
2017.166667		**	-0.010396
2017.250000		***	-0.013081
2017.333333	*****		-0.088687
2017.416667		****	0.020709
2017.500000		**	-0.007956
2017.583333		*	0.006086
2017.666667		**	-0.009366
2017.750000	*****		-0.060822
2017.833333	*****		-0.050910
2017.916667		****	0.019812
2018.000000		****	0.021988
2018.083333		**	0.009636
2018.166667		**	0.012459
2018.250000		***	-0.015577
2018.333333			0.000480
2018.416667		*****	-0.024120
2018.500000		*****	0.024429
2018.583333		*	-0.003613
2018.666667		***	0.017064
2018.750000		***	0.014972
2018.833333	*****		-0.036652
2018.916667		*	0.006222
2019.000000		**	0.009687
2019.083333		*****	0.035354
2019.166667		***	0.016445
2019.250000		****	0.020953
2019.333333		**	0.010700
2019.416667		*	0.005910
2019.500000		***	0.014165
2019.583333		***	-0.016714
2019.666667		*****	0.030354
2019.750000		*****	0.029940
2019.833333		*****	0.053317
2019.916667	*****		-0.027586
2020.000000	*****		-0.024624
2020.083333		*	-0.003579
2020.166667		***	0.013079
2020.250000		*****	0.034743
2020.333333		*****	0.081283
2020.416667		*****	0.030714
2020.500000		*****	0.038449
2020.583333		*	0.005460
2020.666667		*	0.005982
2020.750000	*****		-0.079300
2020.833333	*****		-0.041553
2020.916667	*****		-0.024002



Residual Values

KENTUCKY POWER COMPANY  
 MANUFACTURING ENERGY SALES  
 ACTUAL AND FORECAST

year	ENERGY SALES	GROWTH RATE	BASE ENERGY	ADDITIONS
2000	1983.793	.	1983.79	0
2001	2095.422	5.6	2095.42	0
2002	2037.013	-2.8	2037.01	0
2003	1851.228	-9.1	1851.23	0
2004	2101.861	13.5	2101.86	0
2005	2242.74	6.7	2242.74	0
2006	2213.132	-1.3	2213.13	0
2007	2146.443	-3.0	2146.44	0
2008	2258.717	5.2	2258.72	0
2009	2193.605	-2.9	2193.61	0
2010	2272.777	3.6	2272.78	0
2011	2300.478	1.2	2300.48	0
2012	2290.253	-0.4	2290.25	0
2013	2209.836	-3.5	2209.84	0
2014	2198.095	-0.5	2198.09	0
2015	2175.078	-1.0	2175.08	0
2016	2032.33	-6.6	2032.33	0
2017	2033.765	0.1	2033.77	0
2018	2051.983	0.9	2051.98	0
2019	1989.809	-3.0	1989.81	0
2020	1745.648	-12.3	1745.65	0
2021	1765.98	1.2	1765.98	0
2022	1773.613	0.4	1773.61	0
2023	1779.794	0.3	1779.79	0
2024	1778.394	-0.1	1778.39	0
2025	1767.944	-0.6	1767.94	0
2026	1756.234	-0.7	1756.23	0
2027	1746.657	-0.5	1746.66	0
2028	1741.025	-0.3	1741.02	0
2029	1739.151	-0.1	1739.15	0
2030	1738.726	0.0	1738.73	0
2031	1737.768	-0.1	1737.77	0
2032	1735.796	-0.1	1735.80	0
2033	1733.878	-0.1	1733.88	0
2034	1731.766	-0.1	1731.77	0
2035	1729.473	-0.1	1729.47	0
2036	1726.694	-0.2	1726.69	0
2037	1722.953	-0.2	1722.95	0
2038	1720.075	-0.2	1720.08	0
2039	1718.196	-0.1	1718.20	0
2040	1715.872	-0.1	1715.87	0
2041	1713.018	-0.2	1713.02	0
2042	1710.635	-0.1	1710.64	0
2043	1708.882	-0.1	1708.88	0
2044	1706.924	-0.1	1706.92	0
2045	1704.958	-0.1	1704.96	0
2046	1702.904	-0.1	1702.90	0

KENTUCKY POWER COMPANY  
MANUFACTURING ENERGY SALES  
ACTUAL AND FORECAST

year	ENERGY SALES	GROWTH RATE	BASE ENERGY	ADDITIONS
2047	1700.07	-0.2	1700.07	0
2048	1696.874	-0.2	1696.87	0
2049	1693.805	-0.2	1693.81	0
2050	1690.844	-0.2	1690.84	0
2051	1687.82	-0.2	1687.82	0
2052	1684.963	-0.2	1684.96	0
2053	1682.154	-0.2	1682.15	0
2054	1679.361	-0.2	1679.36	0
2055	1676.583	-0.2	1676.58	0
2056	1673.821	-0.2	1673.82	0
2057	1671.073	-0.2	1671.07	0

The MEANS Procedure

Variable	Label	Mean
YEAR	Year	2024.00
MONTH	Month	6.5000000
eim_kpc	BILLED KWH	72.1361129

Obs	YEAR	MONTH	eim_kpc
1	1991	1	100.959
2	1991	2	96.584
3	1991	3	101.568
4	1991	4	80.727
5	1991	5	79.507
6	1991	6	74.023
7	1991	7	68.911
8	1991	8	81.209
9	1991	9	77.303
10	1991	10	91.054
11	1991	11	98.104
12	1991	12	89.934
13	1992	1	95.55
14	1992	2	93.839
15	1992	3	101.599
16	1992	4	83.335
17	1992	5	86.019
18	1992	6	79.052
19	1992	7	70.209
20	1992	8	83.37
21	1992	9	78.493
22	1992	10	92.909
23	1992	11	98.326
24	1992	12	94.756
25	1993	1	95.406
26	1993	2	95.78
27	1993	3	94.861
28	1993	4	84.263
29	1993	5	87.13
30	1993	6	83.606
31	1993	7	73.267
32	1993	8	92.045
33	1993	9	79.528
34	1993	10	97.183
35	1993	11	97.2
36	1993	12	104.274
37	1994	1	91.723
38	1994	2	92.397
39	1994	3	104.694
40	1994	4	88.911
41	1994	5	93.444
42	1994	6	86.784
43	1994	7	73.243
44	1994	8	90.893
45	1994	9	84.663
46	1994	10	97.832
47	1994	11	97.881
48	1994	12	103.9
49	1995	1	102.964

Obs	YEAR	MONTH	eim_kpc
50	1995	2	105.988
51	1995	3	103.948
52	1995	4	89.673
53	1995	5	89.515
54	1995	6	85.16
55	1995	7	71.927
56	1995	8	87.848
57	1995	9	80.346
58	1995	10	93.618
59	1995	11	92.724
60	1995	12	70.205
61	1996	1	77.95387
62	1996	2	103.9298
63	1996	3	124.4635
64	1996	4	98.33572
65	1996	5	79.12167
66	1996	6	83.37279
67	1996	7	75.89704
68	1996	8	82.00609
69	1996	9	84.54816
70	1996	10	89.34102
71	1996	11	93.25423
72	1996	12	107.3754
73	1997	1	106.1674
74	1997	2	98.97518
75	1997	3	93.21221
76	1997	4	95.42031
77	1997	5	85.69284
78	1997	6	82.70721
79	1997	7	72.22689
80	1997	8	83.52348
81	1997	9	81.06522
82	1997	10	88.65184
83	1997	11	91.69201
84	1997	12	104.3091
85	1998	1	102.8979
86	1998	2	93.63465
87	1998	3	101.4568
88	1998	4	96.97054
89	1998	5	85.82632
90	1998	6	79.83072
91	1998	7	80.81526
92	1998	8	85.29517
93	1998	9	89.30097
94	1998	10	85.52618
95	1998	11	95.17848
96	1998	12	128.5964
97	1999	1	108.0186
98	1999	2	68.66917

Obs	YEAR	MONTH	eim_kpc
99	1999	3	102.0266
100	1999	4	88.77698
101	1999	5	77.05097
102	1999	6	80.65232
103	1999	7	79.7579
104	1999	8	81.67579
105	1999	9	90.11362
106	1999	10	83.20526
107	1999	11	92.81029
108	1999	12	101.0518
109	2000	1	99.01423
110	2000	2	94.45969
111	2000	3	91.62786
112	2000	4	87.87582
113	2000	5	86.05116
114	2000	6	84.60195
115	2000	7	74.38625
116	2000	8	75.58774
117	2000	9	94.53516
118	2000	10	87.25979
119	2000	11	88.67174
120	2000	12	100.1992
121	2001	1	106.471
122	2001	2	102.0158
123	2001	3	99.79966
124	2001	4	97.09157
125	2001	5	89.23784
126	2001	6	93.43264
127	2001	7	81.25867
128	2001	8	84.97676
129	2001	9	87.97366
130	2001	10	91.33512
131	2001	11	97.93234
132	2001	12	99.98147
133	2002	1	115.2338
134	2002	2	107.9956
135	2002	3	102.6585
136	2002	4	97.52882
137	2002	5	89.21191
138	2002	6	74.5973
139	2002	7	80.67338
140	2002	8	85.34224
141	2002	9	87.63202
142	2002	10	87.64465
143	2002	11	89.80377
144	2002	12	101.756
145	2003	1	103.9288
146	2003	2	98.68114
147	2003	3	100.3492



Obs	YEAR	MONTH	eim_kpc
148	2003	4	85.39487
149	2003	5	84.79943
150	2003	6	84.56019
151	2003	7	78.92941
152	2003	8	82.53522
153	2003	9	86.45587
154	2003	10	86.96065
155	2003	11	92.62556
156	2003	12	98.61108
157	2004	1	100.4676
158	2004	2	99.8061
159	2004	3	96.22331
160	2004	4	94.65702
161	2004	5	86.30594
162	2004	6	83.51984
163	2004	7	76.92519
164	2004	8	83.03046
165	2004	9	80.82713
166	2004	10	84.52747
167	2004	11	86.78979
168	2004	12	97.20134
169	2005	1	98.95571
170	2005	2	98.12897
171	2005	3	104.3626
172	2005	4	91.97927
173	2005	5	85.67108
174	2005	6	92.28061
175	2005	7	77.4401
176	2005	8	81.72998
177	2005	9	85.47393
178	2005	10	83.80043
179	2005	11	92.18736
180	2005	12	109.5176
181	2006	1	100.4476
182	2006	2	101.211
183	2006	3	101.4244
184	2006	4	93.84795
185	2006	5	84.70125
186	2006	6	87.67726
187	2006	7	78.48968
188	2006	8	82.98024
189	2006	9	89.06848
190	2006	10	87.69699
191	2006	11	95.03823
192	2006	12	100.8929
193	2007	1	95.46715
194	2007	2	102.1168
195	2007	3	95.19584
196	2007	4	90.24897

Obs	YEAR	MONTH	eim_kpc
197	2007	5	83.95004
198	2007	6	80.13579
199	2007	7	73.12316
200	2007	8	77.78405
201	2007	9	80.71474
202	2007	10	79.4499
203	2007	11	86.23904
204	2007	12	90.81579
205	2008	1	98.16826
206	2008	2	96.07293
207	2008	3	92.16852
208	2008	4	90.69174
209	2008	5	85.78084
210	2008	6	83.7846
211	2008	7	76.43998
212	2008	8	81.76287
213	2008	9	83.36639
214	2008	10	84.26411
215	2008	11	92.78908
216	2008	12	101.2511
217	2009	1	103.8165
218	2009	2	100.5127
219	2009	3	98.9621
220	2009	4	91.0149
221	2009	5	80.69829
222	2009	6	75.55801
223	2009	7	67.03683
224	2009	8	70.59886
225	2009	9	76.00072
226	2009	10	76.3624
227	2009	11	79.66078
228	2009	12	86.03809
229	2010	1	88.28184
230	2010	2	90.67571
231	2010	3	87.60719
232	2010	4	84.81032
233	2010	5	88.67911
234	2010	6	78.01446
235	2010	7	72.15536
236	2010	8	69.97036
237	2010	9	73.14796
238	2010	10	75.94689
239	2010	11	79.20071
240	2010	12	90.51848
241	2011	1	90.825
242	2011	2	87.99581
243	2011	3	84.22178
244	2011	4	80.40873
245	2011	5	76.74738

Obs	YEAR	MONTH	eim_kpc
246	2011	6	79.49369
247	2011	7	72.42958
248	2011	8	72.5754
249	2011	9	76.23073
250	2011	10	71.12652
251	2011	11	82.28946
252	2011	12	87.50144
253	2012	1	85.43714
254	2012	2	85.10615
255	2012	3	77.67679
256	2012	4	69.83142
257	2012	5	64.98253
258	2012	6	62.42109
259	2012	7	51.55809
260	2012	8	53.14382
261	2012	9	55.79761
262	2012	10	53.45102
263	2012	11	58.01086
264	2012	12	61.9607
265	2013	1	64.97626
266	2013	2	67.17776
267	2013	3	64.23484
268	2013	4	62.44188
269	2013	5	54.43852
270	2013	6	50.88608
271	2013	7	48.00306
272	2013	8	51.21968
273	2013	9	51.5112
274	2013	10	48.4603
275	2013	11	50.26028
276	2013	12	57.23695
277	2014	1	57.83786
278	2014	2	56.71688
279	2014	3	57.45931
280	2014	4	53.18138
281	2014	5	50.05405
282	2014	6	48.01928
283	2014	7	43.19406
284	2014	8	45.89738
285	2014	9	46.65688
286	2014	10	46.49716
287	2014	11	51.35572
288	2014	12	56.9766
289	2015	1	57.16899
290	2015	2	52.96046
291	2015	3	52.4966
292	2015	4	50.76371
293	2015	5	44.45613
294	2015	6	43.34808

Obs	YEAR	MONTH	eim_kpc
295	2015	7	38.85504
296	2015	8	39.16827
297	2015	9	39.33776
298	2015	10	38.77151
299	2015	11	40.52312
300	2015	12	38.6796
301	2016	1	40.8571
302	2016	2	36.92073
303	2016	3	36.49833
304	2016	4	32.86612
305	2016	5	26.97334
306	2016	6	26.36284
307	2016	7	23.44261
308	2016	8	24.73878
309	2016	9	25.81531
310	2016	10	26.40473
311	2016	11	29.07746
312	2016	12	35.77722
313	2017	1	36.81145
314	2017	2	35.50279
315	2017	3	34.32992
316	2017	4	31.12433
317	2017	5	28.63457
318	2017	6	28.56352
319	2017	7	26.94967
320	2017	8	27.91946
321	2017	9	28.04221
322	2017	10	27.52315
323	2017	11	29.20825
324	2017	12	35.23819
325	2018	1	34.75617
326	2018	2	32.87611
327	2018	3	31.67338
328	2018	4	31.5198
329	2018	5	28.28968
330	2018	6	27.68719
331	2018	7	24.35534
332	2018	8	26.06865
333	2018	9	26.72765
334	2018	10	26.02902
335	2018	11	28.76146
336	2018	12	33.48811
337	2019	1	33.09704
338	2019	2	31.95405
339	2019	3	31.78086
340	2019	4	30.13422
341	2019	5	26.79694
342	2019	6	25.20533
343	2019	7	23.75737

Obs	YEAR	MONTH	eim_kpc
344	2019	8	24.44301
345	2019	9	25.57236
346	2019	10	22.25676
347	2019	11	19.11996
348	2019	12	30.61429
349	2020	1	25.38712
350	2020	2	23.32601
351	2020	3	20.8404
352	2020	4	16.31883
353	2020	5	15.93503
354	2020	6	14.50054
355	2020	7	13.53139
356	2020	8	15.62393
357	2020	9	15.91021
358	2020	10	16.02067
359	2020	11	15.93294
360	2020	12	18.59335
361	2021	1	19.82859
362	2021	2	17.22934
363	2021	3	19.98087
364	2021	4	17.81757
365	2021	5	17.1399
366	2021	6	16.69472
367	2021	7	15.36282
368	2021	8	15.38217
369	2021	9	16.02277
370	2021	10	16.80267
371	2021	11	18.26645
372	2021	12	21.12849
373	2022	1	21.63411
374	2022	2	.
375	2022	3	.
376	2022	4	.
377	2022	5	.
378	2022	6	.
379	2022	7	.
380	2022	8	.
381	2022	9	.
382	2022	10	.
383	2022	11	.
384	2022	12	.
385	2023	1	.
386	2023	2	.
387	2023	3	.
388	2023	4	.
389	2023	5	.
390	2023	6	.
391	2023	7	.
392	2023	8	.

Obs	YEAR	MONTH	eim_kpc
393	2023	9	.
394	2023	10	.
395	2023	11	.
396	2023	12	.
397	2024	1	.
398	2024	2	.
399	2024	3	.
400	2024	4	.
401	2024	5	.
402	2024	6	.
403	2024	7	.
404	2024	8	.
405	2024	9	.
406	2024	10	.
407	2024	11	.
408	2024	12	.
409	2025	1	.
410	2025	2	.
411	2025	3	.
412	2025	4	.
413	2025	5	.
414	2025	6	.
415	2025	7	.
416	2025	8	.
417	2025	9	.
418	2025	10	.
419	2025	11	.
420	2025	12	.
421	2026	1	.
422	2026	2	.
423	2026	3	.
424	2026	4	.
425	2026	5	.
426	2026	6	.
427	2026	7	.
428	2026	8	.
429	2026	9	.
430	2026	10	.
431	2026	11	.
432	2026	12	.
433	2027	1	.
434	2027	2	.
435	2027	3	.
436	2027	4	.
437	2027	5	.
438	2027	6	.
439	2027	7	.
440	2027	8	.
441	2027	9	.

Obs	YEAR	MONTH	eim_kpc
442	2027	10	.
443	2027	11	.
444	2027	12	.
445	2028	1	.
446	2028	2	.
447	2028	3	.
448	2028	4	.
449	2028	5	.
450	2028	6	.
451	2028	7	.
452	2028	8	.
453	2028	9	.
454	2028	10	.
455	2028	11	.
456	2028	12	.
457	2029	1	.
458	2029	2	.
459	2029	3	.
460	2029	4	.
461	2029	5	.
462	2029	6	.
463	2029	7	.
464	2029	8	.
465	2029	9	.
466	2029	10	.
467	2029	11	.
468	2029	12	.
469	2030	1	.
470	2030	2	.
471	2030	3	.
472	2030	4	.
473	2030	5	.
474	2030	6	.
475	2030	7	.
476	2030	8	.
477	2030	9	.
478	2030	10	.
479	2030	11	.
480	2030	12	.
481	2031	1	.
482	2031	2	.
483	2031	3	.
484	2031	4	.
485	2031	5	.
486	2031	6	.
487	2031	7	.
488	2031	8	.
489	2031	9	.
490	2031	10	.

Obs	YEAR	MONTH	eim_kpc
491	2031	11	.
492	2031	12	.
493	2032	1	.
494	2032	2	.
495	2032	3	.
496	2032	4	.
497	2032	5	.
498	2032	6	.
499	2032	7	.
500	2032	8	.
501	2032	9	.
502	2032	10	.
503	2032	11	.
504	2032	12	.
505	2033	1	.
506	2033	2	.
507	2033	3	.
508	2033	4	.
509	2033	5	.
510	2033	6	.
511	2033	7	.
512	2033	8	.
513	2033	9	.
514	2033	10	.
515	2033	11	.
516	2033	12	.
517	2034	1	.
518	2034	2	.
519	2034	3	.
520	2034	4	.
521	2034	5	.
522	2034	6	.
523	2034	7	.
524	2034	8	.
525	2034	9	.
526	2034	10	.
527	2034	11	.
528	2034	12	.
529	2035	1	.
530	2035	2	.
531	2035	3	.
532	2035	4	.
533	2035	5	.
534	2035	6	.
535	2035	7	.
536	2035	8	.
537	2035	9	.
538	2035	10	.
539	2035	11	.



Obs	YEAR	MONTH	eim_kpc
540	2035	12	.
541	2036	1	.
542	2036	2	.
543	2036	3	.
544	2036	4	.
545	2036	5	.
546	2036	6	.
547	2036	7	.
548	2036	8	.
549	2036	9	.
550	2036	10	.
551	2036	11	.
552	2036	12	.
553	2037	1	.
554	2037	2	.
555	2037	3	.
556	2037	4	.
557	2037	5	.
558	2037	6	.
559	2037	7	.
560	2037	8	.
561	2037	9	.
562	2037	10	.
563	2037	11	.
564	2037	12	.
565	2038	1	.
566	2038	2	.
567	2038	3	.
568	2038	4	.
569	2038	5	.
570	2038	6	.
571	2038	7	.
572	2038	8	.
573	2038	9	.
574	2038	10	.
575	2038	11	.
576	2038	12	.
577	2039	1	.
578	2039	2	.
579	2039	3	.
580	2039	4	.
581	2039	5	.
582	2039	6	.
583	2039	7	.
584	2039	8	.
585	2039	9	.
586	2039	10	.
587	2039	11	.
588	2039	12	.

Obs	YEAR	MONTH	eim_kpc
589	2040	1	.
590	2040	2	.
591	2040	3	.
592	2040	4	.
593	2040	5	.
594	2040	6	.
595	2040	7	.
596	2040	8	.
597	2040	9	.
598	2040	10	.
599	2040	11	.
600	2040	12	.
601	2041	1	.
602	2041	2	.
603	2041	3	.
604	2041	4	.
605	2041	5	.
606	2041	6	.
607	2041	7	.
608	2041	8	.
609	2041	9	.
610	2041	10	.
611	2041	11	.
612	2041	12	.
613	2042	1	.
614	2042	2	.
615	2042	3	.
616	2042	4	.
617	2042	5	.
618	2042	6	.
619	2042	7	.
620	2042	8	.
621	2042	9	.
622	2042	10	.
623	2042	11	.
624	2042	12	.
625	2043	1	.
626	2043	2	.
627	2043	3	.
628	2043	4	.
629	2043	5	.
630	2043	6	.
631	2043	7	.
632	2043	8	.
633	2043	9	.
634	2043	10	.
635	2043	11	.
636	2043	12	.
637	2044	1	.

Obs	YEAR	MONTH	eim_kpc
638	2044	2	.
639	2044	3	.
640	2044	4	.
641	2044	5	.
642	2044	6	.
643	2044	7	.
644	2044	8	.
645	2044	9	.
646	2044	10	.
647	2044	11	.
648	2044	12	.
649	2045	1	.
650	2045	2	.
651	2045	3	.
652	2045	4	.
653	2045	5	.
654	2045	6	.
655	2045	7	.
656	2045	8	.
657	2045	9	.
658	2045	10	.
659	2045	11	.
660	2045	12	.
661	2046	1	.
662	2046	2	.
663	2046	3	.
664	2046	4	.
665	2046	5	.
666	2046	6	.
667	2046	7	.
668	2046	8	.
669	2046	9	.
670	2046	10	.
671	2046	11	.
672	2046	12	.
673	2047	1	.
674	2047	2	.
675	2047	3	.
676	2047	4	.
677	2047	5	.
678	2047	6	.
679	2047	7	.
680	2047	8	.
681	2047	9	.
682	2047	10	.
683	2047	11	.
684	2047	12	.
685	2048	1	.
686	2048	2	.

Obs	YEAR	MONTH	eim_kpc
687	2048	3	.
688	2048	4	.
689	2048	5	.
690	2048	6	.
691	2048	7	.
692	2048	8	.
693	2048	9	.
694	2048	10	.
695	2048	11	.
696	2048	12	.
697	2049	1	.
698	2049	2	.
699	2049	3	.
700	2049	4	.
701	2049	5	.
702	2049	6	.
703	2049	7	.
704	2049	8	.
705	2049	9	.
706	2049	10	.
707	2049	11	.
708	2049	12	.
709	2050	1	.
710	2050	2	.
711	2050	3	.
712	2050	4	.
713	2050	5	.
714	2050	6	.
715	2050	7	.
716	2050	8	.
717	2050	9	.
718	2050	10	.
719	2050	11	.
720	2050	12	.
721	2051	1	.
722	2051	2	.
723	2051	3	.
724	2051	4	.
725	2051	5	.
726	2051	6	.
727	2051	7	.
728	2051	8	.
729	2051	9	.
730	2051	10	.
731	2051	11	.
732	2051	12	.
733	2052	1	.
734	2052	2	.
735	2052	3	.

Obs	YEAR	MONTH	eim_kpc
736	2052	4	.
737	2052	5	.
738	2052	6	.
739	2052	7	.
740	2052	8	.
741	2052	9	.
742	2052	10	.
743	2052	11	.
744	2052	12	.
745	2053	1	.
746	2053	2	.
747	2053	3	.
748	2053	4	.
749	2053	5	.
750	2053	6	.
751	2053	7	.
752	2053	8	.
753	2053	9	.
754	2053	10	.
755	2053	11	.
756	2053	12	.
757	2054	1	.
758	2054	2	.
759	2054	3	.
760	2054	4	.
761	2054	5	.
762	2054	6	.
763	2054	7	.
764	2054	8	.
765	2054	9	.
766	2054	10	.
767	2054	11	.
768	2054	12	.
769	2055	1	.
770	2055	2	.
771	2055	3	.
772	2055	4	.
773	2055	5	.
774	2055	6	.
775	2055	7	.
776	2055	8	.
777	2055	9	.
778	2055	10	.
779	2055	11	.
780	2055	12	.
781	2056	1	.
782	2056	2	.
783	2056	3	.
784	2056	4	.

Obs	YEAR	MONTH	eim_kpc
785	2056	5	.
786	2056	6	.
787	2056	7	.
788	2056	8	.
789	2056	9	.
790	2056	10	.
791	2056	11	.
792	2056	12	.
793	2057	1	.
794	2057	2	.
795	2057	3	.
796	2057	4	.
797	2057	5	.
798	2057	6	.
799	2057	7	.
800	2057	8	.
801	2057	9	.
802	2057	10	.
803	2057	11	.
804	2057	12	.

The MEANS Procedure

Variable	Label	Mean
YEAR	Year	2024.00
MONTH	Month	6.5000000
qc_kye	EASTERN KENTUCKY COAL PRODUCTION	3397228.71
d05on	BINARY VARIABLE-2005 ON	0.7910448
aug15on	BINARY VARIABLE-AUGUST 2015 ON	0.6330846
may16on	BINARY VARIABLE-MAY 2016 ON	0.6218905
d1	BINARY VARIABLE-1ST QTR	0.0833333
d2	BINARY VARIABLE-2ND QTR	0.0833333
d3	BINARY VARIABLE-3RD QTR	0.0833333
d4	BINARY VARIABLE-APRIL	0.0833333
d5	BINARY VARIABLE-MAY	0.0833333
d6	BINARY VARIABLE-JUNE	0.0833333
d7	BINARY VARIABLE-JULY	0.0833333
d8	BINARY VARIABLE-AUGUST	0.0833333
d9	BINARY VARIABLE-SEPTEMBER	0.0833333
d10	BINARY VARIABLE-OCTOBER	0.0833333
d11	BINARY VARIABLE-NOVEMBER	0.0833333
d954	BINARY VARIABLE-1995 4TH QTR	0.0012438
d064on	BINARY VARIABLE- 2006 4TH QTR ON	0.7649254
Jul12on	BINARY VARIABLE-JULY 2012 ON	0.6791045
oct13on	BINARY VARIABLE-OCTOBER 2013 ON	0.6604478
d17on	BINARY VARIABLE-2017 ON	0.6119403
feb99	BINARY VARIABLE-FEBRUARY 1999	0.0012438
dec95	BINARY VARIABLE-DECEMBER 1995	0.0012438
jan96	BINARY VARIABLE-JANUARY 1996	0.0012438
dec98	BINARY VARIABLE-DECEMBER 1998	0.0012438
feb18on	BINARY VARIABLE-FEBRUARY 2018 ON	0.5957711
oct19on	BINARY VARIABLE-OCTOBER 2019 ON	0.5708955
apr20on	BINARY VARIABLE-APRIL 2020 ON	0.5634328

































KENTUCKY POWER COMPANY  
MINE POWER ENERGY SALES  
EXOGENOUS VARIABLES

Obs	YEAR	MONTH	qc_kye	d05on	aug15on	may16on	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11
323	2017	11	1546546	1	1	1	0	0	0	0	0	0	0	0	0	0	1
324	2017	12	1519483	1	1	1	0	0	0	0	0	0	0	0	0	0	0
325	2018	1	1483205	1	1	1	1	0	0	0	0	0	0	0	0	0	0
326	2018	2	1442454	1	1	1	0	1	0	0	0	0	0	0	0	0	0
327	2018	3	1567742	1	1	1	0	0	1	0	0	0	0	0	0	0	0
328	2018	4	1392623	1	1	1	0	0	0	1	0	0	0	0	0	0	0
329	2018	5	1468547	1	1	1	0	0	0	0	1	0	0	0	0	0	0
330	2018	6	1477212	1	1	1	0	0	0	0	0	1	0	0	0	0	0
331	2018	7	1337163	1	1	1	0	0	0	0	0	0	1	0	0	0	0
332	2018	8	1472188	1	1	1	0	0	0	0	0	0	0	1	0	0	0
333	2018	9	1325947	1	1	1	0	0	0	0	0	0	0	0	1	0	0
334	2018	10	1419201	1	1	1	0	0	0	0	0	0	0	0	0	1	0
335	2018	11	1340803	1	1	1	0	0	0	0	0	0	0	0	0	0	1
336	2018	12	1353953	1	1	1	0	0	0	0	0	0	0	0	0	0	0
337	2019	1	1446925	1	1	1	1	0	0	0	0	0	0	0	0	0	0
338	2019	2	1281625	1	1	1	0	1	0	0	0	0	0	0	0	0	0
339	2019	3	1223442	1	1	1	0	0	1	0	0	0	0	0	0	0	0
340	2019	4	1274192	1	1	1	0	0	0	1	0	0	0	0	0	0	0
341	2019	5	1287686	1	1	1	0	0	0	0	1	0	0	0	0	0	0
342	2019	6	1180375	1	1	1	0	0	0	0	0	1	0	0	0	0	0
343	2019	7	1110345	1	1	1	0	0	0	0	0	0	1	0	0	0	0
344	2019	8	1199174	1	1	1	0	0	0	0	0	0	0	1	0	0	0
345	2019	9	1101493	1	1	1	0	0	0	0	0	0	0	0	1	0	0

Obs	d954	d064on	Jul12on	oct13on	d17on	feb99	dec95	jan96	dec98	feb18on	oct19on	apr20on	PRICE
323	0	1	1	1	1	0	0	0	0	0	0	0	CONFID.
324	0	1	1	1	1	0	0	0	0	0	0	0	CONFID.
325	0	1	1	1	1	0	0	0	0	0	0	0	CONFID.
326	0	1	1	1	1	0	0	0	0	1	0	0	CONFID.
327	0	1	1	1	1	0	0	0	0	1	0	0	CONFID.
328	0	1	1	1	1	0	0	0	0	1	0	0	CONFID.
329	0	1	1	1	1	0	0	0	0	1	0	0	CONFID.
330	0	1	1	1	1	0	0	0	0	1	0	0	CONFID.
331	0	1	1	1	1	0	0	0	0	1	0	0	CONDID.
332	0	1	1	1	1	0	0	0	0	1	0	0	CONFID.
333	0	1	1	1	1	0	0	0	0	1	0	0	CONFID.
334	0	1	1	1	1	0	0	0	0	1	0	0	CONFID.
335	0	1	1	1	1	0	0	0	0	1	0	0	CONFID.
336	0	1	1	1	1	0	0	0	0	1	0	0	CONFID.
337	0	1	1	1	1	0	0	0	0	1	0	0	CONFID.
338	0	1	1	1	1	0	0	0	0	1	0	0	CONFID.
339	0	1	1	1	1	0	0	0	0	1	0	0	CONFID.
340	0	1	1	1	1	0	0	0	0	1	0	0	CONFID.
341	0	1	1	1	1	0	0	0	0	1	0	0	CONFID.
342	0	1	1	1	1	0	0	0	0	1	0	0	CONFID.
343	0	1	1	1	1	0	0	0	0	1	0	0	CONDID.
344	0	1	1	1	1	0	0	0	0	1	0	0	CONFID.
345	0	1	1	1	1	0	0	0	0	1	0	0	CONFID.

KENTUCKY POWER COMPANY  
MINE POWER ENERGY SALES  
EXOGENOUS VARIABLES

Obs	YEAR	MONTH	qc_kye	d05on	aug15on	may16on	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11
346	2019	10	965369	1	1	1	0	0	0	0	0	0	0	0	0	1	0
347	2019	11	910448	1	1	1	0	0	0	0	0	0	0	0	0	0	1
348	2019	12	890212	1	1	1	0	0	0	0	0	0	0	0	0	0	0
349	2020	1	890517	1	1	1	1	0	0	0	0	0	0	0	0	0	0
350	2020	2	758667	1	1	1	0	1	0	0	0	0	0	0	0	0	0
351	2020	3	737566	1	1	1	0	0	1	0	0	0	0	0	0	0	0
352	2020	4	601625	1	1	1	0	0	0	1	0	0	0	0	0	0	0
353	2020	5	569766	1	1	1	0	0	0	0	1	0	0	0	0	0	0
354	2020	6	605626	1	1	1	0	0	0	0	0	1	0	0	0	0	0
355	2020	7	654004	1	1	1	0	0	0	0	0	0	1	0	0	0	0
356	2020	8	719155	1	1	1	0	0	0	0	0	0	0	1	0	0	0
357	2020	9	683119	1	1	1	0	0	0	0	0	0	0	0	1	0	0
358	2020	10	699232	1	1	1	0	0	0	0	0	0	0	0	0	1	0
359	2020	11	689235	1	1	1	0	0	0	0	0	0	0	0	0	0	1
360	2020	12	696359	1	1	1	0	0	0	0	0	0	0	0	0	0	0
361	2021	1	798695	1	1	1	1	0	0	0	0	0	0	0	0	0	0
362	2021	2	672231	1	1	1	0	1	0	0	0	0	0	0	0	0	0
363	2021	3	836946	1	1	1	0	0	1	0	0	0	0	0	0	0	0
364	2021	4	839619	1	1	1	0	0	0	1	0	0	0	0	0	0	0
365	2021	5	901027	1	1	1	0	0	0	0	1	0	0	0	0	0	0
366	2021	6	904120	1	1	1	0	0	0	0	0	1	0	0	0	0	0
367	2021	7	831962	1	1	1	0	0	0	0	0	0	1	0	0	0	0
368	2021	8	858847	1	1	1	0	0	0	0	0	0	0	1	0	0	0

Obs d954 d064on Jul12on oct13on d17on feb99 dec95 jan96 dec98 feb18on oct19on apr20on PRICE

346	0	1	1	1	1	0	0	0	0	1	1	0	CONFID.
347	0	1	1	1	1	0	0	0	0	1	1	0	CONFID.
348	0	1	1	1	1	0	0	0	0	1	1	0	CONFID.
349	0	1	1	1	1	0	0	0	0	1	1	0	CONFID.
350	0	1	1	1	1	0	0	0	0	1	1	0	CONFID.
351	0	1	1	1	1	0	0	0	0	1	1	0	CONFID.
352	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
353	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
354	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
355	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
356	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
357	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
358	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
359	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
360	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
361	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
362	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
363	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
364	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
365	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
366	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
367	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
368	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.

Obs	YEAR	MONTH	qc_kye	d05on	aug15on	may16on	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11
369	2021	9	854048	1	1	1	0	0	0	0	0	0	0	0	1	0	0
370	2021	10	809533.558	1	1	1	0	0	0	0	0	0	0	0	0	1	0
371	2021	11	805476.079	1	1	1	0	0	0	0	0	0	0	0	0	0	1
372	2021	12	807274.371	1	1	1	0	0	0	0	0	0	0	0	0	0	0
373	2022	1	864723.243	1	1	1	1	0	0	0	0	0	0	0	0	0	0
374	2022	2	828283.549	1	1	1	0	1	0	0	0	0	0	0	0	0	0
375	2022	3	871364.769	1	1	1	0	0	1	0	0	0	0	0	0	0	0
376	2022	4	839058.733	1	1	1	0	0	0	1	0	0	0	0	0	0	0
377	2022	5	862990.388	1	1	1	0	0	0	0	1	0	0	0	0	0	0
378	2022	6	878734.021	1	1	1	0	0	0	0	0	1	0	0	0	0	0
379	2022	7	859629.146	1	1	1	0	0	0	0	0	0	1	0	0	0	0
380	2022	8	874437.488	1	1	1	0	0	0	0	0	0	0	1	0	0	0
381	2022	9	859393.785	1	1	1	0	0	0	0	0	0	0	0	1	0	0
382	2022	10	807933.835	1	1	1	0	0	0	0	0	0	0	0	0	1	0
383	2022	11	803901.027	1	1	1	0	0	0	0	0	0	0	0	0	0	1
384	2022	12	805694.189	1	1	1	0	0	0	0	0	0	0	0	0	0	0
385	2023	1	858408.15	1	1	1	1	0	0	0	0	0	0	0	0	0	0
386	2023	2	827838.045	1	1	1	0	1	0	0	0	0	0	0	0	0	0
387	2023	3	867686.535	1	1	1	0	0	1	0	0	0	0	0	0	0	0
388	2023	4	835579.641	1	1	1	0	0	0	1	0	0	0	0	0	0	0
389	2023	5	859485.025	1	1	1	0	0	0	0	1	0	0	0	0	0	0
390	2023	6	875772.298	1	1	1	0	0	0	0	0	1	0	0	0	0	0
391	2023	7	855245.574	1	1	1	0	0	0	0	0	0	1	0	0	0	0

Obs	d954	d064on	Jul12on	oct13on	d17on	feb99	dec95	jan96	dec98	feb18on	oct19on	apr20on	PRICE
369	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
370	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
371	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
372	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
373	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
374	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
375	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
376	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
377	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
378	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
379	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
380	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
381	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
382	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
383	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
384	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
385	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
386	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
387	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
388	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
389	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
390	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
391	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.



Obs	YEAR	MONTH	qc_kye	d05on	aug15on	may16on	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11
392	2023	8	871685.51	1	1	1	0	0	0	0	0	0	0	1	0	0	0
393	2023	9	854579.766	1	1	1	0	0	0	0	0	0	0	0	1	0	0
394	2023	10	807887.771	1	1	1	0	0	0	0	0	0	0	0	0	1	0
395	2023	11	803572.791	1	1	1	0	0	0	0	0	0	0	0	0	0	1
396	2023	12	806046.203	1	1	1	0	0	0	0	0	0	0	0	0	0	0
397	2024	1	871380.7	1	1	1	1	0	0	0	0	0	0	0	0	0	0
398	2024	2	837383.153	1	1	1	0	1	0	0	0	0	0	0	0	0	0
399	2024	3	880805.779	1	1	1	0	0	1	0	0	0	0	0	0	0	0
400	2024	4	847187.579	1	1	1	0	0	0	1	0	0	0	0	0	0	0
401	2024	5	872234.9	1	1	1	0	0	0	0	1	0	0	0	0	0	0
402	2024	6	888678.837	1	1	1	0	0	0	0	0	1	0	0	0	0	0
403	2024	7	867474.712	1	1	1	0	0	0	0	0	0	1	0	0	0	0
404	2024	8	884168.098	1	1	1	0	0	0	0	0	0	0	1	0	0	0
405	2024	9	867192.118	1	1	1	0	0	0	0	0	0	0	0	1	0	0
406	2024	10	816689.671	1	1	1	0	0	0	0	0	0	0	0	0	1	0
407	2024	11	812260.762	1	1	1	0	0	0	0	0	0	0	0	0	0	1
408	2024	12	814709.005	1	1	1	0	0	0	0	0	0	0	0	0	0	0
409	2025	1	856550.91	1	1	1	1	0	0	0	0	0	0	0	0	0	0
410	2025	2	825148.828	1	1	1	0	1	0	0	0	0	0	0	0	0	0
411	2025	3	864960.745	1	1	1	0	0	1	0	0	0	0	0	0	0	0
412	2025	4	833236.035	1	1	1	0	0	0	1	0	0	0	0	0	0	0
413	2025	5	856813.697	1	1	1	0	0	0	0	1	0	0	0	0	0	0
414	2025	6	872884.055	1	1	1	0	0	0	0	0	1	0	0	0	0	0

Obs	d954	d064on	Jul12on	oct13on	d17on	feb99	dec95	jan96	dec98	feb18on	oct19on	apr20on	PRICE
392	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
393	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
394	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
395	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
396	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
397	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
398	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
399	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
400	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
401	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
402	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
403	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
404	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
405	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
406	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
407	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
408	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
409	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
410	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
411	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
412	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
413	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
414	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.

KENTUCKY POWER COMPANY  
MINE POWER ENERGY SALES  
EXOGENOUS VARIABLES

Obs	YEAR	MONTH	qc_kye	d05on	aug15on	may16on	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11
415	2025	7	853002.323	1	1	1	0	0	0	0	0	0	1	0	0	0	0
416	2025	8	868856.027	1	1	1	0	0	0	0	0	0	0	1	0	0	0
417	2025	9	852358.8	1	1	1	0	0	0	0	0	0	0	0	1	0	0
418	2025	10	805292.18	1	1	1	0	0	0	0	0	0	0	0	0	1	0
419	2025	11	801099.602	1	1	1	0	0	0	0	0	0	0	0	0	0	1
420	2025	12	803366.364	1	1	1	0	0	0	0	0	0	0	0	0	0	0
421	2026	1	875784.335	1	1	1	1	0	0	0	0	0	0	0	0	0	0
422	2026	2	842525.466	1	1	1	0	1	0	0	0	0	0	0	0	0	0
423	2026	3	886491.098	1	1	1	0	0	1	0	0	0	0	0	0	0	0
424	2026	4	852112.047	1	1	1	0	0	0	1	0	0	0	0	0	0	0
425	2026	5	877790.795	1	1	1	0	0	0	0	1	0	0	0	0	0	0
426	2026	6	894570.186	1	1	1	0	0	0	0	0	1	0	0	0	0	0
427	2026	7	872337.13	1	1	1	0	0	0	0	0	0	1	0	0	0	0
428	2026	8	889915.718	1	1	1	0	0	0	0	0	0	0	1	0	0	0
429	2026	9	872074.887	1	1	1	0	0	0	0	0	0	0	0	1	0	0
430	2026	10	821595.519	1	1	1	0	0	0	0	0	0	0	0	0	1	0
431	2026	11	816974	1	1	1	0	0	0	0	0	0	0	0	0	0	1
432	2026	12	819717.866	1	1	1	0	0	0	0	0	0	0	0	0	0	0
433	2027	1	869127.051	1	1	1	1	0	0	0	0	0	0	0	0	0	0
434	2027	2	836859.96	1	1	1	0	1	0	0	0	0	0	0	0	0	0
435	2027	3	879256.018	1	1	1	0	0	1	0	0	0	0	0	0	0	0
436	2027	4	845756.911	1	1	1	0	0	0	1	0	0	0	0	0	0	0
437	2027	5	870747.757	1	1	1	0	0	0	0	1	0	0	0	0	0	0

Obs	d954	d064on	Jul12on	oct13on	d17on	feb99	dec95	jan96	dec98	feb18on	oct19on	apr20on	PRICE
415	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
416	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
417	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
418	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
419	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
420	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
421	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
422	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
423	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
424	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
425	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
426	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
427	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
428	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
429	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
430	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
431	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
432	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
433	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
434	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
435	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
436	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
437	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.

Obs	YEAR	MONTH	qc_kye	d05on	aug15on	may16on	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11
438	2027	6	887331.887	1	1	1	0	0	0	0	0	1	0	0	0	0	0
439	2027	7	865773.512	1	1	1	0	0	0	0	0	0	1	0	0	0	0
440	2027	8	882896.117	1	1	1	0	0	0	0	0	0	0	1	0	0	0
441	2027	9	865358.152	1	1	1	0	0	0	0	0	0	0	0	1	0	0
442	2027	10	816305.918	1	1	1	0	0	0	0	0	0	0	0	0	1	0
443	2027	11	811805.611	1	1	1	0	0	0	0	0	0	0	0	0	0	1
444	2027	12	814438.724	1	1	1	0	0	0	0	0	0	0	0	0	0	0
445	2028	1	861308.505	1	1	1	1	0	0	0	0	0	0	0	0	0	0
446	2028	2	830421.017	1	1	1	0	1	0	0	0	0	0	0	0	0	0
447	2028	3	870906.314	1	1	1	0	0	1	0	0	0	0	0	0	0	0
448	2028	4	838406.155	1	1	1	0	0	0	1	0	0	0	0	0	0	0
449	2028	5	862621.872	1	1	1	0	0	0	0	1	0	0	0	0	0	0
450	2028	6	879010.048	1	1	1	0	0	0	0	0	1	0	0	0	0	0
451	2028	7	858146.745	1	1	1	0	0	0	0	0	0	1	0	0	0	0
452	2028	8	874829.372	1	1	1	0	0	0	0	0	0	0	1	0	0	0
453	2028	9	857540.234	1	1	1	0	0	0	0	0	0	0	0	1	0	0
454	2028	10	810308.98	1	1	1	0	0	0	0	0	0	0	0	0	1	0
455	2028	11	805932.657	1	1	1	0	0	0	0	0	0	0	0	0	0	1
456	2028	12	808471.558	1	1	1	0	0	0	0	0	0	0	0	0	0	0
457	2029	1	860068.738	1	1	1	1	0	0	0	0	0	0	0	0	0	0
458	2029	2	829293.363	1	1	1	0	1	0	0	0	0	0	0	0	0	0
459	2029	3	869514.693	1	1	1	0	0	1	0	0	0	0	0	0	0	0
460	2029	4	837185.762	1	1	1	0	0	0	1	0	0	0	0	0	0	0

Obs d954 d064on Jul12on oct13on d17on feb99 dec95 jan96 dec98 feb18on oct19on apr20on PRICE

438	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
439	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
440	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
441	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
442	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
443	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
444	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
445	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
446	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
447	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
448	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
449	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
450	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
451	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
452	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
453	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
454	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
455	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
456	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
457	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
458	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
459	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
460	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.

KENTUCKY POWER COMPANY  
MINE POWER ENERGY SALES  
EXOGENOUS VARIABLES

Obs	YEAR	MONTH	qc_kye	d05on	aug15on	may16on	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11
461	2029	5	861265.762	1	1	1	0	0	0	0	1	0	0	0	0	0	0
462	2029	6	877607.3	1	1	1	0	0	0	0	0	1	0	0	0	0	0
463	2029	7	856897.82	1	1	1	0	0	0	0	0	0	1	0	0	0	0
464	2029	8	873466.769	1	1	1	0	0	0	0	0	0	0	1	0	0	0
465	2029	9	856267.31	1	1	1	0	0	0	0	0	0	0	0	1	0	0
466	2029	10	809250.282	1	1	1	0	0	0	0	0	0	0	0	0	1	0
467	2029	11	804902.097	1	1	1	0	0	0	0	0	0	0	0	0	0	1
468	2029	12	807409.219	1	1	1	0	0	0	0	0	0	0	0	0	0	0
469	2030	1	858538.617	1	1	1	1	0	0	0	0	0	0	0	0	0	0
470	2030	2	827790.085	1	1	1	0	1	0	0	0	0	0	0	0	0	0
471	2030	3	867725.904	1	1	1	0	0	1	0	0	0	0	0	0	0	0
472	2030	4	835622.137	1	1	1	0	0	0	1	0	0	0	0	0	0	0
473	2030	5	859520.905	1	1	1	0	0	0	0	1	0	0	0	0	0	0
474	2030	6	875788.521	1	1	1	0	0	0	0	0	1	0	0	0	0	0
475	2030	7	855314.931	1	1	1	0	0	0	0	0	0	1	0	0	0	0
476	2030	8	871697.334	1	1	1	0	0	0	0	0	0	0	1	0	0	0
477	2030	9	854661.325	1	1	1	0	0	0	0	0	0	0	0	1	0	0
478	2030	10	807830.992	1	1	1	0	0	0	0	0	0	0	0	0	1	0
479	2030	11	803526.463	1	1	1	0	0	0	0	0	0	0	0	0	0	1
480	2030	12	805976.655	1	1	1	0	0	0	0	0	0	0	0	0	0	0
481	2031	1	866452.014	1	1	1	1	0	0	0	0	0	0	0	0	0	0
482	2031	2	834541.344	1	1	1	0	1	0	0	0	0	0	0	0	0	0
483	2031	3	876323.787	1	1	1	0	0	1	0	0	0	0	0	0	0	0

Obs	d954	d064on	Jul12on	oct13on	d17on	feb99	dec95	jan96	dec98	feb18on	oct19on	apr20on	PRICE
461	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
462	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
463	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
464	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
465	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
466	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
467	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
468	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
469	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
470	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
471	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
472	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
473	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
474	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
475	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
476	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
477	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
478	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
479	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
480	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
481	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
482	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
483	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.

Obs	YEAR	MONTH	qc_kye	d05on	aug15on	may16on	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11
484	2031	4	843182.028	1	1	1	0	0	0	1	0	0	0	0	0	0	0
485	2031	5	867892.449	1	1	1	0	0	0	0	1	0	0	0	0	0	0
486	2031	6	884392.275	1	1	1	0	0	0	0	0	1	0	0	0	0	0
487	2031	7	863120.8	1	1	1	0	0	0	0	0	0	1	0	0	0	0
488	2031	8	880043.908	1	1	1	0	0	0	0	0	0	0	1	0	0	0
489	2031	9	862646.614	1	1	1	0	0	0	0	0	0	0	0	1	0	0
490	2031	10	814137.643	1	1	1	0	0	0	0	0	0	0	0	0	1	0
491	2031	11	809689.195	1	1	1	0	0	0	0	0	0	0	0	0	0	1
492	2031	12	812271.45	1	1	1	0	0	0	0	0	0	0	0	0	0	0
493	2032	1	858422.427	1	1	1	1	0	0	0	0	0	0	0	0	0	0
494	2032	2	828503.792	1	1	1	0	1	0	0	0	0	0	0	0	0	0
495	2032	3	868121.738	1	1	1	0	0	1	0	0	0	0	0	0	0	0
496	2032	4	835930.197	1	1	1	0	0	0	1	0	0	0	0	0	0	0
497	2032	5	859918.878	1	1	1	0	0	0	0	1	0	0	0	0	0	0
498	2032	6	876302.891	1	1	1	0	0	0	0	0	1	0	0	0	0	0
499	2032	7	855503.008	1	1	1	0	0	0	0	0	0	1	0	0	0	0
500	2032	8	872216.369	1	1	1	0	0	0	0	0	0	0	1	0	0	0
501	2032	9	854799.555	1	1	1	0	0	0	0	0	0	0	0	1	0	0
502	2032	10	808558.892	1	1	1	0	0	0	0	0	0	0	0	0	1	0
503	2032	11	804191.051	1	1	1	0	0	0	0	0	0	0	0	0	0	1
504	2032	12	806768.903	1	1	1	0	0	0	0	0	0	0	0	0	0	0
505	2033	1	845106.415	1	1	1	1	0	0	0	0	0	0	0	0	0	0
506	2033	2	816987.46	1	1	1	0	1	0	0	0	0	0	0	0	0	0

Obs d954 d064on Jul12on oct13on d17on feb99 dec95 jan96 dec98 feb18on oct19on apr20on PRICE

484	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
485	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
486	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
487	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
488	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
489	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
490	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
491	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
492	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
493	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
494	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
495	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
496	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
497	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
498	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
499	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
500	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
501	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
502	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
503	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
504	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
505	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
506	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.

Obs	YEAR	MONTH	qc_kye	d05on	aug15on	may16on	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11
507	2033	3	853576.574	1	1	1	0	0	1	0	0	0	0	0	0	0	0
508	2033	4	823133.661	1	1	1	0	0	0	1	0	0	0	0	0	0	0
509	2033	5	845751.34	1	1	1	0	0	0	0	1	0	0	0	0	0	0
510	2033	6	861725.626	1	1	1	0	0	0	0	0	1	0	0	0	0	0
511	2033	7	842313.963	1	1	1	0	0	0	0	0	0	1	0	0	0	0
512	2033	8	858066.85	1	1	1	0	0	0	0	0	0	0	1	0	0	0
513	2033	9	841320.593	1	1	1	0	0	0	0	0	0	0	0	1	0	0
514	2033	10	797785.843	1	1	1	0	0	0	0	0	0	0	0	0	1	0
515	2033	11	793670.053	1	1	1	0	0	0	0	0	0	0	0	0	0	1
516	2033	12	796004.897	1	1	1	0	0	0	0	0	0	0	0	0	0	0
517	2034	1	845661.654	1	1	1	1	0	0	0	0	0	0	0	0	0	0
518	2034	2	817252.937	1	1	1	0	1	0	0	0	0	0	0	0	0	0
519	2034	3	854044.965	1	1	1	0	0	1	0	0	0	0	0	0	0	0
520	2034	4	823556.574	1	1	1	0	0	0	1	0	0	0	0	0	0	0
521	2034	5	846204.347	1	1	1	0	0	0	0	1	0	0	0	0	0	0
522	2034	6	862164.064	1	1	1	0	0	0	0	0	1	0	0	0	0	0
523	2034	7	842783.975	1	1	1	0	0	0	0	0	0	1	0	0	0	0
524	2034	8	858487.274	1	1	1	0	0	0	0	0	0	0	1	0	0	0
525	2034	9	841815.097	1	1	1	0	0	0	0	0	0	0	0	1	0	0
526	2034	10	798018.273	1	1	1	0	0	0	0	0	0	0	0	0	1	0
527	2034	11	793909.294	1	1	1	0	0	0	0	0	0	0	0	0	0	1
528	2034	12	796219.953	1	1	1	0	0	0	0	0	0	0	0	0	0	0
529	2035	1	841017.046	1	1	1	1	0	0	0	0	0	0	0	0	0	0

Obs d954 d064on Jul12on oct13on d17on feb99 dec95 jan96 dec98 feb18on oct19on apr20on PRICE

507	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
508	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
509	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
510	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
511	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
512	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
513	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
514	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
515	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
516	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
517	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
518	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
519	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
520	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
521	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
522	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
523	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
524	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
525	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
526	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
527	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
528	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
529	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.

Obs	YEAR	MONTH	qc_kye	d05on	aug15on	may16on	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11
530	2035	2	813721.618	1	1	1	0	1	0	0	0	0	0	0	0	0	0
531	2035	3	849289.091	1	1	1	0	0	1	0	0	0	0	0	0	0	0
532	2035	4	819344.566	1	1	1	0	0	0	1	0	0	0	0	0	0	0
533	2035	5	841578.591	1	1	1	0	0	0	0	1	0	0	0	0	0	0
534	2035	6	857467.905	1	1	1	0	0	0	0	0	1	0	0	0	0	0
535	2035	7	838365.347	1	1	1	0	0	0	0	0	0	1	0	0	0	0
536	2035	8	853939.622	1	1	1	0	0	0	0	0	0	0	1	0	0	0
537	2035	9	837267.949	1	1	1	0	0	0	0	0	0	0	0	1	0	0
538	2035	10	794750.052	1	1	1	0	0	0	0	0	0	0	0	0	1	0
539	2035	11	790689.211	1	1	1	0	0	0	0	0	0	0	0	0	0	1
540	2035	12	792993.636	1	1	1	0	0	0	0	0	0	0	0	0	0	0
541	2036	1	837656.712	1	1	1	1	0	0	0	0	0	0	0	0	0	0
542	2036	2	810605.537	1	1	1	0	1	0	0	0	0	0	0	0	0	0
543	2036	3	845491.507	1	1	1	0	0	1	0	0	0	0	0	0	0	0
544	2036	4	816009.01	1	1	1	0	0	0	1	0	0	0	0	0	0	0
545	2036	5	837875.485	1	1	1	0	0	0	0	1	0	0	0	0	0	0
546	2036	6	853631.905	1	1	1	0	0	0	0	0	1	0	0	0	0	0
547	2036	7	834960.433	1	1	1	0	0	0	0	0	0	1	0	0	0	0
548	2036	8	850209.732	1	1	1	0	0	0	0	0	0	0	1	0	0	0
549	2036	9	833802.946	1	1	1	0	0	0	0	0	0	0	0	1	0	0
550	2036	10	791818.241	1	1	1	0	0	0	0	0	0	0	0	0	1	0
551	2036	11	787837.026	1	1	1	0	0	0	0	0	0	0	0	0	0	1
552	2036	12	790047.922	1	1	1	0	0	0	0	0	0	0	0	0	0	0

Obs d954 d064on Jul12on oct13on d17on feb99 dec95 jan96 dec98 feb18on oct19on apr20on PRICE

530	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
531	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
532	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
533	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
534	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
535	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
536	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
537	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
538	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
539	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
540	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
541	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
542	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
543	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
544	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
545	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
546	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
547	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
548	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
549	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
550	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
551	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
552	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.

Obs	YEAR	MONTH	qc_kye	d05on	aug15on	may16on	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11
553	2037	1	837258.164	1	1	1	1	0	0	0	0	0	0	0	0	0	0
554	2037	2	810110.047	1	1	1	0	1	0	0	0	0	0	0	0	0	0
555	2037	3	844960.77	1	1	1	0	0	1	0	0	0	0	0	0	0	0
556	2037	4	815548.687	1	1	1	0	0	0	1	0	0	0	0	0	0	0
557	2037	5	837356.078	1	1	1	0	0	0	0	1	0	0	0	0	0	0
558	2037	6	853078.307	1	1	1	0	0	0	0	0	1	0	0	0	0	0
559	2037	7	834509.869	1	1	1	0	0	0	0	0	0	1	0	0	0	0
560	2037	8	849668.484	1	1	1	0	0	0	0	0	0	0	1	0	0	0
561	2037	9	833352.59	1	1	1	0	0	0	0	0	0	0	0	1	0	0
562	2037	10	791343.271	1	1	1	0	0	0	0	0	0	0	0	0	1	0
563	2037	11	787381.584	1	1	1	0	0	0	0	0	0	0	0	0	0	1
564	2037	12	789561.359	1	1	1	0	0	0	0	0	0	0	0	0	0	0
565	2038	1	835983.002	1	1	1	1	0	0	0	0	0	0	0	0	0	0
566	2038	2	809374.808	1	1	1	0	1	0	0	0	0	0	0	0	0	0
567	2038	3	843806.103	1	1	1	0	0	1	0	0	0	0	0	0	0	0
568	2038	4	814513.035	1	1	1	0	0	0	1	0	0	0	0	0	0	0
569	2038	5	836236.661	1	1	1	0	0	0	0	1	0	0	0	0	0	0
570	2038	6	851974.129	1	1	1	0	0	0	0	0	1	0	0	0	0	0
571	2038	7	833383.964	1	1	1	0	0	0	0	0	0	1	0	0	0	0
572	2038	8	848605.177	1	1	1	0	0	0	0	0	0	0	1	0	0	0
573	2038	9	832177.963	1	1	1	0	0	0	0	0	0	0	0	1	0	0
574	2038	10	790682.515	1	1	1	0	0	0	0	0	0	0	0	0	1	0
575	2038	11	786715.089	1	1	1	0	0	0	0	0	0	0	0	0	0	1

Obs d954 d064on Jul12on oct13on d17on feb99 dec95 jan96 dec98 feb18on oct19on apr20on PRICE

553	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
554	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
555	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
556	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
557	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
558	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
559	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
560	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
561	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
562	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
563	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
564	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
565	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
566	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
567	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
568	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
569	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
570	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
571	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
572	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
573	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
574	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
575	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.



Obs	YEAR	MONTH	qc_kye	d05on	aug15on	may16on	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11
576	2038	12	788930.713	1	1	1	0	0	0	0	0	0	0	0	0	0	0
577	2039	1	833078.363	1	1	1	1	0	0	0	0	0	0	0	0	0	0
578	2039	2	806584.259	1	1	1	0	1	0	0	0	0	0	0	0	0	0
579	2039	3	840464.096	1	1	1	0	0	1	0	0	0	0	0	0	0	0
580	2039	4	811580.547	1	1	1	0	0	0	1	0	0	0	0	0	0	0
581	2039	5	832976.052	1	1	1	0	0	0	0	1	0	0	0	0	0	0
582	2039	6	848584.912	1	1	1	0	0	0	0	0	1	0	0	0	0	0
583	2039	7	830405.27	1	1	1	0	0	0	0	0	0	1	0	0	0	0
584	2039	8	845306.982	1	1	1	0	0	0	0	0	0	0	1	0	0	0
585	2039	9	829153.266	1	1	1	0	0	0	0	0	0	0	0	1	0	0
586	2039	10	788049.791	1	1	1	0	0	0	0	0	0	0	0	0	1	0
587	2039	11	784158.679	1	1	1	0	0	0	0	0	0	0	0	0	0	1
588	2039	12	786278.435	1	1	1	0	0	0	0	0	0	0	0	0	0	0
589	2040	1	828600.363	1	1	1	1	0	0	0	0	0	0	0	0	0	0
590	2040	2	802939.615	1	1	1	0	1	0	0	0	0	0	0	0	0	0
591	2040	3	835734.509	1	1	1	0	0	1	0	0	0	0	0	0	0	0
592	2040	4	807398.201	1	1	1	0	0	0	1	0	0	0	0	0	0	0
593	2040	5	828370.81	1	1	1	0	0	0	0	1	0	0	0	0	0	0
594	2040	6	843878.201	1	1	1	0	0	0	0	0	1	0	0	0	0	0
595	2040	7	826057.646	1	1	1	0	0	0	0	0	0	1	0	0	0	0
596	2040	8	840741.129	1	1	1	0	0	0	0	0	0	0	1	0	0	0
597	2040	9	824696.86	1	1	1	0	0	0	0	0	0	0	0	1	0	0
598	2040	10	784654.954	1	1	1	0	0	0	0	0	0	0	0	0	1	0

Obs d954 d064on Jul12on oct13on d17on feb99 dec95 jan96 dec98 feb18on oct19on apr20on PRICE

576	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
577	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
578	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
579	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
580	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
581	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
582	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
583	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
584	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
585	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
586	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
587	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
588	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
589	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
590	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
591	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
592	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
593	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
594	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
595	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
596	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
597	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
598	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.

Obs	YEAR	MONTH	qc_kye	d05on	aug15on	may16on	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11
599	2040	11	780828.438	1	1	1	0	0	0	0	0	0	0	0	0	0	1
600	2040	12	782905.594	1	1	1	0	0	0	0	0	0	0	0	0	0	0
601	2041	1	821054.062	1	1	1	1	0	0	0	0	0	0	0	0	0	0
602	2041	2	796652.997	1	1	1	0	1	0	0	0	0	0	0	0	0	0
603	2041	3	827679.392	1	1	1	0	0	1	0	0	0	0	0	0	0	0
604	2041	4	800277.432	1	1	1	0	0	0	1	0	0	0	0	0	0	0
605	2041	5	820524.254	1	1	1	0	0	0	0	1	0	0	0	0	0	0
606	2041	6	835840.796	1	1	1	0	0	0	0	0	1	0	0	0	0	0
607	2041	7	818678.713	1	1	1	0	0	0	0	0	0	1	0	0	0	0
608	2041	8	832939.25	1	1	1	0	0	0	0	0	0	0	1	0	0	0
609	2041	9	817143.982	1	1	1	0	0	0	0	0	0	0	0	1	0	0
610	2041	10	778786.628	1	1	1	0	0	0	0	0	0	0	0	0	1	0
611	2041	11	775079.673	1	1	1	0	0	0	0	0	0	0	0	0	0	1
612	2041	12	777063.363	1	1	1	0	0	0	0	0	0	0	0	0	0	0
613	2042	1	818723.805	1	1	1	1	0	0	0	0	0	0	0	0	0	0
614	2042	2	794896.101	1	1	1	0	1	0	0	0	0	0	0	0	0	0
615	2042	3	825311.244	1	1	1	0	0	1	0	0	0	0	0	0	0	0
616	2042	4	798173.58	1	1	1	0	0	0	1	0	0	0	0	0	0	0
617	2042	5	818220.056	1	1	1	0	0	0	0	1	0	0	0	0	0	0
618	2042	6	833504.904	1	1	1	0	0	0	0	0	1	0	0	0	0	0
619	2042	7	816468.76	1	1	1	0	0	0	0	0	0	1	0	0	0	0
620	2042	8	830676.067	1	1	1	0	0	0	0	0	0	0	1	0	0	0
621	2042	9	814869.844	1	1	1	0	0	0	0	0	0	0	0	1	0	0

Obs	d954	d064on	Jul12on	oct13on	d17on	feb99	dec95	jan96	dec98	feb18on	oct19on	apr20on	PRICE
599	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
600	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
601	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
602	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
603	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
604	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
605	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
606	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
607	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
608	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
609	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
610	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
611	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
612	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
613	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
614	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
615	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
616	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
617	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
618	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
619	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
620	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
621	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.

Obs	YEAR	MONTH	qc_kye	d05on	aug15on	may16on	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11
622	2042	10	777160.687	1	1	1	0	0	0	0	0	0	0	0	0	1	0
623	2042	11	773475.666	1	1	1	0	0	0	0	0	0	0	0	0	0	1
624	2042	12	775460.192	1	1	1	0	0	0	0	0	0	0	0	0	0	0
625	2043	1	816117.863	1	1	1	1	0	0	0	0	0	0	0	0	0	0
626	2043	2	792402.416	1	1	1	0	1	0	0	0	0	0	0	0	0	0
627	2043	3	822327.521	1	1	1	0	0	1	0	0	0	0	0	0	0	0
628	2043	4	795549.757	1	1	1	0	0	0	1	0	0	0	0	0	0	0
629	2043	5	815308.145	1	1	1	0	0	0	0	1	0	0	0	0	0	0
630	2043	6	830480.588	1	1	1	0	0	0	0	0	1	0	0	0	0	0
631	2043	7	813801.69	1	1	1	0	0	0	0	0	0	1	0	0	0	0
632	2043	8	827731.713	1	1	1	0	0	0	0	0	0	0	1	0	0	0
633	2043	9	812161.885	1	1	1	0	0	0	0	0	0	0	0	1	0	0
634	2043	10	774807.301	1	1	1	0	0	0	0	0	0	0	0	0	1	0
635	2043	11	771189.009	1	1	1	0	0	0	0	0	0	0	0	0	0	1
636	2043	12	773090.472	1	1	1	0	0	0	0	0	0	0	0	0	0	0
637	2044	1	816102.997	1	1	1	1	0	0	0	0	0	0	0	0	0	0
638	2044	2	792400.481	1	1	1	0	1	0	0	0	0	0	0	0	0	0
639	2044	3	822318.318	1	1	1	0	0	1	0	0	0	0	0	0	0	0
640	2044	4	795541.092	1	1	1	0	0	0	1	0	0	0	0	0	0	0
641	2044	5	815299.342	1	1	1	0	0	0	0	1	0	0	0	0	0	0
642	2044	6	830472.936	1	1	1	0	0	0	0	0	1	0	0	0	0	0
643	2044	7	813791.025	1	1	1	0	0	0	0	0	0	1	0	0	0	0
644	2044	8	827724.543	1	1	1	0	0	0	0	0	0	0	1	0	0	0

Obs	d954	d064on	Jul12on	oct13on	d17on	feb99	dec95	jan96	dec98	feb18on	oct19on	apr20on	PRICE
622	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
623	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
624	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
625	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
626	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
627	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
628	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
629	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
630	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
631	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
632	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
633	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
634	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
635	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
636	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
637	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
638	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
639	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
640	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
641	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
642	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
643	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
644	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.

Obs	YEAR	MONTH	qc_kye	d05on	aug15on	may16on	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11
645	2044	9	812150.273	1	1	1	0	0	0	0	0	0	0	0	1	0	0
646	2044	10	774806.305	1	1	1	0	0	0	0	0	0	0	0	0	1	0
647	2044	11	771187.41	1	1	1	0	0	0	0	0	0	0	0	0	0	1
648	2044	12	773090.356	1	1	1	0	0	0	0	0	0	0	0	0	0	0
649	2045	1	816223.852	1	1	1	1	0	0	0	0	0	0	0	0	0	0
650	2045	2	792568.636	1	1	1	0	1	0	0	0	0	0	0	0	0	0
651	2045	3	822490.053	1	1	1	0	0	1	0	0	0	0	0	0	0	0
652	2045	4	795689.697	1	1	1	0	0	0	1	0	0	0	0	0	0	0
653	2045	5	815467.706	1	1	1	0	0	0	0	1	0	0	0	0	0	0
654	2045	6	830654.161	1	1	1	0	0	0	0	0	1	0	0	0	0	0
655	2045	7	813934.149	1	1	1	0	0	0	0	0	0	1	0	0	0	0
656	2045	8	827902.18	1	1	1	0	0	0	0	0	0	0	1	0	0	0
657	2045	9	812292.237	1	1	1	0	0	0	0	0	0	0	0	1	0	0
658	2045	10	774968.557	1	1	1	0	0	0	0	0	0	0	0	0	1	0
659	2045	11	771342.372	1	1	1	0	0	0	0	0	0	0	0	0	0	1
660	2045	12	773257.52	1	1	1	0	0	0	0	0	0	0	0	0	0	0
661	2046	1	815846.058	1	1	1	1	0	0	0	0	0	0	0	0	0	0
662	2046	2	792111.863	1	1	1	0	1	0	0	0	0	0	0	0	0	0
663	2046	3	821997.024	1	1	1	0	0	1	0	0	0	0	0	0	0	0
664	2046	4	795260.486	1	1	1	0	0	0	1	0	0	0	0	0	0	0
665	2046	5	814985.153	1	1	1	0	0	0	0	1	0	0	0	0	0	0
666	2046	6	830141.448	1	1	1	0	0	0	0	0	1	0	0	0	0	0
667	2046	7	813512.248	1	1	1	0	0	0	0	0	0	1	0	0	0	0

Obs	d954	d064on	Jul12on	oct13on	d17on	feb99	dec95	jan96	dec98	feb18on	oct19on	apr20on	PRICE
645	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
646	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
647	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
648	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
649	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
650	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
651	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
652	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
653	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
654	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
655	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
656	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
657	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
658	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
659	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
660	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
661	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
662	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
663	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
664	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
665	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
666	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
667	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.

Obs	YEAR	MONTH	qc_kye	d05on	aug15on	may16on	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11
668	2046	8	827400.831	1	1	1	0	0	0	0	0	0	0	1	0	0	0
669	2046	9	811869.958	1	1	1	0	0	0	0	0	0	0	0	1	0	0
670	2046	10	774531.02	1	1	1	0	0	0	0	0	0	0	0	0	1	0
671	2046	11	770922.114	1	1	1	0	0	0	0	0	0	0	0	0	0	1
672	2046	12	772810.081	1	1	1	0	0	0	0	0	0	0	0	0	0	0
673	2047	1	815684.329	1	1	1	1	0	0	0	0	0	0	0	0	0	0
674	2047	2	791925.873	1	1	1	0	1	0	0	0	0	0	0	0	0	0
675	2047	3	821792.047	1	1	1	0	0	1	0	0	0	0	0	0	0	0
676	2047	4	795081.645	1	1	1	0	0	0	1	0	0	0	0	0	0	0
677	2047	5	814784.651	1	1	1	0	0	0	0	1	0	0	0	0	0	0
678	2047	6	829929.429	1	1	1	0	0	0	0	0	1	0	0	0	0	0
679	2047	7	813335.174	1	1	1	0	0	0	0	0	0	1	0	0	0	0
680	2047	8	827193.695	1	1	1	0	0	0	0	0	0	0	1	0	0	0
681	2047	9	811692.168	1	1	1	0	0	0	0	0	0	0	0	1	0	0
682	2047	10	774353.37	1	1	1	0	0	0	0	0	0	0	0	0	1	0
683	2047	11	770751.097	1	1	1	0	0	0	0	0	0	0	0	0	0	1
684	2047	12	772628.949	1	1	1	0	0	0	0	0	0	0	0	0	0	0
685	2048	1	816229.42	1	1	1	1	0	0	0	0	0	0	0	0	0	0
686	2048	2	792625.681	1	1	1	0	1	0	0	0	0	0	0	0	0	0
687	2048	3	822529.313	1	1	1	0	0	1	0	0	0	0	0	0	0	0
688	2048	4	795721.825	1	1	1	0	0	0	1	0	0	0	0	0	0	0
689	2048	5	815506.769	1	1	1	0	0	0	0	1	0	0	0	0	0	0
690	2048	6	830701.004	1	1	1	0	0	0	0	0	1	0	0	0	0	0

Obs	d954	d064on	Jul12on	oct13on	d17on	feb99	dec95	jan96	dec98	feb18on	oct19on	apr20on	PRICE
668	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
669	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
670	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
671	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
672	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
673	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
674	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
675	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
676	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
677	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
678	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
679	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
680	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
681	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
682	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
683	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
684	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
685	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
686	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
687	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
688	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
689	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
690	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.

Obs	YEAR	MONTH	qc_kye	d05on	aug15on	may16on	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11
691	2048	7	813958.993	1	1	1	0	0	0	0	0	0	1	0	0	0	0
692	2048	8	827948.965	1	1	1	0	0	0	0	0	0	0	1	0	0	0
693	2048	9	812314.162	1	1	1	0	0	0	0	0	0	0	0	1	0	0
694	2048	10	775025.892	1	1	1	0	0	0	0	0	0	0	0	0	1	0
695	2048	11	771395.427	1	1	1	0	0	0	0	0	0	0	0	0	0	1
696	2048	12	773318.983	1	1	1	0	0	0	0	0	0	0	0	0	0	0
697	2049	1	816342.136	1	1	1	1	0	0	0	0	0	0	0	0	0	0
698	2049	2	792783.646	1	1	1	0	1	0	0	0	0	0	0	0	0	0
699	2049	3	822690.206	1	1	1	0	0	1	0	0	0	0	0	0	0	0
700	2049	4	795861.003	1	1	1	0	0	0	1	0	0	0	0	0	0	0
701	2049	5	815664.517	1	1	1	0	0	0	0	1	0	0	0	0	0	0
702	2049	6	830870.915	1	1	1	0	0	0	0	0	1	0	0	0	0	0
703	2049	7	814092.897	1	1	1	0	0	0	0	0	0	1	0	0	0	0
704	2049	8	828115.53	1	1	1	0	0	0	0	0	0	0	1	0	0	0
705	2049	9	812446.918	1	1	1	0	0	0	0	0	0	0	0	1	0	0
706	2049	10	775178.363	1	1	1	0	0	0	0	0	0	0	0	0	1	0
707	2049	11	771541.006	1	1	1	0	0	0	0	0	0	0	0	0	0	1
708	2049	12	773476.125	1	1	1	0	0	0	0	0	0	0	0	0	0	0
709	2050	1	816642.3	1	1	1	1	0	0	0	0	0	0	0	0	0	0
710	2050	2	793176.598	1	1	1	0	1	0	0	0	0	0	0	0	0	0
711	2050	3	823101.062	1	1	1	0	0	1	0	0	0	0	0	0	0	0
712	2050	4	796217.428	1	1	1	0	0	0	1	0	0	0	0	0	0	0
713	2050	5	816067.019	1	1	1	0	0	0	0	1	0	0	0	0	0	0

Obs d954 d064on Jul12on oct13on d17on feb99 dec95 jan96 dec98 feb18on oct19on apr20on PRICE

691	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
692	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
693	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
694	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
695	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
696	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
697	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
698	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
699	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
700	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
701	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
702	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
703	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
704	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
705	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
706	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
707	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
708	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
709	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
710	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
711	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
712	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
713	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.

Obs	YEAR	MONTH	qc_kye	d05on	aug15on	may16on	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11
714	2050	6	831301.77	1	1	1	0	0	0	0	0	1	0	0	0	0	0
715	2050	7	814439.228	1	1	1	0	0	0	0	0	0	1	0	0	0	0
716	2050	8	828537.413	1	1	1	0	0	0	0	0	0	0	1	0	0	0
717	2050	9	812791.807	1	1	1	0	0	0	0	0	0	0	0	1	0	0
718	2050	10	775556.367	1	1	1	0	0	0	0	0	0	0	0	0	1	0
719	2050	11	771902.87	1	1	1	0	0	0	0	0	0	0	0	0	0	1
720	2050	12	773864.378	1	1	1	0	0	0	0	0	0	0	0	0	0	0
721	2051	1	816945.175	1	1	1	1	0	0	0	0	0	0	0	0	0	0
722	2051	2	793573.002	1	1	1	0	1	0	0	0	0	0	0	0	0	0
723	2051	3	823515.588	1	1	1	0	0	1	0	0	0	0	0	0	0	0
724	2051	4	796577.024	1	1	1	0	0	0	1	0	0	0	0	0	0	0
725	2051	5	816473.112	1	1	1	0	0	0	0	1	0	0	0	0	0	0
726	2051	6	831736.466	1	1	1	0	0	0	0	0	1	0	0	0	0	0
727	2051	7	814788.651	1	1	1	0	0	0	0	0	0	1	0	0	0	0
728	2051	8	828963.05	1	1	1	0	0	0	0	0	0	0	1	0	0	0
729	2051	9	813139.783	1	1	1	0	0	0	0	0	0	0	0	1	0	0
730	2051	10	775937.68	1	1	1	0	0	0	0	0	0	0	0	0	1	0
731	2051	11	772267.901	1	1	1	0	0	0	0	0	0	0	0	0	0	1
732	2051	12	774256.027	1	1	1	0	0	0	0	0	0	0	0	0	0	0
733	2052	1	817250.783	1	1	1	1	0	0	0	0	0	0	0	0	0	0
734	2052	2	793972.887	1	1	1	0	1	0	0	0	0	0	0	0	0	0
735	2052	3	823933.816	1	1	1	0	0	1	0	0	0	0	0	0	0	0
736	2052	4	796939.818	1	1	1	0	0	0	1	0	0	0	0	0	0	0

Obs d954 d064on Jul12on oct13on d17on feb99 dec95 jan96 dec98 feb18on oct19on apr20on PRICE

714	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
715	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
716	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
717	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
718	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
719	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
720	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
721	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
722	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
723	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
724	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
725	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
726	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
727	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
728	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
729	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
730	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
731	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
732	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
733	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
734	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
735	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
736	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.

Obs	YEAR	MONTH	qc_kye	d05on	aug15on	may16on	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11
737	2052	5	816882.827	1	1	1	0	0	0	0	1	0	0	0	0	0	0
738	2052	6	832175.035	1	1	1	0	0	0	0	0	1	0	0	0	0	0
739	2052	7	815141.193	1	1	1	0	0	0	0	0	0	1	0	0	0	0
740	2052	8	829392.474	1	1	1	0	0	0	0	0	0	0	1	0	0	0
741	2052	9	813490.873	1	1	1	0	0	0	0	0	0	0	0	1	0	0
742	2052	10	776322.331	1	1	1	0	0	0	0	0	0	0	0	0	1	0
743	2052	11	772636.125	1	1	1	0	0	0	0	0	0	0	0	0	0	1
744	2052	12	774651.103	1	1	1	0	0	0	0	0	0	0	0	0	0	0
745	2053	1	817559.146	1	1	1	1	0	0	0	0	0	0	0	0	0	0
746	2053	2	794376.282	1	1	1	0	1	0	0	0	0	0	0	0	0	0
747	2053	3	824355.779	1	1	1	0	0	1	0	0	0	0	0	0	0	0
748	2053	4	797305.839	1	1	1	0	0	0	1	0	0	0	0	0	0	0
749	2053	5	817296.197	1	1	1	0	0	0	0	1	0	0	0	0	0	0
750	2053	6	832617.513	1	1	1	0	0	0	0	0	1	0	0	0	0	0
751	2053	7	815496.881	1	1	1	0	0	0	0	0	0	1	0	0	0	0
752	2053	8	829825.717	1	1	1	0	0	0	0	0	0	0	1	0	0	0
753	2053	9	813845.104	1	1	1	0	0	0	0	0	0	0	0	1	0	0
754	2053	10	776710.349	1	1	1	0	0	0	0	0	0	0	0	0	1	0
755	2053	11	773007.571	1	1	1	0	0	0	0	0	0	0	0	0	0	1
756	2053	12	775049.635	1	1	1	0	0	0	0	0	0	0	0	0	0	0
757	2054	1	817870.29	1	1	1	1	0	0	0	0	0	0	0	0	0	0
758	2054	2	794783.22	1	1	1	0	1	0	0	0	0	0	0	0	0	0
759	2054	3	824781.508	1	1	1	0	0	1	0	0	0	0	0	0	0	0

Obs d954 d064on Jul12on oct13on d17on feb99 dec95 jan96 dec98 feb18on oct19on apr20on PRICE

737	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
738	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
739	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
740	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
741	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
742	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
743	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
744	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
745	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
746	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
747	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
748	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
749	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
750	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
751	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
752	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
753	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
754	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
755	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
756	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
757	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
758	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
759	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.



Obs	YEAR	MONTH	qc_kye	d05on	aug15on	may16on	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11
760	2054	4	797675.113	1	1	1	0	0	0	1	0	0	0	0	0	0	0
761	2054	5	817713.253	1	1	1	0	0	0	0	1	0	0	0	0	0	0
762	2054	6	833063.933	1	1	1	0	0	0	0	0	1	0	0	0	0	0
763	2054	7	815855.741	1	1	1	0	0	0	0	0	0	1	0	0	0	0
764	2054	8	830262.813	1	1	1	0	0	0	0	0	0	0	1	0	0	0
765	2054	9	814202.502	1	1	1	0	0	0	0	0	0	0	0	1	0	0
766	2054	10	777101.763	1	1	1	0	0	0	0	0	0	0	0	0	1	0
767	2054	11	773382.267	1	1	1	0	0	0	0	0	0	0	0	0	0	1
768	2054	12	775451.654	1	1	1	0	0	0	0	0	0	0	0	0	0	0
769	2055	1	818184.235	1	1	1	1	0	0	0	0	0	0	0	0	0	0
770	2055	2	795193.729	1	1	1	0	1	0	0	0	0	0	0	0	0	0
771	2055	3	825211.037	1	1	1	0	0	1	0	0	0	0	0	0	0	0
772	2055	4	798047.669	1	1	1	0	0	0	1	0	0	0	0	0	0	0
773	2055	5	818134.026	1	1	1	0	0	0	0	1	0	0	0	0	0	0
774	2055	6	833514.328	1	1	1	0	0	0	0	0	1	0	0	0	0	0
775	2055	7	816217.801	1	1	1	0	0	0	0	0	0	1	0	0	0	0
776	2055	8	830703.796	1	1	1	0	0	0	0	0	0	0	1	0	0	0
777	2055	9	814563.095	1	1	1	0	0	0	0	0	0	0	0	1	0	0
778	2055	10	777496.602	1	1	1	0	0	0	0	0	0	0	0	0	1	0
779	2055	11	773760.239	1	1	1	0	0	0	0	0	0	0	0	0	0	1
780	2055	12	775857.189	1	1	1	0	0	0	0	0	0	0	0	0	0	0
781	2056	1	818501.007	1	1	1	1	0	0	0	0	0	0	0	0	0	0
782	2056	2	795607.842	1	1	1	0	1	0	0	0	0	0	0	0	0	0

Obs d954 d064on Jul12on oct13on d17on feb99 dec95 jan96 dec98 feb18on oct19on apr20on PRICE

760	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
761	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
762	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
763	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
764	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
765	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
766	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
767	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
768	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
769	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
770	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
771	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
772	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
773	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
774	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
775	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
776	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
777	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
778	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
779	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
780	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
781	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
782	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.

Obs	YEAR	MONTH	qc_kye	d05on	aug15on	may16on	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11
783	2056	3	825644.399	1	1	1	0	0	1	0	0	0	0	0	0	0	0
784	2056	4	798423.534	1	1	1	0	0	0	1	0	0	0	0	0	0	0
785	2056	5	818558.55	1	1	1	0	0	0	0	1	0	0	0	0	0	0
786	2056	6	833968.735	1	1	1	0	0	0	0	0	1	0	0	0	0	0
787	2056	7	816583.087	1	1	1	0	0	0	0	0	0	1	0	0	0	0
788	2056	8	831148.699	1	1	1	0	0	0	0	0	0	0	1	0	0	0
789	2056	9	814926.909	1	1	1	0	0	0	0	0	0	0	0	1	0	0
790	2056	10	777894.896	1	1	1	0	0	0	0	0	0	0	0	0	1	0
791	2056	11	774141.517	1	1	1	0	0	0	0	0	0	0	0	0	0	1
792	2056	12	776266.271	1	1	1	0	0	0	0	0	0	0	0	0	0	0
793	2057	1	818820.63	1	1	1	1	0	0	0	0	0	0	0	0	0	0
794	2057	2	796025.589	1	1	1	0	1	0	0	0	0	0	0	0	0	0
795	2057	3	826081.627	1	1	1	0	0	1	0	0	0	0	0	0	0	0
796	2057	4	798802.738	1	1	1	0	0	0	1	0	0	0	0	0	0	0
797	2057	5	818986.856	1	1	1	0	0	0	0	1	0	0	0	0	0	0
798	2057	6	834427.188	1	1	1	0	0	0	0	0	1	0	0	0	0	0
799	2057	7	816951.628	1	1	1	0	0	0	0	0	0	1	0	0	0	0
800	2057	8	831597.556	1	1	1	0	0	0	0	0	0	0	1	0	0	0
801	2057	9	815293.973	1	1	1	0	0	0	0	0	0	0	0	1	0	0
802	2057	10	778296.676	1	1	1	0	0	0	0	0	0	0	0	0	1	0
803	2057	11	774526.129	1	1	1	0	0	0	0	0	0	0	0	0	0	1
804	2057	12	776678.931	1	1	1	0	0	0	0	0	0	0	0	0	0	0

Obs d954 d064on Jul12on oct13on d17on feb99 dec95 jan96 dec98 feb18on oct19on apr20on PRICE

783	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
784	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
785	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
786	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
787	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
788	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
789	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
790	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
791	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
792	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
793	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
794	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
795	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
796	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
797	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
798	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
799	0	1	1	1	1	0	0	0	0	1	1	1	CONDID.
800	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
801	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
802	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
803	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.
804	0	1	1	1	1	0	0	0	0	1	1	1	CONFID.

The SYSLIN Procedure  
Ordinary Least Squares Estimation

Model LEIM  
Dependent Variable LEIM

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	28	105.5288	3.768884	1709.76	<.0001
Error	344	0.758289	0.002204		
Corrected Total	372	106.2870			

Root MSE 0.04695 R-Square 0.99287  
Dependent Mean 4.16611 Adj R-Sq 0.99228  
Coeff Var 1.12696

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t	Variable Label
Intercept	1	0.882404	0.323213	2.73	0.0067	Intercept
LQC	1	0.287332	0.020231	14.20	<.0001	EASTERN KENTUCKY COAL PRODUCTION, LOG
LPIM36	1	-0.21417	0.023605	-9.07	<.0001	MINE PWR ELEC PRICE, 36-MONTH MVNG AVE, LOG
d954	1	0.054565	0.047846	1.14	0.2549	BINARY VARIABLE-1995 4TH QTR
d1	1	-0.00759	0.012188	-0.62	0.5339	BINARY VARIABLE-1ST QTR
d2	1	-0.01962	0.012275	-1.60	0.1109	BINARY VARIABLE-2ND QTR
d3	1	-0.04876	0.012242	-3.98	<.0001	BINARY VARIABLE-3RD QTR
d4	1	-0.10928	0.012176	-8.97	<.0001	BINARY VARIABLE-APRIL
d5	1	-0.17668	0.012172	-14.51	<.0001	BINARY VARIABLE-MAY
d6	1	-0.21241	0.012175	-17.45	<.0001	BINARY VARIABLE-JUNE
d7	1	-0.28225	0.012203	-23.13	<.0001	BINARY VARIABLE-JULY
d8	1	-0.22957	0.012249	-18.74	<.0001	BINARY VARIABLE-AUGUST
d9	1	-0.19634	0.012179	-16.12	<.0001	BINARY VARIABLE-SEPTEMBER

The SYSLIN Procedure  
Ordinary Least Squares Estimation

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t	Variable Label
d10	1	-0.17603	0.012289	-14.32	<.0001	BINARY VARIABLE-OCTOBER
d11	1	-0.10561	0.012132	-8.71	<.0001	BINARY VARIABLE-NOVEMBER
d05on	1	0.039096	0.011503	3.40	0.0008	BINARY VARIABLE-2005 ON
d064on	1	0.010362	0.013831	0.75	0.4543	BINARY VARIABLE-2006 4TH QTR ON
Jul12on	1	-0.16063	0.018781	-8.55	<.0001	BINARY VARIABLE-JULY 2012 ON
oct13on	1	-0.09081	0.016161	-5.62	<.0001	BINARY VARIABLE-OCTOBER 2013 ON
aug15on	1	-0.15172	0.021300	-7.12	<.0001	BINARY VARIABLE-AUGUST 2015 ON
may16on	1	-0.18243	0.023588	-7.73	<.0001	BINARY VARIABLE-MAY 2016 ON
d17on	1	0.059491	0.021295	2.79	0.0055	BINARY VARIABLE-2017 ON
feb99	1	-0.41596	0.047915	-8.68	<.0001	BINARY VARIABLE-FEBRUARY 1999
dec95	1	-0.37063	0.047865	-7.74	<.0001	BINARY VARIABLE-DECEMBER 1995
jan96	1	-0.23089	0.047876	-4.82	<.0001	BINARY VARIABLE-JANUARY 1996
dec98	1	0.226962	0.047887	4.74	<.0001	BINARY VARIABLE-DECEMBER 1998
feb18on	1	-0.01708	0.017041	-1.00	0.3170	BINARY VARIABLE-FEBRUARY 2018 ON
oct19on	1	-0.14627	0.023910	-6.12	<.0001	BINARY VARIABLE-OCTOBER 2019 ON
apr20on	1	-0.19442	0.021962	-8.85	<.0001	BINARY VARIABLE-APRIL 2020 ON

The SYSLIN Procedure  
Ordinary Least Squares Estimation

Durbin-Watson	1.920956
Number of Observations	373
First-Order Autocorrelation	0.034818

time		Residual Values
		Sum
1991.000000	***	0.025284
1991.0833333	*	0.005750
1991.1666667	*****	0.073188
1991.2500000	*****	-0.058880
1991.3333333	**	-0.023551
1991.4166667	*****	-0.047557
1991.5000000	*****	-0.062030
1991.5833333		0.002418
1991.6666667	*****	-0.051916
1991.7500000	*****	0.046624
1991.8333333	*****	0.099417
1991.9166667	*****	-0.084812
1992.0000000	*****	-0.046995
1992.0833333	***	-0.030947
1992.1666667	*****	0.054629
1992.2500000	*****	-0.067992
1992.3333333	****	0.036227
1992.4166667	*	-0.012874
1992.5000000	*****	-0.064056
1992.5833333	****	0.036924
1992.6666667	*****	-0.061023
1992.7500000	*****	0.078078
1992.8333333	*****	0.090087
1992.9166667	*****	-0.054114
1993.0000000	*****	-0.056968
1993.0833333	**	-0.016673
1993.1666667		0.003651
1993.2500000	*****	-0.073198
1993.3333333	****	0.040602
1993.4166667	*	0.008721
1993.5000000	****	-0.040765
1993.5833333	*****	0.106846
1993.6666667	*****	-0.074307
1993.7500000	*****	0.118929
1993.8333333	*****	0.056116
1993.9166667	***	0.027657
1994.0000000	****	-0.042762
1994.0833333	*****	-0.080207
1994.1666667	***	0.029020
1994.2500000	*****	-0.054242
1994.3333333	*****	0.076621
1994.4166667	***	0.031188
1994.5000000	*****	-0.046170
1994.5833333	*****	0.060916
1994.6666667	****	-0.035477
1994.7500000	*****	0.100298
1994.8333333	****	0.041561
1994.9166667	**	-0.015673

1995.000000	*	-0.006592
1995.0833333	*****	0.049021
1995.1666667	**	0.017153
1995.2500000	*	-0.010484
1995.3333333	****	0.037517
1995.4166667	*	0.012940
1995.5000000	*****	-0.052444
1995.5833333	*****	0.049270
1995.6666667	*****	-0.052240
1995.7500000		-0.000000
1995.8333333	**	-0.019353
1995.9166667		0.000000
1996.0000000		0.000000
1996.0833333	*****	0.063402
1996.1666667	*****	0.165861
1996.2500000	*****	0.060221
1996.3333333	*****	-0.091180
1996.4166667		-0.001133
1996.5000000	*	-0.014960
1996.5833333	**	-0.025168
1996.6666667		-0.001759
1996.7500000		0.004068
1996.8333333		0.003055
1996.9166667	****	0.043584
1997.0000000	*	0.012082
1997.0833333	****	-0.041793
1997.1666667	*****	-0.079740
1997.2500000	*	0.005602
1997.3333333	*****	-0.054407
1997.4166667	*	-0.011776
1997.5000000	*****	-0.069331
1997.5833333	*	0.008187
1997.6666667	*****	-0.075949
1997.7500000	**	-0.023589
1997.8333333	*	-0.014319
1997.9166667	*	-0.014206
1998.0000000	****	-0.038353
1998.0833333	*****	-0.078331
1998.1666667	*	-0.013375
1998.2500000	****	0.037437
1998.3333333	**	-0.018939
1998.4166667	*****	-0.056370
1998.5000000	***	0.025723
1998.5833333	*	0.014382
1998.6666667	*	0.014972
1998.7500000	*****	-0.045284
1998.8333333	*	0.014038
1998.9166667		0.000000
1999.0000000	***	0.025428
1999.0833333		0.000000
1999.1666667	*	-0.007278

1999.2500000	****	-0.043592
1999.3333333	*****	-0.114156
1999.4166667	****	-0.036143
1999.5000000	*****	0.049983
1999.5833333	***	-0.027826
1999.6666667	***	0.030013
1999.7500000	*****	-0.050387
1999.8333333	*	-0.005085
1999.9166667	***	-0.029466
2000.0000000	***	-0.033073
2000.0833333	*****	-0.080203
2000.1666667	*****	-0.122286
2000.2500000	***	-0.031188
2000.3333333	**	-0.018671
2000.4166667	*	-0.009066
2000.5000000	*	-0.013041
2000.5833333	*****	-0.097468
2000.6666667	*****	0.116463
2000.7500000		0.000385
2000.8333333	****	-0.036501
2000.9166667		0.004510
2001.0000000	**	0.023144
2001.0833333	**	0.015628
2001.1666667	**	-0.024183
2001.2500000	****	0.036318
2001.3333333		0.003788
2001.4166667	*****	0.085155
2001.5000000	*****	0.050869
2001.5833333	*	-0.011696
2001.6666667	**	0.022410
2001.7500000	*	0.005888
2001.8333333	***	0.025311
2001.9166667	****	-0.039527
2002.0000000	*****	0.075282
2002.0833333	*****	0.053885
2002.1666667	***	0.025091
2002.2500000	*****	0.056002
2002.3333333	***	0.029794
2002.4166667	*****	-0.094650
2002.5000000	*****	0.058799
2002.5833333	***	0.027945
2002.6666667	***	0.027694
2002.7500000	**	0.018304
2002.8333333		0.001303
2002.9166667	*	0.012775
2003.0000000	*	0.010202
2003.0833333	*	0.005938
2003.1666667	***	0.032529
2003.2500000	*****	-0.066108
2003.3333333		-0.003561
2003.4166667	****	0.040998



2003.500000		****	0.035752
2003.5833333		***	0.031365
2003.6666667		****	0.035703
2003.7500000		**	0.018424
2003.8333333		*****	0.060028
2003.9166667	**		-0.024600
2004.0000000			-0.001062
2004.0833333		**	0.024566
2004.1666667	***		-0.026128
2004.2500000		****	0.035920
2004.3333333		****	0.038780
2004.4166667		*	0.010225
2004.5000000		**	0.023354
2004.5833333		****	0.041741
2004.6666667	*		-0.013288
2004.7500000		**	0.019871
2004.8333333	***		-0.034563
2004.9166667	***		-0.027776
2005.0000000	****		-0.037843
2005.0833333	***		-0.025886
2005.1666667		**	0.024019
2005.2500000	***		-0.029440
2005.3333333	***		-0.026793
2005.4166667		*****	0.061069
2005.5000000			0.003685
2005.5833333	**		-0.024328
2005.6666667			-0.002114
2005.7500000	***		-0.034578
2005.8333333	**		-0.021048
2005.9166667		*****	0.063439
2006.0000000	*****		-0.048410
2006.0833333		*	0.008619
2006.1666667	*		-0.013267
2006.2500000		**	0.018975
2006.3333333	****		-0.038689
2006.4166667		**	0.023424
2006.5000000		***	0.030222
2006.5833333			0.000603
2006.6666667		*****	0.068342
2006.7500000		*	0.005750
2006.8333333		****	0.036681
2006.9166667		*	0.006287
2007.0000000	*****		-0.074401
2007.0833333		****	0.040146
2007.1666667	***		-0.030789
2007.2500000			0.000900
2007.3333333	**		-0.022589
2007.4166667	***		-0.032582
2007.5000000	**		-0.022895
2007.5833333	*****		-0.046053
2007.6666667			-0.002274

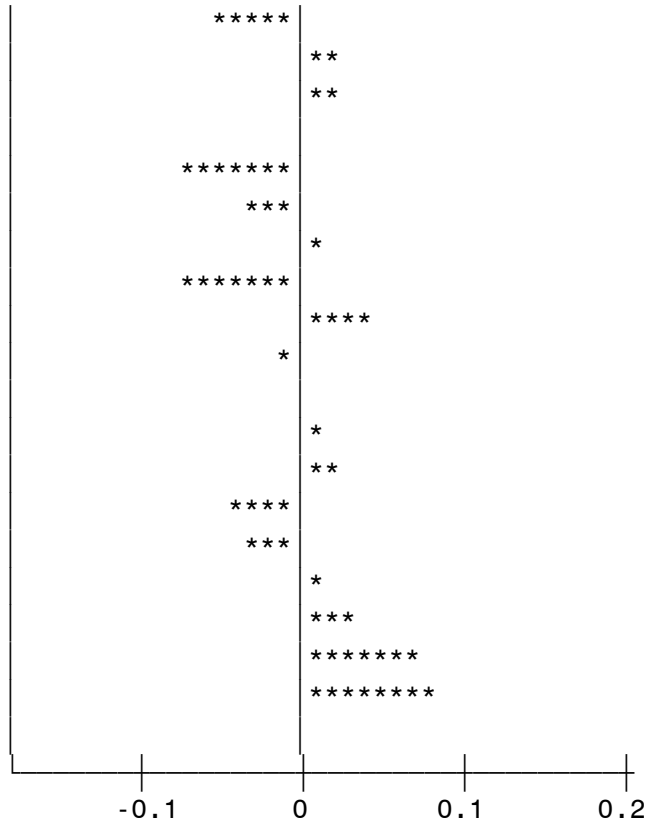
2007.7500000	*****	-0.069811
2007.8333333	*****	-0.046246
2007.9166667	*****	-0.083769
2008.0000000	****	-0.036700
2008.0833333	***	-0.031980
2008.1666667	*****	-0.046273
2008.2500000	*	-0.007069
2008.3333333		0.000903
2008.4166667	***	0.029678
2008.5000000		-0.002053
2008.5833333	*	0.013644
2008.6666667		-0.002564
2008.7500000	**	-0.022919
2008.8333333	*****	0.050263
2008.9166667	*	0.009321
2009.0000000	****	0.042138
2009.0833333	****	0.041052
2009.1666667	***	0.031382
2009.2500000	*****	0.055988
2009.3333333	****	0.035531
2009.4166667	**	-0.020295
2009.5000000	*****	-0.046199
2009.5833333	****	-0.039830
2009.6666667		-0.001060
2009.7500000	*	0.005533
2009.8333333		0.001896
2009.9166667	****	-0.039638
2010.0000000		-0.003312
2010.0833333	****	0.040216
2010.1666667	**	-0.023275
2010.2500000	**	0.021373
2010.3333333	*****	0.167565
2010.4166667	*****	0.046769
2010.5000000	*****	0.062508
2010.5833333	***	-0.033360
2010.6666667	**	-0.020140
2010.7500000	**	0.017974
2010.8333333	**	-0.024214
2010.9166667		-0.000616
2011.0000000	**	0.018702
2011.0833333	*	0.013889
2011.1666667	***	-0.033260
2011.2500000		0.002610
2011.3333333	**	0.020841
2011.4166667	*****	0.085453
2011.5000000	*****	0.092651
2011.5833333		0.000473
2011.6666667	****	0.035038
2011.7500000	**	-0.024108
2011.8333333	****	0.040825
2011.9166667		-0.003897

2012.000000	*	-0.006874
2012.0833333	**	0.021387
2012.1666667	*****	-0.053769
2012.2500000	****	-0.038368
2012.3333333	*****	-0.054620
2012.4166667	*****	-0.047565
2012.5000000	**	0.020789
2012.5833333	**	-0.018614
2012.6666667	***	0.034915
2012.7500000	****	-0.037807
2012.8333333	**	-0.015787
2012.9166667	*****	-0.045350
2013.0000000		0.000763
2013.0833333	*****	0.064733
2013.1666667	**	0.023872
2013.2500000	*****	0.064382
2013.3333333	**	-0.019804
2013.4166667	****	-0.043191
2013.5000000		-0.003547
2013.5833333	*	-0.011384
2013.6666667	*	-0.013969
2013.7500000		-0.003032
2013.8333333	****	-0.037650
2013.9166667		-0.004641
2014.0000000	*	0.010881
2014.0833333	***	0.030638
2014.1666667	***	0.031852
2014.2500000	*	-0.007649
2014.3333333		-0.003311
2014.4166667	*	0.008362
2014.5000000	**	-0.021078
2014.5833333	**	-0.020859
2014.6666667	***	-0.025971
2014.7500000	**	-0.018110
2014.8333333	**	0.024705
2014.9166667	*	0.006955
2015.0000000	***	0.026071
2015.0833333	*	0.013178
2015.1666667		-0.001789
2015.2500000	***	0.028643
2015.3333333	**	-0.018038
2015.4166667	*	0.006631
2015.5000000	***	-0.025789
2015.5833333	*****	0.059881
2015.6666667	*****	0.048150
2015.7500000	****	0.043300
2015.8333333	*****	0.045543
2015.9166667	*****	-0.081769
2016.0000000	*	0.007050
2016.0833333	*****	-0.065588
2016.1666667	****	-0.036918

KENTUCKY POWER COMPANY  
MINE POWER ENERGY SALES  
MODEL RESIDUALS

2016.2500000	**	-0.019649
2016.3333333	*	0.007532
2016.4166667	*	-0.011732
2016.5000000		0.000663
2016.5833333	***	-0.026242
2016.6666667		-0.000864
2016.7500000	*****	-0.052184
2016.8333333	**	-0.018954
2016.9166667	*****	0.101781
2017.0000000	****	0.036299
2017.0833333	***	0.031073
2017.1666667	***	0.026773
2017.2500000	*	0.007025
2017.3333333	***	-0.025349
2017.4166667	*	-0.009354
2017.5000000	*****	0.053876
2017.5833333	*	0.005334
2017.6666667	*	0.009061
2017.7500000	*****	-0.076272
2017.8333333	*****	-0.078519
2017.9166667	*	0.009181
2018.0000000	*	0.010872
2018.0833333	*	-0.005698
2018.1666667	****	-0.036951
2018.2500000	*****	0.054112
2018.3333333		0.001000
2018.4166667	*	0.014998
2018.5000000	*	-0.013595
2018.5833333	***	-0.025600
2018.6666667		-0.003155
2018.7500000	*****	-0.069137
2018.8333333	**	-0.022468
2018.9166667	**	0.022006
2019.0000000		-0.000631
2019.0833333	*	0.010963
2019.1666667	*****	0.048083
2019.2500000	****	0.044085
2019.3333333	*	-0.008509
2019.4166667	*	-0.009900
2019.5000000	**	0.017996
2019.5833333	***	-0.027457
2019.6666667	*	0.009858
2019.7500000	***	0.034101
2019.8333333	*****	-0.170843
2019.9166667	*****	0.200489
2020.0000000	**	0.021811
2020.0833333		-0.004839
2020.1666667	*****	-0.080718
2020.2500000	*	-0.010545
2020.3333333	*****	0.049509
2020.4166667	***	-0.026647

2020.500000	*****	-0.045742
2020.5833333	**	0.017650
2020.6666667	**	0.017973
2020.7500000		-0.002598
2020.8333333	*****	-0.072801
2020.9166667	***	-0.026908
2021.0000000	*	0.007372
2021.0833333	*****	-0.071939
2021.1666667	****	0.042896
2021.2500000	*	-0.011190
2021.3333333		-0.004040
2021.4166667	*	0.005223
2021.5000000	**	0.016822
2021.5833333	****	-0.041695
2021.6666667	***	-0.032524
2021.7500000	*	0.012289
2021.8333333	***	0.027523
2021.9166667	*****	0.068775
2022.0000000	*****	0.080596



Residual Values

KENTUCKY POWER COMPANY  
MINE POWER ENERGY SALES  
ACTUAL AND FORECAST

Year	ENERGY SALES	GROWTH RATE	BASE ENERGY	ADDITIONS
1984	851.19	.	851.19	0
1985	890.554	4.6	890.55	0
1986	881.696	-1.0	881.70	0
1987	902.84	2.4	902.84	0
1988	911.859	1.0	911.86	0
1989	984.603	8.0	984.60	0
1990	1041.789	5.8	1041.79	0
1991	1039.883	-0.2	1039.88	0
1992	1057.457	1.7	1057.46	0
1993	1084.543	2.6	1084.54	0
1994	1106.365	2.0	1106.37	0
1995	1073.916	-2.9	1073.92	0
1996	1099.599	2.4	1099.60	0
1997	1083.644	-1.5	1083.64	0
1998	1125.329	3.8	1125.33	0
1999	1053.809	-6.4	1053.81	0
2000	1064.271	1.0	1064.27	0
2001	1131.507	6.3	1131.51	0
2002	1120.078	-1.0	1120.08	0
2003	1083.831	-3.2	1083.83	0
2004	1070.281	-1.3	1070.28	0
2005	1101.528	2.9	1101.53	0
2006	1103.476	0.2	1103.48	0
2007	1035.241	-6.2	1035.24	0
2008	1066.54	3.0	1066.54	0
2009	1006.26	-5.7	1006.26	0
2010	979.0084	-2.7	979.01	0
2011	961.8455	-1.8	961.85	0
2012	779.3772	-19.0	779.38	0
2013	670.8468	-13.9	670.85	0
2014	613.8466	-8.5	613.85	0
2015	536.5293	-12.6	536.53	0
2016	365.7345	-31.8	365.73	0
2017	369.8475	1.1	369.85	0
2018	352.2326	-4.8	352.23	0
2019	324.7322	-7.8	324.73	0
2020	211.9204	-34.7	211.92	0
2021	211.6564	-0.1	211.66	0
2022	212.3641	0.3	212.36	0
2023	209.2205	-1.5	209.22	0
2024	209.8219	0.3	209.82	0
2025	209.8931	0.0	209.89	0
2026	212.1241	1.1	212.12	0
2027	212.3422	0.1	212.34	0
2028	212.1967	-0.1	212.20	0
2029	212.2374	0.0	212.24	0
2030	211.9537	-0.1	211.95	0

KENTUCKY POWER COMPANY  
MINE POWER ENERGY SALES  
ACTUAL AND FORECAST

Year	ENERGY SALES	GROWTH RATE	BASE ENERGY	ADDITIONS
2031	212.1729	0.1	212.173	0
2032	211.3611	-0.4	211.361	0
2033	210.2993	-0.5	210.299	0
2034	210.3684	0.0	210.368	0
2035	210.1991	-0.1	210.199	0
2036	210.138	0.0	210.138	0
2037	210.3106	0.1	210.311	0
2038	210.4318	0.1	210.432	0
2039	210.3476	0.0	210.348	0
2040	210.092	-0.1	210.092	0
2041	209.5454	-0.3	209.545	0
2042	209.361	-0.1	209.361	0
2043	209.1807	-0.1	209.181	0
2044	209.2745	0.0	209.275	0
2045	209.4173	0.1	209.417	0
2046	209.4969	0.0	209.497	0
2047	209.5487	0.0	209.549	0
2048	209.611	0.0	209.611	0
2049	209.6184	0.0	209.618	0
2050	209.6615	0.0	209.661	0
2051	209.7362	0.0	209.736	0
2052	209.8373	0.0	209.837	0
2053	209.9452	0.1	209.945	0
2054	210.0529	0.1	210.053	0
2055	210.1608	0.1	210.161	0
2056	210.2689	0.1	210.269	0
2057	210.3774	0.1	210.377	0

## LONG-TERM OTHER RETAIL



The MEANS Procedure

Variable	Label	Mean
YEAR	YEAR	2027.50
MONTH	MONTH	6.5000000
eu_kpc	ENERGY SALES, OTHER RETAIL	0.8743124

KENTUCKY POWER COMPANY  
 OTHER ULTIMATE ENERGY SALES  
 ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	eu_kpc
1	1998	1	1.06283
2	1998	2	0.90689
3	1998	3	0.90137
4	1998	4	0.80129
5	1998	5	0.73849
6	1998	6	0.67940
7	1998	7	0.71559
8	1998	8	0.77118
9	1998	9	0.84374
10	1998	10	0.95099
11	1998	11	1.00279
12	1998	12	1.10940
13	1999	1	1.09189
14	1999	2	0.93642
15	1999	3	0.93171
16	1999	4	0.81922
17	1999	5	0.74254
18	1999	6	0.69313
19	1999	7	0.72939
20	1999	8	0.79972
21	1999	9	0.84976
22	1999	10	0.97333
23	1999	11	1.01448
24	1999	12	1.11025
25	2000	1	1.10428
26	2000	2	0.93844
27	2000	3	0.93904
28	2000	4	0.81786
29	2000	5	0.75552
30	2000	6	0.70590
31	2000	7	0.74451
32	2000	8	0.80354
33	2000	9	0.89005
34	2000	10	0.97379
35	2000	11	1.02940
36	2000	12	1.12982
37	2001	1	1.12228
38	2001	2	0.96951
39	2001	3	0.96180
40	2001	4	0.85041
41	2001	5	0.78588
42	2001	6	0.73587
43	2001	7	0.75816
44	2001	8	0.82713
45	2001	9	0.89998
46	2001	10	1.00416
47	2001	11	1.10660
48	2001	12	1.17100
49	2002	1	1.16263
50	2002	2	0.99117

KENTUCKY POWER COMPANY  
 OTHER ULTIMATE ENERGY SALES  
 ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	eu_kpc
51	2002	3	0.98106
52	2002	4	0.88009
53	2002	5	0.79392
54	2002	6	0.74173
55	2002	7	0.77879
56	2002	8	0.83947
57	2002	9	0.91337
58	2002	10	1.02456
59	2002	11	1.08125
60	2002	12	1.16199
61	2003	1	1.17123
62	2003	2	0.99112
63	2003	3	0.97869
64	2003	4	0.86715
65	2003	5	0.79894
66	2003	6	0.74214
67	2003	7	0.76475
68	2003	8	0.82577
69	2003	9	0.90270
70	2003	10	1.00978
71	2003	11	1.04978
72	2003	12	1.12278
73	2004	1	1.18553
74	2004	2	0.97821
75	2004	3	0.96943
76	2004	4	0.86591
77	2004	5	0.75731
78	2004	6	0.72494
79	2004	7	0.74666
80	2004	8	0.80951
81	2004	9	0.88595
82	2004	10	0.99674
83	2004	11	1.05173
84	2004	12	1.15778
85	2005	1	1.14509
86	2005	2	0.96673
87	2005	3	0.95597
88	2005	4	0.79365
89	2005	5	0.68565
90	2005	6	0.61691
91	2005	7	0.63775
92	2005	8	0.71522
93	2005	9	0.69408
94	2005	10	0.80116
95	2005	11	1.10808
96	2005	12	1.02658
97	2006	1	1.02473
98	2006	2	0.88870
99	2006	3	0.85814
100	2006	4	0.74208

KENTUCKY POWER COMPANY  
OTHER ULTIMATE ENERGY SALES  
ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	eu_kpc
101	2006	5	0.65944
102	2006	6	0.60989
103	2006	7	0.63599
104	2006	8	0.71112
105	2006	9	0.78463
106	2006	10	0.90938
107	2006	11	0.95315
108	2006	12	1.03998
109	2007	1	1.03907
110	2007	2	0.88329
111	2007	3	0.86910
112	2007	4	0.75104
113	2007	5	0.67656
114	2007	6	0.56317
115	2007	7	0.52923
116	2007	8	0.45746
117	2007	9	1.26935
118	2007	10	0.97625
119	2007	11	0.91156
120	2007	12	1.08929
121	2008	1	1.09992
122	2008	2	0.93914
123	2008	3	0.89712
124	2008	4	0.81564
125	2008	5	0.64535
126	2008	6	0.57509
127	2008	7	0.74351
128	2008	8	0.77127
129	2008	9	0.74077
130	2008	10	0.98584
131	2008	11	0.83755
132	2008	12	1.24351
133	2009	1	0.97388
134	2009	2	0.91854
135	2009	3	0.98697
136	2009	4	0.74234
137	2009	5	0.65794
138	2009	6	0.68685
139	2009	7	0.62025
140	2009	8	0.67780
141	2009	9	0.91464
142	2009	10	0.97426
143	2009	11	0.99548
144	2009	12	1.08904
145	2010	1	0.90176
146	2010	2	1.10020
147	2010	3	0.90418
148	2010	4	0.78206
149	2010	5	0.70602
150	2010	6	0.51642

KENTUCKY POWER COMPANY  
 OTHER ULTIMATE ENERGY SALES  
 ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	eu_kpc
151	2010	7	0.86112
152	2010	8	0.74246
153	2010	9	0.78680
154	2010	10	0.94067
155	2010	11	1.02789
156	2010	12	1.04487
157	2011	1	0.99313
158	2011	2	0.76130
159	2011	3	1.03511
160	2011	4	1.01992
161	2011	5	0.70972
162	2011	6	0.65768
163	2011	7	0.63162
164	2011	8	0.70843
165	2011	9	0.85429
166	2011	10	1.07382
167	2011	11	1.02643
168	2011	12	1.11911
169	2012	1	1.11217
170	2012	2	0.94644
171	2012	3	0.93148
172	2012	4	0.79984
173	2012	5	0.71781
174	2012	6	0.65138
175	2012	7	0.68631
176	2012	8	0.74673
177	2012	9	0.83680
178	2012	10	0.96215
179	2012	11	1.01882
180	2012	12	1.11477
181	2013	1	1.12156
182	2013	2	0.94954
183	2013	3	0.93768
184	2013	4	0.81063
185	2013	5	0.72150
186	2013	6	0.66015
187	2013	7	0.69067
188	2013	8	0.75943
189	2013	9	0.84255
190	2013	10	0.96308
191	2013	11	1.02411
192	2013	12	1.12866
193	2014	1	1.12371
194	2014	2	0.94637
195	2014	3	0.93496
196	2014	4	0.79414
197	2014	5	0.71816
198	2014	6	0.65203
199	2014	7	0.67857
200	2014	8	0.75921

KENTUCKY POWER COMPANY  
 OTHER ULTIMATE ENERGY SALES  
 ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	eu_kpc
201	2014	9	0.81406
202	2014	10	0.95426
203	2014	11	1.01998
204	2014	12	1.12341
205	2015	1	1.11828
206	2015	2	0.94193
207	2015	3	0.92944
208	2015	4	0.80254
209	2015	5	0.70880
210	2015	6	0.65070
211	2015	7	0.68061
212	2015	8	0.75715
213	2015	9	0.83588
214	2015	10	0.96441
215	2015	11	1.01406
216	2015	12	1.11120
217	2016	1	1.11100
218	2016	2	0.93575
219	2016	3	0.91891
220	2016	4	0.79284
221	2016	5	0.70234
222	2016	6	0.63900
223	2016	7	0.67242
224	2016	8	0.74992
225	2016	9	0.84495
226	2016	10	0.95187
227	2016	11	1.01353
228	2016	12	1.10875
229	2017	1	1.11191
230	2017	2	0.93929
231	2017	3	0.92836
232	2017	4	0.79274
233	2017	5	0.70932
234	2017	6	0.64537
235	2017	7	0.67916
236	2017	8	0.75169
237	2017	9	0.83663
238	2017	10	0.95486
239	2017	11	1.01703
240	2017	12	1.12373
241	2018	1	1.11305
242	2018	2	0.97159
243	2018	3	0.94691
244	2018	4	0.82048
245	2018	5	0.71856
246	2018	6	0.66100
247	2018	7	0.69188
248	2018	8	0.76605
249	2018	9	0.84324
250	2018	10	0.95196

KENTUCKY POWER COMPANY  
 OTHER ULTIMATE ENERGY SALES  
 ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	eu_kpc
251	2018	11	1.01150
252	2018	12	1.11497
253	2019	1	1.10820
254	2019	2	0.94250
255	2019	3	0.92083
256	2019	4	0.78932
257	2019	5	0.70564
258	2019	6	0.64362
259	2019	7	0.67625
260	2019	8	0.75307
261	2019	9	0.82761
262	2019	10	0.94324
263	2019	11	1.00937
264	2019	12	1.10988
265	2020	1	1.10791
266	2020	2	0.93282
267	2020	3	0.92111
268	2020	4	0.78441
269	2020	5	0.70182
270	2020	6	0.58484
271	2020	7	0.61977
272	2020	8	0.69258
273	2020	9	0.75998
274	2020	10	0.77828
275	2020	11	0.91903
276	2020	12	1.00310
277	2021	1	1.00059
278	2021	2	0.84817
279	2021	3	0.84249
280	2021	4	0.71157
281	2021	5	0.63571
282	2021	6	0.57938
283	2021	7	0.61214
284	2021	8	0.68433
285	2021	9	0.75046
286	2021	10	0.85836
287	2021	11	0.90827
288	2021	12	0.99355
289	2022	1	0.98308
290	2022	2	.
291	2022	3	.
292	2022	4	.
293	2022	5	.
294	2022	6	.
295	2022	7	.
296	2022	8	.
297	2022	9	.
298	2022	10	.
299	2022	11	.
300	2022	12	.

KENTUCKY POWER COMPANY  
OTHER ULTIMATE ENERGY SALES  
ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	eu_kpc
301	2023	1	.
302	2023	2	.
303	2023	3	.
304	2023	4	.
305	2023	5	.
306	2023	6	.
307	2023	7	.
308	2023	8	.
309	2023	9	.
310	2023	10	.
311	2023	11	.
312	2023	12	.
313	2024	1	.
314	2024	2	.
315	2024	3	.
316	2024	4	.
317	2024	5	.
318	2024	6	.
319	2024	7	.
320	2024	8	.
321	2024	9	.
322	2024	10	.
323	2024	11	.
324	2024	12	.
325	2025	1	.
326	2025	2	.
327	2025	3	.
328	2025	4	.
329	2025	5	.
330	2025	6	.
331	2025	7	.
332	2025	8	.
333	2025	9	.
334	2025	10	.
335	2025	11	.
336	2025	12	.
337	2026	1	.
338	2026	2	.
339	2026	3	.
340	2026	4	.
341	2026	5	.
342	2026	6	.
343	2026	7	.
344	2026	8	.
345	2026	9	.
346	2026	10	.
347	2026	11	.
348	2026	12	.
349	2027	1	.
350	2027	2	.



KENTUCKY POWER COMPANY  
 OTHER ULTIMATE ENERGY SALES  
 ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	eu_kpc
351	2027	3	.
352	2027	4	.
353	2027	5	.
354	2027	6	.
355	2027	7	.
356	2027	8	.
357	2027	9	.
358	2027	10	.
359	2027	11	.
360	2027	12	.
361	2028	1	.
362	2028	2	.
363	2028	3	.
364	2028	4	.
365	2028	5	.
366	2028	6	.
367	2028	7	.
368	2028	8	.
369	2028	9	.
370	2028	10	.
371	2028	11	.
372	2028	12	.
373	2029	1	.
374	2029	2	.
375	2029	3	.
376	2029	4	.
377	2029	5	.
378	2029	6	.
379	2029	7	.
380	2029	8	.
381	2029	9	.
382	2029	10	.
383	2029	11	.
384	2029	12	.
385	2030	1	.
386	2030	2	.
387	2030	3	.
388	2030	4	.
389	2030	5	.
390	2030	6	.
391	2030	7	.
392	2030	8	.
393	2030	9	.
394	2030	10	.
395	2030	11	.
396	2030	12	.
397	2031	1	.
398	2031	2	.
399	2031	3	.
400	2031	4	.

KENTUCKY POWER COMPANY  
OTHER ULTIMATE ENERGY SALES  
ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	eu_kpc
401	2031	5	.
402	2031	6	.
403	2031	7	.
404	2031	8	.
405	2031	9	.
406	2031	10	.
407	2031	11	.
408	2031	12	.
409	2032	1	.
410	2032	2	.
411	2032	3	.
412	2032	4	.
413	2032	5	.
414	2032	6	.
415	2032	7	.
416	2032	8	.
417	2032	9	.
418	2032	10	.
419	2032	11	.
420	2032	12	.
421	2033	1	.
422	2033	2	.
423	2033	3	.
424	2033	4	.
425	2033	5	.
426	2033	6	.
427	2033	7	.
428	2033	8	.
429	2033	9	.
430	2033	10	.
431	2033	11	.
432	2033	12	.
433	2034	1	.
434	2034	2	.
435	2034	3	.
436	2034	4	.
437	2034	5	.
438	2034	6	.
439	2034	7	.
440	2034	8	.
441	2034	9	.
442	2034	10	.
443	2034	11	.
444	2034	12	.
445	2035	1	.
446	2035	2	.
447	2035	3	.
448	2035	4	.
449	2035	5	.
450	2035	6	.

KENTUCKY POWER COMPANY  
OTHER ULTIMATE ENERGY SALES  
ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	eu_kpc
451	2035	7	.
452	2035	8	.
453	2035	9	.
454	2035	10	.
455	2035	11	.
456	2035	12	.
457	2036	1	.
458	2036	2	.
459	2036	3	.
460	2036	4	.
461	2036	5	.
462	2036	6	.
463	2036	7	.
464	2036	8	.
465	2036	9	.
466	2036	10	.
467	2036	11	.
468	2036	12	.
469	2037	1	.
470	2037	2	.
471	2037	3	.
472	2037	4	.
473	2037	5	.
474	2037	6	.
475	2037	7	.
476	2037	8	.
477	2037	9	.
478	2037	10	.
479	2037	11	.
480	2037	12	.
481	2038	1	.
482	2038	2	.
483	2038	3	.
484	2038	4	.
485	2038	5	.
486	2038	6	.
487	2038	7	.
488	2038	8	.
489	2038	9	.
490	2038	10	.
491	2038	11	.
492	2038	12	.
493	2039	1	.
494	2039	2	.
495	2039	3	.
496	2039	4	.
497	2039	5	.
498	2039	6	.
499	2039	7	.
500	2039	8	.

KENTUCKY POWER COMPANY  
 OTHER ULTIMATE ENERGY SALES  
 ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	eu_kpc
501	2039	9	.
502	2039	10	.
503	2039	11	.
504	2039	12	.
505	2040	1	.
506	2040	2	.
507	2040	3	.
508	2040	4	.
509	2040	5	.
510	2040	6	.
511	2040	7	.
512	2040	8	.
513	2040	9	.
514	2040	10	.
515	2040	11	.
516	2040	12	.
517	2041	1	.
518	2041	2	.
519	2041	3	.
520	2041	4	.
521	2041	5	.
522	2041	6	.
523	2041	7	.
524	2041	8	.
525	2041	9	.
526	2041	10	.
527	2041	11	.
528	2041	12	.
529	2042	1	.
530	2042	2	.
531	2042	3	.
532	2042	4	.
533	2042	5	.
534	2042	6	.
535	2042	7	.
536	2042	8	.
537	2042	9	.
538	2042	10	.
539	2042	11	.
540	2042	12	.
541	2043	1	.
542	2043	2	.
543	2043	3	.
544	2043	4	.
545	2043	5	.
546	2043	6	.
547	2043	7	.
548	2043	8	.
549	2043	9	.
550	2043	10	.

KENTUCKY POWER COMPANY  
OTHER ULTIMATE ENERGY SALES  
ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	eu_kpc
551	2043	11	.
552	2043	12	.
553	2044	1	.
554	2044	2	.
555	2044	3	.
556	2044	4	.
557	2044	5	.
558	2044	6	.
559	2044	7	.
560	2044	8	.
561	2044	9	.
562	2044	10	.
563	2044	11	.
564	2044	12	.
565	2045	1	.
566	2045	2	.
567	2045	3	.
568	2045	4	.
569	2045	5	.
570	2045	6	.
571	2045	7	.
572	2045	8	.
573	2045	9	.
574	2045	10	.
575	2045	11	.
576	2045	12	.
577	2046	1	.
578	2046	2	.
579	2046	3	.
580	2046	4	.
581	2046	5	.
582	2046	6	.
583	2046	7	.
584	2046	8	.
585	2046	9	.
586	2046	10	.
587	2046	11	.
588	2046	12	.
589	2047	1	.
590	2047	2	.
591	2047	3	.
592	2047	4	.
593	2047	5	.
594	2047	6	.
595	2047	7	.
596	2047	8	.
597	2047	9	.
598	2047	10	.
599	2047	11	.
600	2047	12	.

KENTUCKY POWER COMPANY  
 OTHER ULTIMATE ENERGY SALES  
 ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	eu_kpc
601	2048	1	.
602	2048	2	.
603	2048	3	.
604	2048	4	.
605	2048	5	.
606	2048	6	.
607	2048	7	.
608	2048	8	.
609	2048	9	.
610	2048	10	.
611	2048	11	.
612	2048	12	.
613	2049	1	.
614	2049	2	.
615	2049	3	.
616	2049	4	.
617	2049	5	.
618	2049	6	.
619	2049	7	.
620	2049	8	.
621	2049	9	.
622	2049	10	.
623	2049	11	.
624	2049	12	.
625	2050	1	.
626	2050	2	.
627	2050	3	.
628	2050	4	.
629	2050	5	.
630	2050	6	.
631	2050	7	.
632	2050	8	.
633	2050	9	.
634	2050	10	.
635	2050	11	.
636	2050	12	.
637	2051	1	.
638	2051	2	.
639	2051	3	.
640	2051	4	.
641	2051	5	.
642	2051	6	.
643	2051	7	.
644	2051	8	.
645	2051	9	.
646	2051	10	.
647	2051	11	.
648	2051	12	.
649	2052	1	.
650	2052	2	.

KENTUCKY POWER COMPANY  
OTHER ULTIMATE ENERGY SALES  
ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	eu_kpc
651	2052	3	.
652	2052	4	.
653	2052	5	.
654	2052	6	.
655	2052	7	.
656	2052	8	.
657	2052	9	.
658	2052	10	.
659	2052	11	.
660	2052	12	.
661	2053	1	.
662	2053	2	.
663	2053	3	.
664	2053	4	.
665	2053	5	.
666	2053	6	.
667	2053	7	.
668	2053	8	.
669	2053	9	.
670	2053	10	.
671	2053	11	.
672	2053	12	.
673	2054	1	.
674	2054	2	.
675	2054	3	.
676	2054	4	.
677	2054	5	.
678	2054	6	.
679	2054	7	.
680	2054	8	.
681	2054	9	.
682	2054	10	.
683	2054	11	.
684	2054	12	.
685	2055	1	.
686	2055	2	.
687	2055	3	.
688	2055	4	.
689	2055	5	.
690	2055	6	.
691	2055	7	.
692	2055	8	.
693	2055	9	.
694	2055	10	.
695	2055	11	.
696	2055	12	.
697	2056	1	.
698	2056	2	.
699	2056	3	.
700	2056	4	.

KENTUCKY POWER COMPANY  
OTHER ULTIMATE ENERGY SALES  
ENDOGENOUS VARIABLES

Obs	YEAR	MONTH	eu_kpc
701	2056	5	.
702	2056	6	.
703	2056	7	.
704	2056	8	.
705	2056	9	.
706	2056	10	.
707	2056	11	.
708	2056	12	.
709	2057	1	.
710	2057	2	.
711	2057	3	.
712	2057	4	.
713	2057	5	.
714	2057	6	.
715	2057	7	.
716	2057	8	.
717	2057	9	.
718	2057	10	.
719	2057	11	.
720	2057	12	.



The MEANS Procedure

Variable	Label	Mean
YEAR	YEAR	2027.50
MONTH	MONTH	6.5000000
L_KPC	SERVICE AREA EMPLOYMENT	122.4939562
d052on	BINARY VARIABLE-2005 2ND QTR ON	0.8791667
d1	BINARY VARIABLE-JANUARY	0.0833333
d2	BINARY VARIABLE-FEBRUARY	0.0833333
d3	BINARY VARIABLE-MARCH	0.0833333
d4	BINARY VARIABLE-APRIL	0.0833333
d5	BINARY VARIABLE-MAY	0.0833333
d6	BINARY VARIABLE-JUNE	0.0833333
d7	BINARY VARIABLE-JULY	0.0833333
d8	BINARY VARIABLE-AUGUST	0.0833333
d9	BINARY VARIABLE-SEPTEMBER	0.0833333
d10	BINARY VARIABLE-OCTOBER	0.0833333
d11	BINARY VARIABLE-NOVEMBER	0.0833333
sep07	BINARY VARIABLE-SEPTEMBER 2007	0.0013889
aug07	BINARY VARIABLE-AUGUST 2007	0.0013889
jan11on	BINARY VARIABLE-JANUARY 2011 ON	0.7833333







KENTUCKY POWER COMPANY  
OTHER ULTIMATE ENERGY SALES  
EXOGENOUS VARIABLES

Obs	YEAR	MONTH	L_KPC	d052on	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	sep07	aug07	jan1on
151	2010	7	139.956	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
152	2010	8	140.037	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0
153	2010	9	140.120	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
154	2010	10	140.205	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
155	2010	11	140.284	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
156	2010	12	140.361	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
157	2011	1	140.427	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
158	2011	2	140.474	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
159	2011	3	140.503	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
160	2011	4	140.517	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1
161	2011	5	140.503	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1
162	2011	6	140.463	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
163	2011	7	140.391	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1
164	2011	8	140.284	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1
165	2011	9	140.147	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1
166	2011	10	139.981	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1
167	2011	11	139.786	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1
168	2011	12	139.564	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
169	2012	1	139.309	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
170	2012	2	139.039	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
171	2012	3	138.743	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
172	2012	4	138.421	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1
173	2012	5	138.078	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1
174	2012	6	137.718	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
175	2012	7	137.337	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1
176	2012	8	136.930	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1
177	2012	9	136.521	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1
178	2012	10	136.102	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1
179	2012	11	135.677	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1
180	2012	12	135.252	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
181	2013	1	134.830	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
182	2013	2	134.432	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
183	2013	3	134.049	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
184	2013	4	133.665	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1
185	2013	5	133.304	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1
186	2013	6	132.969	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
187	2013	7	132.661	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1
188	2013	8	132.380	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1
189	2013	9	132.130	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1
190	2013	10	131.910	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1
191	2013	11	131.712	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1
192	2013	12	131.543	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
193	2014	1	131.393	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
194	2014	2	131.267	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
195	2014	3	131.165	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
196	2014	4	131.072	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1
197	2014	5	131.001	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1
198	2014	6	130.941	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
199	2014	7	130.893	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1
200	2014	8	130.858	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1

KENTUCKY POWER COMPANY  
OTHER ULTIMATE ENERGY SALES  
EXOGENOUS VARIABLES

Obs	YEAR	MONTH	L_KPC	d052on	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	sep07	aug07	jan1on
201	2014	9	130.824	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1
202	2014	10	130.786	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1
203	2014	11	130.738	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1
204	2014	12	130.670	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
205	2015	1	130.578	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
206	2015	2	130.461	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
207	2015	3	130.305	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
208	2015	4	130.100	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1
209	2015	5	129.845	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1
210	2015	6	129.528	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
211	2015	7	129.148	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1
212	2015	8	128.698	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1
213	2015	9	128.207	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1
214	2015	10	127.686	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1
215	2015	11	127.146	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1
216	2015	12	126.601	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
217	2016	1	126.061	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
218	2016	2	125.563	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
219	2016	3	125.108	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
220	2016	4	124.700	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1
221	2016	5	124.363	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1
222	2016	6	124.111	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
223	2016	7	123.958	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1
224	2016	8	123.905	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1
225	2016	9	123.936	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1
226	2016	10	124.033	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1
227	2016	11	124.178	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1
228	2016	12	124.359	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
229	2017	1	124.554	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
230	2017	2	124.741	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
231	2017	3	124.912	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
232	2017	4	125.052	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1
233	2017	5	125.141	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1
234	2017	6	125.163	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
235	2017	7	125.102	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1
236	2017	8	124.947	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1
237	2017	9	124.731	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1
238	2017	10	124.465	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1
239	2017	11	124.163	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1
240	2017	12	123.849	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
241	2018	1	123.534	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
242	2018	2	123.249	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
243	2018	3	123.001	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
244	2018	4	122.801	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1
245	2018	5	122.671	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1
246	2018	6	122.632	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
247	2018	7	122.702	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1
248	2018	8	122.879	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1
249	2018	9	123.130	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1
250	2018	10	123.439	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1











KENTUCKY POWER COMPANY  
OTHER ULTIMATE ENERGY SALES  
EXOGENOUS VARIABLES

Obs	YEAR	MONTH	L_KPC	d052on	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	sep07	aug07	jan1on
451	2035	7	115.619	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1
452	2035	8	115.577	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1
453	2035	9	115.533	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1
454	2035	10	115.490	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1
455	2035	11	115.446	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1
456	2035	12	115.399	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
457	2036	1	115.353	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
458	2036	2	115.309	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
459	2036	3	115.262	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
460	2036	4	115.217	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1
461	2036	5	115.173	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1
462	2036	6	115.126	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
463	2036	7	115.078	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1
464	2036	8	115.031	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1
465	2036	9	114.981	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1
466	2036	10	114.935	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1
467	2036	11	114.890	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1
468	2036	12	114.845	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
469	2037	1	114.797	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
470	2037	2	114.750	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
471	2037	3	114.703	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
472	2037	4	114.658	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1
473	2037	5	114.610	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1
474	2037	6	114.564	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
475	2037	7	114.519	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1
476	2037	8	114.471	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1
477	2037	9	114.425	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1
478	2037	10	114.380	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1
479	2037	11	114.335	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1
480	2037	12	114.290	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
481	2038	1	114.244	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
482	2038	2	114.202	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
483	2038	3	114.156	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
484	2038	4	114.113	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1
485	2038	5	114.071	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1
486	2038	6	114.025	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
487	2038	7	113.979	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1
488	2038	8	113.936	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1
489	2038	9	113.891	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1
490	2038	10	113.847	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1
491	2038	11	113.804	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1
492	2038	12	113.759	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
493	2039	1	113.716	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
494	2039	2	113.674	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
495	2039	3	113.632	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
496	2039	4	113.588	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1
497	2039	5	113.546	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1
498	2039	6	113.504	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
499	2039	7	113.465	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1
500	2039	8	113.422	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1

KENTUCKY POWER COMPANY  
OTHER ULTIMATE ENERGY SALES  
EXOGENOUS VARIABLES

Obs	YEAR	MONTH	L_KPC	d052on	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	sep07	aug07	jan1on
501	2039	9	113.380	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1
502	2039	10	113.338	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1
503	2039	11	113.297	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1
504	2039	12	113.257	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
505	2040	1	113.216	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
506	2040	2	113.178	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
507	2040	3	113.138	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
508	2040	4	113.099	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1
509	2040	5	113.061	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1
510	2040	6	113.024	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
511	2040	7	112.983	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1
512	2040	8	112.948	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1
513	2040	9	112.910	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1
514	2040	10	112.873	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1
515	2040	11	112.836	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1
516	2040	12	112.798	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
517	2041	1	112.763	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
518	2041	2	112.728	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
519	2041	3	112.693	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
520	2041	4	112.656	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1
521	2041	5	112.621	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1
522	2041	6	112.586	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
523	2041	7	112.550	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1
524	2041	8	112.514	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1
525	2041	9	112.479	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1
526	2041	10	112.443	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1
527	2041	11	112.406	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1
528	2041	12	112.375	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
529	2042	1	112.336	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
530	2042	2	112.303	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
531	2042	3	112.268	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
532	2042	4	112.230	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1
533	2042	5	112.198	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1
534	2042	6	112.160	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
535	2042	7	112.125	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1
536	2042	8	112.089	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1
537	2042	9	112.052	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1
538	2042	10	112.015	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1
539	2042	11	111.981	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1
540	2042	12	111.944	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
541	2043	1	111.905	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
542	2043	2	111.874	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
543	2043	3	111.838	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
544	2043	4	111.803	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1
545	2043	5	111.764	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1
546	2043	6	111.729	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
547	2043	7	111.694	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1
548	2043	8	111.657	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1
549	2043	9	111.620	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1
550	2043	10	111.589	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1











The SYSLIN Procedure  
 Ordinary Least Squares Estimation

Model eu\_kpc  
 Dependent Variable eu\_kpc  
 Label ENERGY SALES, OTHER RETAIL

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	20	6.932014	0.346601	174.23	<.0001
Error	268	0.533132	0.001989		
Corrected Total	288	7.465146			

Root MSE 0.04460 R-Square 0.92858  
 Dependent Mean 0.87431 Adj R-Sq 0.92325  
 Coeff Var 5.10133

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t	Variable Label
Intercept	1	1.003881	0.642465	1.56	0.1193	Intercept
LL	1	0.029597	0.129483	0.23	0.8194	SERVICE AREA EMPLOYMENT, LOG
d1	1	-0.02601	0.012753	-2.04	0.0424	BINARY VARIABLE-JANUARY
d2	1	-0.17434	0.012910	-13.50	<.0001	BINARY VARIABLE-FEBRUARY
d3	1	-0.18012	0.012920	-13.94	<.0001	BINARY VARIABLE-MARCH
d4	1	-0.29944	0.012895	-23.22	<.0001	BINARY VARIABLE-APRIL
d5	1	-0.39502	0.012893	-30.64	<.0001	BINARY VARIABLE-MAY
d6	1	-0.45555	0.012883	-35.36	<.0001	BINARY VARIABLE-JUNE
d7	1	-0.41518	0.012880	-32.23	<.0001	BINARY VARIABLE-JULY
d8	1	-0.35008	0.013018	-26.89	<.0001	BINARY VARIABLE-AUGUST
d9	1	-0.27483	0.013017	-21.11	<.0001	BINARY VARIABLE-SEPTEMBER
d10	1	-0.15296	0.012876	-11.88	<.0001	BINARY VARIABLE-OCTOBER
d11	1	-0.09983	0.012876	-7.75	<.0001	BINARY VARIABLE-NOVEMBER

The SYSLIN Procedure  
 Ordinary Least Squares Estimation

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t	Variable Label
sep07	1	0.469667	0.045855	10.24	<.0001	BINARY VARIABLE-SEPTEMBER 2007
aug07	1	-0.26695	0.045848	-5.82	<.0001	BINARY VARIABLE-AUGUST 2007
d052on	1	-0.07690	0.007350	-10.46	<.0001	BINARY VARIABLE-2005 2ND QTR ON
jan11on	1	0.042986	0.012554	3.42	0.0007	BINARY VARIABLE-JANUARY 2011 ON
mar16on	1	-0.00300	0.014190	-0.21	0.8327	BINARY VARIABLE-MARCH 2016 ON
apr18on	1	0.006221	0.016790	0.37	0.7113	BINARY VARIABLE-APRIL 2018 ON
feb19on	1	-0.01271	0.018153	-0.70	0.4845	BINARY VARIABLE-FEBRUARY 2019 ON
jun20on	1	-0.08312	0.016107	-5.16	<.0001	BINARY VARIABLE-JUNE 2020 ON

Durbin-Watson                      2.012991  
 Number of Observations            289  
 First-Order Autocorrelation       -0.0101

KENTUCKY POWER COMPANY  
 OTHER ULTIMATE ENERGY SALES  
 MODEL RESIDUALS

time		Residual Values
		Sum
1998.000000	*****	-0.061184
1998.0833333	*****	-0.068881
1998.1666667	*****	-0.068686
1998.2500000	*****	-0.049513
1998.3333333	**	-0.016792
1998.4166667	**	-0.015404
1998.5000000	**	-0.019617
1998.5833333	***	-0.029160
1998.6666667	***	-0.031865
1998.7500000	*****	-0.046501
1998.8333333	*****	-0.047832
1998.9166667	****	-0.041047
1999.0000000	***	-0.032541
1999.0833333	****	-0.039680
1999.1666667	****	-0.038596
1999.2500000	***	-0.031751
1999.3333333	*	-0.012845
1999.4166667		-0.001714
1999.5000000	*	-0.005810
1999.5833333		-0.000581
1999.6666667	***	-0.025784
1999.7500000	**	-0.024095
1999.8333333	****	-0.036082
1999.9166667	****	-0.040160
2000.0000000	**	-0.020133
2000.0833333	****	-0.037674
2000.1666667	***	-0.031316
2000.2500000	***	-0.033203
2000.3333333		-0.000004
2000.4166667	*	0.010881
2000.5000000	*	0.009076
2000.5833333		0.002954
2000.6666667	*	0.014184
2000.7500000	**	-0.024003
2000.8333333	**	-0.021571
2000.9166667	**	-0.021031
2001.0000000		-0.002609
2001.0833333	*	-0.007101
2001.1666667	*	-0.009076
2001.2500000		-0.001190
2001.3333333	***	0.029810
2001.4166667	****	0.040304
2001.5000000	**	0.022183
2001.5833333	***	0.026025
2001.6666667	**	0.023609
2001.7500000	*	0.005897
2001.8333333	*****	0.055195
2001.9166667	**	0.019758
2002.0000000	****	0.037395

KENTUCKY POWER COMPANY  
 OTHER ULTIMATE ENERGY SALES  
 MODEL RESIDUALS

2002.0833333	*	0.014266
2002.1666667	*	0.009941
2002.2500000	***	0.028294
2002.3333333	****	0.037714
2002.4166667	*****	0.046078
2002.5000000	****	0.042792
2002.5833333	****	0.038397
2002.6666667	****	0.037077
2002.7500000	***	0.026425
2002.8333333	***	0.030019
2002.9166667	*	0.010959
2003.0000000	*****	0.046250
2003.0833333	*	0.014500
2003.1666667	*	0.007882
2003.2500000	**	0.015693
2003.3333333	****	0.043090
2003.4166667	*****	0.046860
2003.5000000	***	0.029118
2003.5833333	***	0.025056
2003.6666667	***	0.026763
2003.7500000	*	0.011983
2003.8333333		-0.001130
2003.9166667	***	-0.027957
2004.0000000	*****	0.060803
2004.0833333		0.001805
2004.1666667		-0.001190
2004.2500000	*	0.014589
2004.3333333		0.001549
2004.4166667	***	0.029692
2004.5000000	*	0.011013
2004.5833333	*	0.008718
2004.6666667	*	0.009874
2004.7500000		-0.001257
2004.8333333		0.000560
2004.9166667	*	0.006727
2005.0000000	**	0.020002
2005.0833333	*	-0.010087
2005.1666667	**	-0.015109
2005.2500000	**	0.018740
2005.3333333	*	0.006273
2005.4166667		-0.001982
2005.5000000	**	-0.021554
2005.5833333	*	-0.009223
2005.6666667	*****	-0.105638
2005.7500000	*****	-0.120467
2005.8333333	*****	0.133298
2005.9166667	*****	-0.048052
2006.0000000	**	-0.023910
2006.0833333	*	-0.011627
2006.1666667	****	-0.036402
2006.2500000	***	-0.033156
2006.3333333	**	-0.020211

2006.4166667	*	-0.009222
2006.5000000	**	-0.023475
2006.5833333	*	-0.013428
2006.6666667	**	-0.015139
2006.7500000	*	-0.012235
2006.8333333	**	-0.021572
2006.9166667	***	-0.034547
2007.0000000	*	-0.009423
2007.0833333	**	-0.016855
2007.1666667	***	-0.025245
2007.2500000	**	-0.023976
2007.3333333		-0.002873
2007.4166667	*****	-0.055732
2007.5000000	*****	-0.130050
2007.5833333		0.000000
2007.6666667		0.000000
2007.7500000	*****	0.054663
2007.8333333	*****	-0.063185
2007.9166667	*	0.014674
2008.0000000	*****	0.051293
2008.0833333	****	0.038805
2008.1666667		0.002557
2008.2500000	****	0.040395
2008.3333333	***	-0.034314
2008.4166667	****	-0.044007
2008.5000000	*****	0.084084
2008.5833333	*****	0.046800
2008.6666667	*****	-0.058863
2008.7500000	*****	0.064429
2008.8333333	*****	-0.136890
2008.9166667	*****	0.169345
2009.0000000	*****	-0.074159
2009.0833333	**	0.018934
2009.1666667	*****	0.093264
2009.2500000	***	-0.031937
2009.3333333	**	-0.020651
2009.4166667	*****	0.068886
2009.5000000	****	-0.038008
2009.5833333	*****	-0.045488
2009.6666667	*****	0.116168
2009.7500000	*****	0.053954
2009.8333333	**	0.022083
2009.9166667	**	0.015834
2010.0000000	*****	-0.145416
2010.0833333	*****	0.201349
2010.1666667	*	0.011118
2010.2500000	*	0.008312
2010.3333333	***	0.027836
2010.4166667	*****	-0.101242
2010.5000000	*****	0.203067
2010.5833333	**	0.019292
2010.6666667	*	-0.011630

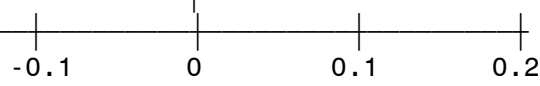
KENTUCKY POWER COMPANY  
 OTHER ULTIMATE ENERGY SALES  
 MODEL RESIDUALS

2010.750000	**	0.020352
2010.833333	*****	0.054422
2010.916667	***	-0.028442
2011.000000	*****	-0.097174
2011.083333	*****	-0.180692
2011.166667	*****	0.098898
2011.250000	*****	0.203026
2011.333333	*	-0.011597
2011.416667		-0.003089
2011.500000	*****	-0.069511
2011.583333	*****	-0.057777
2011.666667	*	0.012868
2011.750000	*****	0.110556
2011.833333	*	0.010079
2011.916667		0.002983
2012.000000	**	0.022109
2012.083333		0.004758
2012.166667		-0.004353
2012.250000	**	-0.016609
2012.333333		-0.002994
2012.416667	*	-0.008804
2012.500000	*	-0.014165
2012.583333	**	-0.018760
2012.666667		-0.003844
2012.750000		-0.000278
2012.833333		0.003354
2012.916667		-0.000436
2013.000000	***	0.032466
2013.083333	*	0.008853
2013.166667		0.002858
2013.250000		-0.004787
2013.333333		0.001745
2013.416667		0.001005
2013.500000	*	-0.008776
2013.583333	*	-0.005060
2013.666667		0.002869
2013.750000		0.001578
2013.833333	*	0.009527
2013.916667	*	0.014278
2014.000000	****	0.035380
2014.083333	*	0.006391
2014.166667		0.000789
2014.250000	**	-0.020700
2014.333333		-0.001083
2014.416667	*	-0.006668
2014.500000	**	-0.020483
2014.583333		-0.004941
2014.666667	***	-0.025321
2014.750000	*	-0.006987
2014.833333	*	0.005617
2014.916667	*	0.009227
2015.000000	***	0.030131

KENTUCKY POWER COMPANY  
 OTHER ULTIMATE ENERGY SALES  
 MODEL RESIDUALS

2015.0833333		0.002130
2015.1666667		-0.004542
2015.2500000	*	-0.012073
2015.3333333	*	-0.010175
2015.4166667	*	-0.007669
2015.5000000	**	-0.018041
2015.5833333	*	-0.006504
2015.6666667		-0.002902
2015.7500000		0.003872
2015.8333333		0.000518
2015.9166667		-0.002044
2016.0000000	**	0.023890
2016.0833333		-0.002918
2016.1666667	*	-0.010864
2016.2500000	**	-0.017524
2016.3333333	*	-0.012361
2016.4166667	**	-0.015111
2016.5000000	**	-0.022025
2016.5833333	*	-0.009614
2016.6666667	*	0.010164
2016.7500000		-0.004811
2016.8333333		0.003686
2016.9166667		-0.000966
2017.0000000	***	0.028154
2017.0833333		0.003818
2017.1666667		-0.001367
2017.2500000	**	-0.017701
2017.3333333	*	-0.005569
2017.4166667	*	-0.008984
2017.5000000	**	-0.015558
2017.5833333	*	-0.008090
2017.6666667		0.001663
2017.7500000		-0.001927
2017.8333333	*	0.007193
2017.9166667	*	0.014138
2018.0000000	***	0.029546
2018.0833333	****	0.036474
2018.1666667	**	0.017638
2018.2500000		0.004354
2018.3333333		-0.001956
2018.4166667		0.001026
2018.5000000	*	-0.008479
2018.5833333		0.000539
2018.6666667		0.002428
2018.7500000	*	-0.010800
2018.8333333		-0.004467
2018.9166667		-0.000905
2019.0000000	**	0.018261
2019.0833333	*	0.013530
2019.1666667		-0.002399
2019.2500000	*	-0.014621
2019.3333333		-0.002711

2019.4166667		-0.004152
2019.5000000	*	-0.011810
2019.5833333		0.000041
2019.6666667		-0.000499
2019.7500000	*	-0.006547
2019.8333333	*	0.006671
2019.9166667	*	0.007576
2020.0000000	***	0.031864
2020.0833333	*	0.005328
2020.1666667		-0.000372
2020.2500000	**	-0.017537
2020.3333333		-0.004362
2020.4166667	**	0.022463
2020.5000000	**	0.017147
2020.5833333	**	0.024923
2020.6666667	**	0.017122
2020.7500000	*****	-0.086453
2020.8333333		0.001140
2020.9166667	*	-0.014678
2021.0000000	*	0.008746
2021.0833333		0.004573
2021.1666667		0.004574
2021.2500000	*	-0.007126
2021.3333333	*	0.012483
2021.4166667	**	0.016586
2021.5000000	*	0.008880
2021.5833333	**	0.015881
2021.6666667	*	0.006695
2021.7500000	*	-0.007348
2021.8333333	*	-0.010633
2021.9166667	***	-0.025235
2022.0000000	*	-0.009741



Residual Values



KENTUCKY POWER COMPANY  
 OTHER ULTIMATE ENERGY SALES  
 ACTUAL AND FORECAST

YEAR	ENERGY SALES	GROWTH RATE
1998	10.4840	.
1999	10.6918	2.0
2000	10.8321	1.3
2001	11.1928	3.3
2002	11.3500	1.4
2003	11.2248	-1.1
2004	11.1297	-0.8
2005	10.1469	-8.8
2006	9.8172	-3.2
2007	10.0154	2.0
2008	10.2947	2.8
2009	10.2380	-0.6
2010	10.3145	0.7
2011	10.5905	2.7
2012	10.5247	-0.6
2013	10.6096	0.8
2014	10.5189	-0.9
2015	10.5150	0.0
2016	10.4413	-0.7
2017	10.4901	0.5
2018	10.6112	1.2
2019	10.4295	-1.7
2020	9.8057	-6.0
2021	9.4250	-3.9
2022	9.3949	-0.3
2023	9.4073	0.1
2024	9.4077	0.0
2025	9.4068	0.0
2026	9.4055	0.0
2027	9.4041	0.0
2028	9.4028	0.0
2029	9.4015	0.0
2030	9.3999	0.0
2031	9.3983	0.0
2032	9.3966	0.0
2033	9.3951	0.0
2034	9.3937	0.0
2035	9.3922	0.0
2036	9.3906	0.0
2037	9.3888	0.0
2038	9.3871	0.0
2039	9.3855	0.0
2040	9.3840	0.0
2041	9.3827	0.0
2042	9.3813	0.0
2043	9.3799	0.0
2044	9.3786	0.0
2045	9.3773	0.0

KENTUCKY POWER COMPANY  
OTHER ULTIMATE ENERGY SALES  
ACTUAL AND FORECAST

YEAR	ENERGY SALES	GROWTH RATE
2046	9.37595	0
2047	9.37449	0
2048	9.37300	0
2049	9.37146	0
2050	9.36984	0
2051	9.36817	0
2052	9.36648	0
2053	9.36479	0
2054	9.36310	0
2055	9.36141	0
2056	9.35972	0
2057	9.35804	0

## LONG-TERM MUNICIPALS

**CONFIDENTIAL**

**SEE CONFIDENTIAL SECTION**

## DSM/ENERGY EFFICIENCY

Kentucky Power Company			Monthly DSM Included in Load Forecast	
Year	Month	Peak Demand	Peak Energy	
2022	7	0.0	0.0	
2022	8	0.0	0.0	
2022	9	0.0	0.0	
2022	10	0.0	0.0	
2022	11	0.0	0.0	
2022	12	0.0	0.0	
2023	1	0.0	0.0	
2023	2	0.0	0.0	
2023	3	0.0	0.0	
2023	4	0.0	0.0	
2023	5	0.0	0.0	
2023	6	0.0	0.0	
2023	7	0.0	0.0	
2023	8	0.0	0.0	
2023	9	0.0	0.0	
2023	10	0.0	0.0	
2023	11	0.0	0.0	
2023	12	0.0	0.0	
2024	1	0.0	0.0	
2024	2	0.0	0.0	
2024	3	0.0	0.0	
2024	4	0.0	0.0	
2024	5	0.0	0.0	
2024	6	0.0	0.0	
2024	7	0.0	0.0	
2024	8	0.0	0.0	
2024	9	0.0	0.0	

Kentucky Power Company			Monthly DSM Included in Load Forecast	
Peak Demand (MW) and Energy (MWh)			Peak	
Year	Month		Demand	Energy
2024	10		0.0	0.0
2024	11		0.0	0.0
2024	12		0.0	0.0
2025	1		0.0	0.0
2025	2		0.0	0.0
2025	3		0.0	0.0
2025	4		0.0	0.0
2025	5		0.0	0.0
2025	6		0.0	0.0
2025	7		0.0	0.0
2025	8		0.0	0.0
2025	9		0.0	0.0
2025	10		0.0	0.0
2025	11		0.0	0.0
2025	12		0.0	0.0
2026	1		0.0	0.0
2026	2		0.0	0.0
2026	3		0.0	0.0
2026	4		0.0	0.0
2026	5		0.0	0.0
2026	6		0.0	0.0
2026	7		0.0	0.0
2026	8		0.0	0.0
2026	9		0.0	0.0
2026	10		0.0	0.0
2026	11		0.0	0.0
2026	12		0.0	0.0

Kentucky Power Company			Peak		
Monthly DSM Included in Load Forecast					
Year	Month	Peak Demand (MW)	Peak Energy (MWh)		
2027	1	0.0	0.0		
2027	2	0.0	0.0		
2027	3	0.0	0.0		
2027	4	0.0	0.0		
2027	5	0.0	0.0		
2027	6	0.0	0.0		
2027	7	0.0	0.0		
2027	8	0.0	0.0		
2027	9	0.0	0.0		
2027	10	0.0	0.0		
2027	11	0.0	0.0		
2027	12	0.0	0.0		
2028	1	0.0	0.0		
2028	2	0.0	0.0		
2028	3	0.0	0.0		
2028	4	0.0	0.0		
2028	5	0.0	0.0		
2028	6	0.0	0.0		
2028	7	0.0	0.0		
2028	8	0.0	0.0		
2028	9	0.0	0.0		
2028	10	0.0	0.0		
2028	11	0.0	0.0		
2028	12	0.0	0.0		
2029	1	0.0	0.0		
2029	2	0.0	0.0		
2029	3	0.0	0.0		



Kentucky Power Company			Monthly DSM Included in Load Forecast	
Year	Month	Peak Demand	Peak Energy	
2029	4	0.0	0.0	
2029	5	0.0	0.0	
2029	6	0.0	0.0	
2029	7	0.0	0.0	
2029	8	0.0	0.0	
2029	9	0.0	0.0	
2029	10	0.0	0.0	
2029	11	0.0	0.0	
2029	12	0.0	0.0	
2030	1	0.0	0.0	
2030	2	0.0	0.0	
2030	3	0.0	0.0	
2030	4	0.0	0.0	
2030	5	0.0	0.0	
2030	6	0.0	0.0	
2030	7	0.0	0.0	
2030	8	0.0	0.0	
2030	9	0.0	0.0	
2030	10	0.0	0.0	
2030	11	0.0	0.0	
2030	12	0.0	0.0	
2031	1	0.0	0.0	
2031	2	0.0	0.0	
2031	3	0.0	0.0	
2031	4	0.0	0.0	
2031	5	0.0	0.0	
2031	6	0.0	0.0	

Kentucky Power Company			Monthly DSM Included in Load Forecast	
Peak Demand (MW) and Energy (MWh)			Peak Demand	Energy
Year	Month			
2031	7		0.0	0.0
2031	8		0.0	0.0
2031	9		0.0	0.0
2031	10		0.0	0.0
2031	11		0.0	0.0
2031	12		0.0	0.0
2032	1		0.0	0.0
2032	2		0.0	0.0
2032	3		0.0	0.0
2032	4		0.0	0.0
2032	5		0.0	0.0
2032	6		0.0	0.0
2032	7		0.0	0.0
2032	8		0.0	0.0
2032	9		0.0	0.0
2032	10		0.0	0.0
2032	11		0.0	0.0
2032	12		0.0	0.0
2033	1		0.0	0.0
2033	2		0.0	0.0
2033	3		0.0	0.0
2033	4		0.0	0.0
2033	5		0.0	0.0
2033	6		0.0	0.0
2033	7		0.0	0.0
2033	8		0.0	0.0
2033	9		0.0	0.0

Kentucky Power Company			Monthly DSM Included in Load Forecast	
Year	Month	Peak Demand	Peak Energy	
2033	10	0.0	0.0	
2033	11	0.0	0.0	
2033	12	0.0	0.0	
2034	1	0.0	0.0	
2034	2	0.0	0.0	
2034	3	0.0	0.0	
2034	4	0.0	0.0	
2034	5	0.0	0.0	
2034	6	0.0	0.0	
2034	7	0.0	0.0	
2034	8	0.0	0.0	
2034	9	0.0	0.0	
2034	10	0.0	0.0	
2034	11	0.0	0.0	
2034	12	0.0	0.0	
2035	1	0.0	0.0	
2035	2	0.0	0.0	
2035	3	0.0	0.0	
2035	4	0.0	0.0	
2035	5	0.0	0.0	
2035	6	0.0	0.0	
2035	7	0.0	0.0	
2035	8	0.0	0.0	
2035	9	0.0	0.0	
2035	10	0.0	0.0	
2035	11	0.0	0.0	
2035	12	0.0	0.0	

Kentucky Power Company			Monthly DSM Included in Load Forecast	
Peak Demand (MW) and Energy (MWh)			Peak	
Year	Month		Demand	Energy
2036	1		0.0	0.0
2036	2		0.0	0.0
2036	3		0.0	0.0
2036	4		0.0	0.0
2036	5		0.0	0.0
2036	6		0.0	0.0
2036	7		0.0	0.0
2036	8		0.0	0.0
2036	9		0.0	0.0
2036	10		0.0	0.0
2036	11		0.0	0.0
2036	12		0.0	0.0
2037	1		0.0	0.0
2037	2		0.0	0.0
2037	3		0.0	0.0
2037	4		0.0	0.0
2037	5		0.0	0.0
2037	6		0.0	0.0
2037	7		0.0	0.0
2037	8		0.0	0.0
2037	9		0.0	0.0
2037	10		0.0	0.0
2037	11		0.0	0.0
2037	12		0.0	0.0

\*Demand coincident with Company's monthly peak demand.

## PEAK DEMAND

Kentucky Power Company  
Peak Demand Models by Sector  
Model Input Glossary

Variable-Hourly Load

CDD65-Cooling Degree Days based on 65 Degrees F

CDD70-Cooling Degree Days based on 70 Degrees F

CDD65WkEnd-Cooling Degree Days based on 65 Degrees F, Weekends

CDD70WkEnd-Cooling Degree Days based on 75 Degrees F, Weekends

Summer Fuzzy-Summer Days Variable

Winter Fuzzy-Winter Days Variable

HLight-Hours of Sunlight

DST-Daylight Savings Time

HDD50-Heating Degree Days based on 50 Degrees F

HDD55-Heating Degree Days based on 55 Degrees F

HDD65-Heating Degree Days based on 65 Degrees F

HDD65WkEnd-Heating Degree Days based on 65 Degrees F

Weekend-Binary Variable for Weekends

January-Binary Variable January

February-Binary Variable February

March-Binary Variable March

April-Binary Variable April

May-Binary Variable May

June-Binary Variable June

July-Binary Variable July

August-Binary Variable August

September-Binary Variable September

October-Binary Variable October

November-Binary Variable November

WkDay-Week Day Binary Variable

WkEnd- Week End Binary Variable

MajorHolidays-Binary Variable for Major Holidays

Constant-Intercept

TWT-Tuesday, Wednesday and Thursday Binary Variable

Monday-Binary Variable Monday

**Kentucky Power Company  
 Summer Peak Demand (MW) Forecast by Sector**

Summer	Kentucky Power Total	Other			
		Residential	Commercial	Industrial	Retail Wholesale
2023	817	362	220	221	1 13
2024	1,029	415	343	255	2 15
2025	1,026	412	343	255	2 15
2026	1,006	409	342	253	2 0
2027	1,002	407	342	252	2 0
2028	996	403	341	251	2 0
2029	994	400	340	251	2 0
2030	991	398	340	251	2 0
2031	988	396	339	251	2 0
2032	983	394	338	250	2 0
2033	984	394	338	250	2 0
2034	844	337	290	216	1 0
2035	979	390	337	250	2 0
2036	975	389	336	249	2 0
2037	975	388	337	249	2 0

**Kentucky Power Company  
 Winter Peak Demand (MW) Forecast by Sector**

Winter	Kentucky Power Total	Residential	Commercial	Industrial	Other	
					Retail	Wholesale
2022/23	1,230	651	259	299	2	18
2023/24	1,289	641	330	298	2	18
2024/25	1,283	636	330	298	2	18
2025/26	1,256	629	328	296	2	0
2026/27	1,247	624	326	295	3	0
2027/28	1,235	616	323	293	2	0
2028/29	1,231	613	322	294	2	0
2029/30	1,223	607	320	293	2	0
2030/31	1,217	603	318	293	2	0
2031/32	1,206	596	316	292	2	0
2032/33	1,205	583	331	289	2	0
2033/34	1,198	590	313	292	2	0
2034/35	1,193	576	327	288	2	0
2035/36	1,185	571	325	287	2	0
2036/37	1,183	569	325	287	2	0
2037/38	1,178	566	323	287	2	0



## Residential Cooling Peak Demand Model Coefficients

Variable	CDD65	CDD70	CDD65WkEnd	CDD70WkEnd	SummerFuzzy	WinterFuzzy	HLight	DST
Hour1	2.386	0.107	-0.614	0.539	18.612	-4.606	0.477	-1.485
Hour2	1.809	0.284	-0.093	0.136	17.137	-3.752	0.394	-1.495
Hour3	1.579	0.370	-0.263	0.267	14.735	-2.856	0.304	-1.344
Hour4	1.378	0.403	-0.253	0.233	12.989	-2.403	0.258	-1.232
Hour5	1.197	0.427	-0.202	0.194	11.711	-2.076	0.227	-1.210
Hour6	1.055	0.428	-0.250	0.223	10.295	-1.651	0.182	-1.025
Hour7	0.880	0.441	-0.155	0.151	9.002	-1.379	0.154	-0.942
Hour8	0.881	0.338	-0.177	0.177	8.669	-1.374	0.149	-0.795
Hour9	1.110	0.013	-0.486	0.397	8.173	-2.230	0.232	-0.816
Hour10	1.113	0.104	0.022	0.003	9.160	-2.843	0.292	-0.848
Hour11	1.250	0.258	0.477	-0.338	12.355	-3.523	0.363	-1.028
Hour12	1.626	0.296	0.540	-0.378	15.536	-4.679	0.484	-1.401
Hour13	2.056	0.283	0.696	-0.442	19.228	-6.352	0.660	-1.914
Hour14	2.500	0.238	0.838	-0.535	22.992	-8.245	0.863	-2.627
Hour15	2.900	0.059	1.130	-0.749	25.971	-10.343	1.083	-3.158
Hour16	3.336	-0.153	1.284	-0.887	29.414	-11.907	1.240	-3.310
Hour17	3.803	-0.407	1.471	-1.078	33.301	-12.880	1.333	-2.879
Hour18	4.226	-0.676	1.295	-1.017	35.624	-12.832	1.321	-1.694
Hour19	4.530	-0.829	0.561	-0.411	35.123	-11.770	1.204	-0.552
Hour20	4.453	-0.739	-0.063	0.095	32.222	-11.367	1.162	-1.280
Hour21	4.003	-0.421	-0.204	0.255	29.068	-10.151	1.037	-2.015
Hour22	3.595	-0.204	-0.349	0.322	26.801	-8.394	0.861	-2.076
Hour23	3.198	-0.047	-0.379	0.369	24.233	-7.172	0.736	-1.880
Hour24	2.742	0.088	-0.418	0.412	21.562	-5.928	0.613	-1.804

Variable	CDD65	CDD70	CDD65WkEnd	CDD70WkEnd	SummerFuzzy	WinterFuzzy	HLight	DST
Hour1	0.023	0.033	0.030	0.052	0.094	0.093	0.009	0.103
Hour2	0.020	0.028	0.026	0.046	0.082	0.081	0.008	0.090
Hour3	0.018	0.025	0.023	0.040	0.072	0.071	0.007	0.079
Hour4	0.016	0.022	0.021	0.036	0.064	0.063	0.006	0.070
Hour5	0.014	0.020	0.019	0.033	0.058	0.058	0.006	0.064
Hour6	0.013	0.018	0.017	0.029	0.051	0.051	0.005	0.057
Hour7	0.011	0.016	0.015	0.025	0.046	0.045	0.005	0.050
Hour8	0.010	0.015	0.014	0.024	0.042	0.042	0.004	0.047
Hour9	0.010	0.015	0.014	0.024	0.042	0.042	0.004	0.046
Hour10	0.012	0.017	0.016	0.027	0.048	0.048	0.005	0.053
Hour11	0.015	0.022	0.020	0.035	0.062	0.061	0.006	0.068
Hour12	0.019	0.027	0.026	0.044	0.079	0.078	0.008	0.087
Hour13	0.024	0.035	0.032	0.055	0.099	0.098	0.010	0.109
Hour14	0.029	0.042	0.039	0.067	0.120	0.119	0.012	0.132
Hour15	0.034	0.048	0.045	0.077	0.138	0.137	0.014	0.151
Hour16	0.038	0.054	0.050	0.087	0.155	0.154	0.016	0.170
Hour17	0.042	0.060	0.056	0.097	0.173	0.172	0.017	0.190
Hour18	0.045	0.064	0.060	0.103	0.184	0.183	0.019	0.203
Hour19	0.045	0.064	0.060	0.103	0.184	0.183	0.019	0.203
Hour20	0.042	0.061	0.056	0.097	0.174	0.172	0.018	0.191
Hour21	0.038	0.055	0.051	0.088	0.157	0.155	0.016	0.172
Hour22	0.034	0.049	0.045	0.079	0.140	0.139	0.014	0.154
Hour23	0.031	0.044	0.041	0.071	0.126	0.125	0.013	0.139
Hour24	0.027	0.038	0.036	0.062	0.110	0.109	0.011	0.121

Variable	CDD65	CDD70	CDD65WkEnd	CDD70WkEnd	SummerFuzzy	WinterFuzzy	HLight	DST
Hour1	104.007	3.275	-20.245	10.280	198.630	-49.531	50.335	-14.405
Hour2	90.478	9.962	-3.514	2.977	209.790	-46.279	47.689	-16.634
Hour3	90.139	14.835	-11.353	6.681	205.944	-40.212	41.981	-17.071
Hour4	88.144	18.114	-12.238	6.522	203.443	-37.924	39.937	-17.545
Hour5	83.890	20.986	-10.690	5.956	200.945	-35.900	38.522	-18.868
Hour6	83.932	23.915	-15.035	7.746	200.432	-32.383	35.025	-18.147
Hour7	78.901	27.760	-10.517	5.939	197.611	-30.507	33.539	-18.797
Hour8	84.672	22.799	-12.860	7.439	204.036	-32.585	34.705	-17.009
Hour9	107.434	0.880	-35.568	16.834	193.715	-53.255	54.444	-17.591
Hour10	94.566	6.176	1.390	0.110	190.487	-59.579	60.028	-16.022
Hour11	82.689	11.985	23.867	-9.796	200.095	-57.498	58.105	-15.130
Hour12	84.312	10.776	21.183	-8.579	197.198	-59.844	60.758	-16.169
Hour13	84.797	8.203	21.706	-7.982	194.124	-64.619	65.915	-17.564
Hour14	85.191	5.704	21.597	-7.977	191.827	-69.311	71.171	-19.923
Hour15	86.044	1.236	25.349	-9.719	188.644	-75.697	77.813	-20.851
Hour16	87.935	-2.837	25.593	-10.230	189.796	-77.417	79.154	-19.416
Hour17	89.871	-6.759	26.267	-11.148	192.633	-75.071	76.246	-15.136
Hour18	93.733	-10.532	21.706	-9.868	193.422	-70.203	70.928	-8.359
Hour19	100.379	-12.901	9.400	-3.985	190.511	-64.325	64.601	-2.723
Hour20	104.807	-12.214	-1.122	0.973	185.635	-65.986	66.209	-6.703
Hour21	104.444	-7.716	-4.025	2.914	185.662	-65.330	65.498	-11.701
Hour22	104.619	-4.167	-7.678	4.097	190.945	-60.261	60.652	-13.446
Hour23	103.630	-1.067	-9.272	5.231	192.221	-57.325	57.768	-13.554
Hour24	101.732	2.304	-11.735	6.693	195.846	-54.255	55.093	-14.893

Residential Cooling Peak Demand Model Statistics

Hour	Obs	DF	AdjRSq	DW	StdErr	MAD	MAPE	FObs	FMAD	FMAPE	FAvgErr
Hour1	1826	1818	0.998	0.051	1.006	0.611	13.28%	0	0.000	0.00%	0.000
Hour2	1826	1818	0.998	0.064	0.877	0.547	16.96%	0	0.000	0.00%	0.000
Hour3	1826	1818	0.998	0.084	0.768	0.487	34.04%	0	0.000	0.00%	0.000
Hour4	1826	1818	0.998	0.095	0.685	0.441	39.93%	0	0.000	0.00%	0.000
Hour5	1826	1818	0.998	0.112	0.626	0.415	498.09%	0	0.000	0.00%	0.000
Hour6	1826	1818	0.998	0.115	0.551	0.367	46.24%	0	0.000	0.00%	0.000
Hour7	1826	1818	0.998	0.124	0.489	0.331	63.29%	0	0.000	0.00%	0.000
Hour8	1826	1818	0.998	0.107	0.456	0.298	109.82%	0	0.000	0.00%	0.000
Hour9	1826	1818	0.998	0.069	0.453	0.285	17.49%	0	0.000	0.00%	0.000
Hour10	1826	1818	0.998	0.048	0.516	0.323	30.62%	0	0.000	0.00%	0.000
Hour11	1826	1818	0.998	0.046	0.663	0.406	17.99%	0	0.000	0.00%	0.000
Hour12	1826	1818	0.998	0.045	0.846	0.517	64.38%	0	0.000	0.00%	0.000
Hour13	1826	1818	0.998	0.044	1.063	0.647	24.53%	0	0.000	0.00%	0.000
Hour14	1826	1818	0.998	0.046	1.287	0.788	19.56%	0	0.000	0.00%	0.000
Hour15	1826	1818	0.998	0.041	1.478	0.899	29.62%	0	0.000	0.00%	0.000
Hour16	1826	1818	0.998	0.036	1.664	1.007	27.27%	0	0.000	0.00%	0.000
Hour17	1826	1818	0.998	0.033	1.856	1.121	37.52%	0	0.000	0.00%	0.000
Hour18	1826	1818	0.998	0.031	1.977	1.207	20.64%	0	0.000	0.00%	0.000
Hour19	1826	1818	0.998	0.031	1.979	1.219	25.84%	0	0.000	0.00%	0.000
Hour20	1826	1818	0.998	0.032	1.864	1.150	13.70%	0	0.000	0.00%	0.000
Hour21	1826	1818	0.998	0.035	1.681	1.033	16.94%	0	0.000	0.00%	0.000
Hour22	1826	1818	0.998	0.037	1.507	0.913	34.58%	0	0.000	0.00%	0.000
Hour23	1826	1818	0.998	0.040	1.354	0.817	13.03%	0	0.000	0.00%	0.000
Hour24	1826	1818	0.998	0.046	1.182	0.716	16.84%	0	0.000	0.00%	0.000

## Residential Heating Peak Demand Model Statistics

Variable	HDD50	HDD55	HDD65	HDD65WkEnd	SummerFuzzy	WinterFuzzy	HLight	DST
Hour1	2.956	-1.516	1.976	0.006	-7.791	54.452	0.146	6.536
Hour2	2.559	-1.167	2.093	-0.109	-13.186	57.128	0.569	6.233
Hour3	2.497	-1.154	2.207	-0.086	-15.746	57.204	0.657	7.662
Hour4	2.486	-1.073	2.284	-0.095	-18.576	58.443	0.808	8.536
Hour5	2.535	-1.142	2.485	-0.117	-20.622	60.727	0.902	9.499
Hour6	2.378	-1.124	2.694	-0.165	-22.073	61.841	0.922	10.921
Hour7	1.838	-0.725	2.883	-0.335	-24.545	67.046	0.929	13.567
Hour8	1.477	-0.477	2.709	0.072	-23.427	66.770	0.631	16.704
Hour9	1.480	-0.532	2.488	0.523	-18.103	64.663	0.159	17.580
Hour10	2.041	-0.911	2.194	0.566	-11.093	61.543	0.123	10.528
Hour11	2.730	-1.312	1.893	0.176	-6.476	56.823	0.079	5.963
Hour12	3.245	-1.672	1.619	-0.086	-3.168	51.050	-0.025	3.832
Hour13	3.650	-1.968	1.407	-0.174	-1.755	46.514	-0.121	3.653
Hour14	3.704	-2.010	1.216	-0.109	-1.086	42.954	-0.159	3.461
Hour15	3.728	-2.077	1.128	-0.098	-0.339	39.953	-0.181	3.024
Hour16	3.896	-2.246	1.102	-0.084	0.182	38.632	-0.191	2.653
Hour17	4.032	-2.344	1.249	-0.255	0.606	41.589	-0.227	2.811
Hour18	4.182	-2.430	1.470	-0.359	0.837	47.310	-0.262	3.195
Hour19	3.678	-2.167	1.598	-0.342	0.418	47.020	-0.256	3.588
Hour20	3.274	-1.896	1.597	-0.269	-1.356	45.924	-0.229	5.004
Hour21	2.929	-1.711	1.727	-0.211	-1.961	47.283	-0.354	7.375
Hour22	2.870	-1.645	1.836	-0.142	-3.175	50.625	-0.374	8.961
Hour23	2.678	-1.443	1.859	-0.057	-4.472	51.987	-0.205	7.983
Hour24	2.605	-1.306	1.890	-0.027	-5.783	53.475	-0.103	7.953

## Residential Heating Peak Demand Model Statistics

Variable	HDD50	HDD55	HDD65	HDD65WkEnd	SummerFuzzy	WinterFuzzy	HLight	DST
Hour1	0.086	0.107	0.040	0.010	0.308	0.347	0.036	0.365
Hour2	0.093	0.116	0.044	0.011	0.336	0.378	0.039	0.398
Hour3	0.096	0.120	0.045	0.012	0.347	0.390	0.040	0.411
Hour4	0.101	0.126	0.047	0.012	0.364	0.409	0.042	0.431
Hour5	0.107	0.133	0.050	0.013	0.385	0.433	0.044	0.457
Hour6	0.111	0.138	0.052	0.013	0.399	0.449	0.046	0.473
Hour7	0.118	0.147	0.055	0.014	0.425	0.477	0.049	0.503
Hour8	0.115	0.143	0.054	0.014	0.414	0.465	0.048	0.490
Hour9	0.108	0.134	0.050	0.013	0.387	0.436	0.045	0.459
Hour10	0.098	0.123	0.046	0.012	0.354	0.398	0.041	0.420
Hour11	0.087	0.108	0.041	0.010	0.312	0.350	0.036	0.369
Hour12	0.074	0.093	0.035	0.009	0.268	0.302	0.031	0.318
Hour13	0.066	0.082	0.031	0.008	0.237	0.267	0.027	0.281
Hour14	0.060	0.075	0.028	0.007	0.215	0.242	0.025	0.255
Hour15	0.055	0.069	0.026	0.007	0.199	0.224	0.023	0.236
Hour16	0.053	0.066	0.025	0.006	0.192	0.216	0.022	0.227
Hour17	0.057	0.071	0.027	0.007	0.205	0.231	0.024	0.243
Hour18	0.065	0.080	0.030	0.008	0.233	0.262	0.027	0.276
Hour19	0.066	0.082	0.031	0.008	0.237	0.266	0.027	0.281
Hour20	0.066	0.082	0.031	0.008	0.236	0.266	0.027	0.280
Hour21	0.068	0.085	0.032	0.008	0.245	0.275	0.028	0.290
Hour22	0.073	0.091	0.034	0.009	0.264	0.297	0.030	0.313
Hour23	0.077	0.096	0.036	0.009	0.278	0.312	0.032	0.329
Hour24	0.081	0.101	0.038	0.010	0.291	0.327	0.034	0.345

## Residential Heating Peak Demand Model Statistics

Variable	HDD50	HDD55	HDD65	HDD65WkEnd	SummerFuzzy	WinterFuzzy	HLight	DST
Hour1	34.546	-14.218	49.275	0.550	-25.266	157.095	4.092	17.885
Hour2	27.446	-10.044	47.911	-9.730	-39.246	151.263	14.672	15.653
Hour3	25.926	-9.616	48.902	-7.419	-45.371	146.632	16.419	18.629
Hour4	24.627	-8.527	48.282	-7.836	-51.069	142.936	19.250	19.802
Hour5	23.716	-8.570	49.613	-9.143	-53.533	140.241	20.299	20.807
Hour6	21.468	-8.145	51.883	-12.368	-55.289	137.802	20.014	23.081
Hour7	15.592	-4.935	52.189	-23.678	-57.790	140.428	18.964	26.953
Hour8	12.860	-3.333	50.329	5.234	-56.608	143.526	13.229	34.056
Hour9	13.764	-3.973	49.389	40.451	-46.725	148.477	3.565	38.287
Hour10	20.757	-7.438	47.615	47.879	-31.304	154.494	2.999	25.068
Hour11	31.553	-12.170	46.690	16.912	-20.774	162.154	2.194	16.141
Hour12	43.569	-18.015	46.388	-9.587	-11.803	169.180	-0.814	12.044
Hour13	55.388	-23.962	45.551	-22.006	-7.391	174.267	-4.427	12.980
Hour14	61.947	-26.977	43.390	-15.226	-5.038	177.328	-6.394	13.553
Hour15	67.440	-30.148	43.542	-14.789	-1.700	178.430	-7.894	12.811
Hour16	73.147	-33.833	44.134	-13.178	0.947	179.056	-8.638	11.662
Hour17	70.825	-33.039	46.812	-37.198	2.956	180.363	-9.584	11.562
Hour18	64.760	-30.199	48.568	-46.196	3.598	180.849	-9.760	11.584
Hour19	55.965	-26.459	51.880	-43.223	1.763	176.597	-9.387	12.781
Hour20	49.941	-23.216	51.971	-34.082	-5.740	172.953	-8.394	17.874
Hour21	43.082	-20.200	54.208	-25.861	-8.004	171.676	-12.521	25.399
Hour22	39.196	-18.026	53.495	-16.187	-12.035	170.688	-12.292	28.655
Hour23	34.741	-15.024	51.449	-6.143	-16.100	166.491	-6.406	24.248
Hour24	32.262	-12.974	49.941	-2.822	-19.872	163.479	-3.074	23.060

## Residential Heating Peak Demand Model Statistics

Hour	Obs	DF	AdjRSq	DW	StdErr	MAD	MAPE	FObs	FMAD	FMAPE	FAvgErr
Hour1	1826	1818	0.996	0.080	3.476	1.745	4.28%	0	0.000	0.00%	0.000
Hour2	1826	1818	0.996	0.073	3.788	1.929	6.95%	0	0.000	0.00%	0.000
Hour3	1826	1818	0.996	0.073	3.913	2.007	6.49%	0	0.000	0.00%	0.000
Hour4	1826	1818	0.996	0.072	4.101	2.117	10.74%	0	0.000	0.00%	0.000
Hour5	1826	1818	0.996	0.072	4.343	2.249	5.09%	0	0.000	0.00%	0.000
Hour6	1826	1818	0.996	0.071	4.501	2.339	5.61%	0	0.000	0.00%	0.000
Hour7	1826	1818	0.995	0.067	4.789	2.500	16.31%	0	0.000	0.00%	0.000
Hour8	1826	1818	0.995	0.068	4.666	2.439	3.76%	0	0.000	0.00%	0.000
Hour9	1826	1818	0.996	0.077	4.368	2.261	3.76%	0	0.000	0.00%	0.000
Hour10	1826	1818	0.996	0.082	3.995	2.029	3.97%	0	0.000	0.00%	0.000
Hour11	1826	1818	0.996	0.080	3.515	1.755	4.67%	0	0.000	0.00%	0.000
Hour12	1826	1818	0.996	0.083	3.026	1.488	5.88%	0	0.000	0.00%	0.000
Hour13	1826	1818	0.996	0.088	2.677	1.303	8.37%	0	0.000	0.00%	0.000
Hour14	1826	1818	0.996	0.093	2.429	1.174	16.75%	0	0.000	0.00%	0.000
Hour15	1826	1818	0.996	0.096	2.246	1.080	58.97%	0	0.000	0.00%	0.000
Hour16	1826	1818	0.996	0.100	2.164	1.037	34.65%	0	0.000	0.00%	0.000
Hour17	1826	1818	0.996	0.099	2.313	1.129	18.94%	0	0.000	0.00%	0.000
Hour18	1826	1818	0.996	0.096	2.624	1.290	8.09%	0	0.000	0.00%	0.000
Hour19	1826	1818	0.996	0.088	2.670	1.297	8.93%	0	0.000	0.00%	0.000
Hour20	1826	1818	0.996	0.085	2.663	1.307	5.51%	0	0.000	0.00%	0.000
Hour21	1826	1818	0.996	0.083	2.762	1.367	6.87%	0	0.000	0.00%	0.000
Hour22	1826	1818	0.996	0.081	2.975	1.481	5.96%	0	0.000	0.00%	0.000
Hour23	1826	1818	0.996	0.079	3.132	1.564	4.65%	0	0.000	0.00%	0.000
Hour24	1826	1818	0.996	0.079	3.281	1.644	4.31%	0	0.000	0.00%	0.000



Variable	Constant	WeekEnd	January	February	March	April	May	June	July	August
Hour1	13.842	0.042	0.406	0.292	0.139	0.197	0.614	-0.471	-1.050	-1.012
Hour2	9.333	-0.628	0.289	0.260	0.194	0.280	0.896	0.236	-0.232	-0.289
Hour3	6.490	-0.766	0.208	0.102	-0.024	-0.134	0.104	-0.353	-0.675	-0.675
Hour4	4.788	-0.351	0.148	0.105	0.040	0.048	0.298	-0.046	-0.298	-0.302
Hour5	3.840	-0.050	0.114	0.048	-0.028	-0.068	-0.039	-0.344	-0.506	-0.472
Hour6	4.573	0.396	0.125	0.110	0.080	0.169	0.284	-0.100	-0.275	-0.248
Hour7	6.923	0.968	0.181	0.133	0.064	0.191	0.204	-0.417	-0.658	-0.568
Hour8	9.721	1.034	0.262	-0.031	-0.337	-0.552	-1.157	-2.068	-2.371	-2.098
Hour9	10.694	0.422	0.305	-0.094	-0.495	-0.932	-1.683	-2.646	-2.983	-2.688
Hour10	9.424	-1.346	0.309	-0.105	-0.503	-1.180	-1.680	-2.401	-2.727	-2.573
Hour11	8.045	-1.000	0.260	-0.102	-0.453	-1.025	-1.506	-2.137	-2.415	-2.261
Hour12	6.680	-0.800	0.215	-0.099	-0.408	-0.884	-1.310	-1.840	-2.087	-1.941
Hour13	5.715	-0.691	0.184	-0.044	-0.271	-0.610	-0.841	-1.282	-1.507	-1.413
Hour14	5.604	-0.543	0.177	-0.038	-0.254	-0.562	-0.798	-1.240	-1.454	-1.357
Hour15	5.487	-0.549	0.174	-0.056	-0.287	-0.615	-0.893	-1.329	-1.544	-1.433
Hour16	5.555	-0.678	0.179	-0.111	-0.397	-0.831	-1.259	-1.707	-1.918	-1.773
Hour17	6.620	-0.799	0.213	-0.230	-0.654	-1.354	-2.202	-2.766	-2.964	-2.723
Hour18	9.324	-0.701	0.291	-0.562	-1.369	-2.698	-4.714	-5.612	-5.802	-5.256
Hour19	16.917	-0.158	0.502	-1.279	-2.962	-5.647	-10.286	-12.080	-12.317	-11.054
Hour20	26.069	-0.231	0.773	-2.106	-4.817	-9.197	-16.796	-19.602	-19.907	-17.863
Hour21	30.722	0.175	0.901	-1.564	-3.897	-7.524	-13.711	-16.782	-17.326	-15.596
Hour22	31.209	0.454	0.909	-0.075	-1.054	-2.194	-3.751	-6.444	-7.408	-6.776
Hour23	27.827	0.633	0.806	0.566	0.283	0.325	0.872	-1.360	-2.363	-2.269
Hour24	20.733	0.536	0.599	0.543	0.440	0.699	1.502	-0.130	-0.929	-0.941

## Residential Lighting Peak Demand Model Coefficients

Variable	September	October	November	December	WinterFuzzy	HLight
Hour1	-0.486	-0.233	0.172	0.000	0.023	0.021
Hour2	0.130	0.106	0.355	0.000	-0.018	0.053
Hour3	-0.291	-0.192	0.151	0.000	-0.034	0.052
Hour4	-0.046	-0.012	0.144	0.000	0.000	0.040
Hour5	-0.290	-0.166	-0.001	0.000	0.006	0.013
Hour6	-0.130	-0.033	0.022	0.000	0.035	-0.008
Hour7	-0.404	-0.158	-0.086	0.000	0.083	-0.023
Hour8	-1.679	-0.954	-0.478	0.000	0.100	-0.012
Hour9	-2.122	-1.279	-0.536	0.000	0.049	0.004
Hour10	-1.916	-1.289	-0.275	0.000	-0.114	0.036
Hour11	-1.697	-1.126	-0.276	0.000	-0.079	0.032
Hour12	-1.444	-0.946	-0.248	0.000	-0.050	0.039
Hour13	-1.011	-0.665	-0.131	0.000	-0.043	0.034
Hour14	-0.983	-0.638	-0.142	0.000	-0.033	0.028
Hour15	-1.042	-0.674	-0.166	0.000	-0.028	0.034
Hour16	-1.325	-0.863	-0.250	0.000	-0.035	0.040
Hour17	-2.155	-1.409	-0.501	0.000	-0.056	0.033
Hour18	-4.353	-2.805	-1.226	0.000	-0.045	0.033
Hour19	-9.353	-5.945	-2.880	0.000	0.016	0.034
Hour20	-15.181	-9.664	-4.710	0.000	0.013	0.040
Hour21	-13.136	-8.320	-3.907	0.000	0.009	-0.007
Hour22	-5.288	-3.248	-1.135	0.000	0.014	-0.030
Hour23	-1.403	-0.758	0.141	0.000	0.010	-0.054
Hour24	-0.360	-0.112	0.339	0.000	0.023	-0.032

Variable	Constant	WeekEnd	January	February	March	April	May	June	July	August	September
Hour1	2.059	0.116	0.262	0.366	0.563	0.741	0.931	1.027	0.978	0.818	0.638
Hour2	1.468	0.083	0.187	0.261	0.402	0.529	0.664	0.732	0.697	0.583	0.455
Hour3	0.992	0.056	0.126	0.176	0.271	0.357	0.449	0.495	0.471	0.394	0.307
Hour4	0.762	0.043	0.097	0.135	0.208	0.274	0.345	0.380	0.362	0.303	0.236
Hour5	0.564	0.032	0.072	0.100	0.154	0.203	0.255	0.281	0.268	0.224	0.175
Hour6	0.677	0.038	0.086	0.120	0.185	0.244	0.306	0.338	0.322	0.269	0.210
Hour7	1.007	0.057	0.128	0.179	0.276	0.363	0.456	0.503	0.479	0.400	0.312
Hour8	1.325	0.075	0.169	0.235	0.362	0.477	0.599	0.661	0.629	0.526	0.410
Hour9	1.423	0.080	0.181	0.253	0.389	0.512	0.643	0.710	0.676	0.565	0.441
Hour10	1.220	0.069	0.155	0.217	0.334	0.440	0.552	0.609	0.580	0.485	0.378
Hour11	1.045	0.059	0.133	0.186	0.286	0.376	0.473	0.521	0.497	0.415	0.324
Hour12	0.887	0.050	0.113	0.157	0.242	0.319	0.401	0.442	0.421	0.352	0.275
Hour13	0.780	0.044	0.099	0.139	0.213	0.281	0.353	0.389	0.371	0.310	0.242
Hour14	0.763	0.043	0.097	0.136	0.209	0.275	0.345	0.381	0.362	0.303	0.236
Hour15	0.750	0.042	0.095	0.133	0.205	0.270	0.339	0.374	0.356	0.298	0.232
Hour16	0.739	0.042	0.094	0.131	0.202	0.266	0.334	0.369	0.351	0.294	0.229
Hour17	0.806	0.045	0.103	0.143	0.220	0.290	0.364	0.402	0.383	0.320	0.249
Hour18	1.026	0.058	0.131	0.182	0.281	0.370	0.464	0.512	0.487	0.408	0.318
Hour19	1.771	0.100	0.226	0.315	0.484	0.638	0.801	0.883	0.841	0.703	0.548
Hour20	2.660	0.150	0.339	0.473	0.728	0.958	1.203	1.327	1.264	1.056	0.824
Hour21	3.406	0.192	0.434	0.605	0.932	1.227	1.540	1.699	1.618	1.353	1.055
Hour22	4.125	0.233	0.525	0.733	1.128	1.486	1.866	2.058	1.960	1.638	1.277
Hour23	3.960	0.223	0.504	0.703	1.083	1.426	1.791	1.976	1.881	1.573	1.226
Hour24	3.036	0.171	0.387	0.539	0.830	1.093	1.373	1.515	1.442	1.206	0.940

## Residential Lighting Peak Demand Model Standard Errors

Variable	October	November	December	WinterFuzzy	HLight
Hour1	0.509	0.285	0.000	0.449	0.195
Hour2	0.363	0.204	0.000	0.320	0.139
Hour3	0.245	0.138	0.000	0.217	0.094
Hour4	0.188	0.106	0.000	0.166	0.072
Hour5	0.140	0.078	0.000	0.123	0.053
Hour6	0.168	0.094	0.000	0.148	0.064
Hour7	0.249	0.140	0.000	0.220	0.095
Hour8	0.328	0.184	0.000	0.289	0.125
Hour9	0.352	0.197	0.000	0.310	0.135
Hour10	0.302	0.169	0.000	0.266	0.115
Hour11	0.259	0.145	0.000	0.228	0.099
Hour12	0.219	0.123	0.000	0.193	0.084
Hour13	0.193	0.108	0.000	0.170	0.074
Hour14	0.189	0.106	0.000	0.166	0.072
Hour15	0.185	0.104	0.000	0.164	0.071
Hour16	0.183	0.102	0.000	0.161	0.070
Hour17	0.199	0.112	0.000	0.176	0.076
Hour18	0.254	0.142	0.000	0.224	0.097
Hour19	0.438	0.246	0.000	0.386	0.168
Hour20	0.658	0.369	0.000	0.580	0.252
Hour21	0.842	0.472	0.000	0.743	0.322
Hour22	1.020	0.572	0.000	0.900	0.390
Hour23	0.980	0.549	0.000	0.864	0.375
Hour24	0.751	0.421	0.000	0.662	0.287

Kentucky Power 2022 Integrated Resource Plan  
 Kentucky Power Company  
 Residential Lighting Peak Demand Model t-Statistics

Variable	Constant	WeekEnd	January	February	March	April	May	June	July	August
Hour1	6.723	0.360	1.549	0.797	0.246	0.266	0.659	-0.458	-1.074	-1.237
Hour2	6.358	-7.586	1.544	0.996	0.483	0.529	1.349	0.322	-0.332	-0.495
Hour3	6.541	-13.684	1.647	0.576	-0.089	-0.374	0.232	-0.712	-1.433	-1.713
Hour4	6.287	-8.163	1.530	0.773	0.190	0.176	0.866	-0.122	-0.824	-1.000
Hour5	6.806	-1.576	1.587	0.478	-0.180	-0.333	-0.151	-1.223	-1.887	-2.108
Hour6	6.750	10.372	1.454	0.915	0.434	0.691	0.927	-0.296	-0.854	-0.923
Hour7	6.872	17.022	1.415	0.743	0.232	0.526	0.447	-0.830	-1.375	-1.420
Hour8	7.339	13.828	1.554	-0.133	-0.930	-1.157	-1.932	-3.129	-3.768	-3.989
Hour9	7.517	5.255	1.683	-0.371	-1.273	-1.819	-2.615	-3.728	-4.414	-4.757
Hour10	7.722	-19.542	1.986	-0.484	-1.506	-2.685	-3.043	-3.944	-4.703	-5.308
Hour11	7.696	-16.956	1.953	-0.552	-1.586	-2.724	-3.185	-4.097	-4.863	-5.447
Hour12	7.535	-15.986	1.903	-0.630	-1.684	-2.770	-3.267	-4.161	-4.957	-5.514
Hour13	7.322	-15.693	1.851	-0.316	-1.271	-2.169	-2.383	-3.292	-4.065	-4.559
Hour14	7.346	-12.620	1.825	-0.282	-1.217	-2.047	-2.313	-3.257	-4.012	-4.479
Hour15	7.321	-12.984	1.822	-0.423	-1.402	-2.277	-2.633	-3.554	-4.335	-4.815
Hour16	7.515	-16.253	1.899	-0.844	-1.965	-3.121	-3.765	-4.629	-5.462	-6.038
Hour17	8.216	-17.573	2.078	-1.607	-2.970	-4.668	-6.042	-6.881	-7.743	-8.509
Hour18	9.087	-12.102	2.224	-3.085	-4.878	-7.301	-10.157	-10.964	-11.904	-12.898
Hour19	9.552	-1.578	2.224	-4.066	-6.115	-8.854	-12.841	-13.673	-14.640	-15.716
Hour20	9.800	-1.538	2.281	-4.458	-6.621	-9.600	-13.960	-14.772	-15.753	-16.908
Hour21	9.020	0.908	2.078	-2.586	-4.184	-6.134	-8.901	-9.877	-10.709	-11.530
Hour22	7.565	1.951	1.731	-0.103	-0.935	-1.477	-2.010	-3.131	-3.780	-4.136
Hour23	7.027	2.834	1.598	0.804	0.261	0.228	0.487	-0.688	-1.256	-1.443
Hour24	6.829	3.130	1.548	1.008	0.530	0.639	1.093	-0.086	-0.644	-0.781

Variable	September	October	November	December	WinterFuzzy	HLight
Hour1	-0.762	-0.457	0.602	0.000	0.051	0.108
Hour2	0.286	0.291	1.746	0.000	-0.056	0.383
Hour3	-0.947	-0.782	1.096	0.000	-0.157	0.552
Hour4	-0.193	-0.066	1.361	0.000	0.000	0.551
Hour5	-1.662	-1.188	-0.013	0.000	0.051	0.235
Hour6	-0.618	-0.195	0.230	0.000	0.235	-0.125
Hour7	-1.296	-0.633	-0.619	0.000	0.376	-0.237
Hour8	-4.093	-2.911	-2.606	0.000	0.347	-0.096
Hour9	-4.817	-3.636	-2.718	0.000	0.157	0.029
Hour10	-5.070	-4.270	-1.626	0.000	-0.428	0.312
Hour11	-5.244	-4.355	-1.905	0.000	-0.348	0.325
Hour12	-5.259	-4.315	-2.014	0.000	-0.261	0.462
Hour13	-4.185	-3.446	-1.215	0.000	-0.253	0.461
Hour14	-4.161	-3.383	-1.342	0.000	-0.199	0.384
Hour15	-4.491	-3.635	-1.601	0.000	-0.170	0.473
Hour16	-5.789	-4.718	-2.439	0.000	-0.218	0.578
Hour17	-8.638	-7.069	-4.487	0.000	-0.316	0.438
Hour18	-13.699	-11.051	-8.619	0.000	-0.200	0.342
Hour19	-17.055	-13.571	-11.730	0.000	0.042	0.205
Hour20	-18.430	-14.688	-12.773	0.000	0.023	0.159
Hour21	-12.455	-9.876	-8.275	0.000	0.013	-0.021
Hour22	-4.140	-3.183	-1.985	0.000	0.016	-0.077
Hour23	-1.144	-0.774	0.257	0.000	0.011	-0.144
Hour24	-0.383	-0.149	0.806	0.000	0.034	-0.110

## Residential Lighting Peak Demand Model Statistics

Hour	Obs	DF	AdjRSq	DW	StdErr	MAD	MAPE	FObs	FMAD	FMAPE	FAvgErr
Hour1	1826	1810	0.041	0.002	2.242	1.725	11.60%	0	0.000	0.00%	0.000
Hour2	1826	1810	0.058	0.003	1.598	1.230	11.59%	0	0.000	0.00%	0.000
Hour3	1826	1810	0.122	0.006	1.080	0.830	11.59%	0	0.000	0.00%	0.000
Hour4	1826	1810	0.060	0.004	0.829	0.638	11.59%	0	0.000	0.00%	0.000
Hour5	1826	1810	0.078	0.003	0.614	0.473	11.60%	0	0.000	0.00%	0.000
Hour6	1826	1810	0.096	0.005	0.738	0.567	11.60%	0	0.000	0.00%	0.000
Hour7	1826	1810	0.201	0.009	1.097	0.842	11.60%	0	0.000	0.00%	0.000
Hour8	1826	1810	0.340	0.007	1.442	1.103	11.59%	0	0.000	0.00%	0.000
Hour9	1826	1810	0.343	0.004	1.549	1.185	11.59%	0	0.000	0.00%	0.000
Hour10	1826	1810	0.405	0.010	1.329	1.014	11.60%	0	0.000	0.00%	0.000
Hour11	1826	1810	0.400	0.008	1.138	0.869	11.60%	0	0.000	0.00%	0.000
Hour12	1826	1810	0.391	0.008	0.965	0.737	11.60%	0	0.000	0.00%	0.000
Hour13	1826	1810	0.313	0.008	0.850	0.650	11.60%	0	0.000	0.00%	0.000
Hour14	1826	1810	0.294	0.006	0.831	0.636	11.60%	0	0.000	0.00%	0.000
Hour15	1826	1810	0.317	0.006	0.816	0.625	11.60%	0	0.000	0.00%	0.000
Hour16	1826	1810	0.425	0.008	0.805	0.614	11.60%	0	0.000	0.00%	0.000
Hour17	1826	1810	0.603	0.010	0.877	0.662	11.60%	0	0.000	0.00%	0.000
Hour18	1826	1810	0.780	0.008	1.117	0.820	11.60%	0	0.000	0.00%	0.000
Hour19	1826	1810	0.847	0.006	1.928	1.376	11.60%	0	0.000	0.00%	0.000
Hour20	1826	1810	0.866	0.007	2.896	2.038	11.60%	0	0.000	0.00%	0.000
Hour21	1826	1810	0.752	0.005	3.708	2.742	11.60%	0	0.000	0.00%	0.000
Hour22	1826	1810	0.281	0.003	4.492	3.441	11.60%	0	0.000	0.00%	0.000
Hour23	1826	1810	0.066	0.003	4.312	3.317	11.60%	0	0.000	0.00%	0.000
Hour24	1826	1810	0.039	0.003	3.306	2.544	11.60%	0	0.000	0.00%	0.000

## Residential Other Peak Demand Model Coefficients

Variable	HDD50	HDD55	HDD65	CDD65	CDD70	CDD65WkEnd	HDD65WkEnd	CDD70WkEnd	WkDay
Hour1	1.807	2.762	0.754	1.683	2.565	2.166	0.100	-2.251	119.814
Hour2	2.775	-0.179	1.501	1.245	2.185	0.228	0.508	-0.031	136.076
Hour3	2.441	0.093	1.679	0.526	2.377	0.936	0.558	-1.008	145.247
Hour4	2.144	0.009	1.985	0.251	2.324	1.702	0.733	-2.001	135.423
Hour5	2.043	-0.064	2.069	0.139	2.031	1.603	0.758	-1.842	134.590
Hour6	2.180	-0.327	2.302	0.016	1.932	1.817	0.774	-1.992	153.184
Hour7	2.380	-0.382	2.235	-0.376	2.043	2.493	0.960	-2.483	170.472
Hour8	2.272	-0.459	2.503	-0.805	2.509	3.826	0.827	-3.521	218.716
Hour9	2.595	-0.706	2.823	-1.433	2.992	3.144	0.387	-2.707	162.318
Hour10	1.355	1.190	2.456	-1.047	3.291	1.198	0.060	-1.222	182.662
Hour11	1.308	1.221	2.406	0.236	3.152	0.446	0.185	-0.565	166.546
Hour12	1.997	0.903	2.183	1.379	3.686	-0.515	0.022	0.182	155.230
Hour13	1.322	2.625	0.969	2.466	4.164	-0.229	0.038	-0.503	129.547
Hour14	2.211	2.586	0.395	3.425	4.646	1.196	0.143	-2.614	97.577
Hour15	1.661	4.301	-0.823	4.881	3.688	1.040	-0.071	-2.450	75.338
Hour16	2.669	3.805	-1.377	5.815	3.164	1.084	-0.134	-2.892	71.188
Hour17	2.464	4.641	-2.246	6.412	2.385	1.746	0.072	-3.919	82.168
Hour18	2.187	5.529	-2.929	7.045	0.634	0.318	0.034	-1.272	107.740
Hour19	3.034	4.544	-2.440	7.615	-0.931	1.204	0.130	-1.929	114.583
Hour20	3.602	3.621	-1.791	6.842	-0.817	0.708	-0.062	-1.032	105.221
Hour21	2.910	4.275	-1.828	5.649	0.046	1.675	0.112	-2.194	136.551
Hour22	2.621	3.947	-1.189	4.585	1.097	2.236	0.137	-2.943	151.401
Hour23	2.679	2.946	-0.379	4.477	0.370	2.128	0.218	-2.489	143.866
Hour24	2.149	3.308	-0.171	3.257	1.074	1.639	0.202	-1.889	138.535



## Residential Other Peak Demand Model Coefficients

Variable	WkEnd	MajorHolidays	January	February	March	April	May	June	July	August
Hour1	117.030	17.870	-9.359	-23.139	-20.248	-21.566	-13.287	9.379	24.270	12.382
Hour2	135.452	-0.582	2.790	-11.308	-10.504	-9.959	-6.651	6.509	27.674	14.496
Hour3	142.277	1.059	5.717	-6.605	0.032	2.907	5.021	16.819	37.860	25.165
Hour4	129.248	0.627	3.201	-4.680	3.356	5.070	3.672	17.744	36.907	26.342
Hour5	127.250	1.010	3.091	-5.221	5.358	6.600	3.399	17.877	34.605	26.522
Hour6	142.909	0.555	1.566	-3.865	10.790	14.718	10.438	23.820	37.535	29.293
Hour7	146.578	2.946	3.062	-1.053	17.335	21.068	13.882	29.631	40.963	34.699
Hour8	167.260	2.261	6.367	5.558	27.217	27.147	21.387	34.605	44.653	39.891
Hour9	129.999	-1.035	-0.326	-3.546	14.972	16.435	3.995	17.478	31.158	27.285
Hour10	181.671	2.115	-5.703	-8.339	8.721	15.043	8.075	22.915	34.028	20.883
Hour11	179.633	6.770	-1.936	-12.460	-5.906	-5.188	-6.284	13.346	24.686	11.185
Hour12	175.870	21.393	-1.199	-14.835	-16.615	-18.196	-13.528	6.589	23.330	4.641
Hour13	151.686	22.492	-0.430	-19.256	-28.074	-27.846	-18.857	-1.725	17.216	-0.161
Hour14	118.535	20.986	0.935	-18.544	-32.387	-33.917	-21.974	-8.266	10.624	-1.661
Hour15	97.419	14.919	0.350	-22.896	-40.955	-38.952	-29.033	-18.625	3.366	-4.589
Hour16	91.062	9.742	-5.727	-30.070	-49.226	-46.101	-37.148	-31.002	-7.703	-13.925
Hour17	96.379	6.200	-7.097	-37.092	-57.978	-53.216	-40.594	-30.601	-8.835	-16.513
Hour18	117.405	6.956	-6.459	-36.153	-55.150	-45.281	-24.540	-9.759	10.602	3.604
Hour19	117.917	1.684	-12.810	-44.262	-68.029	-55.114	-32.631	-9.534	13.053	4.916
Hour20	109.758	8.611	-11.727	-40.496	-62.554	-52.551	-29.331	-2.958	17.001	10.225
Hour21	136.571	14.562	-9.678	-29.841	-46.453	-43.330	-19.736	10.881	27.943	18.732
Hour22	147.935	13.127	-11.391	-31.512	-41.476	-37.553	-21.801	1.834	17.843	13.254
Hour23	135.621	14.595	-14.485	-34.102	-36.293	-31.671	-18.074	5.950	21.440	17.131
Hour24	134.063	15.223	-12.452	-28.199	-33.352	-29.962	-21.070	2.187	18.163	5.117

## Residential Other Peak Demand Model Coefficients

Variable	September	October	November	December	SummerFuzzy	WinterFuzzy	HLight	DST
Hour1	-8.539	-14.077	-13.774	0.000	-9.767	-38.275	1.229	-23.943
Hour2	-6.332	-12.209	-8.405	0.000	2.780	-31.059	-2.059	-22.449
Hour3	2.913	-3.664	-0.060	0.000	5.069	-32.269	-3.999	-23.657
Hour4	6.799	-1.629	2.393	0.000	2.555	-34.767	-3.555	-24.337
Hour5	7.974	-1.356	4.986	0.000	2.003	-37.885	-3.411	-27.045
Hour6	9.136	0.704	6.867	0.000	5.836	-38.691	-5.448	-26.004
Hour7	17.506	5.546	9.855	0.000	1.878	-45.355	-5.709	-31.113
Hour8	23.544	8.883	13.397	0.000	-5.727	-48.193	-7.244	-32.911
Hour9	14.198	5.489	8.053	0.000	-8.976	-38.480	-2.026	-32.813
Hour10	1.776	-0.974	2.540	0.000	-6.641	-31.140	-4.913	-14.126
Hour11	-11.888	-11.965	-5.021	0.000	-10.883	-25.117	-3.555	0.421
Hour12	-19.544	-22.017	-13.949	0.000	-9.289	-26.817	-2.336	2.063
Hour13	-24.020	-24.554	-17.746	0.000	-8.759	-18.012	0.072	5.716
Hour14	-18.591	-21.539	-21.245	0.000	-8.396	-15.396	2.916	6.006
Hour15	-18.451	-22.373	-22.066	0.000	-10.041	-12.297	5.514	4.900
Hour16	-22.264	-24.595	-24.950	0.000	-8.349	-10.317	7.187	-0.202
Hour17	-24.780	-26.954	-29.110	0.000	-14.701	-13.626	7.815	-3.737
Hour18	-9.057	-18.082	-22.601	0.000	-20.632	-20.735	6.551	-13.659
Hour19	-9.995	-26.165	-22.226	0.000	-25.912	-21.818	7.053	-17.335
Hour20	-6.960	-22.657	-18.085	0.000	-22.887	-22.543	7.620	-26.169
Hour21	-2.514	-10.997	-17.735	0.000	-26.673	-28.903	4.621	-32.853
Hour22	-0.687	-13.387	-18.881	0.000	-24.975	-25.637	2.117	-20.535
Hour23	-4.098	-14.049	-19.018	0.000	-23.563	-26.957	2.326	-22.208
Hour24	-17.151	-23.085	-19.716	0.000	-15.557	-34.654	1.747	-19.398

## Residential Other Peak Demand Model Standard Errors

Variable	HDD50	HDD55	HDD65	CDD65	CDD70	CDD65WkEnd	HDD65WkEnd	CDD70WkEnd	WkDay
Hour1	0.273	0.368	0.163	0.309	0.410	0.443	0.061	0.646	11.515
Hour2	0.268	0.362	0.160	0.304	0.402	0.435	0.060	0.634	11.300
Hour3	0.267	0.360	0.160	0.302	0.401	0.433	0.059	0.632	11.254
Hour4	0.270	0.364	0.161	0.306	0.405	0.438	0.060	0.639	11.381
Hour5	0.277	0.373	0.166	0.314	0.416	0.449	0.062	0.655	11.672
Hour6	0.282	0.381	0.169	0.320	0.424	0.458	0.063	0.668	11.898
Hour7	0.298	0.402	0.178	0.337	0.447	0.483	0.066	0.705	12.557
Hour8	0.311	0.420	0.186	0.352	0.467	0.505	0.069	0.736	13.118
Hour9	0.305	0.411	0.182	0.345	0.458	0.495	0.068	0.722	12.854
Hour10	0.298	0.402	0.178	0.338	0.447	0.483	0.066	0.705	12.561
Hour11	0.287	0.388	0.172	0.326	0.431	0.466	0.064	0.680	12.116
Hour12	0.273	0.368	0.163	0.309	0.410	0.443	0.061	0.646	11.507
Hour13	0.268	0.361	0.160	0.303	0.402	0.434	0.060	0.633	11.284
Hour14	0.269	0.362	0.161	0.304	0.403	0.436	0.060	0.636	11.324
Hour15	0.271	0.366	0.162	0.307	0.407	0.440	0.060	0.642	11.431
Hour16	0.278	0.375	0.166	0.315	0.418	0.452	0.062	0.659	11.734
Hour17	0.292	0.394	0.175	0.331	0.438	0.474	0.065	0.691	12.315
Hour18	0.307	0.414	0.184	0.348	0.461	0.498	0.068	0.726	12.941
Hour19	0.313	0.422	0.187	0.354	0.470	0.508	0.070	0.740	13.190
Hour20	0.308	0.415	0.184	0.349	0.462	0.499	0.068	0.728	12.975
Hour21	0.300	0.405	0.179	0.340	0.450	0.487	0.067	0.710	12.649
Hour22	0.300	0.404	0.179	0.340	0.450	0.486	0.067	0.709	12.637
Hour23	0.297	0.401	0.178	0.336	0.446	0.482	0.066	0.703	12.516
Hour24	0.285	0.384	0.170	0.322	0.427	0.462	0.063	0.673	11.993

Variable	WkEnd	MajorHolidays	January	February	March	April	May	June	July	August
Hour1	11.577	2.045	1.280	1.908	2.966	3.852	4.641	4.932	4.693	3.974
Hour2	11.360	2.007	1.256	1.873	2.910	3.780	4.554	4.840	4.606	3.899
Hour3	11.314	1.999	1.251	1.865	2.898	3.765	4.536	4.820	4.587	3.884
Hour4	11.442	2.022	1.265	1.886	2.931	3.807	4.587	4.875	4.639	3.927
Hour5	11.734	2.073	1.297	1.934	3.006	3.905	4.704	4.999	4.757	4.028
Hour6	11.962	2.114	1.322	1.972	3.064	3.980	4.795	5.096	4.850	4.106
Hour7	12.624	2.230	1.395	2.081	3.234	4.201	5.061	5.378	5.118	4.333
Hour8	13.188	2.330	1.458	2.174	3.378	4.388	5.287	5.619	5.347	4.527
Hour9	12.922	2.283	1.428	2.130	3.310	4.300	5.180	5.506	5.239	4.436
Hour10	12.628	2.231	1.396	2.082	3.235	4.202	5.062	5.380	5.120	4.334
Hour11	12.181	2.152	1.346	2.008	3.120	4.053	4.883	5.190	4.939	4.181
Hour12	11.569	2.044	1.279	1.907	2.964	3.849	4.638	4.929	4.690	3.971
Hour13	11.345	2.004	1.254	1.870	2.906	3.775	4.548	4.833	4.600	3.894
Hour14	11.384	2.011	1.258	1.877	2.916	3.788	4.564	4.850	4.615	3.908
Hour15	11.492	2.030	1.270	1.894	2.944	3.824	4.607	4.896	4.659	3.945
Hour16	11.797	2.084	1.304	1.945	3.022	3.925	4.729	5.026	4.783	4.049
Hour17	12.380	2.187	1.369	2.041	3.172	4.120	4.963	5.275	5.019	4.250
Hour18	13.010	2.299	1.438	2.145	3.333	4.329	5.215	5.543	5.275	4.466
Hour19	13.260	2.343	1.466	2.186	3.397	4.412	5.316	5.649	5.376	4.551
Hour20	13.044	2.305	1.442	2.150	3.342	4.340	5.229	5.557	5.289	4.477
Hour21	12.717	2.247	1.406	2.096	3.258	4.231	5.098	5.418	5.156	4.365
Hour22	12.705	2.245	1.404	2.094	3.255	4.228	5.093	5.413	5.151	4.361
Hour23	12.583	2.223	1.391	2.074	3.223	4.187	5.044	5.361	5.102	4.319
Hour24	12.057	2.130	1.333	1.988	3.089	4.012	4.833	5.137	4.888	4.139

Variable	September	October	November	December	SummerFuzzy	WinterFuzzy	HLight	DST
Hour1	3.345	2.635	1.383	0.000	2.186	2.201	1.099	1.686
Hour2	3.282	2.586	1.357	0.000	2.145	2.160	1.078	1.655
Hour3	3.269	2.576	1.352	0.000	2.136	2.151	1.074	1.648
Hour4	3.306	2.605	1.367	0.000	2.160	2.176	1.086	1.667
Hour5	3.390	2.671	1.402	0.000	2.216	2.231	1.114	1.709
Hour6	3.456	2.723	1.429	0.000	2.259	2.275	1.135	1.742
Hour7	3.647	2.874	1.508	0.000	2.384	2.400	1.198	1.839
Hour8	3.810	3.002	1.575	0.000	2.490	2.508	1.252	1.921
Hour9	3.734	2.942	1.544	0.000	2.440	2.457	1.226	1.882
Hour10	3.649	2.875	1.509	0.000	2.384	2.401	1.198	1.839
Hour11	3.519	2.773	1.455	0.000	2.300	2.316	1.156	1.774
Hour12	3.342	2.633	1.382	0.000	2.184	2.200	1.098	1.685
Hour13	3.278	2.583	1.355	0.000	2.142	2.157	1.077	1.653
Hour14	3.289	2.591	1.360	0.000	2.149	2.165	1.080	1.658
Hour15	3.320	2.616	1.373	0.000	2.170	2.185	1.091	1.674
Hour16	3.408	2.685	1.409	0.000	2.227	2.243	1.120	1.718
Hour17	3.577	2.818	1.479	0.000	2.338	2.354	1.175	1.803
Hour18	3.759	2.962	1.554	0.000	2.457	2.474	1.235	1.895
Hour19	3.831	3.018	1.584	0.000	2.504	2.521	1.258	1.932
Hour20	3.769	2.969	1.558	0.000	2.463	2.480	1.238	1.900
Hour21	3.674	2.895	1.519	0.000	2.401	2.418	1.207	1.852
Hour22	3.671	2.892	1.518	0.000	2.399	2.416	1.206	1.851
Hour23	3.636	2.864	1.503	0.000	2.376	2.393	1.194	1.833
Hour24	3.484	2.745	1.440	0.000	2.277	2.293	1.144	1.756

Variable	HDD50	HDD55	HDD65	CDD65	CDD70	CDD65WkEnd	HDD65WkEnd	CDD70WkEnd	WkDay
Hour1	6.613	7.495	4.618	5.439	6.255	4.888	1.643	-3.483	10.405
Hour2	10.351	-0.495	9.364	4.099	5.430	0.523	8.515	-0.049	12.042
Hour3	9.140	0.257	10.513	1.740	5.932	2.160	9.397	-1.595	12.906
Hour4	7.938	0.026	12.291	0.820	5.734	3.885	12.205	-3.132	11.899
Hour5	7.378	-0.171	12.494	0.442	4.887	3.568	12.306	-2.811	11.531
Hour6	7.723	-0.859	13.638	0.050	4.559	3.968	12.334	-2.982	12.874
Hour7	7.988	-0.952	12.547	-1.114	4.569	5.157	14.488	-3.522	13.576
Hour8	7.300	-1.093	13.450	-2.285	5.372	7.578	11.954	-4.781	16.673
Hour9	8.510	-1.715	15.482	-4.150	6.538	6.354	5.709	-3.751	12.628
Hour10	4.545	2.960	13.781	-3.101	7.359	2.478	0.906	-1.733	14.542
Hour11	4.551	3.148	13.994	0.724	7.306	0.956	2.892	-0.831	13.746
Hour12	7.315	2.453	13.369	4.459	8.996	-1.164	0.354	0.281	13.490
Hour13	4.938	7.270	6.049	8.131	10.362	-0.526	0.645	-0.794	11.480
Hour14	8.228	7.137	2.460	11.257	11.524	2.744	2.392	-4.112	8.617
Hour15	6.123	11.758	-5.073	15.892	9.062	2.364	-1.169	-3.818	6.591
Hour16	9.586	10.135	-8.274	18.443	7.572	2.400	-2.162	-4.391	6.067
Hour17	8.432	11.779	-12.856	19.379	5.440	3.685	1.103	-5.669	6.672
Hour18	7.124	13.353	-15.950	20.261	1.376	0.639	0.496	-1.751	8.326
Hour19	9.696	10.767	-13.041	21.485	-1.982	2.371	1.862	-2.606	8.687
Hour20	11.702	8.721	-9.729	19.626	-1.768	1.417	-0.910	-1.417	8.110
Hour21	9.695	10.562	-10.184	16.621	0.102	3.440	1.673	-3.091	10.796
Hour22	8.742	9.760	-6.634	13.502	2.437	4.597	2.051	-4.148	11.980
Hour23	9.022	7.355	-2.132	13.311	0.829	4.418	3.305	-3.542	11.494
Hour24	7.552	8.619	-1.004	10.107	2.515	3.550	3.191	-2.806	11.551

Kentucky Power 2022 Integrated Resource Plan  
Kentucky Power Company  
Residential Other Peak Demand Model t-Statistics

Variable	WkEnd	MajorHolidays	January	February	March	April	May	June	July	August
Hour1	10.109	8.737	-7.314	-12.125	-6.828	-5.598	-2.863	1.902	5.171	3.116
Hour2	11.923	-0.290	2.221	-6.038	-3.609	-2.635	-1.461	1.345	6.008	3.718
Hour3	12.575	0.530	4.571	-3.541	0.011	0.772	1.107	3.489	8.254	6.480
Hour4	11.296	0.310	2.531	-2.481	1.145	1.332	0.800	3.640	7.956	6.707
Hour5	10.844	0.487	2.383	-2.699	1.783	1.690	0.723	3.576	7.274	6.585
Hour6	11.947	0.263	1.184	-1.960	3.521	3.698	2.177	4.674	7.740	7.134
Hour7	11.611	1.321	2.194	-0.506	5.360	5.015	2.743	5.509	8.004	8.008
Hour8	12.683	0.970	4.367	2.556	8.056	6.186	4.045	6.159	8.351	8.812
Hour9	10.060	-0.453	-0.229	-1.664	4.523	3.822	0.771	3.175	5.947	6.151
Hour10	14.387	0.948	-4.085	-4.006	2.696	3.580	1.595	4.259	6.646	4.818
Hour11	14.747	3.145	-1.438	-6.205	-1.893	-1.280	-1.287	2.572	4.999	2.675
Hour12	15.202	10.466	-0.937	-7.779	-5.606	-4.727	-2.917	1.337	4.974	1.169
Hour13	13.371	11.221	-0.343	-10.296	-9.660	-7.376	-4.146	-0.357	3.743	-0.041
Hour14	10.412	10.434	0.743	-9.881	-11.106	-8.954	-4.815	-1.704	2.302	-0.425
Hour15	8.477	7.348	0.275	-12.086	-13.912	-10.186	-6.302	-3.804	0.723	-1.163
Hour16	7.719	4.674	-4.392	-15.462	-16.289	-11.744	-7.855	-6.168	-1.611	-3.439
Hour17	7.785	2.835	-5.186	-18.174	-18.281	-12.918	-8.179	-5.802	-1.760	-3.886
Hour18	9.024	3.026	-4.491	-16.856	-16.548	-10.460	-4.705	-1.761	2.010	0.807
Hour19	8.893	0.719	-8.739	-20.248	-20.027	-12.491	-6.139	-1.688	2.428	1.080
Hour20	8.414	3.736	-8.133	-18.832	-18.720	-12.107	-5.609	-0.532	3.215	2.284
Hour21	10.740	6.481	-6.885	-14.235	-14.260	-10.240	-3.872	2.008	5.420	4.291
Hour22	11.644	5.848	-8.111	-15.045	-12.744	-8.883	-4.281	0.339	3.464	3.039
Hour23	10.778	6.565	-10.414	-16.440	-11.259	-7.564	-3.583	1.110	4.203	3.966
Hour24	11.119	7.146	-9.343	-14.187	-10.798	-7.468	-4.359	0.426	3.716	1.236

Variable	September	October	November	December	SummerFuzzy	WinterFuzzy	HLight	DST
Hour1	-2.553	-5.342	-9.960	0.000	-4.468	-17.387	1.118	-14.198
Hour2	-1.929	-4.721	-6.194	0.000	1.296	-14.378	-1.910	-13.566
Hour3	0.891	-1.422	-0.044	0.000	2.373	-14.999	-3.725	-14.354
Hour4	2.057	-0.626	1.751	0.000	1.183	-15.980	-3.274	-14.602
Hour5	2.352	-0.508	3.557	0.000	0.904	-16.979	-3.063	-15.823
Hour6	2.643	0.259	4.805	0.000	2.584	-17.010	-4.799	-14.924
Hour7	4.800	1.930	6.535	0.000	0.788	-18.894	-4.766	-16.920
Hour8	6.179	2.959	8.504	0.000	-2.300	-19.218	-5.788	-17.132
Hour9	3.803	1.866	5.217	0.000	-3.679	-15.660	-1.652	-17.432
Hour10	0.487	-0.339	1.684	0.000	-2.785	-12.968	-4.100	-7.680
Hour11	-3.378	-4.315	-3.451	0.000	-4.732	-10.844	-3.075	0.237
Hour12	-5.847	-8.361	-10.094	0.000	-4.253	-12.191	-2.128	1.224
Hour13	-7.328	-9.508	-13.094	0.000	-4.089	-8.349	0.067	3.459
Hour14	-5.652	-8.312	-15.622	0.000	-3.906	-7.112	2.699	3.622
Hour15	-5.557	-8.552	-16.074	0.000	-4.627	-5.627	5.056	2.927
Hour16	-6.532	-9.159	-17.705	0.000	-3.748	-4.599	6.419	-0.117
Hour17	-6.928	-9.564	-19.683	0.000	-6.289	-5.788	6.651	-2.072
Hour18	-2.409	-6.105	-14.542	0.000	-8.399	-8.381	5.306	-7.207
Hour19	-2.609	-8.668	-14.031	0.000	-10.350	-8.653	5.605	-8.975
Hour20	-1.847	-7.630	-11.606	0.000	-9.292	-9.088	6.156	-13.773
Hour21	-0.684	-3.799	-11.674	0.000	-11.109	-11.953	3.829	-17.736
Hour22	-0.187	-4.629	-12.441	0.000	-10.411	-10.612	1.756	-11.096
Hour23	-1.127	-4.905	-12.652	0.000	-9.918	-11.266	1.948	-12.116
Hour24	-4.923	-8.411	-13.688	0.000	-6.833	-15.115	1.527	-11.045



## Residential Other Peak Demand Model Statistics

Hour	Obs	DF	AdjRSq	DW	StdErr	MAD	MAPE	FObs	FMAD	FMAPE	FAvgErr
Hour1	1826	1799	0.943	0.086	10.709	8.252	6.07%	0	0.000	0.00%	0.000
Hour2	1826	1799	0.927	0.081	10.509	7.966	6.64%	0	0.000	0.00%	0.000
Hour3	1826	1799	0.931	0.086	10.466	7.805	6.89%	0	0.000	0.00%	0.000
Hour4	1826	1799	0.930	0.088	10.584	7.776	7.18%	0	0.000	0.00%	0.000
Hour5	1826	1799	0.925	0.088	10.854	7.879	7.49%	0	0.000	0.00%	0.000
Hour6	1826	1799	0.926	0.087	11.065	7.928	7.60%	0	0.000	0.00%	0.000
Hour7	1826	1799	0.922	0.083	11.677	8.313	7.48%	0	0.000	0.00%	0.000
Hour8	1826	1799	0.933	0.080	12.199	8.831	6.49%	0	0.000	0.00%	0.000
Hour9	1826	1799	0.939	0.081	11.954	8.699	6.02%	0	0.000	0.00%	0.000
Hour10	1826	1799	0.941	0.085	11.681	8.646	5.59%	0	0.000	0.00%	0.000
Hour11	1826	1799	0.943	0.085	11.268	8.602	5.27%	0	0.000	0.00%	0.000
Hour12	1826	1799	0.946	0.085	10.701	8.415	5.12%	0	0.000	0.00%	0.000
Hour13	1826	1799	0.948	0.083	10.494	8.454	5.05%	0	0.000	0.00%	0.000
Hour14	1826	1799	0.955	0.083	10.531	8.593	5.03%	0	0.000	0.00%	0.000
Hour15	1826	1799	0.959	0.080	10.630	8.735	5.04%	0	0.000	0.00%	0.000
Hour16	1826	1799	0.961	0.076	10.912	8.988	5.06%	0	0.000	0.00%	0.000
Hour17	1826	1799	0.960	0.071	11.452	9.438	5.22%	0	0.000	0.00%	0.000
Hour18	1826	1799	0.957	0.069	12.035	9.918	5.47%	0	0.000	0.00%	0.000
Hour19	1826	1799	0.956	0.066	12.266	10.082	5.41%	0	0.000	0.00%	0.000
Hour20	1826	1799	0.955	0.066	12.066	9.854	5.35%	0	0.000	0.00%	0.000
Hour21	1826	1799	0.950	0.066	11.763	9.522	5.41%	0	0.000	0.00%	0.000
Hour22	1826	1799	0.940	0.067	11.752	9.391	5.51%	0	0.000	0.00%	0.000
Hour23	1826	1799	0.935	0.069	11.640	9.227	5.53%	0	0.000	0.00%	0.000
Hour24	1826	1799	0.939	0.076	11.153	8.744	5.70%	0	0.000	0.00%	0.000

## Commercial Peak Demand Cooling Model Coefficients

Variable	CDD65	CDD70	CDD65WkEnd	CDD70WkEnd	SummerFuzzy	WinterFuzzy	HLight	DST
Hour1	0.878	0.061	-0.233	0.222	6.390	-2.443	0.253	-0.687
Hour2	0.650	0.218	-0.197	0.171	4.838	-1.456	0.150	-0.475
Hour3	0.637	0.214	-0.205	0.177	4.667	-1.361	0.140	-0.433
Hour4	0.636	0.209	-0.262	0.211	4.446	-1.245	0.127	-0.397
Hour5	0.698	0.169	-0.409	0.310	4.458	-1.280	0.131	-0.405
Hour6	0.771	0.155	-0.483	0.359	4.854	-1.478	0.152	-0.483
Hour7	0.814	0.129	-0.464	0.352	5.216	-1.703	0.176	-0.558
Hour8	0.797	0.187	-0.375	0.290	5.459	-1.783	0.187	-0.661
Hour9	0.911	0.170	-0.306	0.254	6.650	-2.407	0.253	-0.876
Hour10	1.059	0.123	-0.246	0.221	8.052	-3.155	0.332	-1.078
Hour11	1.172	0.085	-0.242	0.223	9.001	-3.658	0.385	-1.220
Hour12	1.166	0.101	-0.161	0.168	9.318	-3.830	0.403	-1.281
Hour13	1.233	0.083	-0.171	0.186	9.738	-4.012	0.422	-1.326
Hour14	1.213	0.084	-0.102	0.139	9.801	-4.068	0.428	-1.339
Hour15	1.245	0.072	-0.118	0.152	9.988	-4.155	0.437	-1.349
Hour16	1.222	0.091	-0.114	0.145	9.832	-4.062	0.428	-1.347
Hour17	1.203	0.086	-0.180	0.193	9.421	-3.860	0.406	-1.279
Hour18	1.202	0.038	-0.173	0.194	9.363	-3.889	0.407	-1.209
Hour19	1.170	0.028	-0.151	0.182	9.119	-3.785	0.395	-1.137
Hour20	1.068	0.066	-0.033	0.096	8.710	-3.581	0.374	-1.081
Hour21	1.074	0.025	-0.238	0.236	8.015	-3.267	0.340	-0.970
Hour22	0.998	0.058	-0.226	0.221	7.435	-2.955	0.308	-0.899
Hour23	0.920	0.094	-0.118	0.148	7.147	-2.779	0.290	-0.850
Hour24	0.854	0.123	-0.165	0.170	6.477	-2.408	0.250	-0.742

Variable	CDD65	CDD70	CDD65WkEnd	CDD70WkEnd	SummerFuzzy	WinterFuzzy	HLight	DST
Hour1	0.012	0.018	0.017	0.029	0.051	0.051	0.005	0.056
Hour2	0.010	0.014	0.013	0.022	0.039	0.039	0.004	0.043
Hour3	0.009	0.013	0.012	0.021	0.038	0.038	0.004	0.042
Hour4	0.009	0.013	0.012	0.020	0.037	0.036	0.004	0.040
Hour5	0.009	0.013	0.012	0.021	0.037	0.037	0.004	0.041
Hour6	0.010	0.014	0.013	0.023	0.041	0.040	0.004	0.045
Hour7	0.011	0.015	0.014	0.024	0.043	0.043	0.004	0.047
Hour8	0.011	0.016	0.015	0.025	0.045	0.045	0.005	0.049
Hour9	0.013	0.019	0.017	0.030	0.054	0.053	0.005	0.059
Hour10	0.016	0.022	0.021	0.036	0.064	0.063	0.006	0.070
Hour11	0.017	0.025	0.023	0.040	0.071	0.070	0.007	0.078
Hour12	0.018	0.025	0.024	0.041	0.073	0.072	0.007	0.080
Hour13	0.019	0.027	0.025	0.043	0.076	0.076	0.008	0.084
Hour14	0.019	0.027	0.025	0.043	0.076	0.076	0.008	0.084
Hour15	0.019	0.027	0.025	0.044	0.078	0.077	0.008	0.086
Hour16	0.019	0.027	0.025	0.043	0.077	0.076	0.008	0.084
Hour17	0.018	0.026	0.024	0.041	0.074	0.073	0.007	0.081
Hour18	0.018	0.026	0.024	0.041	0.073	0.073	0.007	0.081
Hour19	0.017	0.025	0.023	0.040	0.071	0.071	0.007	0.078
Hour20	0.017	0.024	0.022	0.038	0.068	0.067	0.007	0.075
Hour21	0.015	0.022	0.020	0.035	0.063	0.063	0.006	0.070
Hour22	0.014	0.021	0.019	0.033	0.059	0.059	0.006	0.065
Hour23	0.014	0.020	0.018	0.032	0.056	0.056	0.006	0.062
Hour24	0.013	0.018	0.017	0.029	0.052	0.051	0.005	0.057

Kentucky Power 2022 Integrated Resource Plan  
 Kentucky Power Company  
 Commercial Peak Demand Cooling Model t-Statistics

Variable	CDD65	CDD70	CDD65WkEnd	CDD70WkEnd	SummerFuzzy	WinterFuzzy	HLight	DST
Hour1	70.363	3.449	-14.121	7.792	125.352	-48.280	49.001	-12.243
Hour2	67.558	15.922	-15.442	7.787	123.026	-37.298	37.714	-10.976
Hour3	68.391	16.133	-16.629	8.299	122.651	-36.035	36.297	-10.338
Hour4	70.903	16.324	-22.116	10.277	121.350	-34.237	34.414	-9.862
Hour5	76.523	12.994	-33.882	14.869	119.706	-34.633	34.814	-9.891
Hour6	77.754	10.962	-36.783	15.825	119.789	-36.755	37.161	-10.829
Hour7	76.996	8.560	-33.203	14.573	120.844	-39.758	40.383	-11.745
Hour8	72.352	11.899	-25.710	11.504	121.335	-39.924	41.026	-13.351
Hour9	69.258	9.073	-17.572	8.436	123.745	-45.123	46.593	-14.818
Hour10	67.692	5.500	-11.879	6.184	126.009	-49.744	51.342	-15.327
Hour11	67.511	3.445	-10.539	5.625	126.961	-51.992	53.684	-15.637
Hour12	65.386	3.976	-6.834	4.110	127.874	-52.959	54.739	-15.979
Hour13	66.055	3.133	-6.941	4.347	127.674	-52.996	54.736	-15.804
Hour14	64.811	3.135	-4.118	3.257	128.248	-53.631	55.410	-15.929
Hour15	65.275	2.643	-4.693	3.492	128.237	-53.750	55.476	-15.743
Hour16	64.994	3.389	-4.566	3.383	128.037	-53.294	55.084	-15.940
Hour17	66.388	3.338	-7.489	4.654	127.260	-52.535	54.253	-15.709
Hour18	67.019	1.491	-7.279	4.723	127.749	-53.462	54.961	-14.988
Hour19	66.972	1.134	-6.523	4.549	127.835	-53.469	54.825	-14.483
Hour20	64.357	2.799	-1.490	2.537	128.445	-53.213	54.565	-14.491
Hour21	69.329	1.133	-11.621	6.663	126.684	-52.023	53.216	-13.935
Hour22	69.135	2.810	-11.829	6.689	126.120	-50.498	51.669	-13.854
Hour23	66.552	4.753	-6.448	4.692	126.608	-49.608	50.724	-13.686
Hour24	67.579	6.811	-9.902	5.903	125.494	-47.015	47.956	-13.060

## Commercial Peak Demand Cooling Model Statistics

Hour	Obs	DF	AdjRSq	DW	StdErr	MAD	MAPE	FObs	FMAD	FMAPE	FAvgErr
Hour1	1826	1818	0.996	0.054	0.547	0.355	23.60%	0	0.000	0.00%	0.000
Hour2	1826	1818	0.996	0.070	0.422	0.274	33.92%	0	0.000	0.00%	0.000
Hour3	1826	1818	0.996	0.071	0.408	0.265	22.64%	0	0.000	0.00%	0.000
Hour4	1826	1818	0.996	0.075	0.393	0.255	20.10%	0	0.000	0.00%	0.000
Hour5	1826	1818	0.996	0.081	0.400	0.258	33.40%	0	0.000	0.00%	0.000
Hour6	1826	1818	0.996	0.083	0.435	0.281	23.48%	0	0.000	0.00%	0.000
Hour7	1826	1818	0.996	0.077	0.463	0.300	74.49%	0	0.000	0.00%	0.000
Hour8	1826	1818	0.996	0.078	0.483	0.315	22.44%	0	0.000	0.00%	0.000
Hour9	1826	1818	0.996	0.069	0.577	0.378	37.74%	0	0.000	0.00%	0.000
Hour10	1826	1818	0.996	0.060	0.686	0.449	55.86%	0	0.000	0.00%	0.000
Hour11	1826	1818	0.996	0.056	0.761	0.497	18.91%	0	0.000	0.00%	0.000
Hour12	1826	1818	0.995	0.055	0.782	0.512	18.31%	0	0.000	0.00%	0.000
Hour13	1826	1818	0.995	0.054	0.819	0.535	18.87%	0	0.000	0.00%	0.000
Hour14	1826	1818	0.995	0.053	0.821	0.536	19.27%	0	0.000	0.00%	0.000
Hour15	1826	1818	0.995	0.053	0.836	0.545	70.69%	0	0.000	0.00%	0.000
Hour16	1826	1818	0.995	0.054	0.824	0.538	18.99%	0	0.000	0.00%	0.000
Hour17	1826	1818	0.995	0.055	0.795	0.519	23.10%	0	0.000	0.00%	0.000
Hour18	1826	1818	0.995	0.052	0.787	0.512	15.68%	0	0.000	0.00%	0.000
Hour19	1826	1818	0.995	0.050	0.766	0.498	18.32%	0	0.000	0.00%	0.000
Hour20	1826	1818	0.996	0.050	0.728	0.473	22.41%	0	0.000	0.00%	0.000
Hour21	1826	1818	0.996	0.052	0.679	0.441	31.98%	0	0.000	0.00%	0.000
Hour22	1826	1818	0.996	0.054	0.633	0.411	25.63%	0	0.000	0.00%	0.000
Hour23	1826	1818	0.996	0.054	0.606	0.394	93.33%	0	0.000	0.00%	0.000
Hour24	1826	1818	0.996	0.057	0.554	0.360	19.42%	0	0.000	0.00%	0.000

## Commerical Peak Demand Heating Model Coefficients

Variable	HDD50	HDD55	HDD65	HDD65WkEnd	SummerFuzzy	WinterFuzzy	HLight	DST
Hour1	2.214	-1.087	0.203	0.087	0.690	13.516	-0.349	4.378
Hour2	1.935	-1.008	0.175	0.038	0.563	9.952	-0.213	2.538
Hour3	1.894	-1.028	0.232	0.023	0.461	10.402	-0.153	1.763
Hour4	1.927	-1.076	0.286	-0.005	0.375	11.125	-0.128	1.464
Hour5	1.964	-1.089	0.291	-0.004	0.390	11.472	-0.141	1.646
Hour6	1.879	-1.013	0.367	0.001	0.220	13.502	-0.188	2.476
Hour7	1.806	-0.941	0.382	0.006	0.146	14.235	-0.242	3.309
Hour8	1.829	-0.879	0.398	0.041	0.170	16.285	-0.375	5.216
Hour9	1.985	-0.846	0.347	0.080	0.467	18.451	-0.536	7.259
Hour10	2.212	-0.873	0.231	0.086	0.871	18.934	-0.674	8.888
Hour11	2.260	-0.930	0.120	0.079	0.958	15.881	-0.569	7.332
Hour12	2.149	-0.958	0.079	0.114	0.762	11.742	-0.428	5.498
Hour13	1.911	-0.914	0.072	0.128	0.510	8.431	-0.331	4.315
Hour14	1.682	-0.848	0.072	0.117	0.388	6.515	-0.268	3.525
Hour15	1.468	-0.773	0.070	0.105	0.292	5.022	-0.216	2.858
Hour16	1.309	-0.713	0.068	0.100	0.244	4.099	-0.182	2.412
Hour17	1.240	-0.687	0.061	0.119	0.209	3.660	-0.164	2.183
Hour18	1.224	-0.673	0.060	0.108	0.196	3.692	-0.162	2.173
Hour19	1.336	-0.714	0.061	0.107	0.222	4.412	-0.186	2.483
Hour20	1.642	-0.843	0.073	0.108	0.353	6.492	-0.258	3.406
Hour21	1.867	-0.957	0.084	0.122	0.426	7.795	-0.293	3.847
Hour22	2.056	-1.041	0.102	0.105	0.514	9.109	-0.314	4.066
Hour23	2.169	-1.062	0.113	0.100	0.650	10.879	-0.330	4.162
Hour24	2.283	-1.110	0.142	0.082	0.725	12.151	-0.342	4.263

Variable	HDD50	HDD55	HDD65	HDD65WkEnd	SummerFuzzy	WinterFuzzy	HLight	DST
Hour1	0.023	0.029	0.011	0.003	0.084	0.095	0.010	0.100
Hour2	0.019	0.024	0.009	0.002	0.070	0.078	0.008	0.083
Hour3	0.019	0.024	0.009	0.002	0.069	0.077	0.008	0.081
Hour4	0.020	0.025	0.009	0.002	0.072	0.081	0.008	0.085
Hour5	0.020	0.025	0.010	0.002	0.074	0.083	0.008	0.087
Hour6	0.023	0.029	0.011	0.003	0.084	0.095	0.010	0.100
Hour7	0.024	0.030	0.011	0.003	0.087	0.098	0.010	0.103
Hour8	0.027	0.033	0.013	0.003	0.097	0.109	0.011	0.115
Hour9	0.029	0.036	0.014	0.003	0.105	0.117	0.012	0.124
Hour10	0.029	0.036	0.013	0.003	0.104	0.116	0.012	0.123
Hour11	0.026	0.033	0.012	0.003	0.094	0.106	0.011	0.112
Hour12	0.023	0.029	0.011	0.003	0.085	0.095	0.010	0.100
Hour13	0.020	0.024	0.009	0.002	0.070	0.079	0.008	0.083
Hour14	0.017	0.021	0.008	0.002	0.060	0.067	0.007	0.071
Hour15	0.014	0.018	0.007	0.002	0.051	0.057	0.006	0.060
Hour16	0.012	0.015	0.006	0.001	0.045	0.050	0.005	0.053
Hour17	0.012	0.015	0.006	0.001	0.043	0.048	0.005	0.051
Hour18	0.012	0.015	0.005	0.001	0.042	0.047	0.005	0.050
Hour19	0.013	0.016	0.006	0.002	0.046	0.052	0.005	0.055
Hour20	0.016	0.020	0.008	0.002	0.058	0.065	0.007	0.069
Hour21	0.019	0.023	0.009	0.002	0.067	0.075	0.008	0.079
Hour22	0.021	0.026	0.010	0.002	0.074	0.084	0.009	0.088
Hour23	0.023	0.028	0.011	0.003	0.081	0.091	0.009	0.096
Hour24	0.024	0.030	0.011	0.003	0.086	0.096	0.010	0.101

Kentucky Power 2022 Integrated Resource Plan  
Kentucky Power Company  
Commerical Peak Demand Heating Model t-Statistics

Variable	HDD50	HDD55	HDD65	HDD65WkEnd	SummerFuzzy	WinterFuzzy	HLight	DST
Hour1	94.741	-37.339	18.536	31.083	8.197	142.781	-35.961	43.865
Hour2	100.120	-41.866	19.362	16.267	8.077	127.118	-26.506	30.752
Hour3	99.291	-43.236	25.916	10.059	6.701	134.603	-19.336	21.637
Hour4	96.645	-43.289	30.622	-2.028	5.219	137.699	-15.381	17.185
Hour5	96.068	-42.750	30.388	-1.573	5.294	138.544	-16.621	18.858
Hour6	80.520	-34.830	33.546	0.491	2.612	142.838	-19.420	24.843
Hour7	74.594	-31.203	33.683	2.108	1.678	145.169	-24.006	32.008
Hour8	68.202	-26.307	31.656	12.624	1.760	149.943	-33.681	45.552
Hour9	68.439	-23.419	25.548	22.923	4.464	157.048	-44.455	58.602
Hour10	76.989	-24.394	17.145	24.986	8.414	162.711	-56.437	72.448
Hour11	86.221	-28.465	9.803	24.994	10.146	149.545	-52.234	65.489
Hour12	91.440	-32.718	7.167	40.261	8.997	123.355	-43.861	54.780
Hour13	97.864	-37.567	7.855	54.436	7.249	106.582	-40.725	51.741
Hour14	101.547	-41.070	9.320	58.652	6.492	97.097	-38.949	49.828
Hour15	104.366	-44.077	10.628	62.358	5.767	88.125	-36.936	47.569
Hour16	105.816	-46.239	11.738	67.354	5.468	81.805	-35.410	45.670
Hour17	104.601	-46.507	11.050	83.166	4.900	76.205	-33.266	43.114
Hour18	104.997	-46.346	10.943	76.862	4.667	78.170	-33.517	43.629
Hour19	104.229	-44.704	10.086	69.337	4.808	84.942	-34.825	45.335
Hour20	101.555	-41.827	9.637	55.474	6.065	99.135	-38.389	49.333
Hour21	100.477	-41.319	9.667	54.495	6.358	103.546	-37.964	48.477
Hour22	99.672	-40.501	10.502	42.496	6.917	109.020	-36.644	46.153
Hour23	96.393	-37.883	10.750	37.102	8.022	119.354	-35.256	43.315
Hour24	96.202	-37.524	12.803	28.711	8.483	126.402	-34.681	42.062



## Commerical Peak Demand Heating Model Statistics

Hour	Obs	DF	AdjRSq	DW	StdErr	MAD	MAPE	FObs	FMAD	FMAPE	FAvgErr
Hour1	1826	1818	0.994	0.360	0.949	0.587	71.18%	0	0.000	0.00%	0.000
Hour2	1826	1818	0.994	0.513	0.785	0.487	42.67%	0	0.000	0.00%	0.000
Hour3	1826	1818	0.995	0.329	0.775	0.463	94.21%	0	0.000	0.00%	0.000
Hour4	1826	1818	0.995	0.238	0.810	0.468	55.25%	0	0.000	0.00%	0.000
Hour5	1826	1818	0.995	0.234	0.830	0.481	33.16%	0	0.000	0.00%	0.000
Hour6	1826	1818	0.995	0.164	0.948	0.538	33.36%	0	0.000	0.00%	0.000
Hour7	1826	1818	0.995	0.157	0.983	0.564	34.47%	0	0.000	0.00%	0.000
Hour8	1826	1818	0.995	0.158	1.089	0.639	26.60%	0	0.000	0.00%	0.000
Hour9	1826	1818	0.995	0.175	1.178	0.710	53.13%	0	0.000	0.00%	0.000
Hour10	1826	1818	0.995	0.240	1.167	0.733	32.54%	0	0.000	0.00%	0.000
Hour11	1826	1818	0.994	0.424	1.065	0.688	46.26%	0	0.000	0.00%	0.000
Hour12	1826	1818	0.993	0.648	0.955	0.603	78.84%	0	0.000	0.00%	0.000
Hour13	1826	1818	0.992	0.787	0.793	0.484	45.82%	0	0.000	0.00%	0.000
Hour14	1826	1818	0.992	0.873	0.673	0.406	46.09%	0	0.000	0.00%	0.000
Hour15	1826	1818	0.991	0.952	0.572	0.341	48.94%	0	0.000	0.00%	0.000
Hour16	1826	1818	0.991	1.006	0.503	0.298	40.07%	0	0.000	0.00%	0.000
Hour17	1826	1818	0.990	1.053	0.482	0.282	77.94%	0	0.000	0.00%	0.000
Hour18	1826	1818	0.990	1.043	0.474	0.278	39.73%	0	0.000	0.00%	0.000
Hour19	1826	1818	0.991	0.994	0.521	0.307	41.49%	0	0.000	0.00%	0.000
Hour20	1826	1818	0.991	0.888	0.657	0.397	52.99%	0	0.000	0.00%	0.000
Hour21	1826	1818	0.992	0.858	0.755	0.459	47.43%	0	0.000	0.00%	0.000
Hour22	1826	1818	0.992	0.804	0.838	0.515	29.30%	0	0.000	0.00%	0.000
Hour23	1826	1818	0.993	0.687	0.914	0.568	43.67%	0	0.000	0.00%	0.000
Hour24	1826	1818	0.993	0.596	0.964	0.605	37.48%	0	0.000	0.00%	0.000

Kentucky Power 2022 Integrated Resource Plan  
Kentucky Power Company  
Commercial Peak Demand Other Model Coefficients

Variable	HDD50	HDD55	HDD65	CDD65	CDD70	CDD65WkEnd	HDD65WkEnd	CDD70WkEnd	WkDay
Hour1	-0.300	1.856	-0.828	0.532	0.238	0.469	-0.058	-0.662	107.978
Hour2	-0.058	1.176	-0.466	0.796	-0.305	0.047	0.049	0.038	114.794
Hour3	-0.017	1.162	-0.438	0.742	-0.373	0.078	0.067	-0.034	115.577
Hour4	-0.068	1.199	-0.430	0.706	-0.425	0.139	0.102	-0.049	116.365
Hour5	-0.140	1.239	-0.383	0.636	-0.406	0.236	0.097	-0.121	117.248
Hour6	-0.101	1.226	-0.430	0.706	-0.490	0.140	0.077	-0.056	118.764
Hour7	-0.123	1.276	-0.431	0.695	-0.559	0.126	0.096	-0.021	123.266
Hour8	-0.299	1.348	-0.397	0.597	-0.476	0.252	0.069	-0.255	131.546
Hour9	-0.589	1.423	-0.322	0.560	-0.460	0.137	0.021	-0.089	151.387
Hour10	-0.915	1.659	-0.330	0.846	-0.642	-0.339	0.007	0.382	159.590
Hour11	-0.858	1.904	-0.514	1.230	-0.646	-0.487	-0.001	0.408	159.589
Hour12	-0.511	2.097	-0.885	1.580	-0.546	-0.813	-0.085	0.732	154.002
Hour13	0.005	2.208	-1.360	1.661	-0.330	-0.601	-0.099	0.456	149.549
Hour14	0.450	2.162	-1.668	1.772	-0.193	-0.564	-0.083	0.260	143.284
Hour15	0.669	2.206	-1.908	1.729	0.072	-0.405	-0.058	-0.080	139.932
Hour16	0.787	2.279	-2.096	1.885	-0.095	-0.422	-0.017	0.028	137.914
Hour17	0.921	2.241	-2.220	1.918	-0.146	-0.257	0.028	-0.030	138.273
Hour18	0.927	2.272	-2.259	1.976	-0.318	-0.183	0.065	0.021	139.343
Hour19	0.826	2.274	-2.175	1.718	-0.150	0.138	0.075	-0.385	141.625
Hour20	0.684	2.218	-1.982	1.533	-0.043	0.243	0.011	-0.597	137.202
Hour21	0.512	2.111	-1.725	1.369	-0.105	0.300	-0.030	-0.545	135.159
Hour22	0.202	2.213	-1.542	1.150	-0.130	0.219	-0.062	-0.390	131.846
Hour23	-0.061	2.168	-1.296	1.066	-0.229	0.134	-0.071	-0.297	119.086
Hour24	-0.287	2.026	-0.999	0.797	0.063	0.334	-0.064	-0.533	112.158

Variable	WkEnd	MajorHolidays	January	February	March	April	May	June	July	August
Hour1	105.344	-0.196	3.513	-0.278	-1.667	-5.650	-3.603	1.990	6.332	4.141
Hour2	115.189	-2.899	5.741	2.069	0.940	-4.096	-1.581	3.961	9.348	5.879
Hour3	115.804	-2.904	5.454	2.635	1.719	-3.529	-1.198	4.027	9.339	5.982
Hour4	116.161	-2.596	5.365	2.861	2.718	-2.420	-0.135	5.025	10.094	6.668
Hour5	116.379	-1.397	5.432	3.333	3.929	-1.415	0.388	5.420	9.949	6.735
Hour6	116.540	-0.174	5.925	3.964	4.727	-1.611	-0.498	4.369	8.979	6.539
Hour7	118.359	0.081	5.546	4.010	4.795	-1.347	-0.653	3.823	8.579	6.498
Hour8	123.928	-0.754	5.589	5.376	6.559	0.576	-0.724	3.430	8.309	7.252
Hour9	139.028	-2.367	6.460	5.607	6.873	-1.221	-2.285	3.638	7.420	5.538
Hour10	140.855	-5.321	7.698	5.528	6.868	-2.075	0.112	6.711	10.141	6.415
Hour11	138.981	-7.802	8.629	5.758	5.738	-3.128	1.305	9.062	12.699	8.945
Hour12	133.237	-9.215	8.426	3.871	2.782	-5.331	0.231	8.126	11.541	8.888
Hour13	127.875	-9.179	9.112	4.147	2.819	-4.500	1.496	8.521	11.749	10.211
Hour14	120.371	-7.912	8.646	3.304	1.663	-4.941	0.624	7.445	11.074	10.926
Hour15	115.951	-7.172	7.673	2.375	0.589	-5.848	-0.947	5.492	9.605	10.433
Hour16	112.969	-7.314	6.918	1.426	-0.961	-6.139	-1.559	5.226	9.778	10.950
Hour17	112.284	-7.039	6.206	0.549	-2.223	-6.831	-2.651	4.385	9.222	10.306
Hour18	116.080	-7.292	5.855	-0.437	-3.056	-7.255	-3.426	4.488	8.787	9.373
Hour19	125.254	-8.054	4.523	-4.162	-7.089	-9.988	-5.988	2.641	6.555	5.973
Hour20	126.231	-9.385	6.310	-0.029	-3.612	-6.570	-2.573	6.165	10.707	8.839
Hour21	125.821	-8.291	5.813	1.800	0.338	-4.300	-0.206	8.374	12.505	9.310
Hour22	124.749	-6.381	4.757	1.223	1.300	-2.253	-0.463	6.371	10.629	7.908
Hour23	114.722	-4.562	3.880	-0.198	-1.638	-5.446	-3.222	3.749	7.904	4.679
Hour24	108.998	-1.408	3.672	-0.436	-1.672	-5.676	-3.678	2.888	6.794	3.975

Kentucky Power 2022 Integrated Resource Plan  
 Kentucky Power Company  
 Commercial Peak Demand Other Model Coefficients

Variable	September	October	November	December	SummerFuzzy	WinterFuzzy	HLight	DST
Hour1	-0.430	-2.413	-4.643	0.000	-7.726	-11.219	0.387	-9.653
Hour2	0.367	-3.676	-4.474	0.000	-5.987	-8.522	-0.779	-7.071
Hour3	0.637	-3.888	-3.985	0.000	-5.729	-9.065	-1.131	-5.687
Hour4	1.287	-3.378	-3.423	0.000	-5.451	-9.881	-1.324	-5.842
Hour5	1.435	-3.374	-2.908	0.000	-5.484	-10.189	-1.414	-6.095
Hour6	1.189	-3.466	-2.791	0.000	-5.762	-11.962	-1.309	-6.948
Hour7	1.335	-3.469	-2.547	0.000	-6.079	-12.438	-1.175	-8.655
Hour8	2.143	-2.307	-1.933	0.000	-6.400	-14.376	-1.122	-11.228
Hour9	0.078	-3.716	-2.574	0.000	-7.953	-15.919	-2.170	-10.033
Hour10	-0.602	-4.225	-3.137	0.000	-9.886	-15.610	-1.833	-11.122
Hour11	1.207	-2.198	-3.448	0.000	-10.866	-12.070	-1.249	-10.278
Hour12	2.762	-0.719	-3.684	0.000	-10.857	-7.687	-0.281	-9.094
Hour13	5.446	1.463	-4.065	0.000	-11.011	-4.177	0.363	-8.544
Hour14	7.235	3.388	-3.197	0.000	-10.951	-2.197	1.045	-7.761
Hour15	7.871	4.326	-3.750	0.000	-11.058	-0.597	1.567	-7.477
Hour16	9.012	5.155	-3.892	0.000	-10.869	0.256	1.956	-8.026
Hour17	8.634	5.338	-4.324	0.000	-10.409	0.464	2.131	-8.145
Hour18	7.328	3.727	-5.052	0.000	-10.337	0.389	1.847	-8.160
Hour19	2.455	-1.181	-6.156	0.000	-10.110	-0.455	1.375	-9.373
Hour20	4.347	1.449	-5.007	0.000	-9.849	-2.729	1.265	-13.555
Hour21	4.788	3.609	-4.687	0.000	-9.182	-4.390	0.776	-12.405
Hour22	3.327	-0.024	-4.933	0.000	-8.599	-6.127	0.378	-8.966
Hour23	-0.385	-2.469	-5.576	0.000	-8.366	-8.196	0.851	-9.329
Hour24	-0.827	-2.594	-4.892	0.000	-7.749	-9.871	0.570	-9.258

Variable	HDD50	HDD55	HDD65	CDD65	CDD70	CDD65WkEnd	HDD65WkEnd	CDD70WkEnd	WkDay
Hour1	0.109	0.147	0.065	0.124	0.164	0.177	0.024	0.258	4.597
Hour2	0.104	0.140	0.062	0.118	0.156	0.169	0.023	0.246	4.390
Hour3	0.102	0.138	0.061	0.116	0.153	0.166	0.023	0.242	4.310
Hour4	0.102	0.137	0.061	0.115	0.153	0.165	0.023	0.241	4.290
Hour5	0.102	0.138	0.061	0.116	0.153	0.165	0.023	0.241	4.299
Hour6	0.105	0.142	0.063	0.119	0.158	0.171	0.023	0.249	4.439
Hour7	0.110	0.148	0.066	0.125	0.165	0.178	0.024	0.260	4.635
Hour8	0.118	0.159	0.070	0.133	0.177	0.191	0.026	0.278	4.958
Hour9	0.124	0.167	0.074	0.140	0.186	0.201	0.028	0.293	5.227
Hour10	0.133	0.179	0.079	0.150	0.199	0.216	0.030	0.314	5.599
Hour11	0.139	0.187	0.083	0.157	0.208	0.225	0.031	0.328	5.844
Hour12	0.142	0.192	0.085	0.161	0.213	0.231	0.032	0.336	5.994
Hour13	0.144	0.194	0.086	0.163	0.215	0.233	0.032	0.340	6.048
Hour14	0.144	0.194	0.086	0.163	0.216	0.233	0.032	0.340	6.064
Hour15	0.145	0.195	0.087	0.164	0.217	0.235	0.032	0.343	6.108
Hour16	0.146	0.197	0.087	0.166	0.219	0.237	0.033	0.346	6.162
Hour17	0.146	0.197	0.088	0.166	0.220	0.237	0.033	0.346	6.169
Hour18	0.145	0.195	0.086	0.164	0.217	0.235	0.032	0.342	6.095
Hour19	0.140	0.189	0.084	0.159	0.211	0.228	0.031	0.332	5.912
Hour20	0.139	0.187	0.083	0.157	0.208	0.225	0.031	0.329	5.855
Hour21	0.134	0.181	0.080	0.152	0.201	0.217	0.030	0.317	5.649
Hour22	0.128	0.172	0.076	0.145	0.192	0.207	0.028	0.302	5.380
Hour23	0.123	0.166	0.074	0.140	0.185	0.200	0.027	0.292	5.197
Hour24	0.115	0.155	0.069	0.130	0.172	0.186	0.026	0.272	4.842

Variable	WkEnd	MajorHolidays	January	February	March	April	May	June	July	August
Hour1	4.622	0.817	0.511	0.762	1.184	1.538	1.853	1.969	1.874	1.586
Hour2	4.413	0.780	0.488	0.728	1.131	1.469	1.769	1.880	1.789	1.515
Hour3	4.333	0.766	0.479	0.714	1.110	1.442	1.737	1.846	1.757	1.487
Hour4	4.313	0.762	0.477	0.711	1.105	1.435	1.729	1.838	1.749	1.481
Hour5	4.322	0.764	0.478	0.712	1.107	1.438	1.732	1.841	1.752	1.483
Hour6	4.462	0.788	0.493	0.736	1.143	1.485	1.789	1.901	1.809	1.532
Hour7	4.660	0.823	0.515	0.768	1.194	1.551	1.868	1.985	1.889	1.599
Hour8	4.984	0.881	0.551	0.822	1.277	1.658	1.998	2.123	2.021	1.711
Hour9	5.255	0.928	0.581	0.866	1.346	1.749	2.107	2.239	2.131	1.804
Hour10	5.629	0.995	0.622	0.928	1.442	1.873	2.257	2.398	2.282	1.932
Hour11	5.876	1.038	0.650	0.969	1.505	1.955	2.355	2.503	2.382	2.017
Hour12	6.026	1.065	0.666	0.993	1.544	2.005	2.416	2.567	2.443	2.068
Hour13	6.081	1.074	0.672	1.002	1.558	2.023	2.438	2.591	2.465	2.087
Hour14	6.096	1.077	0.674	1.005	1.562	2.029	2.444	2.597	2.472	2.093
Hour15	6.140	1.085	0.679	1.012	1.573	2.043	2.462	2.616	2.490	2.108
Hour16	6.195	1.095	0.685	1.021	1.587	2.062	2.484	2.640	2.512	2.127
Hour17	6.202	1.096	0.686	1.022	1.589	2.064	2.486	2.642	2.514	2.129
Hour18	6.127	1.083	0.677	1.010	1.570	2.039	2.456	2.610	2.484	2.103
Hour19	5.944	1.050	0.657	0.980	1.523	1.978	2.383	2.532	2.410	2.040
Hour20	5.886	1.040	0.651	0.970	1.508	1.959	2.360	2.508	2.386	2.020
Hour21	5.679	1.003	0.628	0.936	1.455	1.890	2.276	2.419	2.302	1.949
Hour22	5.409	0.956	0.598	0.892	1.386	1.800	2.168	2.304	2.193	1.857
Hour23	5.224	0.923	0.578	0.861	1.338	1.738	2.094	2.226	2.118	1.793
Hour24	4.868	0.860	0.538	0.802	1.247	1.620	1.951	2.074	1.974	1.671

Variable	September	October	November	December	SummerFuzzy	WinterFuzzy	HLight	DST
Hour1	1.335	1.052	0.552	0.000	0.873	0.879	0.439	0.673
Hour2	1.275	1.005	0.527	0.000	0.833	0.839	0.419	0.643
Hour3	1.252	0.986	0.518	0.000	0.818	0.824	0.411	0.631
Hour4	1.246	0.982	0.515	0.000	0.814	0.820	0.409	0.628
Hour5	1.249	0.984	0.516	0.000	0.816	0.822	0.410	0.630
Hour6	1.289	1.016	0.533	0.000	0.843	0.849	0.423	0.650
Hour7	1.346	1.061	0.557	0.000	0.880	0.886	0.442	0.679
Hour8	1.440	1.135	0.595	0.000	0.941	0.948	0.473	0.726
Hour9	1.518	1.196	0.628	0.000	0.992	0.999	0.499	0.765
Hour10	1.626	1.281	0.672	0.000	1.063	1.070	0.534	0.820
Hour11	1.698	1.338	0.702	0.000	1.109	1.117	0.558	0.856
Hour12	1.741	1.372	0.720	0.000	1.138	1.146	0.572	0.878
Hour13	1.757	1.384	0.726	0.000	1.148	1.156	0.577	0.886
Hour14	1.761	1.388	0.728	0.000	1.151	1.159	0.579	0.888
Hour15	1.774	1.398	0.734	0.000	1.159	1.168	0.583	0.894
Hour16	1.790	1.410	0.740	0.000	1.170	1.178	0.588	0.902
Hour17	1.792	1.412	0.741	0.000	1.171	1.179	0.589	0.903
Hour18	1.770	1.395	0.732	0.000	1.157	1.165	0.581	0.893
Hour19	1.717	1.353	0.710	0.000	1.122	1.130	0.564	0.866
Hour20	1.701	1.340	0.703	0.000	1.111	1.119	0.559	0.857
Hour21	1.641	1.293	0.678	0.000	1.072	1.080	0.539	0.827
Hour22	1.563	1.231	0.646	0.000	1.021	1.028	0.513	0.788
Hour23	1.509	1.189	0.624	0.000	0.986	0.993	0.496	0.761
Hour24	1.406	1.108	0.582	0.000	0.919	0.926	0.462	0.709

Variable	HDD50	HDD55	HDD65	CDD65	CDD70	CDD65WkEnd	HDD65WkEnd	CDD70WkEnd	WkDay
Hour1	-2.750	12.616	-12.691	4.307	1.453	2.653	-2.402	-2.566	23.487
Hour2	-0.553	8.373	-7.487	6.748	-1.954	0.277	2.135	0.153	26.149
Hour3	-0.162	8.423	-7.164	6.411	-2.428	0.472	2.955	-0.142	26.817
Hour4	-0.666	8.734	-7.057	6.122	-2.781	0.842	4.519	-0.202	27.122
Hour5	-1.371	9.007	-6.280	5.510	-2.652	1.426	4.297	-0.502	27.276
Hour6	-0.955	8.632	-6.830	5.919	-3.103	0.817	3.287	-0.225	26.756
Hour7	-1.115	8.601	-6.555	5.580	-3.387	0.705	3.943	-0.081	26.595
Hour8	-2.542	8.496	-5.637	4.485	-2.694	1.321	2.633	-0.917	26.534
Hour9	-4.747	8.506	-4.348	3.985	-2.474	0.681	0.770	-0.305	28.963
Hour10	-6.885	9.259	-4.148	5.623	-3.218	-1.572	0.254	1.214	28.503
Hour11	-6.188	10.181	-6.198	7.830	-3.106	-2.164	-0.027	1.244	27.306
Hour12	-3.593	10.936	-10.408	9.811	-2.558	-3.526	-2.703	2.175	25.694
Hour13	0.036	11.406	-15.843	10.219	-1.534	-2.582	-3.115	1.344	24.725
Hour14	3.125	11.140	-19.384	10.875	-0.894	-2.417	-2.588	0.763	23.629
Hour15	4.619	11.285	-22.014	10.536	0.332	-1.723	-1.799	-0.234	22.911
Hour16	5.381	11.558	-23.976	11.382	-0.431	-1.780	-0.513	0.082	22.380
Hour17	6.293	11.352	-25.365	11.569	-0.663	-1.084	0.872	-0.087	22.415
Hour18	6.409	11.650	-26.125	12.063	-1.466	-0.780	2.020	0.061	22.864
Hour19	5.890	12.019	-25.931	10.815	-0.714	0.604	2.401	-1.161	23.955
Hour20	4.923	11.838	-23.865	9.748	-0.208	1.080	0.355	-1.818	23.434
Hour21	3.818	11.678	-21.524	9.020	-0.521	1.378	-1.008	-1.718	23.928
Hour22	1.585	12.853	-20.203	7.957	-0.680	1.058	-2.183	-1.292	24.507
Hour23	-0.497	13.036	-17.578	7.635	-1.235	0.670	-2.575	-1.018	22.916
Hour24	-2.502	13.077	-14.544	6.129	0.365	1.793	-2.510	-1.960	23.164



Variable	WkEnd	MajorHolidays	January	February	March	April	May	June	July	August
Hour1	22.792	-0.240	6.875	-0.364	-1.408	-3.674	-1.945	1.011	3.379	2.610
Hour2	26.100	-3.718	11.767	2.844	0.831	-2.789	-0.894	2.106	5.224	3.881
Hour3	26.727	-3.793	11.388	3.689	1.549	-2.448	-0.690	2.181	5.316	4.022
Hour4	26.930	-3.406	11.253	4.023	2.460	-1.686	-0.078	2.735	5.772	4.504
Hour5	26.930	-1.829	11.370	4.678	3.549	-0.984	0.224	2.944	5.679	4.540
Hour6	26.116	-0.221	12.012	5.389	4.135	-1.085	-0.278	2.298	4.963	4.269
Hour7	25.400	0.098	10.767	5.221	4.017	-0.869	-0.350	1.926	4.541	4.063
Hour8	24.864	-0.856	10.144	6.543	5.137	0.347	-0.362	1.615	4.112	4.239
Hour9	26.457	-2.550	11.120	6.472	5.105	-0.699	-1.085	1.625	3.483	3.070
Hour10	25.023	-5.350	12.372	5.957	4.763	-1.108	0.049	2.798	4.444	3.320
Hour11	23.653	-7.515	13.286	5.945	3.812	-1.600	0.554	3.620	5.331	4.435
Hour12	22.111	-8.655	12.650	3.897	1.802	-2.659	0.096	3.165	4.724	4.297
Hour13	21.029	-8.543	13.556	4.137	1.810	-2.224	0.614	3.289	4.765	4.892
Hour14	19.744	-7.345	12.830	3.287	1.065	-2.435	0.255	2.866	4.480	5.221
Hour15	18.883	-6.610	11.305	2.346	0.375	-2.862	-0.385	2.099	3.858	4.950
Hour16	18.234	-6.681	10.101	1.397	-0.605	-2.978	-0.628	1.980	3.893	5.149
Hour17	18.105	-6.423	9.053	0.537	-1.399	-3.310	-1.066	1.660	3.668	4.842
Hour18	18.945	-6.736	8.645	-0.433	-1.947	-3.559	-1.395	1.719	3.537	4.457
Hour19	21.073	-7.669	6.884	-4.247	-4.656	-5.050	-2.513	1.043	2.720	2.927
Hour20	21.446	-9.024	9.698	-0.030	-2.396	-3.354	-1.091	2.459	4.487	4.375
Hour21	22.156	-8.263	9.260	1.923	0.233	-2.275	-0.090	3.461	5.432	4.776
Hour22	23.065	-6.677	7.956	1.372	0.938	-1.252	-0.214	2.765	4.847	4.259
Hour23	21.959	-4.942	6.719	-0.230	-1.224	-3.133	-1.538	1.684	3.732	2.609
Hour24	22.391	-1.636	6.825	-0.543	-1.341	-3.504	-1.885	1.393	3.442	2.379

Variable	September	October	November	December	SummerFuzzy	WinterFuzzy	HLight	DST
Hour1	-0.322	-2.294	-8.409	0.000	-8.853	-12.765	0.882	-14.338
Hour2	0.288	-3.659	-8.485	0.000	-7.184	-10.155	-1.861	-10.999
Hour3	0.509	-3.941	-7.699	0.000	-7.003	-11.002	-2.751	-9.010
Hour4	1.033	-3.440	-6.643	0.000	-6.693	-12.047	-3.233	-9.297
Hour5	1.149	-3.429	-5.633	0.000	-6.721	-12.399	-3.447	-9.682
Hour6	0.922	-3.412	-5.236	0.000	-6.839	-14.097	-3.090	-10.689
Hour7	0.991	-3.270	-4.576	0.000	-6.909	-14.038	-2.658	-12.752
Hour8	1.488	-2.034	-3.246	0.000	-6.801	-15.169	-2.373	-15.466
Hour9	0.051	-3.106	-4.100	0.000	-8.015	-15.931	-4.352	-13.107
Hour10	-0.370	-3.298	-4.664	0.000	-9.301	-14.584	-3.431	-13.564
Hour11	0.711	-1.643	-4.912	0.000	-9.794	-10.803	-2.239	-12.009
Hour12	1.586	-0.524	-5.118	0.000	-9.542	-6.709	-0.492	-10.361
Hour13	3.100	1.057	-5.596	0.000	-9.590	-3.612	0.630	-9.646
Hour14	4.107	2.442	-4.389	0.000	-9.514	-1.895	1.806	-8.740
Hour15	4.436	3.095	-5.112	0.000	-9.537	-0.512	2.690	-8.359
Hour16	5.035	3.655	-5.258	0.000	-9.292	0.217	3.326	-8.894
Hour17	4.819	3.781	-5.837	0.000	-8.889	0.393	3.621	-9.016
Hour18	4.139	2.672	-6.903	0.000	-8.935	0.334	3.176	-9.143
Hour19	1.429	-0.873	-8.670	0.000	-9.008	-0.402	2.437	-10.826
Hour20	2.556	1.081	-7.121	0.000	-8.862	-2.438	2.264	-15.809
Hour21	2.918	2.792	-6.909	0.000	-8.564	-4.066	1.440	-14.996
Hour22	2.129	-0.019	-7.635	0.000	-8.420	-5.957	0.736	-11.380
Hour23	-0.255	-2.076	-8.935	0.000	-8.481	-8.250	1.717	-12.258
Hour24	-0.588	-2.341	-8.413	0.000	-8.431	-10.664	1.235	-13.057

## Commercial Peak Demand Other Model Statistics

Hour	Obs	DF	AdjRSq	DW	StdErr	MAD	MAPE	FObs	FMAD	FMAPE	FAvgErr
Hour1	1826	1799	0.777	0.069	4.275	3.336	3.26%	0	0.000	0.00%	0.000
Hour2	1826	1799	0.781	0.094	4.083	3.222	3.17%	0	0.000	0.00%	0.000
Hour3	1826	1799	0.783	0.073	4.008	3.144	3.17%	0	0.000	0.00%	0.000
Hour4	1826	1799	0.779	0.063	3.990	3.119	3.18%	0	0.000	0.00%	0.000
Hour5	1826	1799	0.784	0.052	3.998	3.114	3.17%	0	0.000	0.00%	0.000
Hour6	1826	1799	0.757	0.046	4.128	3.199	3.24%	0	0.000	0.00%	0.000
Hour7	1826	1799	0.772	0.050	4.310	3.342	3.25%	0	0.000	0.00%	0.000
Hour8	1826	1799	0.762	0.063	4.610	3.584	3.29%	0	0.000	0.00%	0.000
Hour9	1826	1799	0.808	0.063	4.861	3.766	3.33%	0	0.000	0.00%	0.000
Hour10	1826	1799	0.846	0.062	5.207	4.046	3.29%	0	0.000	0.00%	0.000
Hour11	1826	1799	0.857	0.058	5.435	4.241	3.19%	0	0.000	0.00%	0.000
Hour12	1826	1799	0.870	0.059	5.574	4.364	3.12%	0	0.000	0.00%	0.000
Hour13	1826	1799	0.888	0.054	5.625	4.403	3.07%	0	0.000	0.00%	0.000
Hour14	1826	1799	0.906	0.060	5.639	4.419	3.04%	0	0.000	0.00%	0.000
Hour15	1826	1799	0.915	0.071	5.680	4.461	3.04%	0	0.000	0.00%	0.000
Hour16	1826	1799	0.923	0.092	5.731	4.519	3.04%	0	0.000	0.00%	0.000
Hour17	1826	1799	0.928	0.089	5.737	4.526	3.03%	0	0.000	0.00%	0.000
Hour18	1826	1799	0.923	0.099	5.668	4.485	3.05%	0	0.000	0.00%	0.000
Hour19	1826	1799	0.903	0.102	5.498	4.356	3.07%	0	0.000	0.00%	0.000
Hour20	1826	1799	0.885	0.152	5.445	4.335	3.15%	0	0.000	0.00%	0.000
Hour21	1826	1799	0.865	0.129	5.253	4.171	3.14%	0	0.000	0.00%	0.000
Hour22	1826	1799	0.834	0.082	5.003	3.945	3.12%	0	0.000	0.00%	0.000
Hour23	1826	1799	0.812	0.141	4.833	3.809	3.22%	0	0.000	0.00%	0.000
Hour24	1826	1799	0.791	0.120	4.503	3.539	3.25%	0	0.000	0.00%	0.000

Kentucky Power Company  
 Kentucky Power 2022 Integrated Resource Plan  
 Volume A - Public Version  
 Industrial Peak Demand Model Coefficients

Variable	Constant	HDD50	HDD55	HDD65	CDD65	CDD70	CDD65WkEnd	HDD65WkEnd	CDD70WkEnd
Hour1	227.847	-0.489	1.356	-0.638	0.715	-0.919	0.471	0.030	-0.831
Hour2	229.671	-0.546	1.426	-0.655	0.657	-0.849	0.472	0.033	-0.818
Hour3	229.655	-0.504	1.358	-0.617	0.689	-0.872	0.360	0.020	-0.689
Hour4	229.628	-0.501	1.350	-0.605	0.712	-0.887	0.228	0.006	-0.490
Hour5	228.599	-0.547	1.390	-0.611	0.684	-0.883	0.293	0.011	-0.561
Hour6	229.901	-0.566	1.463	-0.659	0.654	-0.892	0.325	0.013	-0.615
Hour7	230.628	-0.542	1.422	-0.668	0.802	-1.064	0.268	0.053	-0.628
Hour8	227.506	-0.513	1.260	-0.552	1.016	-1.374	0.119	0.076	-0.406
Hour9	228.119	-0.610	1.427	-0.627	0.959	-1.323	0.131	0.074	-0.416
Hour10	229.437	-0.655	1.489	-0.649	1.011	-1.404	0.098	0.068	-0.365
Hour11	229.677	-0.586	1.466	-0.674	1.039	-1.422	0.071	0.061	-0.300
Hour12	230.097	-0.486	1.387	-0.683	1.120	-1.448	0.046	0.066	-0.278
Hour13	231.875	-0.454	1.359	-0.697	1.129	-1.454	0.144	0.089	-0.329
Hour14	235.765	-0.465	1.410	-0.736	1.181	-1.557	0.102	0.086	-0.227
Hour15	236.385	-0.398	1.287	-0.676	1.242	-1.610	0.168	0.078	-0.342
Hour16	235.135	-0.335	1.232	-0.676	1.152	-1.525	0.202	0.064	-0.375
Hour17	231.182	-0.310	1.200	-0.650	1.123	-1.423	0.251	0.042	-0.565
Hour18	230.074	-0.319	1.188	-0.630	1.073	-1.381	0.301	0.042	-0.582
Hour19	228.973	-0.378	1.282	-0.670	0.997	-1.259	0.296	0.052	-0.621
Hour20	229.431	-0.402	1.277	-0.651	0.980	-1.218	0.322	0.063	-0.668
Hour21	229.733	-0.396	1.215	-0.613	0.969	-1.178	0.390	0.072	-0.783
Hour22	231.357	-0.391	1.198	-0.578	0.952	-1.221	0.381	0.045	-0.757
Hour23	232.849	-0.488	1.279	-0.574	0.967	-1.217	0.441	0.047	-0.830
Hour24	230.299	-0.517	1.284	-0.553	0.925	-1.107	0.491	0.049	-0.952

Kentucky Power 2022 Integrated Resource Plan  
 Kentucky Power Company  
 Industrial Peak Demand Model Coefficients

Variable	WkEnd	MajorHolidays	Monday	TWT	January	February	March	April	May	June	July
Hour1	-2.884	-1.862	-2.998	0.538	12.479	14.347	8.352	7.141	3.042	4.767	3.784
Hour2	-2.741	-2.038	-1.972	0.663	12.430	14.196	8.729	8.214	4.179	5.926	5.319
Hour3	-2.077	-2.002	-1.303	0.609	12.485	14.421	9.276	8.915	4.859	6.829	5.971
Hour4	-2.101	-1.944	-1.201	0.449	12.416	14.545	9.363	8.992	4.905	6.600	5.527
Hour5	-2.859	-2.280	-0.982	0.736	12.692	14.458	9.082	8.346	3.874	5.595	4.401
Hour6	-3.589	-2.903	-0.315	1.460	13.201	15.385	9.782	8.781	4.199	6.068	4.637
Hour7	-4.024	-4.286	-0.096	1.616	13.043	15.233	9.503	8.822	4.263	6.487	3.980
Hour8	-4.249	-7.841	-0.003	1.602	11.971	12.852	7.017	6.463	1.381	5.477	2.289
Hour9	-5.700	-7.669	0.130	1.657	11.917	12.575	6.667	6.032	1.529	5.504	2.678
Hour10	-5.694	-7.434	0.263	1.876	12.153	13.027	7.384	7.144	3.336	7.432	4.800
Hour11	-5.784	-7.288	0.575	1.746	12.163	12.897	7.854	7.993	4.262	8.498	5.882
Hour12	-4.615	-7.426	0.674	1.710	11.905	12.241	7.574	7.850	4.418	8.551	6.008
Hour13	-5.451	-7.686	0.996	1.784	12.424	12.995	7.714	8.781	4.959	9.441	6.497
Hour14	-6.533	-7.885	1.125	2.046	12.274	12.939	8.003	9.551	5.919	10.371	6.969
Hour15	-5.949	-8.199	1.387	2.298	12.331	13.175	8.421	9.943	7.106	11.421	7.915
Hour16	-3.829	-8.054	1.765	2.417	12.234	12.833	8.138	9.135	6.262	10.976	7.467
Hour17	-0.971	-8.048	1.793	2.381	11.804	12.349	6.929	7.903	4.758	9.009	6.186
Hour18	0.085	-7.583	1.495	1.924	11.192	11.364	6.221	7.024	3.519	8.082	5.572
Hour19	0.834	-7.093	1.186	1.491	11.198	11.631	6.617	7.074	3.611	8.116	6.065
Hour20	1.203	-6.992	1.071	1.246	11.310	12.398	7.485	7.547	4.143	8.572	7.114
Hour21	1.154	-7.235	1.005	1.187	11.355	12.318	7.448	7.583	4.013	7.945	6.473
Hour22	-1.409	-5.548	1.305	1.514	12.091	13.665	8.349	8.342	5.096	8.239	6.821
Hour23	-3.768	-3.720	1.856	1.885	13.185	15.362	9.735	9.040	6.198	8.241	7.212
Hour24	-3.584	-3.464	1.805	1.787	13.206	14.994	9.033	8.196	4.801	6.950	5.381

Kentucky Power 2022 Integrated Resource Plan  
 Kentucky Power Company  
 Industrial Peak Demand Model Coefficients

Variable	August	September	October	November	December	HLight	DST
Hour1	5.449	1.686	-6.527	0.374	0.000	-0.952	3.784
Hour2	6.518	2.262	-6.073	0.336	0.000	-1.155	3.521
Hour3	7.088	2.816	-5.769	0.510	0.000	-1.244	3.284
Hour4	7.008	2.772	-6.029	0.480	0.000	-1.239	3.336
Hour5	5.936	2.246	-6.469	0.121	0.000	-1.066	3.533
Hour6	6.044	2.178	-6.735	0.037	0.000	-1.116	3.808
Hour7	5.633	2.167	-6.403	-0.293	0.000	-1.169	4.060
Hour8	3.413	1.061	-6.695	-1.414	0.000	-0.885	4.496
Hour9	3.431	0.799	-6.905	-1.384	0.000	-0.838	4.673
Hour10	5.146	2.018	-6.053	-0.962	0.000	-1.041	4.517
Hour11	6.117	2.990	-5.331	-1.030	0.000	-1.085	4.181
Hour12	6.100	2.763	-5.338	-0.869	0.000	-1.237	4.483
Hour13	6.581	3.217	-5.694	-0.638	0.000	-1.435	5.069
Hour14	7.528	3.680	-5.799	-0.748	0.000	-1.698	5.238
Hour15	8.383	4.273	-4.908	-0.684	0.000	-1.873	5.054
Hour16	7.580	3.166	-5.469	-1.194	0.000	-1.889	5.015
Hour17	6.524	2.478	-6.365	-1.604	0.000	-1.716	4.975
Hour18	5.848	1.919	-6.564	-1.519	0.000	-1.648	4.582
Hour19	6.051	2.205	-5.973	-1.334	0.000	-1.570	3.605
Hour20	6.573	2.726	-5.157	-0.747	0.000	-1.683	3.656
Hour21	6.283	2.330	-5.570	-0.731	0.000	-1.707	4.027
Hour22	7.132	2.527	-6.316	-0.110	0.000	-1.650	4.385
Hour23	7.933	3.065	-6.308	0.917	0.000	-1.676	4.814
Hour24	6.732	2.163	-6.714	0.799	0.000	-1.423	4.857

## Industrial Peak Demand Model Standard Errors

Variable	Constant	HDD50	HDD55	HDD65	CDD65	CDD70	CDD65WkEnd	HDD65WkEnd	CDD70WkEnd
Hour1	16.533	0.494	0.675	0.297	0.565	0.757	0.797	0.110	1.152
Hour2	16.601	0.496	0.677	0.299	0.568	0.760	0.800	0.110	1.157
Hour3	16.568	0.495	0.676	0.298	0.566	0.759	0.799	0.110	1.154
Hour4	16.639	0.497	0.679	0.299	0.569	0.762	0.802	0.110	1.159
Hour5	16.820	0.502	0.686	0.302	0.575	0.770	0.811	0.112	1.172
Hour6	16.893	0.504	0.689	0.304	0.578	0.774	0.814	0.112	1.177
Hour7	16.632	0.497	0.679	0.299	0.569	0.762	0.802	0.110	1.159
Hour8	16.280	0.486	0.664	0.293	0.557	0.746	0.785	0.108	1.134
Hour9	16.449	0.491	0.671	0.296	0.562	0.753	0.793	0.109	1.146
Hour10	16.472	0.492	0.672	0.296	0.563	0.754	0.794	0.109	1.147
Hour11	16.479	0.492	0.672	0.296	0.563	0.755	0.794	0.109	1.148
Hour12	16.196	0.484	0.661	0.291	0.554	0.742	0.781	0.107	1.128
Hour13	16.142	0.482	0.659	0.290	0.552	0.739	0.778	0.107	1.125
Hour14	16.451	0.491	0.671	0.296	0.562	0.753	0.793	0.109	1.146
Hour15	16.425	0.490	0.670	0.295	0.562	0.752	0.792	0.109	1.144
Hour16	16.019	0.478	0.654	0.288	0.548	0.734	0.772	0.106	1.116
Hour17	15.576	0.465	0.636	0.280	0.533	0.713	0.751	0.103	1.085
Hour18	15.463	0.462	0.631	0.278	0.529	0.708	0.745	0.103	1.077
Hour19	15.294	0.457	0.624	0.275	0.523	0.700	0.737	0.101	1.065
Hour20	15.162	0.453	0.619	0.273	0.518	0.694	0.731	0.101	1.056
Hour21	15.017	0.448	0.613	0.270	0.513	0.688	0.724	0.100	1.046
Hour22	15.777	0.471	0.644	0.284	0.539	0.723	0.761	0.105	1.099
Hour23	16.503	0.493	0.673	0.297	0.564	0.756	0.796	0.109	1.150
Hour24	16.565	0.495	0.676	0.298	0.566	0.759	0.799	0.110	1.154

## Industrial Peak Demand Model Standard Errors

Variable	WkEnd	MajorHolidays	Monday	TWT	January	February	March	April	May	June	July
Hour1	2.673	3.874	1.694	1.377	2.263	3.147	4.708	6.587	8.080	8.883	8.428
Hour2	2.684	3.890	1.701	1.383	2.273	3.161	4.728	6.614	8.114	8.920	8.463
Hour3	2.678	3.883	1.697	1.380	2.268	3.154	4.718	6.601	8.098	8.902	8.446
Hour4	2.690	3.899	1.705	1.386	2.278	3.168	4.738	6.629	8.132	8.940	8.482
Hour5	2.719	3.941	1.723	1.401	2.303	3.202	4.790	6.701	8.221	9.037	8.574
Hour6	2.731	3.959	1.731	1.407	2.313	3.216	4.811	6.730	8.256	9.077	8.612
Hour7	2.689	3.897	1.704	1.385	2.277	3.166	4.736	6.626	8.129	8.936	8.479
Hour8	2.632	3.815	1.668	1.356	2.229	3.099	4.636	6.486	7.957	8.747	8.299
Hour9	2.659	3.855	1.685	1.370	2.252	3.132	4.684	6.553	8.039	8.838	8.385
Hour10	2.663	3.860	1.688	1.372	2.255	3.136	4.691	6.562	8.050	8.850	8.397
Hour11	2.664	3.862	1.688	1.373	2.256	3.137	4.693	6.565	8.054	8.854	8.401
Hour12	2.618	3.795	1.659	1.349	2.217	3.083	4.612	6.453	7.916	8.702	8.257
Hour13	2.609	3.783	1.654	1.345	2.210	3.073	4.597	6.431	7.889	8.673	8.229
Hour14	2.659	3.855	1.685	1.370	2.252	3.132	4.685	6.554	8.040	8.839	8.386
Hour15	2.655	3.849	1.683	1.368	2.249	3.127	4.677	6.544	8.027	8.825	8.373
Hour16	2.590	3.754	1.641	1.334	2.193	3.050	4.562	6.382	7.829	8.607	8.166
Hour17	2.518	3.650	1.596	1.297	2.132	2.965	4.436	6.205	7.613	8.369	7.940
Hour18	2.500	3.624	1.584	1.288	2.117	2.944	4.404	6.161	7.558	8.308	7.883
Hour19	2.472	3.584	1.567	1.274	2.094	2.912	4.355	6.093	7.475	8.217	7.796
Hour20	2.451	3.553	1.553	1.263	2.076	2.886	4.318	6.040	7.410	8.146	7.729
Hour21	2.428	3.519	1.539	1.251	2.056	2.859	4.276	5.983	7.340	8.069	7.655
Hour22	2.550	3.697	1.616	1.314	2.160	3.003	4.493	6.285	7.711	8.477	8.043
Hour23	2.668	3.867	1.691	1.375	2.259	3.142	4.700	6.575	8.066	8.867	8.413
Hour24	2.678	3.882	1.697	1.380	2.268	3.154	4.717	6.599	8.096	8.900	8.444



Kentucky Power 2022 Integrated Resource Plan  
 Kentucky Power Company  
 Industrial Peak Demand Model Standard Errors

Variable	August	September	October	November	December	HLight	DST
Hour1	7.032	5.407	4.118	2.421	0.000	1.696	3.142
Hour2	7.061	5.429	4.135	2.431	0.000	1.703	3.155
Hour3	7.047	5.418	4.127	2.426	0.000	1.700	3.149
Hour4	7.077	5.441	4.145	2.436	0.000	1.707	3.162
Hour5	7.154	5.501	4.190	2.463	0.000	1.726	3.196
Hour6	7.185	5.525	4.208	2.473	0.000	1.733	3.210
Hour7	7.074	5.439	4.143	2.435	0.000	1.706	3.161
Hour8	6.925	5.324	4.055	2.384	0.000	1.670	3.094
Hour9	6.997	5.380	4.097	2.408	0.000	1.688	3.126
Hour10	7.006	5.387	4.103	2.412	0.000	1.690	3.130
Hour11	7.009	5.389	4.105	2.413	0.000	1.691	3.132
Hour12	6.889	5.297	4.035	2.371	0.000	1.662	3.078
Hour13	6.866	5.279	4.021	2.363	0.000	1.656	3.067
Hour14	6.997	5.380	4.098	2.409	0.000	1.688	3.126
Hour15	6.986	5.372	4.091	2.405	0.000	1.685	3.121
Hour16	6.813	5.239	3.990	2.345	0.000	1.643	3.044
Hour17	6.625	5.094	3.880	2.280	0.000	1.598	2.960
Hour18	6.577	5.057	3.852	2.264	0.000	1.586	2.939
Hour19	6.505	5.002	3.810	2.239	0.000	1.569	2.906
Hour20	6.449	4.958	3.777	2.220	0.000	1.556	2.881
Hour21	6.387	4.911	3.741	2.199	0.000	1.541	2.854
Hour22	6.710	5.159	3.930	2.310	0.000	1.619	2.998
Hour23	7.020	5.397	4.111	2.416	0.000	1.693	3.136
Hour24	7.046	5.417	4.126	2.425	0.000	1.699	3.148

Kentucky Power Company  
 Kentucky Power 2022 Integrated Resource Plan  
 Volume A - Public Version  
 Industrial Peak Demand Model t-Statistics  
 Page 1038 of 1182

Variable	Constant	HDD50	HDD55	HDD65	CDD65	CDD70	CDD65WkEnd	HDD65WkEnd	CDD70WkEnd
Hour1	13.781	-0.990	2.011	-2.147	1.264	-1.213	0.590	0.272	-0.722
Hour2	13.835	-1.102	2.105	-2.195	1.157	-1.117	0.590	0.301	-0.707
Hour3	13.861	-1.019	2.008	-2.072	1.216	-1.149	0.451	0.179	-0.597
Hour4	13.801	-1.008	1.988	-2.023	1.252	-1.164	0.284	0.051	-0.423
Hour5	13.591	-1.089	2.026	-2.020	1.189	-1.146	0.362	0.102	-0.479
Hour6	13.609	-1.123	2.122	-2.169	1.133	-1.152	0.400	0.119	-0.523
Hour7	13.867	-1.091	2.096	-2.233	1.411	-1.397	0.334	0.480	-0.542
Hour8	13.975	-1.056	1.896	-1.884	1.826	-1.843	0.152	0.709	-0.358
Hour9	13.868	-1.243	2.126	-2.118	1.706	-1.756	0.165	0.683	-0.363
Hour10	13.929	-1.332	2.215	-2.190	1.795	-1.862	0.123	0.621	-0.318
Hour11	13.938	-1.190	2.180	-2.273	1.844	-1.884	0.089	0.557	-0.261
Hour12	14.207	-1.005	2.099	-2.346	2.022	-1.952	0.058	0.617	-0.246
Hour13	14.365	-0.942	2.064	-2.400	2.046	-1.967	0.185	0.829	-0.292
Hour14	14.331	-0.946	2.100	-2.489	2.100	-2.066	0.128	0.791	-0.198
Hour15	14.392	-0.811	1.921	-2.290	2.212	-2.140	0.212	0.719	-0.299
Hour16	14.679	-0.701	1.885	-2.348	2.104	-2.078	0.261	0.601	-0.336
Hour17	14.842	-0.667	1.889	-2.321	2.110	-1.995	0.335	0.409	-0.521
Hour18	14.879	-0.691	1.883	-2.266	2.030	-1.951	0.404	0.411	-0.540
Hour19	14.972	-0.827	2.055	-2.437	1.907	-1.798	0.401	0.513	-0.583
Hour20	15.132	-0.888	2.064	-2.388	1.890	-1.754	0.440	0.624	-0.633
Hour21	15.298	-0.882	1.983	-2.269	1.887	-1.712	0.539	0.720	-0.749
Hour22	14.665	-0.830	1.861	-2.036	1.764	-1.689	0.501	0.430	-0.688
Hour23	14.109	-0.990	1.899	-1.936	1.715	-1.610	0.554	0.427	-0.722
Hour24	13.903	-1.046	1.899	-1.857	1.634	-1.459	0.615	0.443	-0.825

Kentucky Power 2022 Integrated Resource Plan  
Kentucky Power Company  
Industrial Peak Demand Model t-Statistics

Variable	WkEnd	MajorHolidays	Monday	TWT	January	February	March	April	May	June	July
Hour1	-1.079	-0.480	-1.770	0.391	5.514	4.558	1.774	1.084	0.376	0.537	0.449
Hour2	-1.021	-0.524	-1.160	0.479	5.469	4.492	1.846	1.242	0.515	0.664	0.628
Hour3	-0.776	-0.516	-0.768	0.441	5.505	4.572	1.966	1.351	0.600	0.767	0.707
Hour4	-0.781	-0.499	-0.705	0.324	5.451	4.592	1.976	1.357	0.603	0.738	0.652
Hour5	-1.051	-0.578	-0.570	0.525	5.512	4.515	1.896	1.245	0.471	0.619	0.513
Hour6	-1.314	-0.733	-0.182	1.038	5.708	4.784	2.033	1.305	0.509	0.669	0.538
Hour7	-1.497	-1.100	-0.056	1.167	5.729	4.811	2.006	1.331	0.524	0.726	0.469
Hour8	-1.615	-2.055	-0.002	1.181	5.371	4.147	1.513	0.997	0.174	0.626	0.276
Hour9	-2.143	-1.990	0.077	1.209	5.292	4.016	1.423	0.920	0.190	0.623	0.319
Hour10	-2.138	-1.926	0.156	1.367	5.389	4.154	1.574	1.089	0.414	0.840	0.572
Hour11	-2.171	-1.887	0.341	1.272	5.391	4.111	1.674	1.217	0.529	0.960	0.700
Hour12	-1.762	-1.956	0.406	1.268	5.369	3.970	1.642	1.217	0.558	0.983	0.728
Hour13	-2.089	-2.032	0.602	1.327	5.622	4.229	1.678	1.365	0.629	1.089	0.790
Hour14	-2.457	-2.045	0.668	1.493	5.450	4.131	1.708	1.457	0.736	1.173	0.831
Hour15	-2.240	-2.130	0.824	1.679	5.484	4.213	1.800	1.519	0.885	1.294	0.945
Hour16	-1.479	-2.146	1.075	1.811	5.579	4.208	1.784	1.432	0.800	1.275	0.914
Hour17	-0.386	-2.205	1.124	1.835	5.536	4.165	1.562	1.274	0.625	1.076	0.779
Hour18	0.034	-2.093	0.943	1.493	5.287	3.860	1.413	1.140	0.466	0.973	0.707
Hour19	0.337	-1.979	0.757	1.170	5.348	3.995	1.519	1.161	0.483	0.988	0.778
Hour20	0.491	-1.968	0.689	0.987	5.449	4.295	1.734	1.249	0.559	1.052	0.920
Hour21	0.475	-2.056	0.653	0.949	5.523	4.309	1.742	1.267	0.547	0.985	0.846
Hour22	-0.553	-1.501	0.808	1.152	5.598	4.550	1.858	1.327	0.661	0.972	0.848
Hour23	-1.412	-0.962	1.097	1.371	5.836	4.890	2.071	1.375	0.768	0.929	0.857
Hour24	-1.338	-0.892	1.064	1.295	5.824	4.755	1.915	1.242	0.593	0.781	0.637

Kentucky Power 2022 Integrated Resource Plan  
 Kentucky Power Company  
 Industrial Peak Demand Model t-Statistics

Variable	August	September	October	November	December	HLight	DST
Hour1	0.775	0.312	-1.585	0.155	0.000	-0.561	1.204
Hour2	0.923	0.417	-1.468	0.138	0.000	-0.678	1.116
Hour3	1.006	0.520	-1.398	0.210	0.000	-0.732	1.043
Hour4	0.990	0.509	-1.455	0.197	0.000	-0.726	1.055
Hour5	0.830	0.408	-1.544	0.049	0.000	-0.618	1.105
Hour6	0.841	0.394	-1.600	0.015	0.000	-0.644	1.186
Hour7	0.796	0.398	-1.545	-0.120	0.000	-0.685	1.285
Hour8	0.493	0.199	-1.651	-0.593	0.000	-0.530	1.453
Hour9	0.490	0.148	-1.685	-0.575	0.000	-0.497	1.495
Hour10	0.735	0.375	-1.475	-0.399	0.000	-0.616	1.443
Hour11	0.873	0.555	-1.299	-0.427	0.000	-0.642	1.335
Hour12	0.885	0.522	-1.323	-0.366	0.000	-0.744	1.456
Hour13	0.958	0.609	-1.416	-0.270	0.000	-0.867	1.652
Hour14	1.076	0.684	-1.415	-0.310	0.000	-1.006	1.676
Hour15	1.200	0.795	-1.200	-0.285	0.000	-1.112	1.619
Hour16	1.112	0.604	-1.371	-0.509	0.000	-1.150	1.648
Hour17	0.985	0.486	-1.640	-0.703	0.000	-1.074	1.681
Hour18	0.889	0.380	-1.704	-0.671	0.000	-1.039	1.559
Hour19	0.930	0.441	-1.568	-0.596	0.000	-1.000	1.240
Hour20	1.019	0.550	-1.366	-0.337	0.000	-1.082	1.269
Hour21	0.984	0.474	-1.489	-0.332	0.000	-1.108	1.411
Hour22	1.063	0.490	-1.607	-0.047	0.000	-1.019	1.463
Hour23	1.130	0.568	-1.534	0.379	0.000	-0.990	1.535
Hour24	0.956	0.399	-1.627	0.329	0.000	-0.837	1.543

Kentucky Power 2022 Integrated Resource Plan  
 Kentucky Power Company  
 Industrial Peak Demand Model Statistics

Hour	Obs	DF	AdjRSq	DW	StdErr	MAD	MAPE	FObs	FMAD	FMAPE	FAvgErr
Hour1	1461	1434	0.089	0.152	17.227	13.756	6.48%	0	0.000	0.00%	0.000
Hour2	1461	1434	0.086	0.158	17.298	13.812	6.51%	0	0.000	0.00%	0.000
Hour3	1461	1434	0.085	0.162	17.263	13.792	6.51%	0	0.000	0.00%	0.000
Hour4	1461	1434	0.086	0.161	17.337	13.886	6.55%	0	0.000	0.00%	0.000
Hour5	1461	1434	0.088	0.155	17.526	14.045	6.62%	0	0.000	0.00%	0.000
Hour6	1461	1434	0.101	0.142	17.602	14.107	6.61%	0	0.000	0.00%	0.000
Hour7	1461	1434	0.104	0.151	17.330	13.965	6.52%	0	0.000	0.00%	0.000
Hour8	1461	1434	0.099	0.179	16.963	13.793	6.42%	0	0.000	0.00%	0.000
Hour9	1461	1434	0.107	0.179	17.139	13.997	6.50%	0	0.000	0.00%	0.000
Hour10	1461	1434	0.109	0.185	17.163	14.002	6.50%	0	0.000	0.00%	0.000
Hour11	1461	1434	0.111	0.185	17.170	13.977	6.49%	0	0.000	0.00%	0.000
Hour12	1461	1434	0.105	0.178	16.876	13.735	6.41%	0	0.000	0.00%	0.000
Hour13	1461	1434	0.115	0.173	16.819	13.739	6.41%	0	0.000	0.00%	0.000
Hour14	1461	1434	0.123	0.180	17.141	13.996	6.51%	0	0.000	0.00%	0.000
Hour15	1461	1434	0.118	0.189	17.114	13.949	6.50%	0	0.000	0.00%	0.000
Hour16	1461	1434	0.108	0.173	16.691	13.520	6.36%	0	0.000	0.00%	0.000
Hour17	1461	1434	0.101	0.171	16.230	13.091	6.21%	0	0.000	0.00%	0.000
Hour18	1461	1434	0.090	0.176	16.112	12.960	6.18%	0	0.000	0.00%	0.000
Hour19	1461	1434	0.091	0.171	15.935	12.784	6.11%	0	0.000	0.00%	0.000
Hour20	1461	1434	0.089	0.175	15.798	12.677	6.07%	0	0.000	0.00%	0.000
Hour21	1461	1434	0.089	0.171	15.647	12.515	5.98%	0	0.000	0.00%	0.000
Hour22	1461	1434	0.091	0.151	16.438	13.201	6.25%	0	0.000	0.00%	0.000
Hour23	1461	1434	0.100	0.151	17.196	13.771	6.48%	0	0.000	0.00%	0.000
Hour24	1461	1434	0.098	0.152	17.260	13.814	6.50%	0	0.000	0.00%	0.000

## Other Retail Peak Demand Model Coefficients

Variable	Constant	HDD50	HDD55	HDD65	CDD65	CDD70	CDD65WkEnd	HDD65WkEnd	CDD70WkEnd
Hour1	41.234	0.445	0.021	-0.014	0.457	-0.131	-0.245	-0.014	0.327
Hour2	39.809	0.388	0.104	-0.031	0.395	-0.068	-0.114	0.002	0.174
Hour3	40.547	0.406	0.093	-0.017	0.391	-0.029	-0.161	-0.005	0.204
Hour4	38.592	0.383	0.103	0.013	0.478	-0.146	-0.148	-0.003	0.195
Hour5	39.213	0.355	0.120	0.041	0.420	-0.028	-0.106	-0.028	0.089
Hour6	43.595	0.267	0.197	0.042	0.466	-0.069	-0.135	-0.037	0.134
Hour7	56.613	0.111	0.401	-0.017	0.551	-0.124	-0.062	-0.034	0.098
Hour8	69.669	-0.001	0.503	-0.035	0.602	-0.227	-0.032	-0.017	0.259
Hour9	81.609	-0.122	0.687	-0.172	0.643	-0.304	0.015	0.048	0.456
Hour10	83.738	-0.042	0.702	-0.278	0.620	-0.181	0.071	0.081	0.416
Hour11	81.383	0.008	0.765	-0.390	0.669	-0.161	0.026	0.095	0.385
Hour12	81.139	0.123	0.733	-0.464	0.787	-0.238	-0.079	0.097	0.526
Hour13	76.282	0.193	0.727	-0.522	0.926	-0.352	-0.217	0.099	0.628
Hour14	70.131	0.344	0.593	-0.534	1.012	-0.431	-0.356	0.094	0.703
Hour15	65.009	0.418	0.546	-0.559	0.962	-0.368	-0.310	0.101	0.570
Hour16	55.765	0.469	0.459	-0.493	0.938	-0.308	-0.398	0.064	0.528
Hour17	48.880	0.478	0.427	-0.442	0.871	-0.225	-0.317	0.032	0.372
Hour18	44.424	0.515	0.316	-0.367	0.801	-0.174	-0.215	0.037	0.229
Hour19	42.006	0.545	0.246	-0.301	0.710	-0.142	-0.013	0.049	0.057
Hour20	43.093	0.513	0.323	-0.319	0.622	-0.081	-0.039	0.037	0.087
Hour21	43.584	0.469	0.343	-0.288	0.564	-0.063	-0.012	0.046	0.007
Hour22	40.809	0.460	0.296	-0.206	0.548	-0.075	-0.093	0.021	0.102
Hour23	37.425	0.448	0.235	-0.141	0.537	-0.124	-0.163	0.006	0.197
Hour24	36.931	0.450	0.212	-0.105	0.495	-0.075	-0.173	-0.002	0.183

## Other Retail Peak Demand Model Coefficients

Variable	WkEnd	MajorHolidays	Monday	TWT	January	February	March	April	May	June
Hour1	-0.296	-0.267	-0.706	-0.057	1.458	0.325	1.286	0.196	2.173	2.576
Hour2	-0.906	-0.132	-0.966	-0.119	1.690	0.561	1.165	-0.064	1.847	2.108
Hour3	-0.752	0.147	-1.155	-0.055	1.434	0.296	1.013	-0.183	1.678	1.606
Hour4	-0.848	0.680	-0.698	0.051	1.185	0.103	0.560	-0.698	0.799	0.488
Hour5	-0.987	0.992	-0.090	0.162	1.461	0.298	0.827	-0.623	0.803	0.545
Hour6	-2.821	1.273	0.317	0.296	1.748	1.125	2.186	0.189	1.417	0.661
Hour7	-7.560	2.168	1.206	1.030	2.763	3.407	4.942	3.232	4.208	2.019
Hour8	-12.738	1.828	1.577	1.467	4.423	5.969	8.037	5.738	7.677	4.604
Hour9	-18.919	0.968	1.558	1.692	5.296	7.714	10.425	8.154	11.163	5.718
Hour10	-20.549	0.778	1.386	1.533	5.599	8.060	10.701	8.888	12.165	6.403
Hour11	-20.243	1.109	1.498	1.408	5.538	7.852	9.970	8.321	12.153	6.400
Hour12	-20.534	1.092	1.585	1.529	5.746	7.881	9.878	8.139	12.217	5.833
Hour13	-19.207	0.979	1.719	1.735	5.676	7.096	8.945	7.285	11.022	4.742
Hour14	-16.979	0.365	1.946	1.970	4.894	5.813	7.109	5.706	9.097	3.568
Hour15	-15.142	0.203	1.981	2.073	4.331	4.743	5.533	4.333	7.626	2.610
Hour16	-11.352	0.999	1.708	1.640	3.291	3.058	3.566	2.551	5.372	1.853
Hour17	-6.877	0.258	1.736	1.521	2.517	1.824	1.517	1.061	3.429	1.374
Hour18	-3.882	-1.207	1.688	1.954	1.399	-0.433	-0.753	-1.264	1.278	-0.151
Hour19	-2.661	-2.056	1.537	2.051	1.784	0.019	-0.482	-0.905	1.488	0.245
Hour20	-2.298	-2.653	1.739	1.911	2.052	0.155	0.498	-0.369	1.746	0.737
Hour21	-2.180	-1.954	1.595	1.624	1.774	0.242	0.855	0.539	2.174	1.078
Hour22	-1.458	-1.083	1.174	1.071	1.656	0.026	0.782	0.563	2.289	2.164
Hour23	-0.329	-1.141	0.923	0.904	1.311	-0.171	0.407	-0.006	1.230	1.191
Hour24	0.118	-0.828	0.787	0.950	1.072	-0.156	0.714	0.206	1.537	1.618

## Other Retail Peak Demand Model Coefficients

Variable	July	August	September	October	November	December	HLight	DST
Hour1	3.742	3.971	1.632	-1.416	-1.680	0.000	-0.971	-1.745
Hour2	3.453	3.402	1.172	-1.578	-1.814	0.000	-0.874	-1.704
Hour3	2.915	2.585	0.348	-2.589	-2.268	0.000	-0.972	-1.425
Hour4	1.689	1.426	-0.589	-2.989	-2.396	0.000	-0.821	-1.496
Hour5	1.539	1.592	-0.568	-3.042	-2.237	0.000	-0.881	-1.319
Hour6	1.631	2.488	0.455	-2.372	-1.861	0.000	-1.106	-1.442
Hour7	2.698	4.968	3.066	-0.706	-1.216	0.000	-1.926	-1.578
Hour8	4.606	7.570	5.151	0.959	-0.122	0.000	-2.750	-0.640
Hour9	5.832	10.829	8.866	3.514	1.449	0.000	-3.333	-0.386
Hour10	6.347	12.292	10.237	4.371	1.729	0.000	-3.409	-0.176
Hour11	6.556	12.686	10.728	4.529	1.290	0.000	-3.175	-0.552
Hour12	6.322	13.189	11.400	4.822	1.239	0.000	-3.092	-0.424
Hour13	5.303	12.246	11.177	4.952	1.006	0.000	-2.711	-0.452
Hour14	4.384	11.309	10.243	4.653	0.425	0.000	-2.219	-0.776
Hour15	3.506	10.236	9.311	4.329	0.264	0.000	-1.845	-0.774
Hour16	2.859	8.664	7.708	3.625	-0.588	0.000	-1.234	-1.331
Hour17	2.364	6.901	5.512	2.277	-0.946	0.000	-0.974	-1.246
Hour18	1.068	4.821	3.573	0.379	-1.749	0.000	-0.776	-1.552
Hour19	1.654	4.676	3.520	0.755	-1.578	0.000	-0.686	-2.394
Hour20	2.168	4.737	4.005	1.746	-1.660	0.000	-0.775	-2.537
Hour21	2.438	4.950	3.865	0.735	-1.461	0.000	-0.909	-1.565
Hour22	3.345	4.787	2.882	0.144	-1.706	0.000	-0.741	-1.826
Hour23	2.246	3.294	1.537	-0.586	-2.053	0.000	-0.562	-1.836
Hour24	2.559	3.242	1.476	-0.632	-1.749	0.000	-0.615	-1.952



## Other Retail Peak Demand Model Standard Errors

Variable	Constant	HDD50	HDD55	HDD65	CDD65	CDD70	CDD65WkEnd	HDD65WkEnd	CDD70WkEnd
Hour1	3.004	0.090	0.123	0.054	0.103	0.138	0.145	0.020	0.209
Hour2	3.097	0.092	0.126	0.056	0.106	0.142	0.149	0.021	0.216
Hour3	3.104	0.093	0.127	0.056	0.106	0.142	0.150	0.021	0.216
Hour4	3.129	0.093	0.128	0.056	0.107	0.143	0.151	0.021	0.218
Hour5	3.161	0.094	0.129	0.057	0.108	0.145	0.152	0.021	0.220
Hour6	3.113	0.093	0.127	0.056	0.106	0.143	0.150	0.021	0.217
Hour7	3.829	0.114	0.156	0.069	0.131	0.175	0.185	0.025	0.267
Hour8	4.743	0.142	0.194	0.085	0.162	0.217	0.229	0.031	0.330
Hour9	5.862	0.175	0.239	0.105	0.200	0.268	0.283	0.039	0.408
Hour10	5.827	0.174	0.238	0.105	0.199	0.267	0.281	0.039	0.406
Hour11	5.593	0.167	0.228	0.101	0.191	0.256	0.270	0.037	0.390
Hour12	5.963	0.178	0.243	0.107	0.204	0.273	0.287	0.040	0.415
Hour13	5.743	0.171	0.234	0.103	0.196	0.263	0.277	0.038	0.400
Hour14	5.155	0.154	0.210	0.093	0.176	0.236	0.249	0.034	0.359
Hour15	4.812	0.144	0.196	0.087	0.165	0.220	0.232	0.032	0.335
Hour16	4.114	0.123	0.168	0.074	0.141	0.188	0.198	0.027	0.287
Hour17	3.645	0.109	0.149	0.066	0.125	0.167	0.176	0.024	0.254
Hour18	3.255	0.097	0.133	0.059	0.111	0.149	0.157	0.022	0.227
Hour19	3.138	0.094	0.128	0.056	0.107	0.144	0.151	0.021	0.219
Hour20	3.189	0.095	0.130	0.057	0.109	0.146	0.154	0.021	0.222
Hour21	2.977	0.089	0.121	0.054	0.102	0.136	0.144	0.020	0.207
Hour22	2.707	0.081	0.110	0.049	0.093	0.124	0.130	0.018	0.189
Hour23	2.418	0.072	0.099	0.043	0.083	0.111	0.117	0.016	0.168
Hour24	2.346	0.070	0.096	0.042	0.080	0.107	0.113	0.016	0.163

Variable	WkEnd	MajorHolidays	Monday	TWT	January	February	March	April	May	June	July
Hour1	0.486	0.704	0.308	0.250	0.411	0.572	0.855	1.197	1.468	1.614	1.531
Hour2	0.501	0.726	0.317	0.258	0.424	0.590	0.882	1.234	1.514	1.664	1.579
Hour3	0.502	0.727	0.318	0.259	0.425	0.591	0.884	1.236	1.517	1.668	1.582
Hour4	0.506	0.733	0.321	0.261	0.428	0.596	0.891	1.247	1.529	1.681	1.595
Hour5	0.511	0.741	0.324	0.263	0.433	0.602	0.900	1.259	1.545	1.698	1.611
Hour6	0.503	0.730	0.319	0.259	0.426	0.593	0.887	1.240	1.522	1.673	1.587
Hour7	0.619	0.897	0.392	0.319	0.524	0.729	1.090	1.525	1.871	2.057	1.952
Hour8	0.767	1.111	0.486	0.395	0.649	0.903	1.351	1.890	2.318	2.548	2.418
Hour9	0.948	1.374	0.601	0.488	0.803	1.116	1.669	2.335	2.865	3.150	2.988
Hour10	0.942	1.366	0.597	0.485	0.798	1.109	1.659	2.322	2.848	3.131	2.971
Hour11	0.904	1.311	0.573	0.466	0.766	1.065	1.593	2.228	2.733	3.005	2.851
Hour12	0.964	1.397	0.611	0.497	0.816	1.135	1.698	2.375	2.914	3.204	3.040
Hour13	0.928	1.346	0.588	0.478	0.786	1.093	1.635	2.288	2.807	3.086	2.928
Hour14	0.833	1.208	0.528	0.429	0.706	0.981	1.468	2.054	2.520	2.770	2.628
Hour15	0.778	1.128	0.493	0.401	0.659	0.916	1.370	1.917	2.352	2.586	2.453
Hour16	0.665	0.964	0.422	0.343	0.563	0.783	1.172	1.639	2.011	2.211	2.097
Hour17	0.589	0.854	0.373	0.304	0.499	0.694	1.038	1.452	1.782	1.959	1.858
Hour18	0.526	0.763	0.333	0.271	0.446	0.620	0.927	1.297	1.591	1.749	1.659
Hour19	0.507	0.735	0.322	0.261	0.430	0.597	0.894	1.250	1.534	1.686	1.600
Hour20	0.515	0.747	0.327	0.266	0.437	0.607	0.908	1.270	1.558	1.713	1.625
Hour21	0.481	0.698	0.305	0.248	0.408	0.567	0.848	1.186	1.455	1.600	1.518
Hour22	0.438	0.634	0.277	0.225	0.371	0.515	0.771	1.078	1.323	1.454	1.380
Hour23	0.391	0.567	0.248	0.201	0.331	0.460	0.689	0.963	1.182	1.299	1.233
Hour24	0.379	0.550	0.240	0.195	0.321	0.447	0.668	0.935	1.146	1.260	1.196

## Other Retail Peak Demand Model Standard Errors

Variable	August	September	October	November	December	HLight	DST
Hour1	1.278	0.982	0.748	0.440	0.000	0.308	0.571
Hour2	1.317	1.013	0.772	0.453	0.000	0.318	0.589
Hour3	1.320	1.015	0.773	0.454	0.000	0.318	0.590
Hour4	1.331	1.023	0.779	0.458	0.000	0.321	0.595
Hour5	1.344	1.034	0.787	0.463	0.000	0.324	0.601
Hour6	1.324	1.018	0.775	0.456	0.000	0.319	0.592
Hour7	1.629	1.252	0.954	0.561	0.000	0.393	0.728
Hour8	2.017	1.551	1.181	0.694	0.000	0.487	0.901
Hour9	2.493	1.917	1.460	0.858	0.000	0.601	1.114
Hour10	2.479	1.906	1.452	0.853	0.000	0.598	1.107
Hour11	2.379	1.829	1.393	0.819	0.000	0.574	1.063
Hour12	2.536	1.950	1.485	0.873	0.000	0.612	1.133
Hour13	2.443	1.878	1.431	0.841	0.000	0.589	1.091
Hour14	2.193	1.686	1.284	0.755	0.000	0.529	0.980
Hour15	2.047	1.574	1.199	0.705	0.000	0.494	0.915
Hour16	1.750	1.346	1.025	0.602	0.000	0.422	0.782
Hour17	1.551	1.192	0.908	0.534	0.000	0.374	0.693
Hour18	1.384	1.064	0.811	0.477	0.000	0.334	0.619
Hour19	1.335	1.026	0.782	0.459	0.000	0.322	0.596
Hour20	1.356	1.043	0.794	0.467	0.000	0.327	0.606
Hour21	1.266	0.974	0.742	0.436	0.000	0.305	0.566
Hour22	1.151	0.885	0.674	0.396	0.000	0.278	0.514
Hour23	1.029	0.791	0.602	0.354	0.000	0.248	0.460
Hour24	0.998	0.767	0.584	0.343	0.000	0.241	0.446

## Other Retail Peak Demand Model t-Statistics

Variable	Constant	HDD50	HDD55	HDD65	CDD65	CDD70	CDD65WkEnd	HDD65WkEnd	CDD70WkEnd
Hour1	13.727	4.965	0.173	-0.258	4.446	-0.949	-1.694	-0.721	1.564
Hour2	12.852	4.197	0.826	-0.553	3.730	-0.481	-0.764	0.101	0.808
Hour3	13.064	4.377	0.733	-0.302	3.687	-0.205	-1.075	-0.257	0.942
Hour4	12.333	4.097	0.807	0.227	4.471	-1.017	-0.978	-0.148	0.895
Hour5	12.407	3.764	0.933	0.726	3.888	-0.194	-0.693	-1.329	0.405
Hour6	14.004	2.870	1.547	0.757	4.376	-0.482	-0.898	-1.786	0.616
Hour7	14.786	0.968	2.564	-0.246	4.213	-0.710	-0.335	-1.320	0.366
Hour8	14.689	-0.010	2.598	-0.411	3.713	-1.045	-0.139	-0.551	0.784
Hour9	13.921	-0.697	2.871	-1.632	3.209	-1.133	0.052	1.226	1.116
Hour10	14.370	-0.244	2.951	-2.650	3.111	-0.678	0.252	2.087	1.025
Hour11	14.552	0.050	3.350	-3.878	3.499	-0.628	0.096	2.570	0.989
Hour12	13.608	0.689	3.014	-4.325	3.859	-0.870	-0.275	2.462	1.267
Hour13	13.283	1.128	3.100	-5.059	4.718	-1.340	-0.784	2.601	1.571
Hour14	13.604	2.237	2.816	-5.765	5.743	-1.825	-1.434	2.746	1.958
Hour15	13.509	2.909	2.778	-6.460	5.850	-1.670	-1.338	3.160	1.699
Hour16	13.554	3.820	2.732	-6.660	6.669	-1.632	-2.008	2.358	1.841
Hour17	13.408	4.388	2.870	-6.743	6.990	-1.349	-1.805	1.328	1.464
Hour18	13.649	5.304	2.379	-6.262	7.199	-1.168	-1.369	1.698	1.010
Hour19	13.385	5.817	1.919	-5.327	6.620	-0.990	-0.089	2.367	0.263
Hour20	13.515	5.391	2.485	-5.569	5.703	-0.556	-0.252	1.732	0.392
Hour21	14.639	5.275	2.821	-5.378	5.536	-0.461	-0.081	2.351	0.032
Hour22	15.078	5.693	2.676	-4.238	5.926	-0.607	-0.710	1.182	0.543
Hour23	15.476	6.211	2.384	-3.241	6.490	-1.117	-1.399	0.380	1.171
Hour24	15.744	6.418	2.211	-2.487	6.167	-0.702	-1.526	-0.151	1.122

Kentucky Power 2022 Integrated Resource Plan  
 Kentucky Power Company  
 Other Retail Peak Demand Model t-Statistics

Variable	WkEnd	MajorHolidays	Monday	TWT	January	February	March	April	May	June	July
Hour1	-0.609	-0.380	-2.294	-0.227	3.545	0.568	1.504	0.164	1.480	1.596	2.444
Hour2	-1.809	-0.182	-3.043	-0.463	3.985	0.951	1.321	-0.052	1.220	1.267	2.187
Hour3	-1.499	0.202	-3.634	-0.214	3.374	0.501	1.146	-0.148	1.106	0.963	1.842
Hour4	-1.677	0.928	-2.178	0.196	2.766	0.173	0.628	-0.560	0.522	0.290	1.059
Hour5	-1.932	1.340	-0.277	0.617	3.377	0.496	0.919	-0.495	0.520	0.321	0.955
Hour6	-5.605	1.744	0.994	1.143	4.102	1.899	2.466	0.153	0.931	0.395	1.028
Hour7	-12.213	2.416	3.074	3.231	5.271	4.674	4.533	2.119	2.249	0.981	1.382
Hour8	-16.613	1.644	3.245	3.714	6.812	6.611	5.951	3.037	3.312	1.807	1.905
Hour9	-19.963	0.705	2.594	3.466	6.599	6.912	6.245	3.491	3.896	1.815	1.951
Hour10	-21.814	0.570	2.321	3.157	7.019	7.266	6.448	3.829	4.271	2.045	2.137
Hour11	-22.390	0.846	2.614	3.023	7.234	7.374	6.260	3.735	4.446	2.130	2.300
Hour12	-21.302	0.781	2.594	3.079	7.040	6.942	5.818	3.426	4.192	1.821	2.080
Hour13	-20.688	0.727	2.922	3.627	7.220	6.490	5.470	3.184	3.927	1.537	1.811
Hour14	-20.373	0.302	3.685	4.588	6.935	5.923	4.842	2.778	3.610	1.288	1.668
Hour15	-19.463	0.180	4.018	5.170	6.574	5.177	4.038	2.260	3.242	1.009	1.429
Hour16	-17.067	1.037	4.052	4.785	5.843	3.904	3.043	1.556	2.672	0.838	1.363
Hour17	-11.670	0.302	4.648	5.009	5.043	2.629	1.461	0.730	1.924	0.702	1.272
Hour18	-7.377	-1.582	5.062	7.208	3.140	-0.699	-0.813	-0.975	0.803	-0.086	0.644
Hour19	-5.245	-2.795	4.781	7.846	4.153	0.032	-0.539	-0.724	0.970	0.145	1.034
Hour20	-4.459	-3.551	5.322	7.195	4.702	0.256	0.548	-0.290	1.120	0.430	1.334
Hour21	-4.530	-2.800	5.227	6.549	4.352	0.428	1.009	0.454	1.494	0.674	1.606
Hour22	-3.333	-1.707	4.233	4.749	4.469	0.050	1.015	0.522	1.730	1.488	2.424
Hour23	-0.842	-2.013	3.725	4.486	3.959	-0.371	0.591	-0.007	1.040	0.917	1.822
Hour24	0.312	-1.507	3.274	4.860	3.339	-0.349	1.068	0.221	1.341	1.284	2.140

Kentucky Power 2022 Integrated Resource Plan  
 Kentucky Power Company  
 Other Retail Peak Demand Model t-Statistics

Variable	August	September	October	November	December	HLight	DST
Hour1	3.108	1.661	-1.893	-3.820	0.000	-3.152	-3.056
Hour2	2.582	1.157	-2.046	-3.999	0.000	-2.752	-2.895
Hour3	1.959	0.343	-3.349	-4.992	0.000	-3.051	-2.416
Hour4	1.071	-0.575	-3.834	-5.231	0.000	-2.558	-2.516
Hour5	1.185	-0.550	-3.864	-4.835	0.000	-2.716	-2.196
Hour6	1.879	0.447	-3.059	-4.082	0.000	-3.462	-2.437
Hour7	3.051	2.448	-0.740	-2.169	0.000	-4.904	-2.168
Hour8	3.752	3.321	0.812	-0.176	0.000	-5.651	-0.710
Hour9	4.343	4.625	2.406	1.688	0.000	-5.543	-0.347
Hour10	4.959	5.372	3.012	2.026	0.000	-5.702	-0.159
Hour11	5.333	5.866	3.251	1.575	0.000	-5.533	-0.519
Hour12	5.200	5.846	3.246	1.419	0.000	-5.055	-0.374
Hour13	5.013	5.951	3.462	1.197	0.000	-4.601	-0.414
Hour14	5.158	6.075	3.624	0.563	0.000	-4.196	-0.792
Hour15	5.001	5.916	3.611	0.374	0.000	-3.737	-0.846
Hour16	4.951	5.728	3.537	-0.976	0.000	-2.923	-1.702
Hour17	4.451	4.623	2.508	-1.772	0.000	-2.604	-1.799
Hour18	3.483	3.357	0.468	-3.669	0.000	-2.324	-2.510
Hour19	3.503	3.429	0.966	-3.433	0.000	-2.129	-4.014
Hour20	3.493	3.840	2.198	-3.557	0.000	-2.369	-4.187
Hour21	3.909	3.969	0.992	-3.351	0.000	-2.977	-2.765
Hour22	4.158	3.256	0.214	-4.306	0.000	-2.668	-3.550
Hour23	3.202	1.943	-0.972	-5.800	0.000	-2.267	-3.995
Hour24	3.249	1.924	-1.081	-5.092	0.000	-2.557	-4.378

## Other Retail Peak Demand Model Statistics

Hour	Obs	DF	AdjRSq	DW	StdErr	MAD	MAPE	FObs	FMAD	FMAPE	FAvgErr
Hour1	1461	1434	0.655	1.095	3.130	2.354	7.28%	0	0.000	0.00%	0.000
Hour2	1461	1434	0.660	1.111	3.227	2.419	7.67%	0	0.000	0.00%	0.000
Hour3	1461	1434	0.684	1.156	3.234	2.423	7.75%	0	0.000	0.00%	0.000
Hour4	1461	1434	0.699	1.132	3.260	2.449	7.84%	0	0.000	0.00%	0.000
Hour5	1461	1434	0.717	1.108	3.293	2.429	7.63%	0	0.000	0.00%	0.000
Hour6	1461	1434	0.751	1.126	3.244	2.434	7.22%	0	0.000	0.00%	0.000
Hour7	1461	1434	0.766	1.030	3.989	3.063	8.33%	0	0.000	0.00%	0.000
Hour8	1461	1434	0.765	0.955	4.942	3.831	9.48%	0	0.000	0.00%	0.000
Hour9	1461	1434	0.749	0.873	6.108	4.804	10.92%	0	0.000	0.00%	0.000
Hour10	1461	1434	0.755	0.857	6.072	4.799	10.74%	0	0.000	0.00%	0.000
Hour11	1461	1434	0.760	0.857	5.827	4.600	10.36%	0	0.000	0.00%	0.000
Hour12	1461	1434	0.743	0.826	6.213	4.923	10.97%	0	0.000	0.00%	0.000
Hour13	1461	1434	0.745	0.778	5.984	4.760	10.69%	0	0.000	0.00%	0.000
Hour14	1461	1434	0.763	0.764	5.372	4.224	9.70%	0	0.000	0.00%	0.000
Hour15	1461	1434	0.763	0.750	5.014	3.945	9.23%	0	0.000	0.00%	0.000
Hour16	1461	1434	0.768	0.776	4.287	3.391	8.31%	0	0.000	0.00%	0.000
Hour17	1461	1434	0.742	0.762	3.798	2.997	7.93%	0	0.000	0.00%	0.000
Hour18	1461	1434	0.739	0.872	3.391	2.655	7.49%	0	0.000	0.00%	0.000
Hour19	1461	1434	0.724	0.849	3.270	2.571	7.41%	0	0.000	0.00%	0.000
Hour20	1461	1434	0.710	0.796	3.322	2.627	7.51%	0	0.000	0.00%	0.000
Hour21	1461	1434	0.716	0.806	3.102	2.459	6.99%	0	0.000	0.00%	0.000
Hour22	1461	1434	0.748	0.862	2.820	2.223	6.40%	0	0.000	0.00%	0.000
Hour23	1461	1434	0.773	0.977	2.520	1.986	5.94%	0	0.000	0.00%	0.000
Hour24	1461	1434	0.789	1.032	2.444	1.920	5.86%	0	0.000	0.00%	0.000

**Exhibit I – Load Forecast Model Details and Input Data**



## LONG-TERM WHOLESale

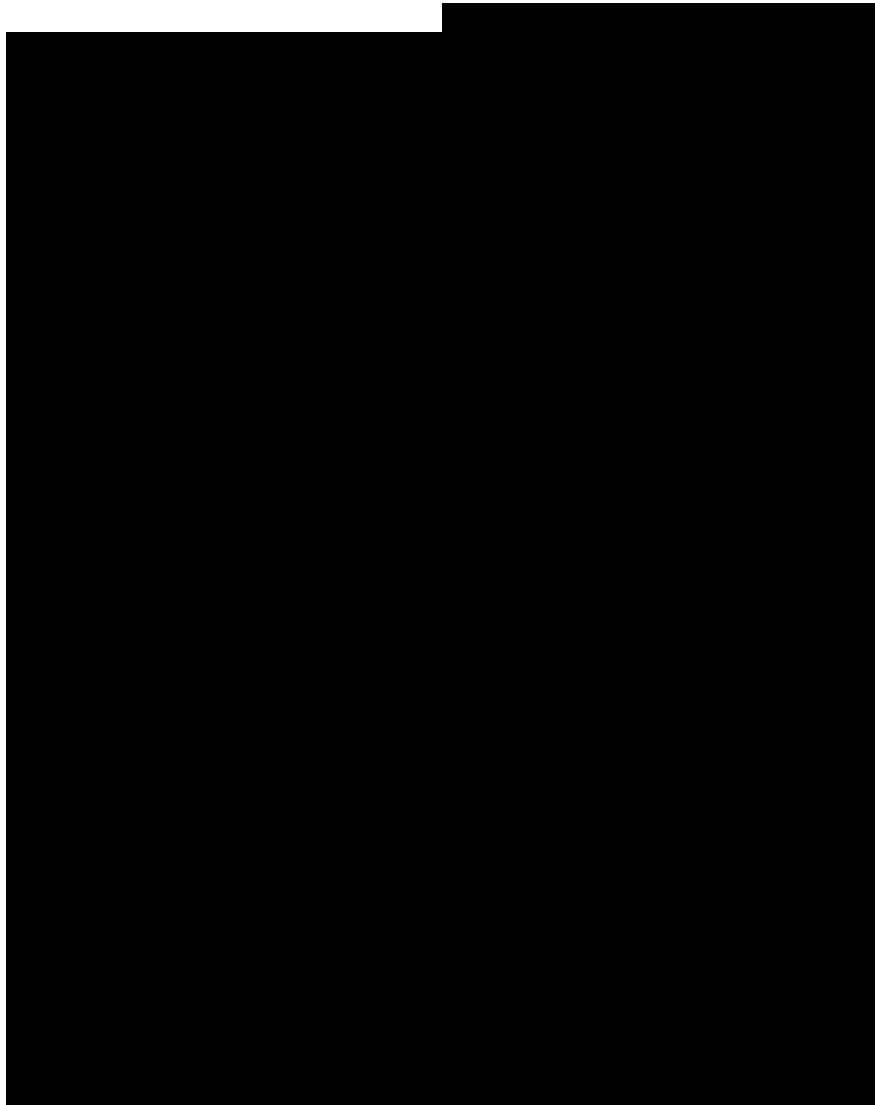
Kentucky Power Company  
Municipal Energy Sales-Vanceburg  
Endogenous Variable

The MEANS Procedure

Variable	Label	Mean
YEAR	YEAR	2031.00
MONTH	MONTH	6.5000000
KWH	Energy (kWh)	5463528.14

Kentucky Power Company  
Municipal Energy Sales-Vanceburg  
Endogenous Variable

Obs YEAR MONTH KWH



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

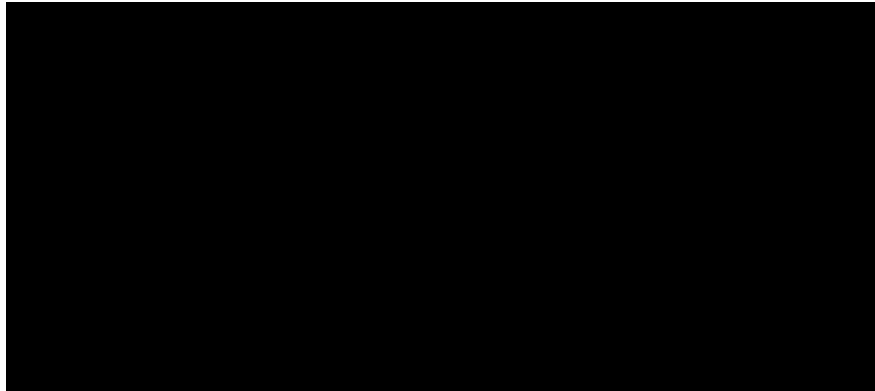
[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



206	2022	2	.
207	2022	3	.
208	2022	4	.
209	2022	5	.
210	2022	6	.
211	2022	7	.
212	2022	8	.
213	2022	9	.
214	2022	10	.
215	2022	11	.
216	2022	12	.
217	2023	1	.
218	2023	2	.
219	2023	3	.
220	2023	4	.
221	2023	5	.
222	2023	6	.
223	2023	7	.
224	2023	8	.
225	2023	9	.
226	2023	10	.
227	2023	11	.
228	2023	12	.
229	2024	1	.
230	2024	2	.
231	2024	3	.
232	2024	4	.
233	2024	5	.
234	2024	6	.
235	2024	7	.
236	2024	8	.
237	2024	9	.

238	2024	10	.
239	2024	11	.
240	2024	12	.
241	2025	1	.
242	2025	2	.
243	2025	3	.
244	2025	4	.
245	2025	5	.
246	2025	6	.
247	2025	7	.
248	2025	8	.
249	2025	9	.
250	2025	10	.

Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Endogenous Variable

Obs	YEAR	MONTH	KWH
251	2025	11	.
252	2025	12	.
253	2026	1	.
254	2026	2	.
255	2026	3	.
256	2026	4	.
257	2026	5	.
258	2026	6	.
259	2026	7	.
260	2026	8	.
261	2026	9	.
262	2026	10	.
263	2026	11	.
264	2026	12	.
265	2027	1	.
266	2027	2	.
267	2027	3	.
268	2027	4	.
269	2027	5	.
270	2027	6	.
271	2027	7	.
272	2027	8	.
273	2027	9	.
274	2027	10	.
275	2027	11	.
276	2027	12	.
277	2028	1	.
278	2028	2	.
279	2028	3	.
280	2028	4	.
281	2028	5	.
282	2028	6	.
283	2028	7	.
284	2028	8	.
285	2028	9	.
286	2028	10	.
287	2028	11	.

288	2028	12	.
289	2029	1	.
290	2029	2	.
291	2029	3	.
292	2029	4	.
293	2029	5	.
294	2029	6	.
295	2029	7	.
296	2029	8	.
297	2029	9	.
298	2029	10	.
299	2029	11	.
300	2029	12	.

Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Endogenous Variable

Obs	YEAR	MONTH	KWH
301	2030	1	.
302	2030	2	.
303	2030	3	.
304	2030	4	.
305	2030	5	.
306	2030	6	.
307	2030	7	.
308	2030	8	.
309	2030	9	.
310	2030	10	.
311	2030	11	.
312	2030	12	.
313	2031	1	.
314	2031	2	.
315	2031	3	.
316	2031	4	.
317	2031	5	.
318	2031	6	.
319	2031	7	.
320	2031	8	.
321	2031	9	.
322	2031	10	.
323	2031	11	.
324	2031	12	.
325	2032	1	.
326	2032	2	.
327	2032	3	.
328	2032	4	.
329	2032	5	.
330	2032	6	.
331	2032	7	.
332	2032	8	.
333	2032	9	.
334	2032	10	.
335	2032	11	.
336	2032	12	.
337	2033	1	.



338	2033	2	.
339	2033	3	.
340	2033	4	.
341	2033	5	.
342	2033	6	.
343	2033	7	.
344	2033	8	.
345	2033	9	.
346	2033	10	.
347	2033	11	.
348	2033	12	.
349	2034	1	.
350	2034	2	.

Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Endogenous Variable

Obs	YEAR	MONTH	KWH
351	2034	3	.
352	2034	4	.
353	2034	5	.
354	2034	6	.
355	2034	7	.
356	2034	8	.
357	2034	9	.
358	2034	10	.
359	2034	11	.
360	2034	12	.
361	2035	1	.
362	2035	2	.
363	2035	3	.
364	2035	4	.
365	2035	5	.
366	2035	6	.
367	2035	7	.
368	2035	8	.
369	2035	9	.
370	2035	10	.
371	2035	11	.
372	2035	12	.
373	2036	1	.
374	2036	2	.
375	2036	3	.
376	2036	4	.
377	2036	5	.
378	2036	6	.
379	2036	7	.
380	2036	8	.
381	2036	9	.
382	2036	10	.
383	2036	11	.
384	2036	12	.
385	2037	1	.
386	2037	2	.
387	2037	3	.

388	2037	4	.
389	2037	5	.
390	2037	6	.
391	2037	7	.
392	2037	8	.
393	2037	9	.
394	2037	10	.
395	2037	11	.
396	2037	12	.
397	2038	1	.
398	2038	2	.
399	2038	3	.
400	2038	4	.

Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Endogenous Variable

Obs	YEAR	MONTH	KWH
401	2038	5	.
402	2038	6	.
403	2038	7	.
404	2038	8	.
405	2038	9	.
406	2038	10	.
407	2038	11	.
408	2038	12	.
409	2039	1	.
410	2039	2	.
411	2039	3	.
412	2039	4	.
413	2039	5	.
414	2039	6	.
415	2039	7	.
416	2039	8	.
417	2039	9	.
418	2039	10	.
419	2039	11	.
420	2039	12	.
421	2040	1	.
422	2040	2	.
423	2040	3	.
424	2040	4	.
425	2040	5	.
426	2040	6	.
427	2040	7	.
428	2040	8	.
429	2040	9	.
430	2040	10	.
431	2040	11	.
432	2040	12	.
433	2041	1	.
434	2041	2	.
435	2041	3	.
436	2041	4	.
437	2041	5	.

438	2041	6	.
439	2041	7	.
440	2041	8	.
441	2041	9	.
442	2041	10	.
443	2041	11	.
444	2041	12	.
445	2042	1	.
446	2042	2	.
447	2042	3	.
448	2042	4	.
449	2042	5	.
450	2042	6	.

Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Endogenous Variable

Obs	YEAR	MONTH	KWH
451	2042	7	.
452	2042	8	.
453	2042	9	.
454	2042	10	.
455	2042	11	.
456	2042	12	.
457	2043	1	.
458	2043	2	.
459	2043	3	.
460	2043	4	.
461	2043	5	.
462	2043	6	.
463	2043	7	.
464	2043	8	.
465	2043	9	.
466	2043	10	.
467	2043	11	.
468	2043	12	.
469	2044	1	.
470	2044	2	.
471	2044	3	.
472	2044	4	.
473	2044	5	.
474	2044	6	.
475	2044	7	.
476	2044	8	.
477	2044	9	.
478	2044	10	.
479	2044	11	.
480	2044	12	.
481	2045	1	.
482	2045	2	.
483	2045	3	.
484	2045	4	.
485	2045	5	.
486	2045	6	.
487	2045	7	.

488	2045	8	.
489	2045	9	.
490	2045	10	.
491	2045	11	.
492	2045	12	.
493	2046	1	.
494	2046	2	.
495	2046	3	.
496	2046	4	.
497	2046	5	.
498	2046	6	.
499	2046	7	.
500	2046	8	.

Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Endogenous Variable

Obs	YEAR	MONTH	KWH
501	2046	9	.
502	2046	10	.
503	2046	11	.
504	2046	12	.
505	2047	1	.
506	2047	2	.
507	2047	3	.
508	2047	4	.
509	2047	5	.
510	2047	6	.
511	2047	7	.
512	2047	8	.
513	2047	9	.
514	2047	10	.
515	2047	11	.
516	2047	12	.
517	2048	1	.
518	2048	2	.
519	2048	3	.
520	2048	4	.
521	2048	5	.
522	2048	6	.
523	2048	7	.
524	2048	8	.
525	2048	9	.
526	2048	10	.
527	2048	11	.
528	2048	12	.
529	2049	1	.
530	2049	2	.
531	2049	3	.
532	2049	4	.
533	2049	5	.
534	2049	6	.
535	2049	7	.
536	2049	8	.
537	2049	9	.

538	2049	10	.
539	2049	11	.
540	2049	12	.
541	2050	1	.
542	2050	2	.
543	2050	3	.
544	2050	4	.
545	2050	5	.
546	2050	6	.
547	2050	7	.
548	2050	8	.
549	2050	9	.
550	2050	10	.

Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Endogenous Variable

Obs	YEAR	MONTH	KWH
551	2050	11	.
552	2050	12	.
553	2051	1	.
554	2051	2	.
555	2051	3	.
556	2051	4	.
557	2051	5	.
558	2051	6	.
559	2051	7	.
560	2051	8	.
561	2051	9	.
562	2051	10	.
563	2051	11	.
564	2051	12	.
565	2052	1	.
566	2052	2	.
567	2052	3	.
568	2052	4	.
569	2052	5	.
570	2052	6	.
571	2052	7	.
572	2052	8	.
573	2052	9	.
574	2052	10	.
575	2052	11	.
576	2052	12	.
577	2053	1	.
578	2053	2	.
579	2053	3	.
580	2053	4	.
581	2053	5	.
582	2053	6	.
583	2053	7	.
584	2053	8	.
585	2053	9	.
586	2053	10	.
587	2053	11	.

588	2053	12	.
589	2054	1	.
590	2054	2	.
591	2054	3	.
592	2054	4	.
593	2054	5	.
594	2054	6	.
595	2054	7	.
596	2054	8	.
597	2054	9	.
598	2054	10	.
599	2054	11	.
600	2054	12	.

Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Endogenous Variable

Obs	YEAR	MONTH	KWH
601	2055	1	.
602	2055	2	.
603	2055	3	.
604	2055	4	.
605	2055	5	.
606	2055	6	.
607	2055	7	.
608	2055	8	.
609	2055	9	.
610	2055	10	.
611	2055	11	.
612	2055	12	.
613	2056	1	.
614	2056	2	.
615	2056	3	.
616	2056	4	.
617	2056	5	.
618	2056	6	.
619	2056	7	.
620	2056	8	.
621	2056	9	.
622	2056	10	.
623	2056	11	.
624	2056	12	.
625	2057	1	.
626	2057	2	.
627	2057	3	.
628	2057	4	.
629	2057	5	.
630	2057	6	.
631	2057	7	.
632	2057	8	.
633	2057	9	.
634	2057	10	.
635	2057	11	.
636	2057	12	.

Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Exogenous Variables

The MEANS Procedure

Variable	Label	Mean
YEAR	YEAR	2031.00
MONTH	MONTH	6.5000000
bcdd65	Cooling Degree Days (Base 65)	100.7709292
bhdd55	Heating Degree Days (Base 55)	203.3490090
N_kpc	Service Area Population	374.8189895
d1	Binary Variable-January	0.0833333
d2	Binary Variable-February	0.0833333
d3	Binary Variable-March	0.0833333
d4	Binary Variable-April	0.0833333
d5	Binary Variable-May	0.0833333
d6	Binary Variable-June	0.0833333
d7	Binary Variable-July	0.0833333
d8	Binary Variable-August	0.0833333
d9	Binary Variable-September	0.0833333
d10	Binary Variable-October	0.0833333
d11	Binary Variable-November	0.0833333
d16on	Binary Variable-2016 On	0.7924528
dec18on	Binary Variable-December 2018 On	0.7374214
mar18on	Binary Variable-March 2018 On	0.7515723

Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Exogenous Variables

Obs	YEAR	MONTH	bcdd65	bhdd55	N_kpc	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d16on	dec18on	mar18on
1	2005	1	0.000	487.844	433.855	1	0	0	0	0	0	0	0	0	0	0	0	0	0
2	2005	2	0.000	585.563	433.846	0	1	0	0	0	0	0	0	0	0	0	0	0	0
3	2005	3	0.000	499.739	433.834	0	0	1	0	0	0	0	0	0	0	0	0	0	0
4	2005	4	5.858	232.271	433.825	0	0	0	1	0	0	0	0	0	0	0	0	0	0
5	2005	5	21.566	67.104	433.811	0	0	0	0	1	0	0	0	0	0	0	0	0	0
6	2005	6	125.880	9.147	433.796	0	0	0	0	0	1	0	0	0	0	0	0	0	0
7	2005	7	358.446	0.000	433.771	0	0	0	0	0	0	1	0	0	0	0	0	0	0
8	2005	8	457.310	0.000	433.738	0	0	0	0	0	0	0	1	0	0	0	0	0	0
9	2005	9	344.668	0.000	433.702	0	0	0	0	0	0	0	0	1	0	0	0	0	0
10	2005	10	158.737	5.711	433.655	0	0	0	0	0	0	0	0	0	1	0	0	0	0
11	2005	11	9.998	143.944	433.605	0	0	0	0	0	0	0	0	0	0	1	0	0	0
12	2005	12	1.473	488.547	433.551	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	2006	1	0.000	487.778	433.496	1	0	0	0	0	0	0	0	0	0	0	0	0	0
14	2006	2	0.000	415.045	433.439	0	1	0	0	0	0	0	0	0	0	0	0	0	0
15	2006	3	1.374	469.910	433.380	0	0	1	0	0	0	0	0	0	0	0	0	0	0
16	2006	4	16.559	244.167	433.321	0	0	0	1	0	0	0	0	0	0	0	0	0	0
17	2006	5	27.833	19.979	433.260	0	0	0	0	1	0	0	0	0	0	0	0	0	0
18	2006	6	105.312	3.862	433.202	0	0	0	0	0	1	0	0	0	0	0	0	0	0
19	2006	7	260.187	0.000	433.146	0	0	0	0	0	0	1	0	0	0	0	0	0	0
20	2006	8	410.153	0.000	433.089	0	0	0	0	0	0	0	1	0	0	0	0	0	0
21	2006	9	260.776	0.916	433.036	0	0	0	0	0	0	0	0	1	0	0	0	0	0
22	2006	10	36.767	37.978	432.985	0	0	0	0	0	0	0	0	0	1	0	0	0	0

23	2006	11	2.536	209.216	432.935	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	2006	12	2.651	329.925	432.884	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	2007	1	0.295	354.061	432.826	1	0	0	0	0	0	0	0	0	0	0	0	0	0
26	2007	2	0.000	712.277	432.775	0	1	0	0	0	0	0	0	0	0	0	0	0	0
27	2007	3	2.258	601.189	432.713	0	0	1	0	0	0	0	0	0	0	0	0	0	0
28	2007	4	29.421	207.825	432.650	0	0	0	1	0	0	0	0	0	0	0	0	0	0
29	2007	5	51.036	78.362	432.580	0	0	0	0	1	0	0	0	0	0	0	0	0	0
30	2007	6	180.434	3.223	432.505	0	0	0	0	0	1	0	0	0	0	0	0	0	0
31	2007	7	293.469	0.000	432.427	0	0	0	0	0	0	1	0	0	0	0	0	0	0
32	2007	8	344.046	0.000	432.338	0	0	0	0	0	0	0	1	0	0	0	0	0	0
33	2007	9	379.456	0.000	432.246	0	0	0	0	0	0	0	0	1	0	0	0	0	0
34	2007	10	176.310	6.594	432.150	0	0	0	0	0	0	0	0	0	1	0	0	0	0
35	2007	11	29.895	128.760	432.050	0	0	0	0	0	0	0	0	0	1	0	0	0	0
36	2007	12	0.000	366.398	431.949	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	2008	1	0.000	497.989	431.851	1	0	0	0	0	0	0	0	0	0	0	0	0	0
38	2008	2	0.000	607.816	431.752	0	1	0	0	0	0	0	0	0	0	0	0	0	0
39	2008	3	0.000	519.735	431.655	0	0	1	0	0	0	0	0	0	0	0	0	0	0
40	2008	4	1.440	234.235	431.562	0	0	0	1	0	0	0	0	0	0	0	0	0	0
41	2008	5	18.768	52.018	431.472	0	0	0	0	1	0	0	0	0	0	0	0	0	0
42	2008	6	111.579	3.567	431.391	0	0	0	0	0	1	0	0	0	0	0	0	0	0
43	2008	7	232.419	0.000	431.313	0	0	0	0	0	0	1	0	0	0	0	0	0	0
44	2008	8	281.376	0.000	431.244	0	0	0	0	0	0	0	1	0	0	0	0	0	0
45	2008	9	261.054	0.000	431.182	0	0	0	0	0	0	0	0	1	0	0	0	0	0
46	2008	10	101.630	8.640	431.120	0	0	0	0	0	0	0	0	0	1	0	0	0	0
47	2008	11	6.562	169.487	431.070	0	0	0	0	0	0	0	0	0	0	1	0	0	0
48	2008	12	0.000	551.381	431.021	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	2009	1	0.000	601.566	430.977	1	0	0	0	0	0	0	0	0	0	0	0	0	0
50	2009	2	0.000	731.275	430.934	0	1	0	0	0	0	0	0	0	0	0	0	0	0

Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Exogenous Variables

Obs	YEAR	MONTH	bcdd65	bhdd55	N_kpc	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d16on	dec18on	mar18on
51	2009	3	4.156	472.102	430.895	0	0	1	0	0	0	0	0	0	0	0	0	0	0
52	2009	4	3.158	182.250	430.857	0	0	0	1	0	0	0	0	0	0	0	0	0	0
53	2009	5	60.510	47.109	430.818	0	0	0	0	1	0	0	0	0	0	0	0	0	0
54	2009	6	121.756	4.565	430.778	0	0	0	0	0	1	0	0	0	0	0	0	0	0
55	2009	7	209.985	0.000	430.740	0	0	0	0	0	0	1	0	0	0	0	0	0	0
56	2009	8	216.563	0.000	430.698	0	0	0	0	0	0	0	1	0	0	0	0	0	0
57	2009	9	207.089	0.000	430.657	0	0	0	0	0	0	0	0	1	0	0	0	0	0
58	2009	10	73.977	32.971	430.613	0	0	0	0	0	0	0	0	0	1	0	0	0	0
59	2009	11	3.044	131.296	430.573	0	0	0	0	0	0	0	0	0	0	1	0	0	0
60	2009	12	0.196	344.652	430.531	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	2010	1	0.000	710.395	430.491	1	0	0	0	0	0	0	0	0	0	0	0	0	0
62	2010	2	0.000	710.461	430.454	0	1	0	0	0	0	0	0	0	0	0	0	0	0
63	2010	3	0.000	582.127	430.418	0	0	1	0	0	0	0	0	0	0	0	0	0	0
64	2010	4	24.266	135.648	430.382	0	0	0	1	0	0	0	0	0	0	0	0	0	0
65	2010	5	38.109	35.246	430.350	0	0	0	0	1	0	0	0	0	0	0	0	0	0
66	2010	6	185.686	5.711	430.324	0	0	0	0	0	1	0	0	0	0	0	0	0	0
67	2010	7	334.196	0.000	430.299	0	0	0	0	0	0	1	0	0	0	0	0	0	0
68	2010	8	389.928	0.000	430.277	0	0	0	0	0	0	0	1	0	0	0	0	0	0
69	2010	9	275.617	0.000	430.257	0	0	0	0	0	0	0	0	1	0	0	0	0	0
70	2010	10	103.495	11.241	430.233	0	0	0	0	0	0	0	0	0	1	0	0	0	0
71	2010	11	9.981	119.924	430.206	0	0	0	0	0	0	0	0	0	0	1	0	0	0
72	2010	12	0.000	488.105	430.170	0	0	0	0	0	0	0	0	0	0	0	0	0	0



73	2011	1	0.000	776.485	430.126	1	0	0	0	0	0	0	0	0	0	0	0	0
74	2011	2	0.000	708.579	430.072	0	1	0	0	0	0	0	0	0	0	0	0	0
75	2011	3	1.587	368.182	430.002	0	0	1	0	0	0	0	0	0	0	0	0	0
76	2011	4	15.299	236.640	429.914	0	0	0	1	0	0	0	0	0	0	0	0	0
77	2011	5	45.947	45.882	429.807	0	0	0	0	1	0	0	0	0	0	0	0	0
78	2011	6	172.056	14.776	429.677	0	0	0	0	0	1	0	0	0	0	0	0	0
79	2011	7	268.761	0.000	429.525	0	0	0	0	0	0	1	0	0	0	0	0	0
80	2011	8	397.766	0.000	429.344	0	0	0	0	0	0	0	1	0	0	0	0	0
81	2011	9	237.851	0.164	429.143	0	0	0	0	0	0	0	0	1	0	0	0	0
82	2011	10	42.413	28.815	428.925	0	0	0	0	0	0	0	0	0	1	0	0	0
83	2011	11	0.982	144.190	428.688	0	0	0	0	0	0	0	0	0	0	1	0	0
84	2011	12	1.473	263.279	428.439	0	0	0	0	0	0	0	0	0	0	0	0	0
85	2012	1	0.000	454.234	428.172	1	0	0	0	0	0	0	0	0	0	0	0	0
86	2012	2	0.000	472.904	427.907	0	1	0	0	0	0	0	0	0	0	0	0	0
87	2012	3	8.787	339.498	427.638	0	0	1	0	0	0	0	0	0	0	0	0	0
88	2012	4	36.620	71.457	427.361	0	0	0	1	0	0	0	0	0	0	0	0	0
89	2012	5	53.245	48.483	427.081	0	0	0	0	1	0	0	0	0	0	0	0	0
90	2012	6	157.493	0.245	426.807	0	0	0	0	0	1	0	0	0	0	0	0	0
91	2012	7	352.571	0.000	426.533	0	0	0	0	0	0	1	0	0	0	0	0	0
92	2012	8	346.844	0.000	426.266	0	0	0	0	0	0	0	1	0	0	0	0	0
93	2012	9	244.511	0.589	426.005	0	0	0	0	0	0	0	0	1	0	0	0	0
94	2012	10	58.841	39.156	425.752	0	0	0	0	0	0	0	0	0	1	0	0	0
95	2012	11	7.560	203.440	425.499	0	0	0	0	0	0	0	0	0	0	1	0	0
96	2012	12	0.000	332.134	425.255	0	0	0	0	0	0	0	0	0	0	0	0	0
97	2013	1	0.000	510.326	425.005	1	0	0	0	0	0	0	0	0	0	0	0	0
98	2013	2	0.000	598.326	424.772	0	1	0	0	0	0	0	0	0	0	0	0	0
99	2013	3	0.000	516.659	424.540	0	0	1	0	0	0	0	0	0	0	0	0	0
100	2013	4	17.345	337.878	424.300	0	0	0	1	0	0	0	0	0	0	0	0	0

Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Exogenous Variables

Obs	YEAR	MONTH	bcdd65	bhdd55	N_kpc	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d16on	dec18on	mar18on
101	2013	5	46.782	41.071	424.063	0	0	0	0	1	0	0	0	0	0	0	0	0	0
102	2013	6	171.516	7.183	423.825	0	0	0	0	0	1	0	0	0	0	0	0	0	0
103	2013	7	299.179	0.000	423.584	0	0	0	0	0	0	1	0	0	0	0	0	0	0
104	2013	8	279.544	0.000	423.342	0	0	0	0	0	0	0	1	0	0	0	0	0	0
105	2013	9	241.353	0.000	423.098	0	0	0	0	0	0	0	0	1	0	0	0	0	0
106	2013	10	95.527	9.981	422.857	0	0	0	0	0	0	0	0	0	1	0	0	0	0
107	2013	11	13.761	167.622	422.611	0	0	0	0	0	0	0	0	0	0	1	0	0	0
108	2013	12	0.409	453.056	422.361	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109	2014	1	0.785	604.086	422.106	1	0	0	0	0	0	0	0	0	0	0	0	0	0
110	2014	2	0.000	802.093	421.861	0	1	0	0	0	0	0	0	0	0	0	0	0	0
111	2014	3	0.000	572.702	421.608	0	0	1	0	0	0	0	0	0	0	0	0	0	0
112	2014	4	6.202	279.969	421.345	0	0	0	1	0	0	0	0	0	0	0	0	0	0
113	2014	5	33.495	34.362	421.077	0	0	0	0	1	0	0	0	0	0	0	0	0	0
114	2014	6	129.349	9.490	420.805	0	0	0	0	0	1	0	0	0	0	0	0	0	0
115	2014	7	273.440	0.000	420.527	0	0	0	0	0	0	1	0	0	0	0	0	0	0
116	2014	8	193.999	0.000	420.240	0	0	0	0	0	0	0	1	0	0	0	0	0	0
117	2014	9	225.350	0.000	419.950	0	0	0	0	0	0	0	0	1	0	0	0	0	0
118	2014	10	57.139	17.230	419.657	0	0	0	0	0	0	0	0	0	1	0	0	0	0
119	2014	11	5.351	193.328	419.358	0	0	0	0	0	0	0	0	0	0	1	0	0	0
120	2014	12	0.016	466.834	419.057	0	0	0	0	0	0	0	0	0	0	0	0	0	0
121	2015	1	0.000	574.452	418.742	1	0	0	0	0	0	0	0	0	0	0	0	0	0
122	2015	2	0.000	717.939	418.443	0	1	0	0	0	0	0	0	0	0	0	0	0	0

123	2015	3	0.000	754.199	418.136	0	0	1	0	0	0	0	0	0	0	0	0	0
124	2015	4	4.696	212.636	417.818	0	0	0	1	0	0	0	0	0	0	0	0	0
125	2015	5	51.314	52.443	417.497	0	0	0	0	1	0	0	0	0	0	0	0	0
126	2015	6	188.370	1.784	417.173	0	0	0	0	0	1	0	0	0	0	0	0	0
127	2015	7	267.697	0.000	416.842	0	0	0	0	0	0	1	0	0	0	0	0	0
128	2015	8	284.273	0.000	416.502	0	0	0	0	0	0	0	1	0	0	0	0	0
129	2015	9	216.743	0.000	416.166	0	0	0	0	0	0	0	0	1	0	0	0	0
130	2015	10	68.708	17.508	415.820	0	0	0	0	0	0	0	0	0	1	0	0	0
131	2015	11	4.745	101.106	415.468	0	0	0	0	0	0	0	0	0	0	1	0	0
132	2015	12	0.982	248.782	415.100	0	0	0	0	0	0	0	0	0	0	0	0	0
133	2016	1	0.000	410.005	414.716	1	0	0	0	0	0	0	0	0	0	0	1	0
134	2016	2	0.000	684.951	414.326	0	1	0	0	0	0	0	0	0	0	0	1	0
135	2016	3	1.227	385.837	413.925	0	0	1	0	0	0	0	0	0	0	0	1	0
136	2016	4	9.114	138.365	413.498	0	0	0	1	0	0	0	0	0	0	0	1	0
137	2016	5	48.205	46.127	413.048	0	0	0	0	1	0	0	0	0	0	0	1	0
138	2016	6	163.285	10.800	412.576	0	0	0	0	0	1	0	0	0	0	0	1	0
139	2016	7	304.072	0.000	412.080	0	0	0	0	0	0	1	0	0	0	0	1	0
140	2016	8	406.716	0.000	411.553	0	0	0	0	0	0	0	1	0	0	0	1	0
141	2016	9	374.252	0.000	411.022	0	0	0	0	0	0	0	0	1	0	0	1	0
142	2016	10	179.174	1.800	410.478	0	0	0	0	0	0	0	0	0	1	0	1	0
143	2016	11	43.231	59.496	409.932	0	0	0	0	0	0	0	0	0	0	1	1	0
144	2016	12	1.784	349.086	409.389	0	0	0	0	0	0	0	0	0	0	0	1	0
145	2017	1	0.000	470.515	408.847	1	0	0	0	0	0	0	0	0	0	0	1	0
146	2017	2	0.000	392.104	408.347	0	1	0	0	0	0	0	0	0	0	0	1	0
147	2017	3	0.589	307.884	407.863	0	0	1	0	0	0	0	0	0	0	0	1	0
148	2017	4	13.925	190.497	407.392	0	0	0	1	0	0	0	0	0	0	0	1	0
149	2017	5	73.584	26.001	406.956	0	0	0	0	1	0	0	0	0	0	0	1	0
150	2017	6	138.414	6.267	406.560	0	0	0	0	0	1	0	0	0	0	0	1	0

Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Exogenous Variables

Obs	YEAR	MONTH	bcdd65	bhdd55	N_kpc	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d16on	dec18on	mar18on
151	2017	7	276.762	0.000	406.208	0	0	0	0	0	0	1	0	0	0	0	1	0	0
152	2017	8	295.694	0.000	405.900	0	0	0	0	0	0	0	1	0	0	0	1	0	0
153	2017	9	176.278	0.000	405.628	0	0	0	0	0	0	0	0	1	0	0	1	0	0
154	2017	10	129.987	3.420	405.382	0	0	0	0	0	0	0	0	0	1	0	1	0	0
155	2017	11	23.644	138.610	405.159	0	0	0	0	0	0	0	0	0	0	1	1	0	0
156	2017	12	0.884	372.551	404.941	0	0	0	0	0	0	0	0	0	0	0	1	0	0
157	2018	1	1.833	739.930	404.721	1	0	0	0	0	0	0	0	0	0	0	1	0	0
158	2018	2	3.093	599.929	404.499	0	1	0	0	0	0	0	0	0	0	0	1	0	0
159	2018	3	6.218	334.376	404.261	0	0	1	0	0	0	0	0	0	0	0	1	0	1
160	2018	4	7.167	321.367	403.986	0	0	0	1	0	0	0	0	0	0	0	1	0	1
161	2018	5	77.920	78.935	403.676	0	0	0	0	1	0	0	0	0	0	0	1	0	1
162	2018	6	262.363	1.064	403.321	0	0	0	0	0	1	0	0	0	0	0	1	0	1
163	2018	7	349.839	0.000	402.907	0	0	0	0	0	0	1	0	0	0	0	1	0	1
164	2018	8	319.404	0.000	402.435	0	0	0	0	0	0	0	1	0	0	0	1	0	1
165	2018	9	323.511	0.000	401.930	0	0	0	0	0	0	0	0	1	0	0	1	0	1
166	2018	10	202.638	20.028	401.406	0	0	0	0	0	0	0	0	0	1	0	1	0	1
167	2018	11	29.617	193.999	400.864	0	0	0	0	0	0	0	0	0	0	1	1	0	1
168	2018	12	0.164	447.035	400.334	0	0	0	0	0	0	0	0	0	0	0	1	1	1
169	2019	1	0.000	455.478	399.821	1	0	0	0	0	0	0	0	0	0	0	1	1	1
170	2019	2	0.000	566.009	399.360	0	1	0	0	0	0	0	0	0	0	0	1	1	1
171	2019	3	0.851	444.155	398.949	0	0	1	0	0	0	0	0	0	0	0	1	1	1
172	2019	4	9.981	224.074	398.586	0	0	0	1	0	0	0	0	0	0	0	1	1	1

173	2019	5	63.357	20.225	398.307	0	0	0	0	1	0	0	0	0	0	1	1	1
174	2019	6	175.868	0.311	398.119	0	0	0	0	0	1	0	0	0	0	1	1	1
175	2019	7	305.414	0.000	398.043	0	0	0	0	0	0	1	0	0	0	1	1	1
176	2019	8	355.026	0.000	398.070	0	0	0	0	0	0	0	1	0	0	1	1	1
177	2019	9	297.428	0.000	398.190	0	0	0	0	0	0	0	0	1	0	1	1	1
178	2019	10	233.859	7.478	398.379	0	0	0	0	0	0	0	0	0	1	1	1	1
179	2019	11	19.668	172.514	398.617	0	0	0	0	0	0	0	0	0	1	1	1	1
180	2019	12	0.000	416.812	398.886	0	0	0	0	0	0	0	0	0	0	1	1	1
181	2020	1	1.833	371.880	399.174	1	0	0	0	0	0	0	0	0	0	1	1	1
182	2020	2	1.833	458.701	399.445	0	1	0	0	0	0	0	0	0	0	1	1	1
183	2020	3	0.131	381.125	399.686	0	0	1	0	0	0	0	0	0	0	1	1	1
184	2020	4	17.803	138.234	399.889	0	0	0	1	0	0	0	0	0	0	1	1	1
185	2020	5	21.959	108.061	400.028	0	0	0	0	1	0	0	0	0	0	1	1	1
186	2020	6	165.936	29.175	400.082	0	0	0	0	0	1	0	0	0	0	1	1	1
187	2020	7	312.957	0.000	400.032	0	0	0	0	0	0	1	0	0	0	1	1	1
188	2020	8	397.095	0.000	399.877	0	0	0	0	0	0	0	1	0	0	1	1	1
189	2020	9	287.725	0.000	399.630	0	0	0	0	0	0	0	0	1	0	1	1	1
190	2020	10	69.199	12.812	399.307	0	0	0	0	0	0	0	0	0	1	1	1	1
191	2020	11	12.076	88.294	398.920	0	0	0	0	0	0	0	0	0	1	1	1	1
192	2020	12	1.145	327.913	398.482	0	0	0	0	0	0	0	0	0	0	1	1	1
193	2021	1	0.000	542.381	398.006	1	0	0	0	0	0	0	0	0	0	1	1	1
194	2021	2	0.000	661.045	397.533	0	1	0	0	0	0	0	0	0	0	1	1	1
195	2021	3	0.295	515.464	397.058	0	0	1	0	0	0	0	0	0	0	1	1	1
196	2021	4	7.691	140.230	396.572	0	0	0	1	0	0	0	0	0	0	1	1	1
197	2021	5	29.879	71.833	396.111	0	0	0	0	1	0	0	0	0	0	1	1	1
198	2021	6	143.568	9.163	395.690	0	0	0	0	0	1	0	0	0	0	1	1	1
199	2021	7	280.607	0.327	395.321	0	0	0	0	0	0	1	0	0	0	1	1	1
200	2021	8	322.136	0.000	395.003	0	0	0	0	0	0	0	1	0	0	1	1	1

Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Exogenous Variables

Obs	YEAR	MONTH	bcdd65	bhdd55	N_kpc	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d16on	dec18on	mar18on
201	2021	9	309.717	0.000	394.738	0	0	0	0	0	0	0	0	1	0	0	1	1	1
202	2021	10	132.474	1.407	394.519	0	0	0	0	0	0	0	0	0	1	0	1	1	1
203	2021	11	32.873	116.929	394.337	0	0	0	0	0	0	0	0	0	0	1	1	1	1
204	2021	12	0.000	331.234	394.186	0	0	0	0	0	0	0	0	0	0	0	1	1	1
205	2022	1	0.000	388.161	394.052	1	0	0	0	0	0	0	0	0	0	0	1	1	1
206	2022	2	0.194	619.348	393.945	0	1	0	0	0	0	0	0	0	0	0	1	1	1
207	2022	3	1.218	458.542	393.845	0	0	1	0	0	0	0	0	0	0	0	1	1	1
208	2022	4	13.514	221.499	393.746	0	0	0	1	0	0	0	0	0	0	0	1	1	1
209	2022	5	45.555	53.061	393.642	0	0	0	0	1	0	0	0	0	0	0	1	1	1
210	2022	6	141.661	7.071	393.527	0	0	0	0	0	1	0	0	0	0	0	1	1	1
211	2022	7	288.276	0.024	393.397	0	0	0	0	0	0	1	0	0	0	0	1	1	1
212	2022	8	327.892	0.000	393.242	0	0	0	0	0	0	0	1	0	0	0	1	1	1
213	2022	9	263.024	0.103	393.071	0	0	0	0	0	0	0	0	1	0	0	1	1	1
214	2022	10	94.798	17.102	392.885	0	0	0	0	0	0	0	0	0	1	0	1	1	1
215	2022	11	12.599	143.253	392.693	0	0	0	0	0	0	0	0	0	0	1	1	1	1
216	2022	12	0.899	376.241	392.483	0	0	0	0	0	0	0	0	0	0	0	1	1	1
217	2023	1	0.249	551.193	392.267	1	0	0	0	0	0	0	0	0	0	0	1	1	1
218	2023	2	0.194	619.348	392.054	0	1	0	0	0	0	0	0	0	0	0	1	1	1
219	2023	3	1.218	458.542	391.837	0	0	1	0	0	0	0	0	0	0	0	1	1	1
220	2023	4	13.514	221.499	391.615	0	0	0	1	0	0	0	0	0	0	0	1	1	1
221	2023	5	45.555	53.061	391.394	0	0	0	0	1	0	0	0	0	0	0	1	1	1
222	2023	6	141.661	7.071	391.178	0	0	0	0	0	1	0	0	0	0	0	1	1	1

223	2023	7	288.276	0.024	390.967	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1
224	2023	8	327.892	0.000	390.760	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1
225	2023	9	263.024	0.103	390.564	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1
226	2023	10	94.798	17.102	390.375	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1
227	2023	11	12.599	143.253	390.187	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1
228	2023	12	0.899	376.241	390.008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
229	2024	1	0.249	551.193	389.826	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
230	2024	2	0.194	619.348	389.653	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
231	2024	3	1.218	458.542	389.483	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
232	2024	4	13.514	221.499	389.309	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1
233	2024	5	45.555	53.061	389.132	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1
234	2024	6	141.661	7.071	388.957	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1
235	2024	7	288.276	0.024	388.777	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1
236	2024	8	327.892	0.000	388.594	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1
237	2024	9	263.024	0.103	388.411	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1
238	2024	10	94.798	17.102	388.226	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1
239	2024	11	12.599	143.253	388.040	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
240	2024	12	0.899	376.241	387.851	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
241	2025	1	0.249	551.193	387.660	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
242	2025	2	0.194	619.348	387.473	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
243	2025	3	1.218	458.542	387.291	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
244	2025	4	13.514	221.499	387.101	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1
245	2025	5	45.555	53.061	386.909	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1
246	2025	6	141.661	7.071	386.722	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1
247	2025	7	288.276	0.024	386.535	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1
248	2025	8	327.892	0.000	386.340	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1
249	2025	9	263.024	0.103	386.153	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1
250	2025	10	94.798	17.102	385.967	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1

Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Exogenous Variables

Obs	YEAR	MONTH	bcdd65	bhdd55	N_kpc	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d16on	dec18on	mar18on
251	2025	11	12.599	143.253	385.781	0	0	0	0	0	0	0	0	0	0	1	1	1	1
252	2025	12	0.899	376.241	385.597	0	0	0	0	0	0	0	0	0	0	0	1	1	1
253	2026	1	0.249	551.193	385.410	1	0	0	0	0	0	0	0	0	0	0	1	1	1
254	2026	2	0.194	619.348	385.232	0	1	0	0	0	0	0	0	0	0	0	1	1	1
255	2026	3	1.218	458.542	385.056	0	0	1	0	0	0	0	0	0	0	0	1	1	1
256	2026	4	13.514	221.499	384.871	0	0	0	1	0	0	0	0	0	0	0	1	1	1
257	2026	5	45.555	53.061	384.690	0	0	0	0	1	0	0	0	0	0	0	1	1	1
258	2026	6	141.661	7.071	384.510	0	0	0	0	0	1	0	0	0	0	0	1	1	1
259	2026	7	288.276	0.024	384.326	0	0	0	0	0	0	1	0	0	0	0	1	1	1
260	2026	8	327.892	0.000	384.143	0	0	0	0	0	0	0	1	0	0	0	1	1	1
261	2026	9	263.024	0.103	383.960	0	0	0	0	0	0	0	0	1	0	0	1	1	1
262	2026	10	94.798	17.102	383.777	0	0	0	0	0	0	0	0	0	1	0	1	1	1
263	2026	11	12.599	143.253	383.599	0	0	0	0	0	0	0	0	0	0	1	1	1	1
264	2026	12	0.899	376.241	383.415	0	0	0	0	0	0	0	0	0	0	0	1	1	1
265	2027	1	0.249	551.193	383.230	1	0	0	0	0	0	0	0	0	0	0	1	1	1
266	2027	2	0.194	619.348	383.054	0	1	0	0	0	0	0	0	0	0	0	1	1	1
267	2027	3	1.218	458.542	382.878	0	0	1	0	0	0	0	0	0	0	0	1	1	1
268	2027	4	13.514	221.499	382.695	0	0	0	1	0	0	0	0	0	0	0	1	1	1
269	2027	5	45.555	53.061	382.511	0	0	0	0	1	0	0	0	0	0	0	1	1	1
270	2027	6	141.661	7.071	382.325	0	0	0	0	0	1	0	0	0	0	0	1	1	1
271	2027	7	288.276	0.024	382.142	0	0	0	0	0	0	1	0	0	0	0	1	1	1
272	2027	8	327.892	0.000	381.950	0	0	0	0	0	0	0	1	0	0	0	1	1	1

273	2027	9	263.024	0.103	381.765	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1
274	2027	10	94.798	17.102	381.579	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1
275	2027	11	12.599	143.253	381.391	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1
276	2027	12	0.899	376.241	381.202	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
277	2028	1	0.249	551.193	381.013	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
278	2028	2	0.194	619.348	380.826	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1
279	2028	3	1.218	458.542	380.643	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1
280	2028	4	13.514	221.499	380.455	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1
281	2028	5	45.555	53.061	380.267	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1
282	2028	6	141.661	7.071	380.078	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1
283	2028	7	288.276	0.024	379.892	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1
284	2028	8	327.892	0.000	379.700	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1
285	2028	9	263.024	0.103	379.514	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1
286	2028	10	94.798	17.102	379.326	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1
287	2028	11	12.599	143.253	379.139	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1
288	2028	12	0.899	376.241	378.953	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
289	2029	1	0.249	551.193	378.762	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
290	2029	2	0.194	619.348	378.581	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1
291	2029	3	1.218	458.542	378.401	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1
292	2029	4	13.514	221.499	378.214	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1
293	2029	5	45.555	53.061	378.028	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1
294	2029	6	141.661	7.071	377.839	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1
295	2029	7	288.276	0.024	377.652	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1
296	2029	8	327.892	0.000	377.461	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1
297	2029	9	263.024	0.103	377.274	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1
298	2029	10	94.798	17.102	377.088	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1
299	2029	11	12.599	143.253	376.899	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1
300	2029	12	0.899	376.241	376.712	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1

Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Exogenous Variables

Obs	YEAR	MONTH	bcdd65	bhdd55	N_kpc	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d16on	dec18on	mar18on
301	2030	1	0.249	551.193	376.522	1	0	0	0	0	0	0	0	0	0	0	1	1	1
302	2030	2	0.194	619.348	376.340	0	1	0	0	0	0	0	0	0	0	0	1	1	1
303	2030	3	1.218	458.542	376.159	0	0	1	0	0	0	0	0	0	0	0	1	1	1
304	2030	4	13.514	221.499	375.972	0	0	0	1	0	0	0	0	0	0	0	1	1	1
305	2030	5	45.555	53.061	375.783	0	0	0	0	1	0	0	0	0	0	0	1	1	1
306	2030	6	141.661	7.071	375.599	0	0	0	0	0	1	0	0	0	0	0	1	1	1
307	2030	7	288.276	0.024	375.413	0	0	0	0	0	0	1	0	0	0	0	1	1	1
308	2030	8	327.892	0.000	375.221	0	0	0	0	0	0	0	1	0	0	0	1	1	1
309	2030	9	263.024	0.103	375.033	0	0	0	0	0	0	0	0	1	0	0	1	1	1
310	2030	10	94.798	17.102	374.849	0	0	0	0	0	0	0	0	0	1	0	1	1	1
311	2030	11	12.599	143.253	374.662	0	0	0	0	0	0	0	0	0	0	1	1	1	1
312	2030	12	0.899	376.241	374.475	0	0	0	0	0	0	0	0	0	0	0	1	1	1
313	2031	1	0.249	551.193	374.287	1	0	0	0	0	0	0	0	0	0	0	1	1	1
314	2031	2	0.194	619.348	374.109	0	1	0	0	0	0	0	0	0	0	0	1	1	1
315	2031	3	1.218	458.542	373.929	0	0	1	0	0	0	0	0	0	0	0	1	1	1
316	2031	4	13.514	221.499	373.744	0	0	0	1	0	0	0	0	0	0	0	1	1	1
317	2031	5	45.555	53.061	373.557	0	0	0	0	1	0	0	0	0	0	0	1	1	1
318	2031	6	141.661	7.071	373.373	0	0	0	0	0	1	0	0	0	0	0	1	1	1
319	2031	7	288.276	0.024	373.191	0	0	0	0	0	0	1	0	0	0	0	1	1	1
320	2031	8	327.892	0.000	373.000	0	0	0	0	0	0	0	1	0	0	0	1	1	1
321	2031	9	263.024	0.103	372.817	0	0	0	0	0	0	0	0	1	0	0	1	1	1
322	2031	10	94.798	17.102	372.632	0	0	0	0	0	0	0	0	0	1	0	1	1	1

323	2031	11	12.599	143.253	372.449	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
324	2031	12	0.899	376.241	372.263	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
325	2032	1	0.249	551.193	372.079	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1
326	2032	2	0.194	619.348	371.899	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1
327	2032	3	1.218	458.542	371.716	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1
328	2032	4	13.514	221.499	371.535	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1
329	2032	5	45.555	53.061	371.351	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1
330	2032	6	141.661	7.071	371.169	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1
331	2032	7	288.276	0.024	370.985	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1
332	2032	8	327.892	0.000	370.803	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1
333	2032	9	263.024	0.103	370.623	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1
334	2032	10	94.798	17.102	370.441	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1
335	2032	11	12.599	143.253	370.260	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
336	2032	12	0.899	376.241	370.079	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
337	2033	1	0.249	551.193	369.894	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1
338	2033	2	0.194	619.348	369.718	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1
339	2033	3	1.218	458.542	369.546	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1
340	2033	4	13.514	221.499	369.363	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1
341	2033	5	45.555	53.061	369.182	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1
342	2033	6	141.661	7.071	369.002	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1
343	2033	7	288.276	0.024	368.819	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1
344	2033	8	327.892	0.000	368.639	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1
345	2033	9	263.024	0.103	368.453	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1
346	2033	10	94.798	17.102	368.272	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1
347	2033	11	12.599	143.253	368.090	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
348	2033	12	0.899	376.241	367.909	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
349	2034	1	0.249	551.193	367.723	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1
350	2034	2	0.194	619.348	367.548	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1

Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Exogenous Variables

Obs	YEAR	MONTH	bcdd65	bhdd55	N_kpc	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d16on	dec18on	mar18on
351	2034	3	1.218	458.542	367.373	0	0	1	0	0	0	0	0	0	0	0	1	1	1
352	2034	4	13.514	221.499	367.194	0	0	0	1	0	0	0	0	0	0	0	1	1	1
353	2034	5	45.555	53.061	367.011	0	0	0	0	1	0	0	0	0	0	0	1	1	1
354	2034	6	141.661	7.071	366.833	0	0	0	0	0	1	0	0	0	0	0	1	1	1
355	2034	7	288.276	0.024	366.653	0	0	0	0	0	0	1	0	0	0	0	1	1	1
356	2034	8	327.892	0.000	366.471	0	0	0	0	0	0	0	1	0	0	0	1	1	1
357	2034	9	263.024	0.103	366.292	0	0	0	0	0	0	0	0	1	0	0	1	1	1
358	2034	10	94.798	17.102	366.113	0	0	0	0	0	0	0	0	0	1	0	1	1	1
359	2034	11	12.599	143.253	365.936	0	0	0	0	0	0	0	0	0	0	1	1	1	1
360	2034	12	0.899	376.241	365.757	0	0	0	0	0	0	0	0	0	0	0	1	1	1
361	2035	1	0.249	551.193	365.576	1	0	0	0	0	0	0	0	0	0	0	1	1	1
362	2035	2	0.194	619.348	365.402	0	1	0	0	0	0	0	0	0	0	0	1	1	1
363	2035	3	1.218	458.542	365.228	0	0	1	0	0	0	0	0	0	0	0	1	1	1
364	2035	4	13.514	221.499	365.049	0	0	0	1	0	0	0	0	0	0	0	1	1	1
365	2035	5	45.555	53.061	364.868	0	0	0	0	1	0	0	0	0	0	0	1	1	1
366	2035	6	141.661	7.071	364.685	0	0	0	0	0	1	0	0	0	0	0	1	1	1
367	2035	7	288.276	0.024	364.504	0	0	0	0	0	0	1	0	0	0	0	1	1	1
368	2035	8	327.892	0.000	364.315	0	0	0	0	0	0	0	1	0	0	0	1	1	1
369	2035	9	263.024	0.103	364.132	0	0	0	0	0	0	0	0	1	0	0	1	1	1
370	2035	10	94.798	17.102	363.947	0	0	0	0	0	0	0	0	0	1	0	1	1	1
371	2035	11	12.599	143.253	363.759	0	0	0	0	0	0	0	0	0	0	1	1	1	1
372	2035	12	0.899	376.241	363.573	0	0	0	0	0	0	0	0	0	0	0	1	1	1

373	2036	1	0.249	551.193	363.384	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
374	2036	2	0.194	619.348	363.197	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1
375	2036	3	1.218	458.542	363.015	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1
376	2036	4	13.514	221.499	362.826	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1
377	2036	5	45.555	53.061	362.635	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1
378	2036	6	141.661	7.071	362.453	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1
379	2036	7	288.276	0.024	362.263	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1
380	2036	8	327.892	0.000	362.076	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1
381	2036	9	263.024	0.103	361.888	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1
382	2036	10	94.798	17.102	361.701	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1
383	2036	11	12.599	143.253	361.512	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1
384	2036	12	0.899	376.241	361.327	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
385	2037	1	0.249	551.193	361.140	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
386	2037	2	0.194	619.348	360.962	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1
387	2037	3	1.218	458.542	360.780	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1
388	2037	4	13.514	221.499	360.595	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1
389	2037	5	45.555	53.061	360.408	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1
390	2037	6	141.661	7.071	360.221	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1
391	2037	7	288.276	0.024	360.036	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1
392	2037	8	327.892	0.000	359.845	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1
393	2037	9	263.024	0.103	359.658	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1
394	2037	10	94.798	17.102	359.468	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1
395	2037	11	12.599	143.253	359.280	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1
396	2037	12	0.899	376.241	359.091	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
397	2038	1	0.249	551.193	358.901	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
398	2038	2	0.194	619.348	358.716	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1
399	2038	3	1.218	458.542	358.533	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1
400	2038	4	13.514	221.499	358.343	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1

Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Exogenous Variables

Obs	YEAR	MONTH	bcdd65	bhdd55	N_kpc	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d16on	dec18on	mar18on
401	2038	5	45.555	53.061	358.152	0	0	0	0	1	0	0	0	0	0	0	1	1	1
402	2038	6	141.661	7.071	357.963	0	0	0	0	0	1	0	0	0	0	0	1	1	1
403	2038	7	288.276	0.024	357.772	0	0	0	0	0	0	1	0	0	0	0	1	1	1
404	2038	8	327.892	0.000	357.577	0	0	0	0	0	0	0	1	0	0	0	1	1	1
405	2038	9	263.024	0.103	357.387	0	0	0	0	0	0	0	0	1	0	0	1	1	1
406	2038	10	94.798	17.102	357.196	0	0	0	0	0	0	0	0	0	1	0	1	1	1
407	2038	11	12.599	143.253	357.008	0	0	0	0	0	0	0	0	0	0	1	1	1	1
408	2038	12	0.899	376.241	356.815	0	0	0	0	0	0	0	0	0	0	0	1	1	1
409	2039	1	0.249	551.193	356.621	1	0	0	0	0	0	0	0	0	0	0	1	1	1
410	2039	2	0.194	619.348	356.437	0	1	0	0	0	0	0	0	0	0	0	1	1	1
411	2039	3	1.218	458.542	356.251	0	0	1	0	0	0	0	0	0	0	0	1	1	1
412	2039	4	13.514	221.499	356.058	0	0	0	1	0	0	0	0	0	0	0	1	1	1
413	2039	5	45.555	53.061	355.867	0	0	0	0	1	0	0	0	0	0	0	1	1	1
414	2039	6	141.661	7.071	355.673	0	0	0	0	0	1	0	0	0	0	0	1	1	1
415	2039	7	288.276	0.024	355.481	0	0	0	0	0	0	1	0	0	0	0	1	1	1
416	2039	8	327.892	0.000	355.283	0	0	0	0	0	0	0	1	0	0	0	1	1	1
417	2039	9	263.024	0.103	355.093	0	0	0	0	0	0	0	0	1	0	0	1	1	1
418	2039	10	94.798	17.102	354.901	0	0	0	0	0	0	0	0	0	1	0	1	1	1
419	2039	11	12.599	143.253	354.704	0	0	0	0	0	0	0	0	0	0	1	1	1	1
420	2039	12	0.899	376.241	354.514	0	0	0	0	0	0	0	0	0	0	0	1	1	1
421	2040	1	0.249	551.193	354.313	1	0	0	0	0	0	0	0	0	0	0	1	1	1
422	2040	2	0.194	619.348	354.123	0	1	0	0	0	0	0	0	0	0	0	1	1	1

423	2040	3	1.218	458.542	353.932	0	0	1	0	0	0	0	0	0	0	0	1	1	1
424	2040	4	13.514	221.499	353.737	0	0	0	1	0	0	0	0	0	0	0	1	1	1
425	2040	5	45.555	53.061	353.544	0	0	0	0	1	0	0	0	0	0	0	1	1	1
426	2040	6	141.661	7.071	353.349	0	0	0	0	0	1	0	0	0	0	0	1	1	1
427	2040	7	288.276	0.024	353.153	0	0	0	0	0	0	1	0	0	0	0	1	1	1
428	2040	8	327.892	0.000	352.955	0	0	0	0	0	0	0	1	0	0	0	1	1	1
429	2040	9	263.024	0.103	352.759	0	0	0	0	0	0	0	0	1	0	0	1	1	1
430	2040	10	94.798	17.102	352.566	0	0	0	0	0	0	0	0	1	0	1	1	1	1
431	2040	11	12.599	143.253	352.369	0	0	0	0	0	0	0	0	0	0	1	1	1	1
432	2040	12	0.899	376.241	352.172	0	0	0	0	0	0	0	0	0	0	0	1	1	1
433	2041	1	0.249	551.193	351.976	1	0	0	0	0	0	0	0	0	0	0	1	1	1
434	2041	2	0.194	619.348	351.787	0	1	0	0	0	0	0	0	0	0	0	1	1	1
435	2041	3	1.218	458.542	351.597	0	0	1	0	0	0	0	0	0	0	0	1	1	1
436	2041	4	13.514	221.499	351.401	0	0	0	1	0	0	0	0	0	0	0	1	1	1
437	2041	5	45.555	53.061	351.206	0	0	0	0	1	0	0	0	0	0	0	1	1	1
438	2041	6	141.661	7.071	351.011	0	0	0	0	0	1	0	0	0	0	0	1	1	1
439	2041	7	288.276	0.024	350.815	0	0	0	0	0	0	1	0	0	0	0	1	1	1
440	2041	8	327.892	0.000	350.618	0	0	0	0	0	0	0	1	0	0	0	1	1	1
441	2041	9	263.024	0.103	350.420	0	0	0	0	0	0	0	0	1	0	0	1	1	1
442	2041	10	94.798	17.102	350.226	0	0	0	0	0	0	0	0	0	1	0	1	1	1
443	2041	11	12.599	143.253	350.028	0	0	0	0	0	0	0	0	0	0	1	1	1	1
444	2041	12	0.899	376.241	349.830	0	0	0	0	0	0	0	0	0	0	0	1	1	1
445	2042	1	0.249	551.193	349.633	1	0	0	0	0	0	0	0	0	0	0	1	1	1
446	2042	2	0.194	619.348	349.440	0	1	0	0	0	0	0	0	0	0	0	1	1	1
447	2042	3	1.218	458.542	349.252	0	0	1	0	0	0	0	0	0	0	0	1	1	1
448	2042	4	13.514	221.499	349.057	0	0	0	1	0	0	0	0	0	0	0	1	1	1
449	2042	5	45.555	53.061	348.860	0	0	0	0	1	0	0	0	0	0	0	1	1	1
450	2042	6	141.661	7.071	348.660	0	0	0	0	0	1	0	0	0	0	0	1	1	1

Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Exogenous Variables

Obs	YEAR	MONTH	bcdd65	bhdd55	N_kpc	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d16on	dec18on	mar18on
451	2042	7	288.276	0.024	348.466	0	0	0	0	0	0	1	0	0	0	0	1	1	1
452	2042	8	327.892	0.000	348.265	0	0	0	0	0	0	0	1	0	0	0	1	1	1
453	2042	9	263.024	0.103	348.063	0	0	0	0	0	0	0	0	1	0	0	1	1	1
454	2042	10	94.798	17.102	347.865	0	0	0	0	0	0	0	0	0	1	0	1	1	1
455	2042	11	12.599	143.253	347.669	0	0	0	0	0	0	0	0	0	0	1	1	1	1
456	2042	12	0.899	376.241	347.471	0	0	0	0	0	0	0	0	0	0	0	1	1	1
457	2043	1	0.249	551.193	347.270	1	0	0	0	0	0	0	0	0	0	0	1	1	1
458	2043	2	0.194	619.348	347.077	0	1	0	0	0	0	0	0	0	0	0	1	1	1
459	2043	3	1.218	458.542	346.887	0	0	1	0	0	0	0	0	0	0	0	1	1	1
460	2043	4	13.514	221.499	346.689	0	0	0	1	0	0	0	0	0	0	0	1	1	1
461	2043	5	45.555	53.061	346.489	0	0	0	0	1	0	0	0	0	0	0	1	1	1
462	2043	6	141.661	7.071	346.293	0	0	0	0	0	1	0	0	0	0	0	1	1	1
463	2043	7	288.276	0.024	346.096	0	0	0	0	0	0	1	0	0	0	0	1	1	1
464	2043	8	327.892	0.000	345.895	0	0	0	0	0	0	0	1	0	0	0	1	1	1
465	2043	9	263.024	0.103	345.698	0	0	0	0	0	0	0	0	1	0	0	1	1	1
466	2043	10	94.798	17.102	345.501	0	0	0	0	0	0	0	0	0	1	0	1	1	1
467	2043	11	12.599	143.253	345.305	0	0	0	0	0	0	0	0	0	0	1	1	1	1
468	2043	12	0.899	376.241	345.106	0	0	0	0	0	0	0	0	0	0	0	1	1	1
469	2044	1	0.249	551.193	344.906	1	0	0	0	0	0	0	0	0	0	0	1	1	1
470	2044	2	0.194	619.348	344.712	0	1	0	0	0	0	0	0	0	0	0	1	1	1
471	2044	3	1.218	458.542	344.518	0	0	1	0	0	0	0	0	0	0	0	1	1	1
472	2044	4	13.514	221.499	344.323	0	0	0	1	0	0	0	0	0	0	0	1	1	1



473	2044	5	45.555	53.061	344.124	0	0	0	0	1	0	0	0	0	0	0	1	1	1
474	2044	6	141.661	7.071	343.927	0	0	0	0	0	1	0	0	0	0	0	1	1	1
475	2044	7	288.276	0.024	343.728	0	0	0	0	0	0	1	0	0	0	0	1	1	1
476	2044	8	327.892	0.000	343.528	0	0	0	0	0	0	0	1	0	0	0	1	1	1
477	2044	9	263.024	0.103	343.333	0	0	0	0	0	0	0	0	1	0	0	1	1	1
478	2044	10	94.798	17.102	343.135	0	0	0	0	0	0	0	0	0	1	0	1	1	1
479	2044	11	12.599	143.253	342.939	0	0	0	0	0	0	0	0	0	0	1	1	1	1
480	2044	12	0.899	376.241	342.742	0	0	0	0	0	0	0	0	0	0	0	1	1	1
481	2045	1	0.249	551.193	342.542	1	0	0	0	0	0	0	0	0	0	0	1	1	1
482	2045	2	0.194	619.348	342.348	0	1	0	0	0	0	0	0	0	0	0	1	1	1
483	2045	3	1.218	458.542	342.159	0	0	1	0	0	0	0	0	0	0	0	1	1	1
484	2045	4	13.514	221.499	341.961	0	0	0	1	0	0	0	0	0	0	0	1	1	1
485	2045	5	45.555	53.061	341.763	0	0	0	0	1	0	0	0	0	0	0	1	1	1
486	2045	6	141.661	7.071	341.567	0	0	0	0	0	1	0	0	0	0	0	1	1	1
487	2045	7	288.276	0.024	341.370	0	0	0	0	0	0	1	0	0	0	0	1	1	1
488	2045	8	327.892	0.000	341.168	0	0	0	0	0	0	0	1	0	0	0	1	1	1
489	2045	9	263.024	0.103	340.973	0	0	0	0	0	0	0	0	1	0	0	1	1	1
490	2045	10	94.798	17.102	340.774	0	0	0	0	0	0	0	0	0	1	0	1	1	1
491	2045	11	12.599	143.253	340.579	0	0	0	0	0	0	0	0	0	0	1	1	1	1
492	2045	12	0.899	376.241	340.382	0	0	0	0	0	0	0	0	0	0	0	1	1	1
493	2046	1	0.249	551.193	340.180	1	0	0	0	0	0	0	0	0	0	0	1	1	1
494	2046	2	0.194	619.348	339.992	0	1	0	0	0	0	0	0	0	0	0	1	1	1
495	2046	3	1.218	458.542	339.799	0	0	1	0	0	0	0	0	0	0	0	1	1	1
496	2046	4	13.514	221.499	339.602	0	0	0	1	0	0	0	0	0	0	0	1	1	1
497	2046	5	45.555	53.061	339.403	0	0	0	0	1	0	0	0	0	0	0	1	1	1
498	2046	6	141.661	7.071	339.207	0	0	0	0	0	1	0	0	0	0	0	1	1	1
499	2046	7	288.276	0.024	339.010	0	0	0	0	0	0	1	0	0	0	0	1	1	1
500	2046	8	327.892	0.000	338.809	0	0	0	0	0	0	0	1	0	0	0	1	1	1

Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Exogenous Variables

Obs	YEAR	MONTH	bcdd65	bhdd55	N_kpc	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d16on	dec18on	mar18on
501	2046	9	263.024	0.103	338.609	0	0	0	0	0	0	0	0	1	0	0	1	1	1
502	2046	10	94.798	17.102	338.412	0	0	0	0	0	0	0	0	0	1	0	1	1	1
503	2046	11	12.599	143.253	338.213	0	0	0	0	0	0	0	0	0	0	1	1	1	1
504	2046	12	0.899	376.241	338.014	0	0	0	0	0	0	0	0	0	0	0	1	1	1
505	2047	1	0.249	551.193	337.811	1	0	0	0	0	0	0	0	0	0	0	1	1	1
506	2047	2	0.194	619.348	337.617	0	1	0	0	0	0	0	0	0	0	0	1	1	1
507	2047	3	1.218	458.542	337.425	0	0	1	0	0	0	0	0	0	0	0	1	1	1
508	2047	4	13.514	221.499	337.226	0	0	0	1	0	0	0	0	0	0	0	1	1	1
509	2047	5	45.555	53.061	337.027	0	0	0	0	1	0	0	0	0	0	0	1	1	1
510	2047	6	141.661	7.071	336.827	0	0	0	0	0	1	0	0	0	0	0	1	1	1
511	2047	7	288.276	0.024	336.626	0	0	0	0	0	0	1	0	0	0	0	1	1	1
512	2047	8	327.892	0.000	336.425	0	0	0	0	0	0	0	1	0	0	0	1	1	1
513	2047	9	263.024	0.103	336.227	0	0	0	0	0	0	0	0	1	0	0	1	1	1
514	2047	10	94.798	17.102	336.029	0	0	0	0	0	0	0	0	0	1	0	1	1	1
515	2047	11	12.599	143.253	335.828	0	0	0	0	0	0	0	0	0	0	1	1	1	1
516	2047	12	0.899	376.241	335.628	0	0	0	0	0	0	0	0	0	0	0	1	1	1
517	2048	1	0.249	551.193	335.427	1	0	0	0	0	0	0	0	0	0	0	1	1	1
518	2048	2	0.194	619.348	335.232	0	1	0	0	0	0	0	0	0	0	0	1	1	1
519	2048	3	1.218	458.542	335.036	0	0	1	0	0	0	0	0	0	0	0	1	1	1
520	2048	4	13.514	221.499	334.835	0	0	0	1	0	0	0	0	0	0	0	1	1	1
521	2048	5	45.555	53.061	334.642	0	0	0	0	1	0	0	0	0	0	0	1	1	1
522	2048	6	141.661	7.071	334.444	0	0	0	0	0	1	0	0	0	0	0	1	1	1

523	2048	7	288.276	0.024	334.245	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1
524	2048	8	327.892	0.000	334.046	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1
525	2048	9	263.024	0.103	333.848	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1
526	2048	10	94.798	17.102	333.649	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1
527	2048	11	12.599	143.253	333.454	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1
528	2048	12	0.899	376.241	333.256	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
529	2049	1	0.249	551.193	333.057	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
530	2049	2	0.194	619.348	332.869	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
531	2049	3	1.218	458.542	332.680	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
532	2049	4	13.514	221.499	332.480	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1
533	2049	5	45.555	53.061	332.286	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1
534	2049	6	141.661	7.071	332.090	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1
535	2049	7	288.276	0.024	331.892	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1
536	2049	8	327.892	0.000	331.695	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1
537	2049	9	263.024	0.103	331.499	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1
538	2049	10	94.798	17.102	331.306	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1
539	2049	11	12.599	143.253	331.109	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
540	2049	12	0.899	376.241	330.911	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
541	2050	1	0.249	551.193	330.714	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
542	2050	2	0.194	619.348	330.523	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
543	2050	3	1.218	458.542	330.336	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
544	2050	4	13.514	221.499	330.142	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1
545	2050	5	45.555	53.061	329.946	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1
546	2050	6	141.661	7.071	329.754	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1
547	2050	7	288.276	0.024	329.558	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1
548	2050	8	327.892	0.000	329.364	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1
549	2050	9	263.024	0.103	329.168	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1
550	2050	10	94.798	17.102	328.976	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1

Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Exogenous Variables

Obs	YEAR	MONTH	bcdd65	bhdd55	N_kpc	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d16on	dec18on	mar18on
551	2050	11	12.599	143.253	328.783	0	0	0	0	0	0	0	0	0	0	1	1	1	1
552	2050	12	0.899	376.241	328.589	0	0	0	0	0	0	0	0	0	0	0	1	1	1
553	2051	1	0.249	551.193	328.394	1	0	0	0	0	0	0	0	0	0	0	1	1	1
554	2051	2	0.194	619.348	328.206	0	1	0	0	0	0	0	0	0	0	0	1	1	1
555	2051	3	1.218	458.542	328.024	0	0	1	0	0	0	0	0	0	0	0	1	1	1
556	2051	4	13.514	221.499	327.829	0	0	0	1	0	0	0	0	0	0	0	1	1	1
557	2051	5	45.555	53.061	327.639	0	0	0	0	1	0	0	0	0	0	0	1	1	1
558	2051	6	141.661	7.071	327.446	0	0	0	0	0	1	0	0	0	0	0	1	1	1
559	2051	7	288.276	0.024	327.257	0	0	0	0	0	0	1	0	0	0	0	1	1	1
560	2051	8	327.892	0.000	327.062	0	0	0	0	0	0	0	1	0	0	0	1	1	1
561	2051	9	263.024	0.103	326.870	0	0	0	0	0	0	0	0	1	0	0	1	1	1
562	2051	10	94.798	17.102	326.681	0	0	0	0	0	0	0	0	0	1	0	1	1	1
563	2051	11	12.599	143.253	326.488	0	0	0	0	0	0	0	0	0	0	1	1	1	1
564	2051	12	0.899	376.241	326.301	0	0	0	0	0	0	0	0	0	0	0	1	1	1
565	2052	1	0.249	551.193	326.107	1	0	0	0	0	0	0	0	0	0	0	1	1	1
566	2052	2	0.194	619.348	325.921	0	1	0	0	0	0	0	0	0	0	0	1	1	1
567	2052	3	1.218	458.542	325.733	0	0	1	0	0	0	0	0	0	0	0	1	1	1
568	2052	4	13.514	221.499	325.543	0	0	0	1	0	0	0	0	0	0	0	1	1	1
569	2052	5	45.555	53.061	325.354	0	0	0	0	1	0	0	0	0	0	0	1	1	1
570	2052	6	141.661	7.071	325.165	0	0	0	0	0	1	0	0	0	0	0	1	1	1
571	2052	7	288.276	0.024	324.976	0	0	0	0	0	0	1	0	0	0	0	1	1	1
572	2052	8	327.892	0.000	324.786	0	0	0	0	0	0	0	1	0	0	0	1	1	1

573	2052	9	263.024	0.103	324.597	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1
574	2052	10	94.798	17.102	324.409	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1
575	2052	11	12.599	143.253	324.221	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
576	2052	12	0.899	376.241	324.032	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
577	2053	1	0.249	551.193	323.837	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
578	2053	2	0.194	619.348	323.653	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1
579	2053	3	1.218	458.542	323.459	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1
580	2053	4	13.514	221.499	323.274	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1
581	2053	5	45.555	53.061	323.086	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1
582	2053	6	141.661	7.071	322.901	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1
583	2053	7	288.276	0.024	322.712	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1
584	2053	8	327.892	0.000	322.527	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1
585	2053	9	263.024	0.103	322.341	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1
586	2053	10	94.798	17.102	322.154	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1
587	2053	11	12.599	143.253	321.971	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
588	2053	12	0.899	376.241	321.780	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
589	2054	1	0.249	551.193	321.584	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
590	2054	2	0.194	619.348	321.402	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1
591	2054	3	1.218	458.542	321.202	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1
592	2054	4	13.514	221.499	321.022	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1
593	2054	5	45.555	53.061	320.835	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1
594	2054	6	141.661	7.071	320.654	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1
595	2054	7	288.276	0.024	320.465	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1
596	2054	8	327.892	0.000	320.285	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1
597	2054	9	263.024	0.103	320.102	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1
598	2054	10	94.798	17.102	319.916	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1
599	2054	11	12.599	143.253	319.737	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1
600	2054	12	0.899	376.241	319.545	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1

Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Exogenous Variables

Obs	YEAR	MONTH	bcdd65	bhdd55	N_kpc	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d16on	dec18on	mar18on
601	2055	1	0.249	551.193	319.348	1	0	0	0	0	0	0	0	0	0	0	1	1	1
602	2055	2	0.194	619.348	319.168	0	1	0	0	0	0	0	0	0	0	0	1	1	1
603	2055	3	1.218	458.542	318.962	0	0	1	0	0	0	0	0	0	0	0	1	1	1
604	2055	4	13.514	221.499	318.787	0	0	0	1	0	0	0	0	0	0	0	1	1	1
605	2055	5	45.555	53.061	318.601	0	0	0	0	1	0	0	0	0	0	0	1	1	1
606	2055	6	141.661	7.071	318.423	0	0	0	0	0	1	0	0	0	0	0	1	1	1
607	2055	7	288.276	0.024	318.234	0	0	0	0	0	0	1	0	0	0	0	1	1	1
608	2055	8	327.892	0.000	318.059	0	0	0	0	0	0	0	1	0	0	0	1	1	1
609	2055	9	263.024	0.103	317.879	0	0	0	0	0	0	0	0	1	0	0	1	1	1
610	2055	10	94.798	17.102	317.694	0	0	0	0	0	0	0	0	0	1	0	1	1	1
611	2055	11	12.599	143.253	317.521	0	0	0	0	0	0	0	0	0	0	1	1	1	1
612	2055	12	0.899	376.241	317.326	0	0	0	0	0	0	0	0	0	0	0	1	1	1
613	2056	1	0.249	551.193	317.128	1	0	0	0	0	0	0	0	0	0	0	1	1	1
614	2056	2	0.194	619.348	316.950	0	1	0	0	0	0	0	0	0	0	0	1	1	1
615	2056	3	1.218	458.542	316.739	0	0	1	0	0	0	0	0	0	0	0	1	1	1
616	2056	4	13.514	221.499	316.568	0	0	0	1	0	0	0	0	0	0	0	1	1	1
617	2056	5	45.555	53.061	316.383	0	0	0	0	1	0	0	0	0	0	0	1	1	1
618	2056	6	141.661	7.071	316.210	0	0	0	0	0	1	0	0	0	0	0	1	1	1
619	2056	7	288.276	0.024	316.021	0	0	0	0	0	0	1	0	0	0	0	1	1	1
620	2056	8	327.892	0.000	315.850	0	0	0	0	0	0	0	1	0	0	0	1	1	1
621	2056	9	263.024	0.103	315.673	0	0	0	0	0	0	0	0	1	0	0	1	1	1
622	2056	10	94.798	17.102	315.489	0	0	0	0	0	0	0	0	0	1	0	1	1	1

623	2056	11	12.599	143.253	315.320	0	0	0	0	0	0	0	0	0	0	1	1	1	1
624	2056	12	0.899	376.241	315.123	0	0	0	0	0	0	0	0	0	0	0	1	1	1
625	2057	1	0.249	551.193	314.925	1	0	0	0	0	0	0	0	0	0	0	1	1	1
626	2057	2	0.194	619.348	314.748	0	1	0	0	0	0	0	0	0	0	0	1	1	1
627	2057	3	1.218	458.542	314.532	0	0	1	0	0	0	0	0	0	0	0	1	1	1
628	2057	4	13.514	221.499	314.366	0	0	0	1	0	0	0	0	0	0	0	1	1	1
629	2057	5	45.555	53.061	314.182	0	0	0	0	1	0	0	0	0	0	0	1	1	1
630	2057	6	141.661	7.071	314.012	0	0	0	0	0	1	0	0	0	0	0	1	1	1
631	2057	7	288.276	0.024	313.823	0	0	0	0	0	0	1	0	0	0	0	1	1	1
632	2057	8	327.892	0.000	313.658	0	0	0	0	0	0	0	1	0	0	0	1	1	1
633	2057	9	263.024	0.103	313.483	0	0	0	0	0	0	0	0	1	0	0	1	1	1
634	2057	10	94.798	17.102	313.300	0	0	0	0	0	0	0	0	0	1	0	1	1	1
635	2057	11	12.599	143.253	313.136	0	0	0	0	0	0	0	0	0	0	1	1	1	1
636	2057	12	0.899	376.241	312.938	0	0	0	0	0	0	0	0	0	0	0	1	1	1

Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Model Estimation

The SYSLIN Procedure  
 Ordinary Least Squares Estimation

Model	KWH
Dependent Variable	KWH
Label	Energy (kWh)

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	17	1.439E14	8.463E12	56.20	<.0001
Error	187	2.816E13	1.506E11		
Corrected Total	204	1.72E14			

Root MSE	388057.971	R-Square	0.83631
Dependent Mean	5463528.14	Adj R-Sq	0.82142
Coeff Var	7.10270		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t	Variable Label
Intercept	1	-2275388	2696772	-0.84	0.3999	Intercept
N_kpc	1	18697.93	6254.235	2.99	0.0032	Service Area Population
bhdd55	1	2204.328	412.4898	5.34	<.0001	Heating Degree Days (Base 55)
bcdd65	1	1419.453	822.9145	1.72	0.0862	Cooling Degree Days (Base 65)
d16on	1	-459753	149657.2	-3.07	0.0024	Binary Variable-2016 On
mar18on	1	286997.7	159708.4	1.80	0.0739	Binary

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t	Variable Label
dec18on	1	-304571	149795.8	-2.03	0.0434	Binary Variable-March 2018 On
d1	1	271265.4	143760.1	1.89	0.0607	Binary Variable-December 2018 On
d2	1	-736262	163438.9	-4.50	<.0001	Binary Variable-January
d3	1	-835177	138572.5	-6.03	<.0001	Binary Variable-February
d4	1	-1241995	152857.3	-8.13	<.0001	Binary Variable-March
d5	1	-912419	195425.9	-4.67	<.0001	Binary Variable-April
						Binary Variable-May

Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Model Estimation

The SYSLIN Procedure  
 Ordinary Least Squares Estimation

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t	Variable Label
d6	1	-451062	242945.6	-1.86	0.0649	Binary Variable-June
d7	1	-142683	317458.1	-0.45	0.6536	Binary Variable-July
d8	1	-18169.1	344694.9	-0.05	0.9580	Binary Variable-August
d9	1	-1011060	306500.9	-3.30	0.0012	Binary Variable-September
d10	1	-905301	223494.6	-4.05	<.0001	Binary Variable-October
d11	1	-512016	167116.9	-3.06	0.0025	Binary Variable-November

Durbin-Watson                    2.241348  
 Number of Observations        205  
 First-Order Autocorrelation   -0.12686

Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Model Estimation

time	Residual Values
	Sum
2005.000000	-437834
2005.083333	-449644
2005.166667	252979
2005.250000	-437162
2005.333333	-399791
2005.416667	-136080
2005.500000	100356

2005.5833333	***	-210375
2005.6666667	***	-198921
2005.7500000	**	-146068
2005.8333333	*	-74303
2005.9166667	*****	684775
2006.0000000	*****	-778320
2006.0833333	****	306642
2006.1666667	**	115118
2006.2500000	*****	-478896
2006.3333333		18651
2006.4166667	**	-116071
2006.5000000	****	314233
2006.5833333	***	196881
2006.6666667	**	-148058
2006.7500000	*****	550609
2006.8333333	**	174816
2006.9166667	***	257448
2007.0000000	****	-280814
2007.0833333	*****	552301
2007.1666667	***	-239721
2007.2500000	*****	445784
2007.3333333	****	281341
2007.4166667	**	178638
2007.5000000	*	-50660
2007.5833333	*****	489456
2007.6666667	*	-112037
2007.7500000	*****	-344340
2007.8333333	**	-118511
2007.9166667	****	267215
2008.0000000	*****	701224
2008.0833333	*****	645196
2008.1666667	*****	484006
2008.2500000		-18584
2008.3333333	*	-67745
2008.4166667	**	113406
2008.5000000	***	207958
2008.5833333	****	-324081
2008.6666667	**	-158918
2008.7500000	*	78081
2008.8333333	***	213360
2008.9166667	****	-314765
2009.0000000	****	289553

Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Model Estimation

2009.0833333	*****	-696414
2009.1666667	*****	-591621
2009.2500000	****	-287285
2009.3333333	*****	-525641
2009.4166667	****	-266633
2009.5000000	*****	-645896
2009.5833333	****	-336400
2009.6666667	***	-226608
2009.7500000	*	-46271
2009.8333333	*****	-366765

2009.9166667		***	218743
2010.0000000			-32040
2010.0833333		**	154047
2010.1666667	*****		-407633
2010.2500000			-21873
2010.3333333		***	192929
2010.4166667		*****	367647
2010.5000000		*****	490320
2010.5833333		**	184280
2010.6666667		*	93307
2010.7500000		*	41002
2010.8333333		***	248965
2010.9166667		*****	925788
2011.0000000			35493
2011.0833333	****		-308356
2011.1666667		*****	361862
2011.2500000		**	-117546
2011.3333333	*****		-938923
2011.4166667		**	-133541
2011.5000000		***	336433
2011.5833333	*****		-563194
2011.6666667	*****		-460823
2011.7500000		**	-170225
2011.8333333		***	-335372
2011.9166667		*	-66075
2012.0000000		***	-284564
2012.0833333		*	60781
2012.1666667	*****		-339850
2012.2500000		***	260417
2012.3333333		*****	473375
2012.4166667		*	104322
2012.5000000	*****		-1579456
2012.5833333		*****	1960092
2012.6666667		**	118077
2012.7500000		**	131811
2012.8333333		*****	338128
2012.9166667		*	91521
2013.0000000			14777
2013.0833333		*	108550
2013.1666667		*****	595694
2013.2500000		**	-155400
2013.3333333		**	119101

Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Model Estimation

2013.4166667			23121
2013.5000000			-24400
2013.5833333	***		-251892
2013.6666667			-31608
2013.7500000		*	67593
2013.8333333		***	219320
2013.9166667	**		-171090
2014.0000000		*****	664379
2014.0833333			13325
2014.1666667		****	289899

2014.2500000	***	-197622
2014.3333333	***	193718
2014.4166667	**	143671
2014.5000000	*	-98866
2014.5833333		32
2014.6666667	**	177303
2014.7500000	**	137008
2014.8333333	*****	566042
2014.9166667	***	-245475
2015.0000000	***	206552
2015.0833333	*****	461298
2015.1666667	*****	-744117
2015.2500000	****	-302707
2015.3333333	*	68668
2015.4166667	*	-40431
2015.5000000	*	-56194
2015.5833333	****	-300325
2015.6666667	***	220124
2015.7500000	*	-57380
2015.8333333	****	-305704
2015.9166667	*****	-625626
2016.0000000	*****	553762
2016.0833333		-25694
2016.1666667	**	-160942
2016.2500000	***	242062
2016.3333333	*	94498
2016.4166667		31804
2016.5000000	***	213145
2016.5833333	***	207683
2016.6666667	***	196117
2016.7500000	****	-320645
2016.8333333		-34041
2016.9166667		-23322
2017.0000000	*****	-630247
2017.0833333	****	-409965
2017.1666667	*****	353816
2017.2500000	*	-47368
2017.3333333	**	122916
2017.4166667		24466
2017.5000000		20582
2017.5833333	****	-299397
2017.6666667	*	84086

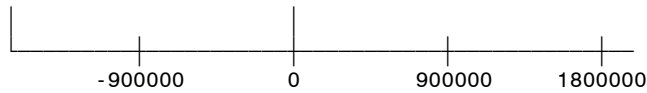
Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Model Estimation

2017.7500000		23351
2017.8333333		7665
2017.9166667	***	235975
2018.0000000	*	79769
2018.0833333	*****	-540073
2018.1666667	***	218859
2018.2500000	**	-145169
2018.3333333	***	194255
2018.4166667	*	-37757
2018.5000000	**	-126316



2018.5833333	***	-197691
2018.6666667		5349
2018.7500000	*	85106
2018.8333333		3364
2018.9166667	****	-329453
2019.0000000	***	250575
2019.0833333	*	-103853
2019.1666667	*****	506899
2019.2500000	*	88367
2019.3333333	****	309085
2019.4166667	***	-198435
2019.5000000	****	411999
2019.5833333	****	-321440
2019.6666667	****	319673
2019.7500000	***	-193498
2019.8333333	**	144184
2019.9166667	*****	-441763
2020.0000000	*****	-402121
2020.0833333	*	73527
2020.1666667	*****	-358360
2020.2500000	*	69828
2020.3333333	*	-65995
2020.4166667	**	-116329
2020.5000000	*****	439105
2020.5833333	****	-287496
2020.6666667	*	51664
2020.7500000	*	64522
2020.8333333	*****	-943061
2020.9166667	**	138157
2021.0000000	*****	-346137
2021.0833333	**	158333
2021.1666667	****	-336887
2021.2500000	*****	1103154
2021.3333333	*	-70441
2021.4166667	*	58202
2021.5000000	*	47657
2021.5833333	*	53866
2021.6666667	*	71274
2021.7500000	*	99345
2021.8333333	***	261911
2021.9166667	*****	-602053
2022.0000000	*****	395993

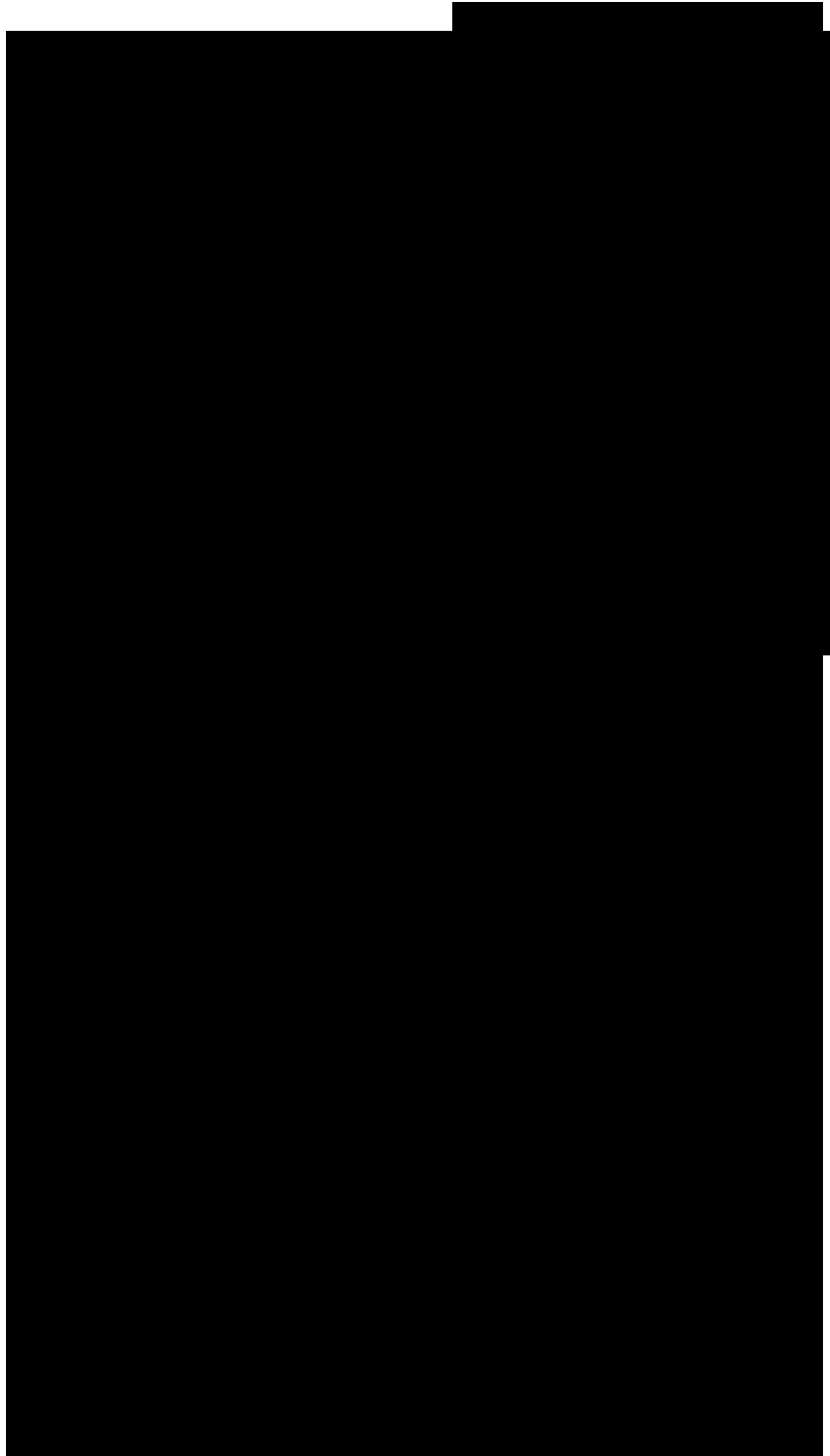
Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Model Estimation



Residual Values

Kentucky Power Company  
 Municipal Energy Sales-Vanceburg  
 Actual and Forecast

Year	Energy Sales	Growth Rate
------	-----------------	----------------



[REDACTED]

[REDACTED]

[REDACTED]

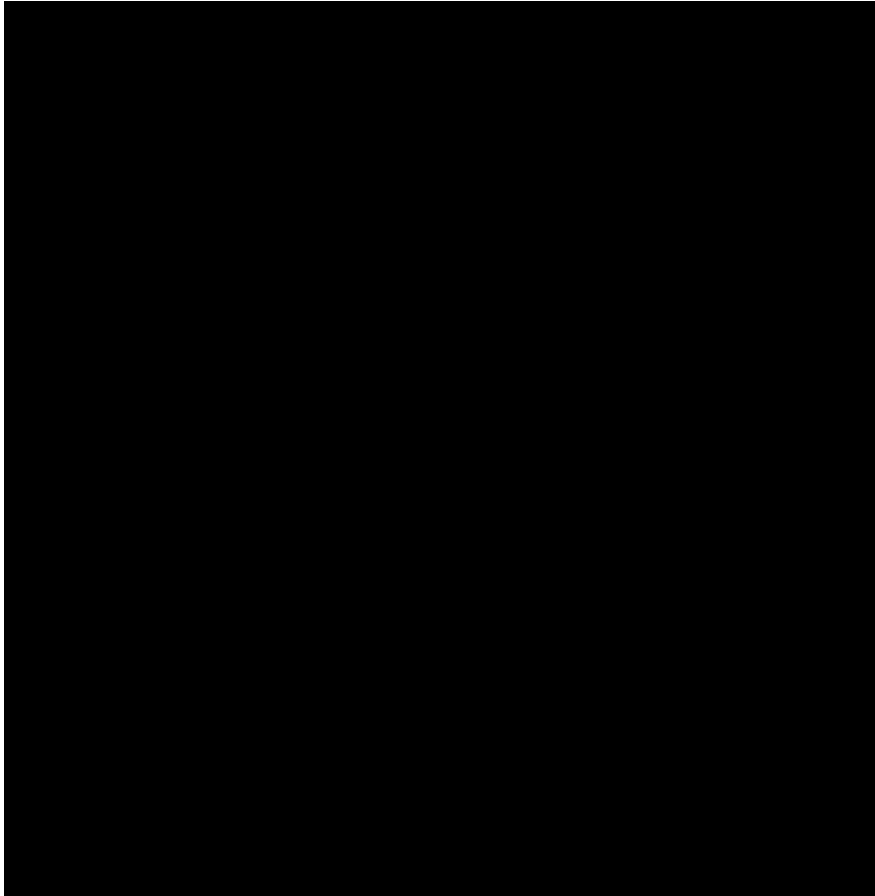
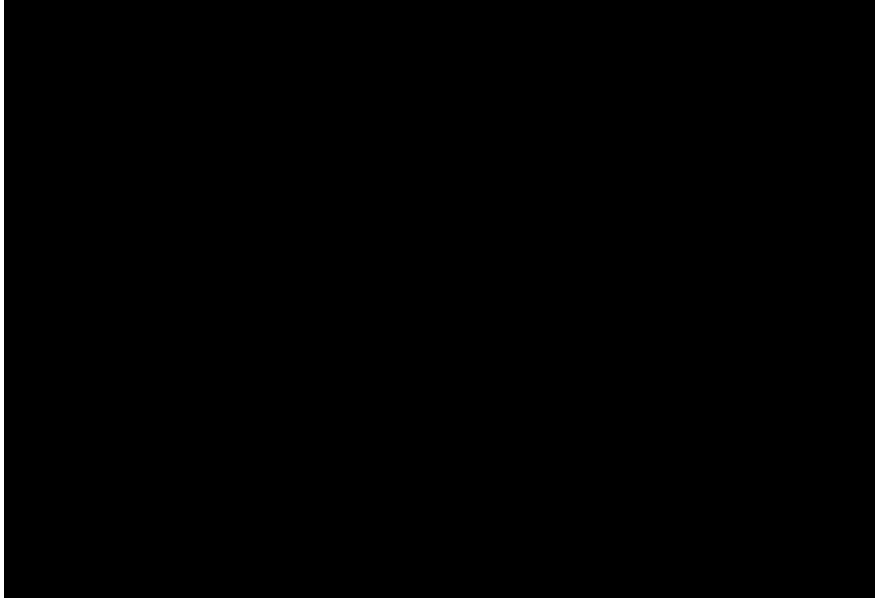
[REDACTED]

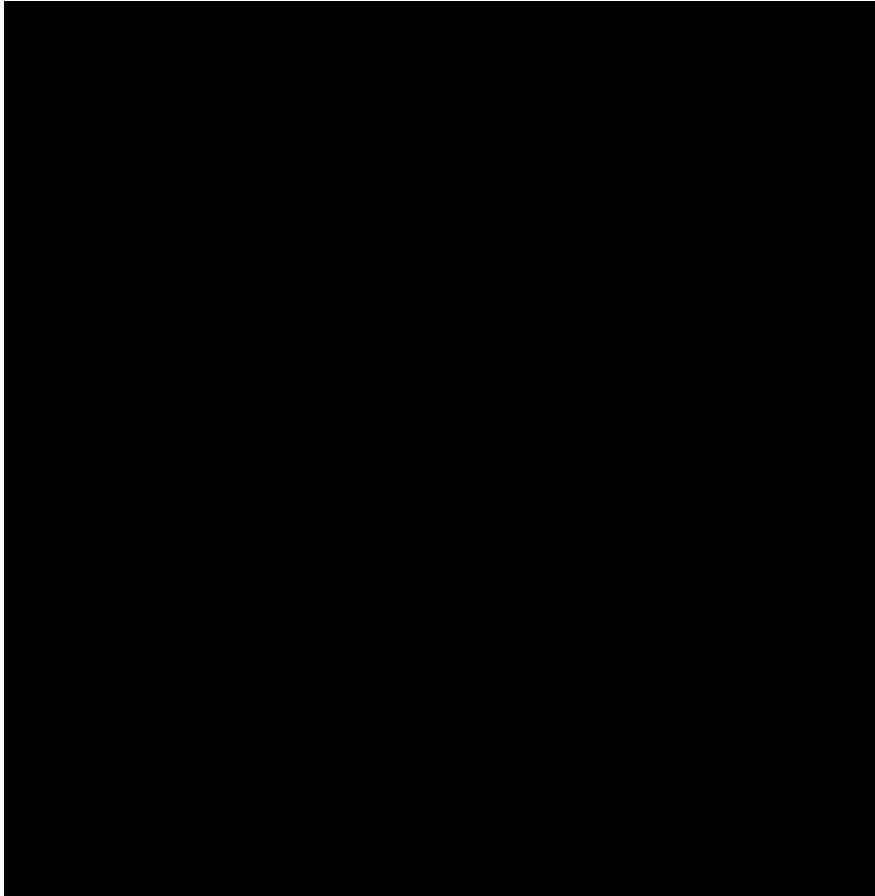
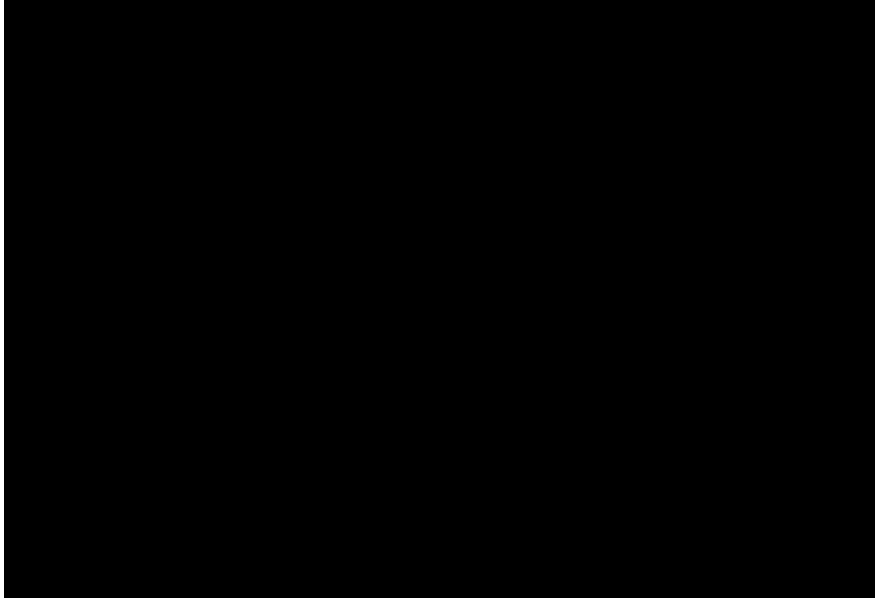
[REDACTED]

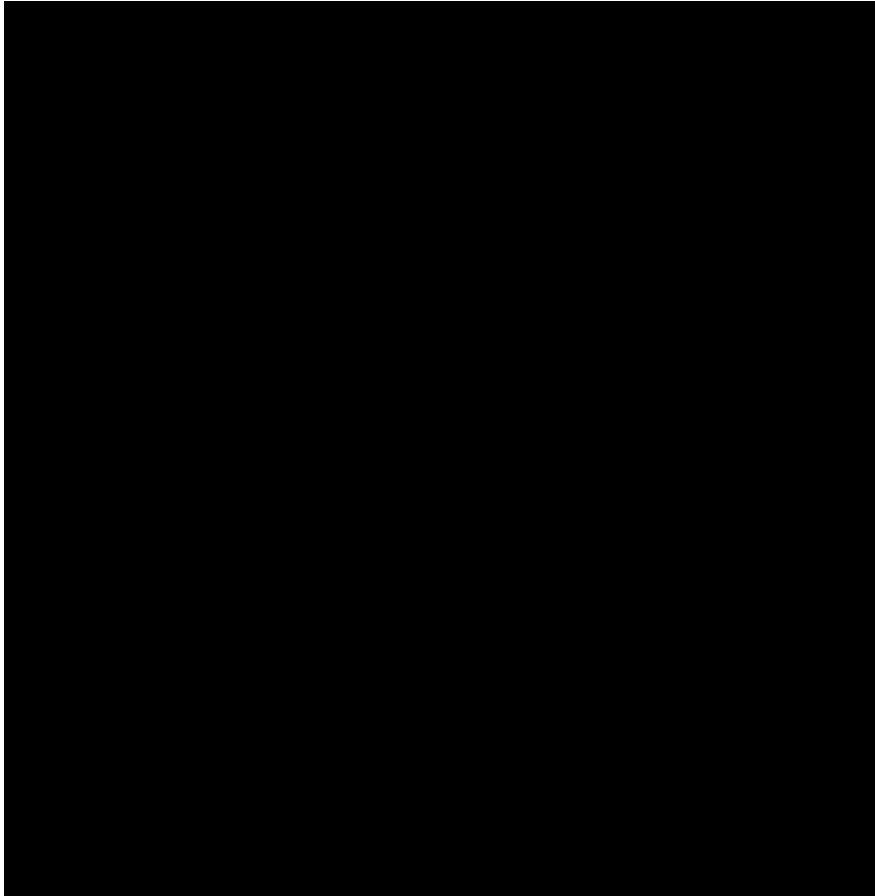
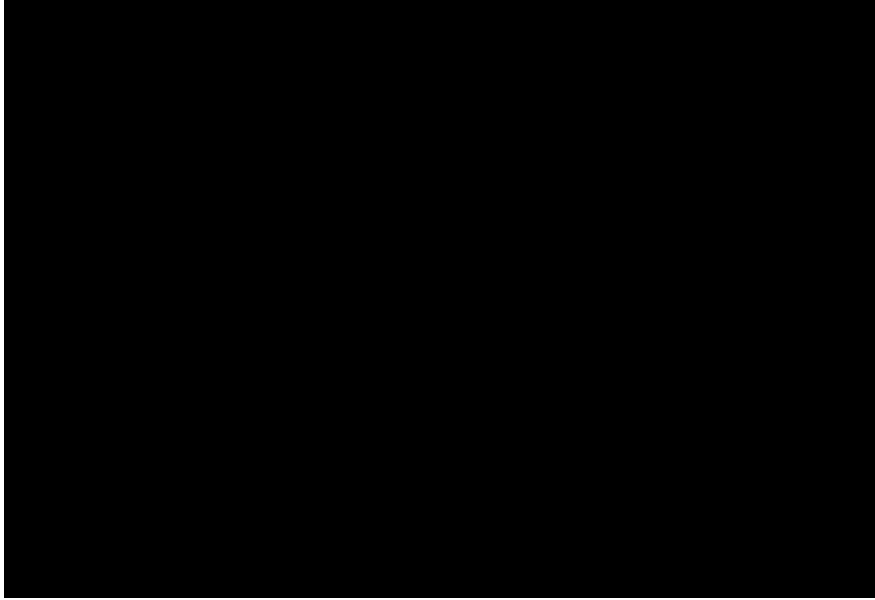
[REDACTED]

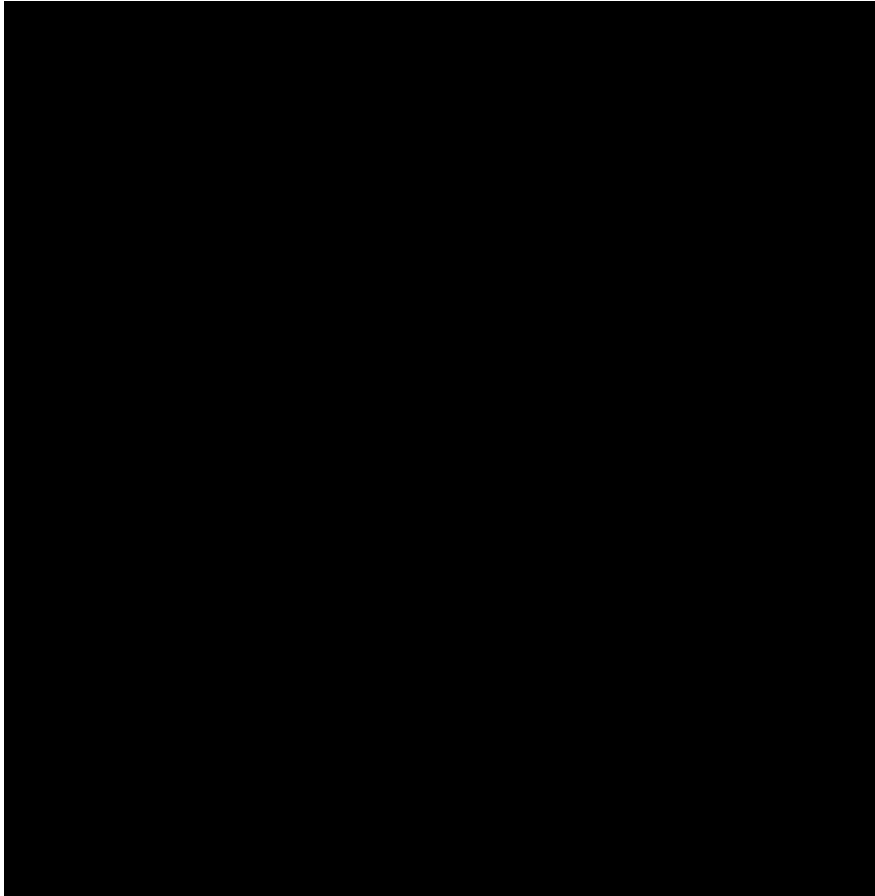
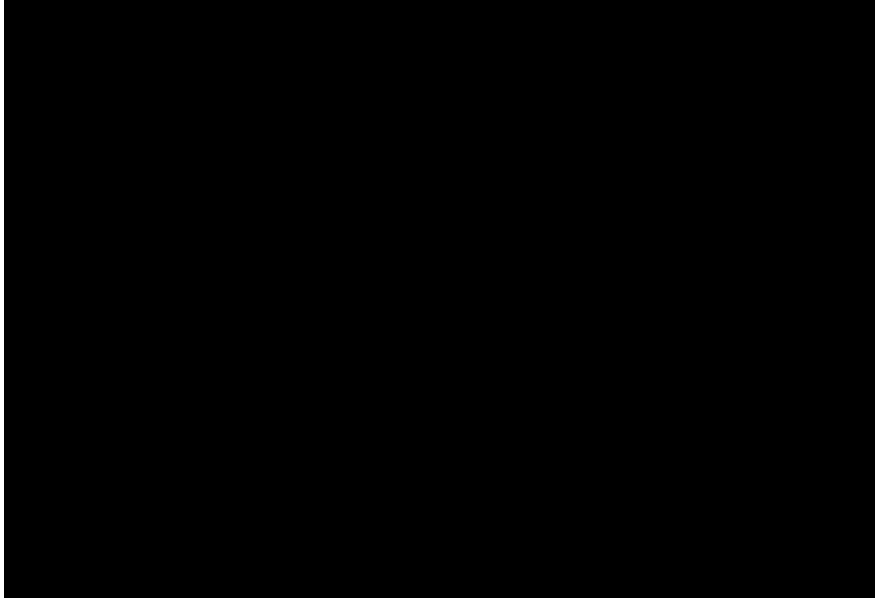
[REDACTED]

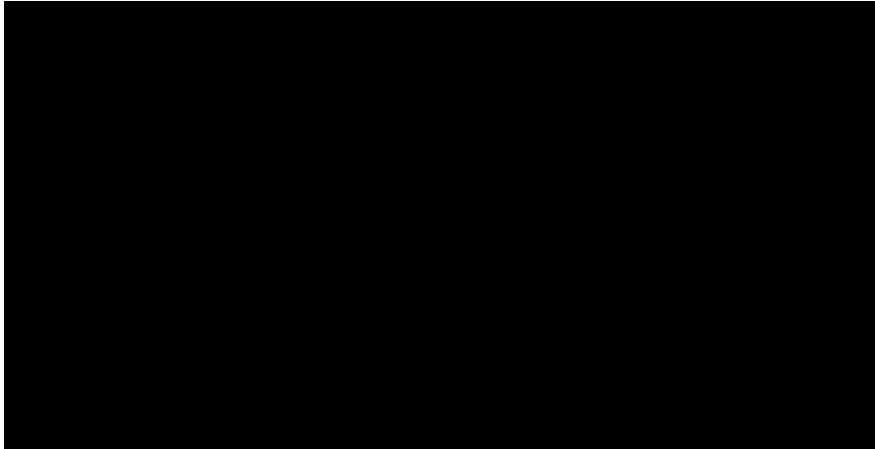
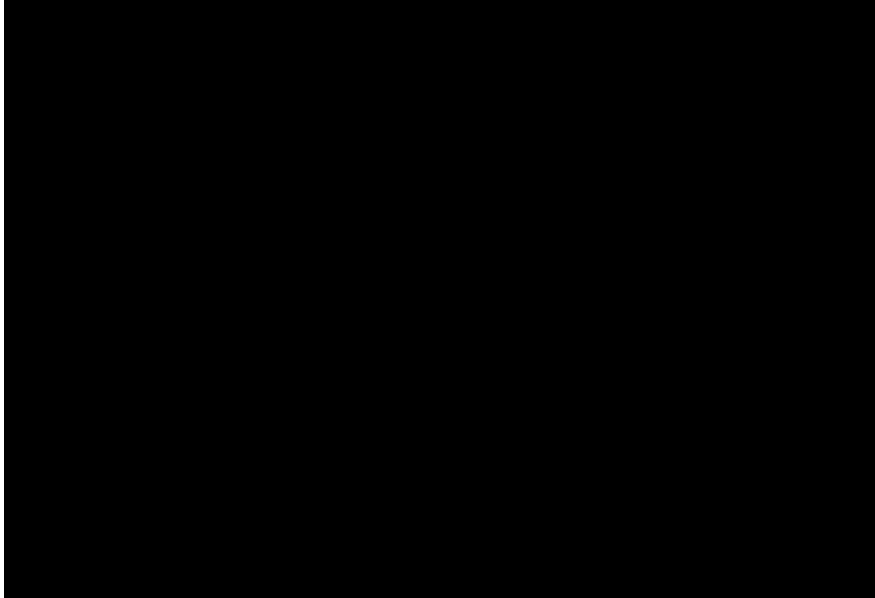
[REDACTED]











266	2022	2	.
267	2022	3	.
268	2022	4	.
269	2022	5	.
270	2022	6	.
271	2022	7	.
272	2022	8	.
273	2022	9	.
274	2022	10	.
275	2022	11	.
276	2022	12	.
277	2023	1	.
278	2023	2	.
279	2023	3	.
280	2023	4	.



281	2023	5	.
282	2023	6	.
283	2023	7	.
284	2023	8	.
285	2023	9	.
286	2023	10	.
287	2023	11	.
288	2023	12	.
289	2024	1	.
290	2024	2	.
291	2024	3	.
292	2024	4	.
293	2024	5	.
294	2024	6	.
295	2024	7	.
296	2024	8	.
297	2024	9	.
298	2024	10	.
299	2024	11	.
300	2024	12	.

Kentucky Power Company  
 Municipal Energy Sales-Olive Hill  
 Endogenous Variable

Obs	YEAR	MONTH	kwh
301	2025	1	.
302	2025	2	.
303	2025	3	.
304	2025	4	.
305	2025	5	.
306	2025	6	.
307	2025	7	.
308	2025	8	.
309	2025	9	.
310	2025	10	.
311	2025	11	.
312	2025	12	.
313	2026	1	.
314	2026	2	.
315	2026	3	.
316	2026	4	.
317	2026	5	.
318	2026	6	.
319	2026	7	.
320	2026	8	.
321	2026	9	.
322	2026	10	.
323	2026	11	.
324	2026	12	.
325	2027	1	.
326	2027	2	.
327	2027	3	.
328	2027	4	.
329	2027	5	.
330	2027	6	.

331	2027	7	.
332	2027	8	.
333	2027	9	.
334	2027	10	.
335	2027	11	.
336	2027	12	.
337	2028	1	.
338	2028	2	.
339	2028	3	.
340	2028	4	.
341	2028	5	.
342	2028	6	.
343	2028	7	.
344	2028	8	.
345	2028	9	.
346	2028	10	.
347	2028	11	.
348	2028	12	.
349	2029	1	.
350	2029	2	.

Kentucky Power Company  
 Municipal Energy Sales-Olive Hill  
 Endogenous Variable

Obs	YEAR	MONTH	kwh
351	2029	3	.
352	2029	4	.
353	2029	5	.
354	2029	6	.
355	2029	7	.
356	2029	8	.
357	2029	9	.
358	2029	10	.
359	2029	11	.
360	2029	12	.
361	2030	1	.
362	2030	2	.
363	2030	3	.
364	2030	4	.
365	2030	5	.
366	2030	6	.
367	2030	7	.
368	2030	8	.
369	2030	9	.
370	2030	10	.
371	2030	11	.
372	2030	12	.
373	2031	1	.
374	2031	2	.
375	2031	3	.
376	2031	4	.
377	2031	5	.
378	2031	6	.
379	2031	7	.
380	2031	8	.

381	2031	9	.
382	2031	10	.
383	2031	11	.
384	2031	12	.
385	2032	1	.
386	2032	2	.
387	2032	3	.
388	2032	4	.
389	2032	5	.
390	2032	6	.
391	2032	7	.
392	2032	8	.
393	2032	9	.
394	2032	10	.
395	2032	11	.
396	2032	12	.
397	2033	1	.
398	2033	2	.
399	2033	3	.
400	2033	4	.

Kentucky Power Company  
 Municipal Energy Sales-Olive Hill  
 Endogenous Variable

Obs	YEAR	MONTH	kwh
401	2033	5	.
402	2033	6	.
403	2033	7	.
404	2033	8	.
405	2033	9	.
406	2033	10	.
407	2033	11	.
408	2033	12	.
409	2034	1	.
410	2034	2	.
411	2034	3	.
412	2034	4	.
413	2034	5	.
414	2034	6	.
415	2034	7	.
416	2034	8	.
417	2034	9	.
418	2034	10	.
419	2034	11	.
420	2034	12	.
421	2035	1	.
422	2035	2	.
423	2035	3	.
424	2035	4	.
425	2035	5	.
426	2035	6	.
427	2035	7	.
428	2035	8	.
429	2035	9	.
430	2035	10	.

431	2035	11	.
432	2035	12	.
433	2036	1	.
434	2036	2	.
435	2036	3	.
436	2036	4	.
437	2036	5	.
438	2036	6	.
439	2036	7	.
440	2036	8	.
441	2036	9	.
442	2036	10	.
443	2036	11	.
444	2036	12	.
445	2037	1	.
446	2037	2	.
447	2037	3	.
448	2037	4	.
449	2037	5	.
450	2037	6	.

Kentucky Power Company  
 Municipal Energy Sales-Olive Hill  
 Endogenous Variable

Obs	YEAR	MONTH	kwh
451	2037	7	.
452	2037	8	.
453	2037	9	.
454	2037	10	.
455	2037	11	.
456	2037	12	.
457	2038	1	.
458	2038	2	.
459	2038	3	.
460	2038	4	.
461	2038	5	.
462	2038	6	.
463	2038	7	.
464	2038	8	.
465	2038	9	.
466	2038	10	.
467	2038	11	.
468	2038	12	.
469	2039	1	.
470	2039	2	.
471	2039	3	.
472	2039	4	.
473	2039	5	.
474	2039	6	.
475	2039	7	.
476	2039	8	.
477	2039	9	.
478	2039	10	.
479	2039	11	.
480	2039	12	.

481	2040	1	.
482	2040	2	.
483	2040	3	.
484	2040	4	.
485	2040	5	.
486	2040	6	.
487	2040	7	.
488	2040	8	.
489	2040	9	.
490	2040	10	.
491	2040	11	.
492	2040	12	.
493	2041	1	.
494	2041	2	.
495	2041	3	.
496	2041	4	.
497	2041	5	.
498	2041	6	.
499	2041	7	.
500	2041	8	.

Kentucky Power Company  
 Municipal Energy Sales-Olive Hill  
 Endogenous Variable

Obs	YEAR	MONTH	kwh
501	2041	9	.
502	2041	10	.
503	2041	11	.
504	2041	12	.
505	2042	1	.
506	2042	2	.
507	2042	3	.
508	2042	4	.
509	2042	5	.
510	2042	6	.
511	2042	7	.
512	2042	8	.
513	2042	9	.
514	2042	10	.
515	2042	11	.
516	2042	12	.
517	2043	1	.
518	2043	2	.
519	2043	3	.
520	2043	4	.
521	2043	5	.
522	2043	6	.
523	2043	7	.
524	2043	8	.
525	2043	9	.
526	2043	10	.
527	2043	11	.
528	2043	12	.
529	2044	1	.
530	2044	2	.

531	2044	3	.
532	2044	4	.
533	2044	5	.
534	2044	6	.
535	2044	7	.
536	2044	8	.
537	2044	9	.
538	2044	10	.
539	2044	11	.
540	2044	12	.
541	2045	1	.
542	2045	2	.
543	2045	3	.
544	2045	4	.
545	2045	5	.
546	2045	6	.
547	2045	7	.
548	2045	8	.
549	2045	9	.
550	2045	10	.

Kentucky Power Company  
 Municipal Energy Sales-Olive Hill  
 Endogenous Variable

Obs	YEAR	MONTH	kwh
551	2045	11	.
552	2045	12	.
553	2046	1	.
554	2046	2	.
555	2046	3	.
556	2046	4	.
557	2046	5	.
558	2046	6	.
559	2046	7	.
560	2046	8	.
561	2046	9	.
562	2046	10	.
563	2046	11	.
564	2046	12	.
565	2047	1	.
566	2047	2	.
567	2047	3	.
568	2047	4	.
569	2047	5	.
570	2047	6	.
571	2047	7	.
572	2047	8	.
573	2047	9	.
574	2047	10	.
575	2047	11	.
576	2047	12	.
577	2048	1	.
578	2048	2	.
579	2048	3	.
580	2048	4	.

581	2048	5	.
582	2048	6	.
583	2048	7	.
584	2048	8	.
585	2048	9	.
586	2048	10	.
587	2048	11	.
588	2048	12	.
589	2049	1	.
590	2049	2	.
591	2049	3	.
592	2049	4	.
593	2049	5	.
594	2049	6	.
595	2049	7	.
596	2049	8	.
597	2049	9	.
598	2049	10	.
599	2049	11	.
600	2049	12	.

Kentucky Power Company  
 Municipal Energy Sales-Olive Hill  
 Endogenous Variable

Obs	YEAR	MONTH	kwh
601	2050	1	.
602	2050	2	.
603	2050	3	.
604	2050	4	.
605	2050	5	.
606	2050	6	.
607	2050	7	.
608	2050	8	.
609	2050	9	.
610	2050	10	.
611	2050	11	.
612	2050	12	.
613	2051	1	.
614	2051	2	.
615	2051	3	.
616	2051	4	.
617	2051	5	.
618	2051	6	.
619	2051	7	.
620	2051	8	.
621	2051	9	.
622	2051	10	.
623	2051	11	.
624	2051	12	.
625	2052	1	.
626	2052	2	.
627	2052	3	.
628	2052	4	.
629	2052	5	.
630	2052	6	.

631	2052	7	.
632	2052	8	.
633	2052	9	.
634	2052	10	.
635	2052	11	.
636	2052	12	.
637	2053	1	.
638	2053	2	.
639	2053	3	.
640	2053	4	.
641	2053	5	.
642	2053	6	.
643	2053	7	.
644	2053	8	.
645	2053	9	.
646	2053	10	.
647	2053	11	.
648	2053	12	.
649	2054	1	.
650	2054	2	.

Kentucky Power Company  
 Municipal Energy Sales-Olive Hill  
 Endogenous Variable

Obs	YEAR	MONTH	kwh
651	2054	3	.
652	2054	4	.
653	2054	5	.
654	2054	6	.
655	2054	7	.
656	2054	8	.
657	2054	9	.
658	2054	10	.
659	2054	11	.
660	2054	12	.
661	2055	1	.
662	2055	2	.
663	2055	3	.
664	2055	4	.
665	2055	5	.
666	2055	6	.
667	2055	7	.
668	2055	8	.
669	2055	9	.
670	2055	10	.
671	2055	11	.
672	2055	12	.
673	2056	1	.
674	2056	2	.
675	2056	3	.
676	2056	4	.
677	2056	5	.
678	2056	6	.
679	2056	7	.
680	2056	8	.



681	2056	9	.
682	2056	10	.
683	2056	11	.
684	2056	12	.
685	2057	1	.
686	2057	2	.
687	2057	3	.
688	2057	4	.
689	2057	5	.
690	2057	6	.
691	2057	7	.
692	2057	8	.
693	2057	9	.
694	2057	10	.
695	2057	11	.
696	2057	12	.

Kentucky Power Company  
 Municipal Energy Sales-Olive Hill  
 Exogenous Variables

The MEANS Procedure

Variable	Label	Mean
YEAR	YEAR	2028.50
MONTH	MONTH	6.5000000
bcdd65	Cooling Degree Days (Base 65)	99.9442273
bhdd55	Heating Degree Days (Base 55)	203.5764807
L_kpc	Service Area Employment	121.8544188
d1	Binary Variable-January	0.0833333
d2	Binary Variable-February	0.0833333
d3	Binary Variable-March	0.0833333
d4	Binary Variable-April	0.0833333
d5	Binary Variable-May	0.0833333
d6	Binary Variable-June	0.0833333
d7	Binary Variable-July	0.0833333
d8	Binary Variable-August	0.0833333
d9	Binary Variable-September	0.0833333
d10	Binary Variable-October	0.0833333
d11	Binary Variable-November	0.0833333
jan04	Binary Variable-July 2004	0.0014368
mar02	Binary Variable-March 2002	0.0014368
apr02	Binary Variable-April 2002	0.0014368
jul15on	Binary Variable-July 2015 On	0.7327586
dec18on	Binary Variable-December 2018 On	0.6738506
jand08on	Binary Variable-2008 On January	0.0718391
dec07on	Binary Variable-2007 On December	0.0732759
oct11on	Binary Variable-October 2011 On	0.7974138
d17onjan	Binary Variable-2017 On January	0.0589080
mar18on	Binary Variable-March 2018 On	0.6867816

Kentucky Power Company  
 Municipal Energy Sales-Olive Hill  
 Exogenous Variables



















			j d d																								
			j d a e o 1 m																								
			u e n c c 7 a																								
			j m a l c d d t o r																								
			a a p 1 1 0 0 1 n 1																								
O	E	N	d	d	k	d d n r r 5 8 8 7 1 j 8																					
b	A	T	6	5	p	d	d	d	d	d	d	d	d	d	d	1	1	0	0	0	o	o	o	o	a	o	
s	R	H	5	5	c	1	2	3	4	5	6	7	8	9	0	1	4	2	2	n	n	n	n	n	n	n	
345	2028	9	263.024	0.103	119.045	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	1	0	1
346	2028	10	94.798	17.102	119.008	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	1	0	1
347	2028	11	12.599	143.253	118.975	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	1	0	1
348	2028	12	0.899	376.241	118.939	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	1
349	2029	1	0.249	551.193	118.903	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	1
350	2029	2	0.194	619.348	118.866	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
351	2029	3	1.218	458.542	118.830	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
352	2029	4	13.514	221.499	118.793	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
353	2029	5	45.555	53.061	118.756	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
354	2029	6	141.661	7.071	118.712	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
355	2029	7	288.276	0.024	118.674	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
356	2029	8	327.892	0.000	118.634	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	1	0	1
357	2029	9	263.024	0.103	118.591	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	1	0	1
358	2029	10	94.798	17.102	118.550	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	1	0	1
359	2029	11	12.599	143.253	118.508	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
360	2029	12	0.899	376.241	118.463	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	1
361	2030	1	0.249	551.193	118.421	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	1
362	2030	2	0.194	619.348	118.376	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
363	2030	3	1.218	458.542	118.333	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
364	2030	4	13.514	221.499	118.288	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
365	2030	5	45.555	53.061	118.246	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
366	2030	6	141.661	7.071	118.201	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
367	2030	7	288.276	0.024	118.157	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
368	2030	8	327.892	0.000	118.111	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	1	0	1
369	2030	9	263.024	0.103	118.067	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	1	0	1
370	2030	10	94.798	17.102	118.025	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	1	0	1
371	2030	11	12.599	143.253	117.979	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
372	2030	12	0.899	376.241	117.936	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	1
373	2031	1	0.249	551.193	117.890	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	1
374	2031	2	0.194	619.348	117.846	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
375	2031	3	1.218	458.542	117.805	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
376	2031	4	13.514	221.499	117.760	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
377	2031	5	45.555	53.061	117.710	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
378	2031	6	141.661	7.071	117.663	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
379	2031	7	288.276	0.024	117.614	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
380	2031	8	327.892	0.000	117.566	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	1	0	1
381	2031	9	263.024	0.103	117.514	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	1	0	1
382	2031	10	94.798	17.102	117.468	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	1	0	1
383	2031	11	12.599	143.253	117.418	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
384	2031	12	0.899	376.241	117.369	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	1
385	2032	1	0.249	551.193	117.318	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	1
386	2032	2	0.194	619.348	117.271	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
387	2032	3	1.218	458.542	117.225	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1

Kentucky Power Company  
 Municipal Energy Sales-Olive Hill  
 Exogenous Variables











			j d d																								
			j d a e o 1 m																								
			u e n c c 7 a																								
			j m a l c d d t o r																								
			a a p 1 1 0 0 1 n 1																								
O	Y	M	b	b	L	d d n r r 5 8 8 7 1 j 8																					
b	A	T	6	5	p	d	d	d	d	d	d	d	d	d	d	d	1	1	0	0	0	o	o	o	o	a	o
s	R	H	5	5	c	1	2	3	4	5	6	7	8	9	0	1	4	2	2	n	n	n	n	n	n	n	
603	2050	3	1.218	458.542	108.727	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
604	2050	4	13.514	221.499	108.688	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
605	2050	5	45.555	53.061	108.642	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
606	2050	6	141.661	7.071	108.599	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
607	2050	7	288.276	0.024	108.561	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
608	2050	8	327.892	0.000	108.518	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
609	2050	9	263.024	0.103	108.473	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	1	0	1
610	2050	10	94.798	17.102	108.434	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	1	0	1
611	2050	11	12.599	143.253	108.389	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	1	0	1
612	2050	12	0.899	376.241	108.347	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	1
613	2051	1	0.249	551.193	108.304	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	1
614	2051	2	0.194	619.348	108.264	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
615	2051	3	1.218	458.542	108.222	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
616	2051	4	13.514	221.499	108.180	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
617	2051	5	45.555	53.061	108.137	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
618	2051	6	141.661	7.071	108.093	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
619	2051	7	288.276	0.024	108.052	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
620	2051	8	327.892	0.000	108.007	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
621	2051	9	263.024	0.103	107.967	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	1	0	1
622	2051	10	94.798	17.102	107.923	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	1	0	1
623	2051	11	12.599	143.253	107.879	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	1	0	1
624	2051	12	0.899	376.241	107.836	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	1
625	2052	1	0.249	551.193	107.796	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	1
626	2052	2	0.194	619.348	107.753	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
627	2052	3	1.218	458.542	107.710	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
628	2052	4	13.514	221.499	107.664	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
629	2052	5	45.555	53.061	107.622	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
630	2052	6	141.661	7.071	107.579	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
631	2052	7	288.276	0.024	107.539	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
632	2052	8	327.892	0.000	107.494	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
633	2052	9	263.024	0.103	107.451	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	1	0	1
634	2052	10	94.798	17.102	107.407	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	1	0	1
635	2052	11	12.599	143.253	107.363	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	1	0	1
636	2052	12	0.899	376.241	107.322	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	1
637	2053	1	0.249	551.193	107.291	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	1
638	2053	2	0.194	619.348	107.245	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
639	2053	3	1.218	458.542	107.201	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
640	2053	4	13.514	221.499	107.151	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
641	2053	5	45.555	53.061	107.110	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
642	2053	6	141.661	7.071	107.068	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
643	2053	7	288.276	0.024	107.029	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
644	2053	8	327.892	0.000	106.984	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
645	2053	9	263.024	0.103	106.938	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	1	0	1

Kentucky Power Company  
 Municipal Energy Sales-Olive Hill  
 Exogenous Variables



			j d d																								
			j d a e o 1 m																								
			u e n c c 7 a																								
			j m a l c d d t o r																								
			a a p 1 1 0 0 1 n 1																								
			d d n r r 5 8 8 7 1 j 8																								
			p d d d d d d d d d 1 1 0 0 0 o o o o o a o																								
			c 1 2 3 4 5 6 7 8 9 0 1 4 2 2 n n n n n n n																								
	M	b	b	L																							
Y	O	d	d	-																							
O	E	N	d	k																							
b	A	T	6	5	p	d	d	d	d	d	d	d	d	d	d	1	1	0	0	0	o	o	o	o	a	o	
s	R	H	5	5	c	1	2	3	4	5	6	7	8	9	0	1	4	2	2	n	n	n	n	n	n	n	
646	2053	10	94.798	17.102	106.894	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	1	0	1
647	2053	11	12.599	143.253	106.850	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	1	0	1
648	2053	12	0.899	376.241	106.811	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	1
649	2054	1	0.249	551.193	106.788	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	1
650	2054	2	0.194	619.348	106.739	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
651	2054	3	1.218	458.542	106.694	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
652	2054	4	13.514	221.499	106.640	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
653	2054	5	45.555	53.061	106.600	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
654	2054	6	141.661	7.071	106.559	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
655	2054	7	288.276	0.024	106.521	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
656	2054	8	327.892	0.000	106.476	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	1	0	1
657	2054	9	263.024	0.103	106.427	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	1	0	1
658	2054	10	94.798	17.102	106.383	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	1	0	1
659	2054	11	12.599	143.253	106.339	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	1	0	1
660	2054	12	0.899	376.241	106.302	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	1
661	2055	1	0.249	551.193	106.288	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	1
662	2055	2	0.194	619.348	106.236	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
663	2055	3	1.218	458.542	106.190	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
664	2055	4	13.514	221.499	106.133	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
665	2055	5	45.555	53.061	106.093	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
666	2055	6	141.661	7.071	106.053	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
667	2055	7	288.276	0.024	106.016	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
668	2055	8	327.892	0.000	105.971	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	1	0	1
669	2055	9	263.024	0.103	105.920	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	1	0	1
670	2055	10	94.798	17.102	105.876	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	1	0	1
671	2055	11	12.599	143.253	105.832	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	1	0	1
672	2055	12	0.899	376.241	105.796	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	1
673	2056	1	0.249	551.193	105.791	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	1
674	2056	2	0.194	619.348	105.736	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
675	2056	3	1.218	458.542	105.689	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
676	2056	4	13.514	221.499	105.628	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
677	2056	5	45.555	53.061	105.589	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
678	2056	6	141.661	7.071	105.550	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
679	2056	7	288.276	0.024	105.514	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
680	2056	8	327.892	0.000	105.469	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	1	0	1
681	2056	9	263.024	0.103	105.415	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	1	0	1
682	2056	10	94.798	17.102	105.371	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	1	0	1
683	2056	11	12.599	143.253	105.327	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	1	0	1
684	2056	12	0.899	376.241	105.293	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	1
685	2057	1	0.249	551.193	105.296	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	1
686	2057	2	0.194	619.348	105.238	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
687	2057	3	1.218	458.542	105.191	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1
688	2057	4	13.514	221.499	105.125	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1

Kentucky Power Company  
 Municipal Energy Sales-Olive Hill  
 Exogenous Variables



jan04	1	2686728	176925.9	15.19	<.0001	Binary Variable-July 2004
mar02	1	-842041	169820.3	-4.96	<.0001	Binary Variable-March 2002
apr02	1	1665412	169736.4	9.81	<.0001	Binary Variable-April 2002
jand08on	1	315056.5	84714.92	3.72	0.0002	Binary Variable-2008 On January
dec07on	1	-50705.1	77536.51	-0.65	0.5138	Binary Variable-2007 On December
oct11on	1	-157385	48094.22	-3.27	0.0012	Binary Variable-October 2011 On
d1	1	-125997	92126.11	-1.37	0.1727	Binary Variable-January
d2	1	-414157	82211.08	-5.04	<.0001	Binary Variable-February

Kentucky Power Company  
 Municipal Energy Sales-Olive Hill  
 Model Results

The SYSLIN Procedure  
 Ordinary Least Squares Estimation

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t	Variable Label
d3	1	-541495	74242.54	-7.29	<.0001	Binary Variable-March
d4	1	-786501	77626.22	-10.13	<.0001	Binary Variable-April
d5	1	-667072	89329.56	-7.47	<.0001	Binary Variable-May
d6	1	-533529	102375.1	-5.21	<.0001	Binary Variable-June
d7	1	-361613	124904.9	-2.90	0.0041	Binary Variable-July
d8	1	-492857	133570.9	-3.69	0.0003	Binary Variable-August
d9	1	-794319	122189.1	-6.50	<.0001	Binary Variable-September
d10	1	-720981	95886.49	-7.52	<.0001	Binary Variable-October
d11	1	-371660	81256.44	-4.57	<.0001	Binary Variable-November
jul15on	1	-85117.5	53437.70	-1.59	0.1125	Binary Variable-July 2015 On
d17onjan	1	-214391	90792.04	-2.36	0.0190	Binary Variable-2017 On January
mar18on	1	90693.64	64775.68	1.40	0.1628	Binary Variable-March 2018 On
dec18on	1	-142664	65224.80	-2.19	0.0297	Binary Variable-December 2018 On

Durbin-Watson 2.187661  
 Number of Observations 265  
 First-Order Autocorrelation -0.09759

Kentucky Power Company  
 Municipal Energy Sales-Olive Hill  
 Model Residuals

time		Residual Values
		Sum
2000.000000	*	-10353.3
2000.0833333	*****	-314720.0
2000.1666667	*****	359177.8
2000.2500000	*****	110824.5
2000.3333333	*****	-101621.0
2000.4166667	*****	-338642.6
2000.5000000	*****	-146740.7
2000.5833333	*	-11142.5
2000.6666667	*****	262381.5
2000.7500000	*****	288343.3
2000.8333333	*****	-495558.6
2000.9166667	*****	-613935.6
2001.0000000	****	-73518.3
2001.0833333	*****	434785.5
2001.1666667	****	-86831.0
2001.2500000	*****	-111661.2
2001.3333333	*	-23913.9
2001.4166667	*****	-105708.8
2001.5000000	*****	-256724.7
2001.5833333	*****	-330413.0
2001.6666667	*****	-451314.3
2001.7500000	*****	-239759.0
2001.8333333	*****	423742.9
2001.9166667	*****	-151979.9
2002.0000000		-6248.0
2002.0833333	*****	-152310.1
2002.1666667		-0.0
2002.2500000		0.0
2002.3333333	*****	-166222.7
2002.4166667	***	65545.2
2002.5000000	*****	254685.6
2002.5833333	***	67824.5
2002.6666667	*****	95233.6
2002.7500000	*****	-163474.5
2002.8333333	*****	-103151.8
2002.9166667	*****	262652.0
2003.0000000	*****	111885.5
2003.0833333	*****	-167674.0
2003.1666667	*****	-325239.4
2003.2500000	*****	125344.8
2003.3333333	*****	-118856.3
2003.4166667	*****	-199470.8
2003.5000000	*****	154779.7
2003.5833333	*	26743.6
2003.6666667	*	-13557.1
2003.7500000	****	76141.4

2003.8333333	*****	-246536.6
2003.9166667	*****	223176.7
2004.0000000		0.0

Kentucky Power Company  
 Municipal Energy Sales-Olive Hill  
 Model Residuals

2004.0833333	**	31888.5
2004.1666667	*	-13160.8
2004.2500000		-1486.6
2004.3333333		7461.9
2004.4166667	****	71684.2
2004.5000000	**	-35193.7
2004.5833333	*****	-156595.5
2004.6666667	*****	324899.4
2004.7500000	*****	-163993.5
2004.8333333	*****	-283462.8
2004.9166667	*****	390956.2
2005.0000000	*****	-122807.6
2005.0833333	*****	-250882.6
2005.1666667	*****	163529.3
2005.2500000	****	-86531.9
2005.3333333	*****	-136803.2
2005.4166667	*****	234853.2
2005.5000000	***	67144.8
2005.5833333	*	25973.3
2005.6666667	*****	221810.6
2005.7500000	*****	-213451.9
2005.8333333	*****	309761.1
2005.9166667	*	-10875.0
2006.0000000		8971.7
2006.0833333	*****	111125.2
2006.1666667	***	50864.3
2006.2500000	*****	-134366.3
2006.3333333	*	12973.2
2006.4166667	**	-32621.9
2006.5000000	*****	164955.5
2006.5833333	*****	119286.6
2006.6666667	*****	-198989.2
2006.7500000	*****	176058.3
2006.8333333	**	-37853.7
2006.9166667	****	-99994.5
2007.0000000	*****	92070.0
2007.0833333	*****	337418.4
2007.1666667	*****	-201940.7
2007.2500000	****	72073.3
2007.3333333	*****	93881.6
2007.4166667	**	33452.7
2007.5000000	*****	-116424.4
2007.5833333	*****	378428.1
2007.6666667	*	-27515.9
2007.7500000	**	-46169.1
2007.8333333	*	17909.5
2007.9166667	***	50373.3
2008.0000000	***	65012.8
2008.0833333	*****	178729.6

2008.1666667	****	77325.5
2008.2500000	*	-25527.1
2008.3333333	****	-83026.6

Kentucky Power Company  
 Municipal Energy Sales-Olive Hill  
 Model Residuals

2008.4166667	*****	129938.2
2008.5000000		-494.9
2008.5833333	**	-42489.9
2008.6666667	*	14870.1
2008.7500000	*	27035.9
2008.8333333	*****	159117.0
2008.9166667	*****	103834.1
2009.0000000	*****	181787.2
2009.0833333	***	-59494.4
2009.1666667		5510.0
2009.2500000	*****	103956.6
2009.3333333	***	-63230.0
2009.4166667	***	50149.2
2009.5000000	*****	-188220.3
2009.5833333	*****	111443.4
2009.6666667	**	-36073.8
2009.7500000	***	60591.0
2009.8333333	***	-61537.6
2009.9166667	*****	229055.7
2010.0000000		-3620.4
2010.0833333	*****	221380.7
2010.1666667	****	-79064.9
2010.2500000	**	-40684.6
2010.3333333		3399.2
2010.4166667	*****	105157.6
2010.5000000	*	20523.7
2010.5833333	*	28662.4
2010.6666667	*****	-121126.0
2010.7500000	*****	-121289.3
2010.8333333		6038.5
2010.9166667	*****	562789.4
2011.0000000	*	-11891.2
2011.0833333	*****	-111597.7
2011.1666667	****	88927.6
2011.2500000	*****	-107547.6
2011.3333333	*	-21367.7
2011.4166667	*****	-119644.1
2011.5000000	*****	109979.6
2011.5833333	*****	-159530.8
2011.6666667	*****	-202427.8
2011.7500000	*****	172456.1
2011.8333333	***	-68448.0
2011.9166667		3349.1
2012.0000000	*****	-213327.5
2012.0833333		7118.8
2012.1666667	*****	-207166.5
2012.2500000	**	37431.4
2012.3333333	*****	111826.4
2012.4166667	*	-16370.9

2012.5000000	***	65043.2
2012.5833333	***	-61626.9
2012.6666667	***	-63437.7

Kentucky Power Company  
 Municipal Energy Sales-Olive Hill  
 Model Residuals

2012.7500000	*****	121001.2
2012.8333333	*****	116659.4
2012.9166667	*****	-110727.7
2013.0000000	*****	-214301.4
2013.0833333	*	-10319.0
2013.1666667	*****	235306.1
2013.2500000	*****	-117892.1
2013.3333333	*	12427.0
2013.4166667	*	-25946.6
2013.5000000	*****	-114916.0
2013.5833333	*****	-125979.9
2013.6666667	***	-69931.9
2013.7500000	****	72500.6
2013.8333333	*****	108577.2
2013.9166667		-9609.4
2014.0000000	*****	221819.3
2014.0833333		1569.2
2014.1666667	*****	98592.1
2014.2500000	*****	-100663.7
2014.3333333	**	35029.1
2014.4166667	***	68329.9
2014.5000000	*****	-207898.3
2014.5833333	****	71372.7
2014.6666667	*	-18514.1
2014.7500000	***	50620.7
2014.8333333	*****	194636.7
2014.9166667	*****	-172242.5
2015.0000000	****	-86342.5
2015.0833333	*****	379790.4
2015.1666667	*****	-171372.0
2015.2500000	****	-70906.7
2015.3333333	***	63742.6
2015.4166667		8742.1
2015.5000000	***	-51104.8
2015.5833333		-2975.7
2015.6666667	*****	103251.5
2015.7500000	***	68185.4
2015.8333333	***	-66900.3
2015.9166667	*****	-274971.1
2016.0000000	***	60863.7
2016.0833333	*	-29044.4
2016.1666667	****	-83982.5
2016.2500000	*****	130627.4
2016.3333333	***	53201.8
2016.4166667	*****	117154.3
2016.5000000	***	60668.5
2016.5833333	*****	162008.4
2016.6666667	**	48367.7
2016.7500000	*****	-96549.0

2016.8333333	***	-50053.5
2016.9166667	***	62934.5
2017.0000000	*****	-209205.6

Kentucky Power Company  
 Municipal Energy Sales-Olive Hill  
 Model Residuals

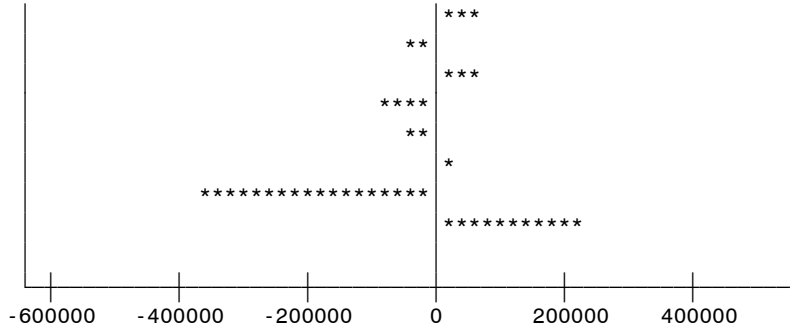
2017.0833333	*****	-222660.0
2017.1666667	*****	128316.5
2017.2500000		7324.0
2017.3333333	*	17817.6
2017.4166667		-6898.8
2017.5000000	***	51541.6
2017.5833333	****	-78842.6
2017.6666667	**	45651.9
2017.7500000	***	64957.4
2017.8333333	*	18253.2
2017.9166667	*****	144292.0
2018.0000000	*****	143013.5
2018.0833333	*****	-315242.8
2018.1666667	*****	153431.1
2018.2500000	*	26810.1
2018.3333333	*****	93667.7
2018.4166667	***	-54783.4
2018.5000000	*****	-137635.0
2018.5833333	***	-62907.3
2018.6666667		3381.2
2018.7500000	**	-35462.6
2018.8333333	*	13498.2
2018.9166667	****	-96022.9
2019.0000000	*****	107423.9
2019.0833333	*****	-176709.7
2019.1666667	*****	148879.1
2019.2500000	*	-22614.5
2019.3333333	****	89467.6
2019.4166667	***	-64730.9
2019.5000000	*****	109990.7
2019.5833333	*	-14331.9
2019.6666667	*****	163593.8
2019.7500000	*****	-122733.6
2019.8333333	*****	109842.8
2019.9166667	*****	-174107.0
2020.0000000	*****	-200194.5
2020.0833333	**	30413.6
2020.1666667	*****	-149059.6
2020.2500000	***	57627.7
2020.3333333	****	72666.4
2020.4166667	*	13119.1
2020.5000000	*****	229183.2
2020.5833333	*	-13511.7
2020.6666667		-2921.7
2020.7500000	***	57051.8
2020.8333333	****	-84808.4
2020.9166667	**	49643.6
2021.0000000	***	-63021.2
2021.0833333	****	76434.8



2021.1666667	*****	-192042.2
2021.2500000	*****	147862.5
2021.3333333	**	47479.3

Kentucky Power Company  
 Municipal Energy Sales-Olive Hill  
 Model Residuals

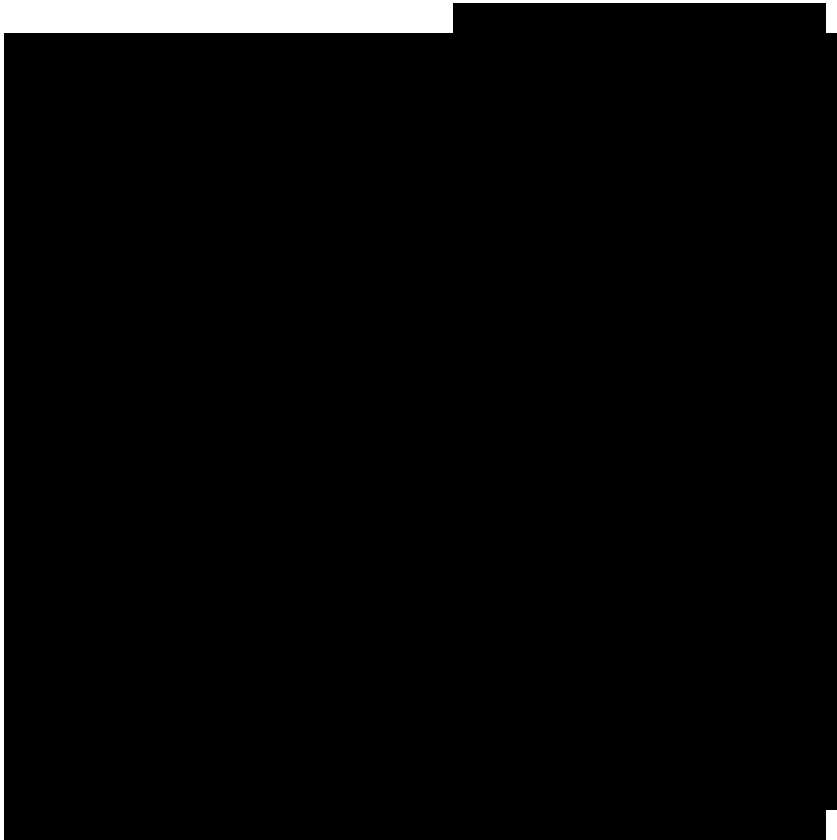
2021.4166667	***	66692.8
2021.5000000	**	-33143.2
2021.5833333	***	68604.7
2021.6666667	****	-77631.8
2021.7500000	**	-32060.6
2021.8333333	*	20275.2
2021.9166667	*****	-368591.2
2022.0000000	*****	221983.8



Residual Values

Kentucky Power Company  
 Municipal Energy Sales-Olive Hill  
 Actual and Forecast

Year	Energy Sales	Growth Rate
------	--------------	-------------



[REDACTED]

[REDACTED]

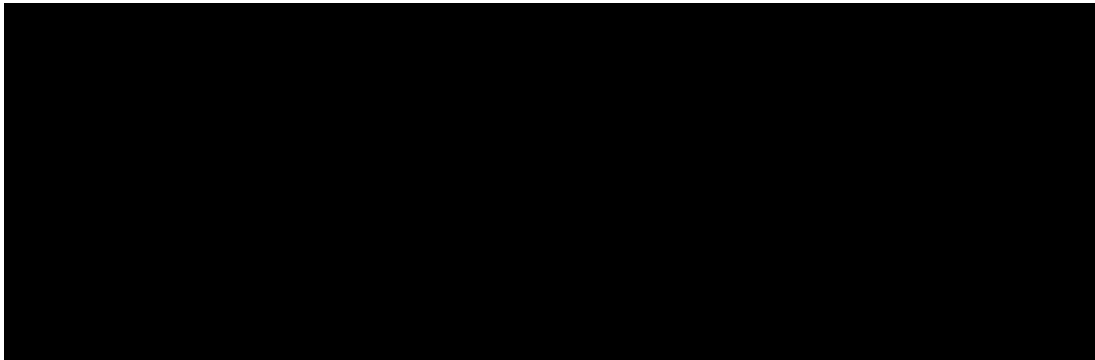
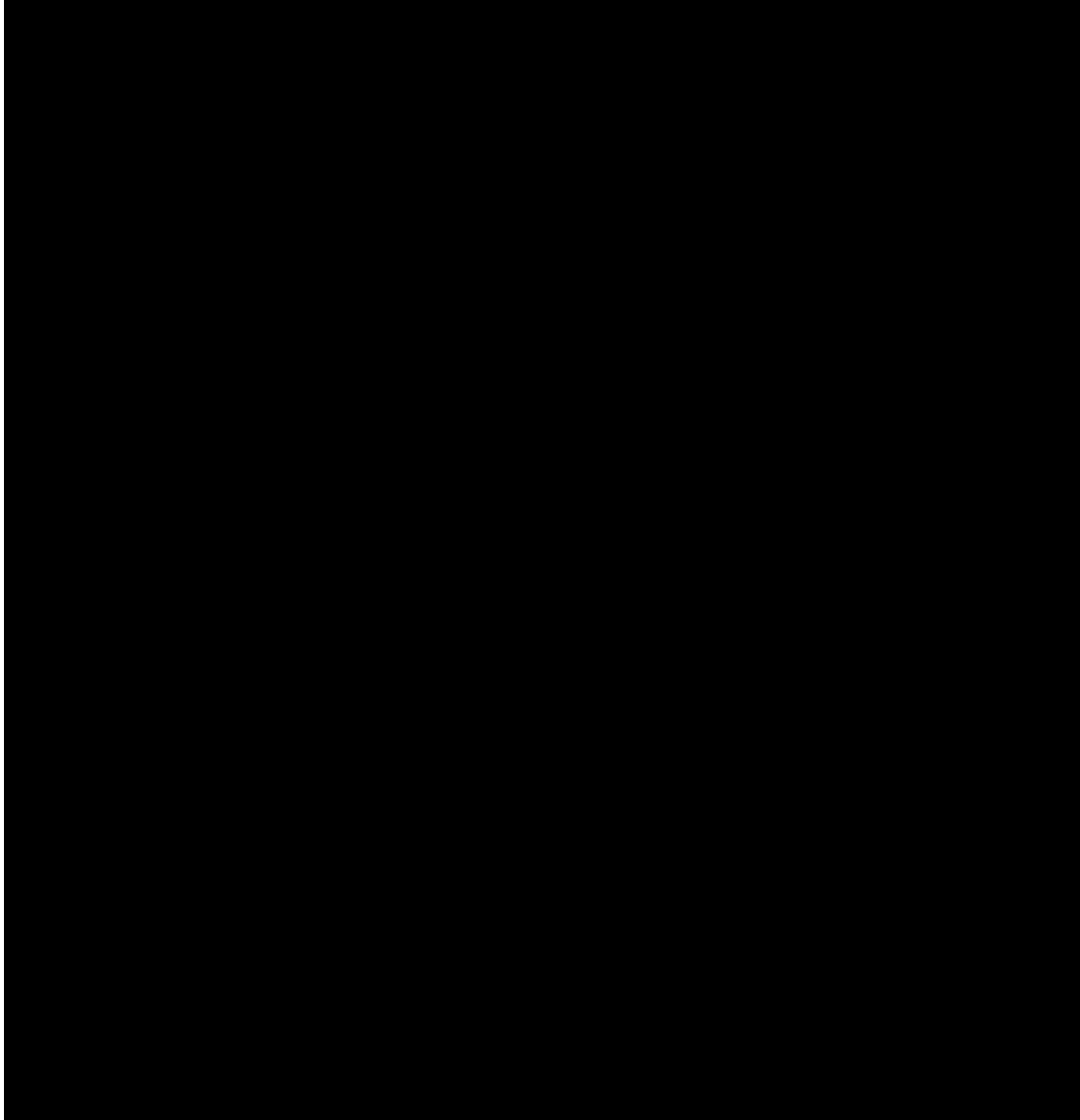
[REDACTED]

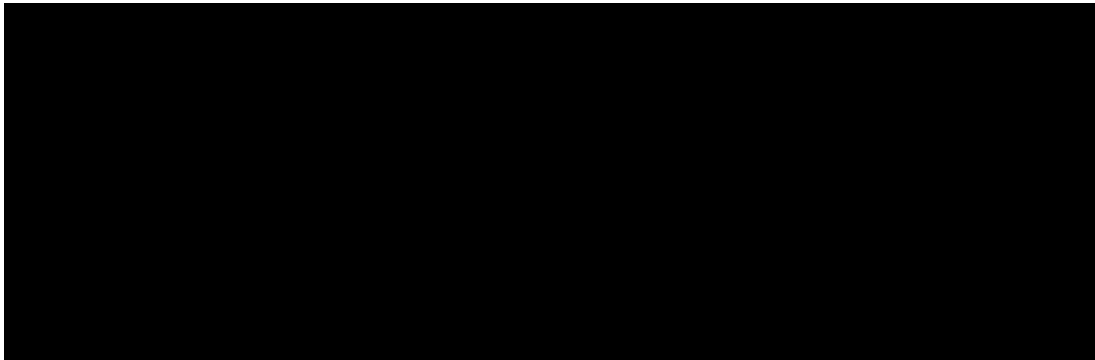
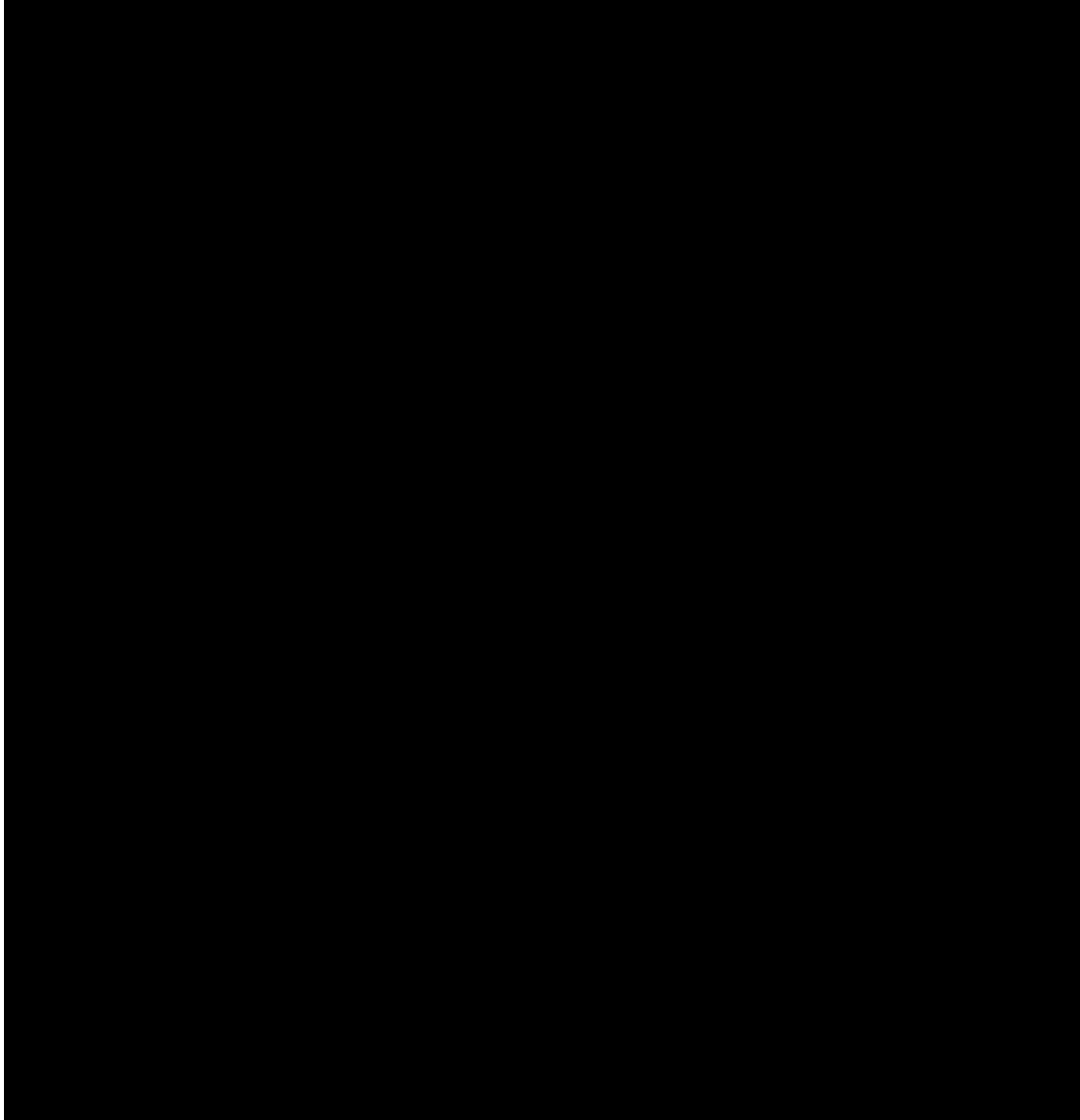
[REDACTED]

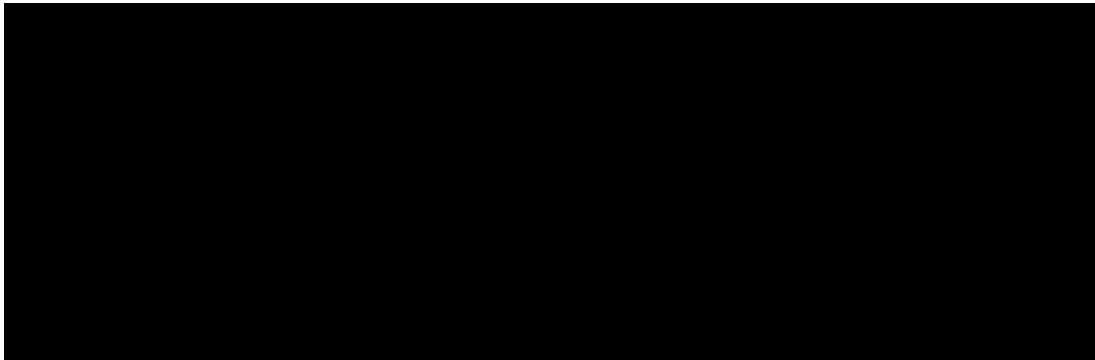
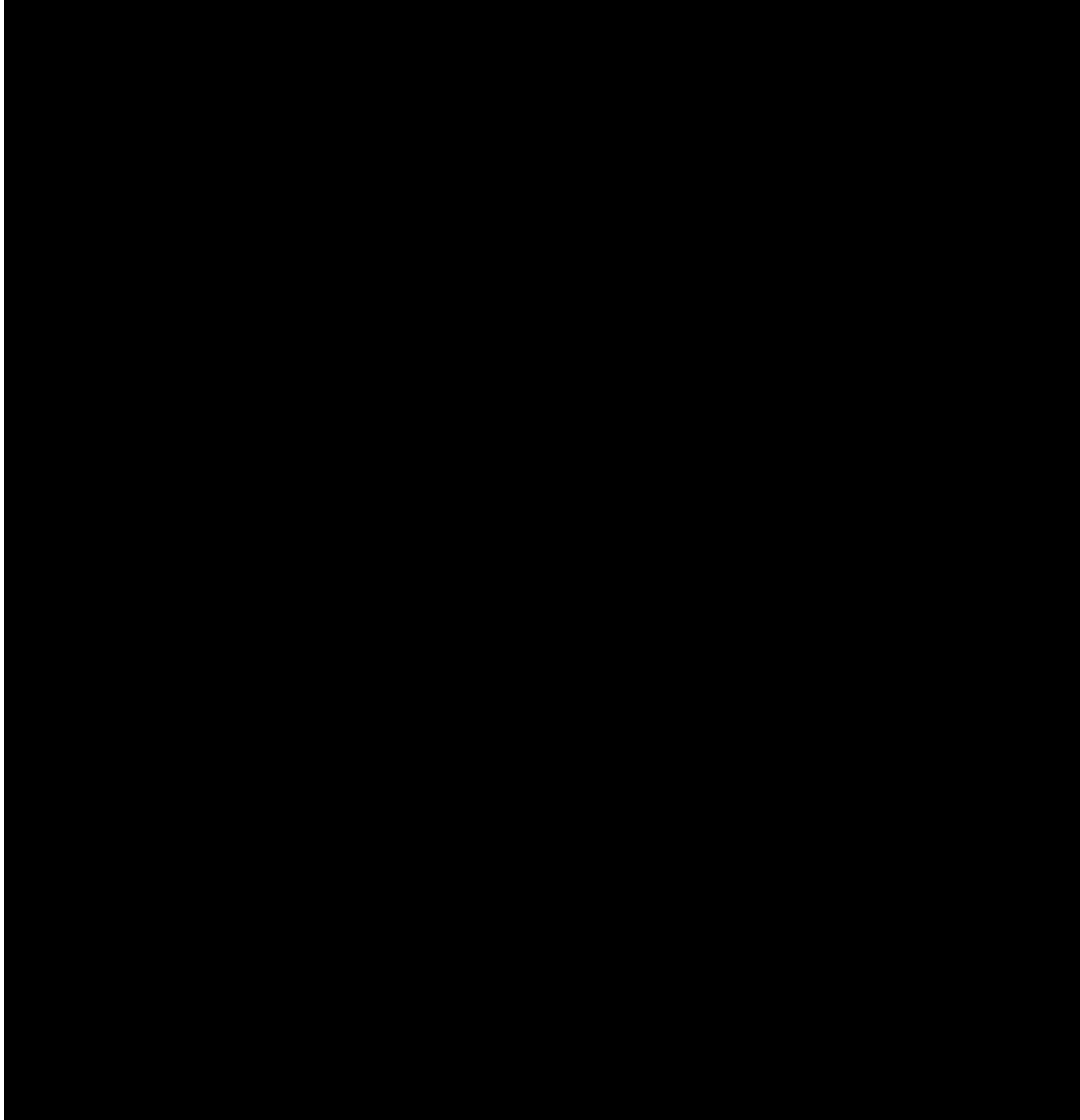
[REDACTED]

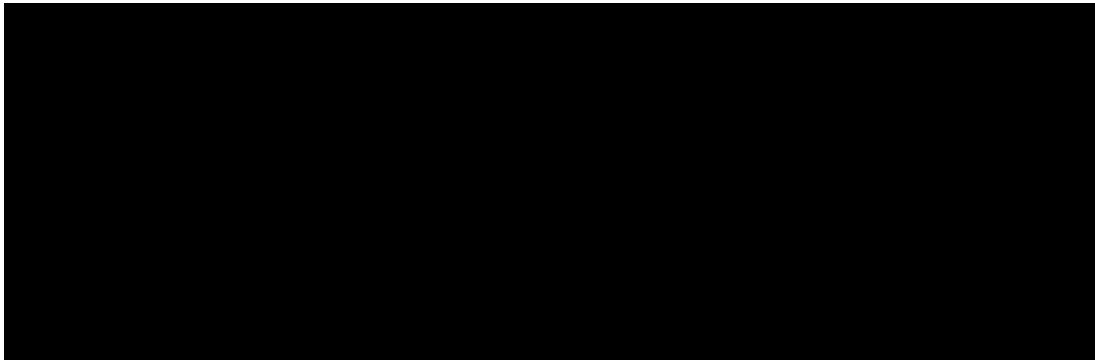
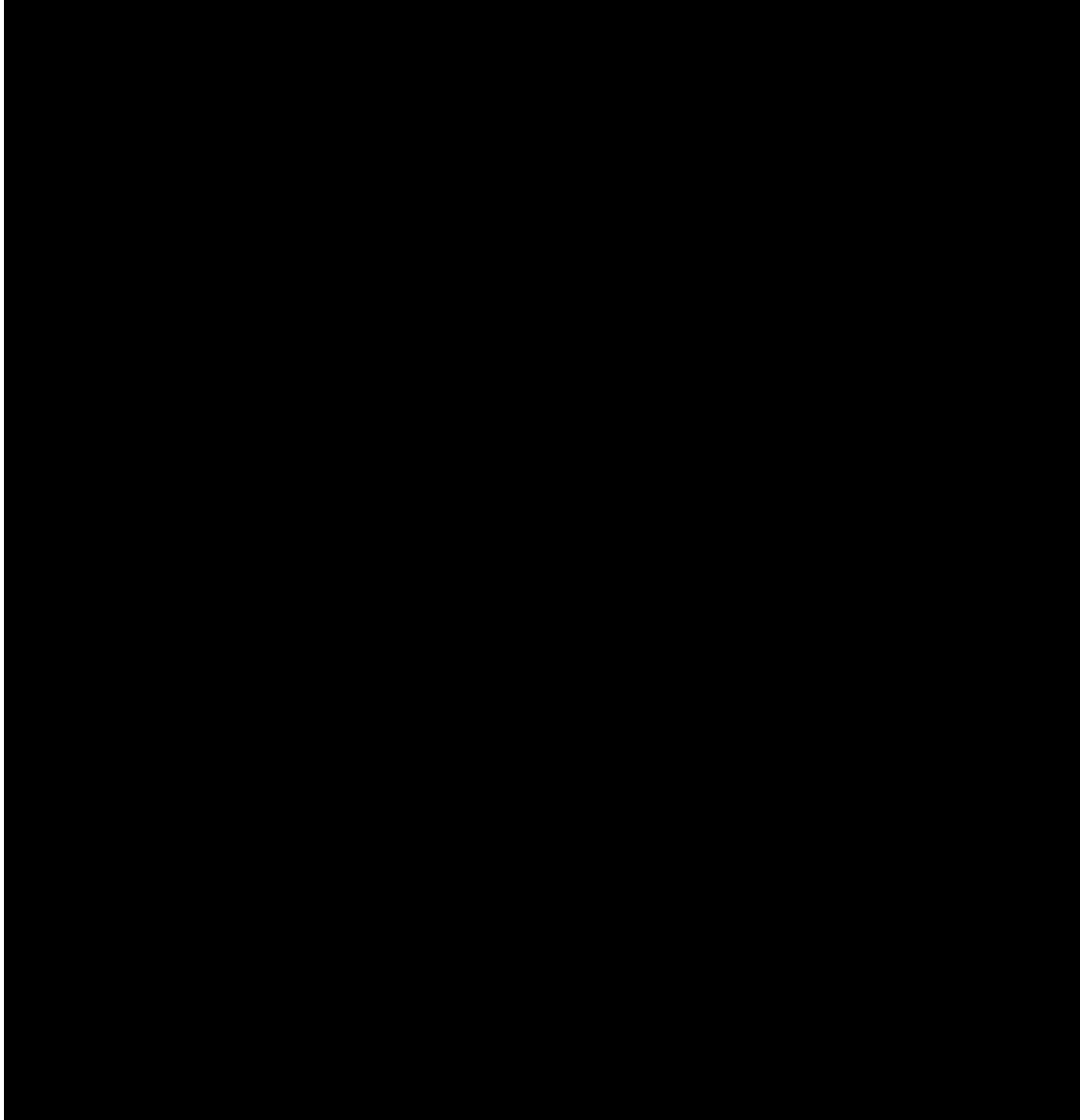
[REDACTED]

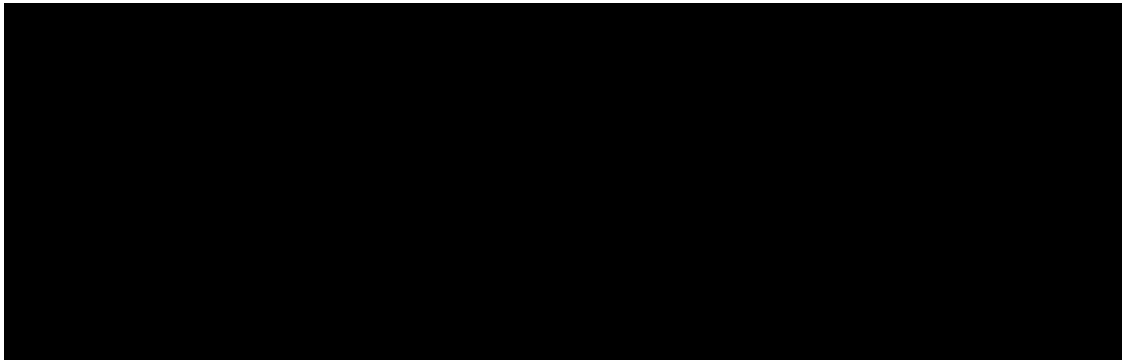
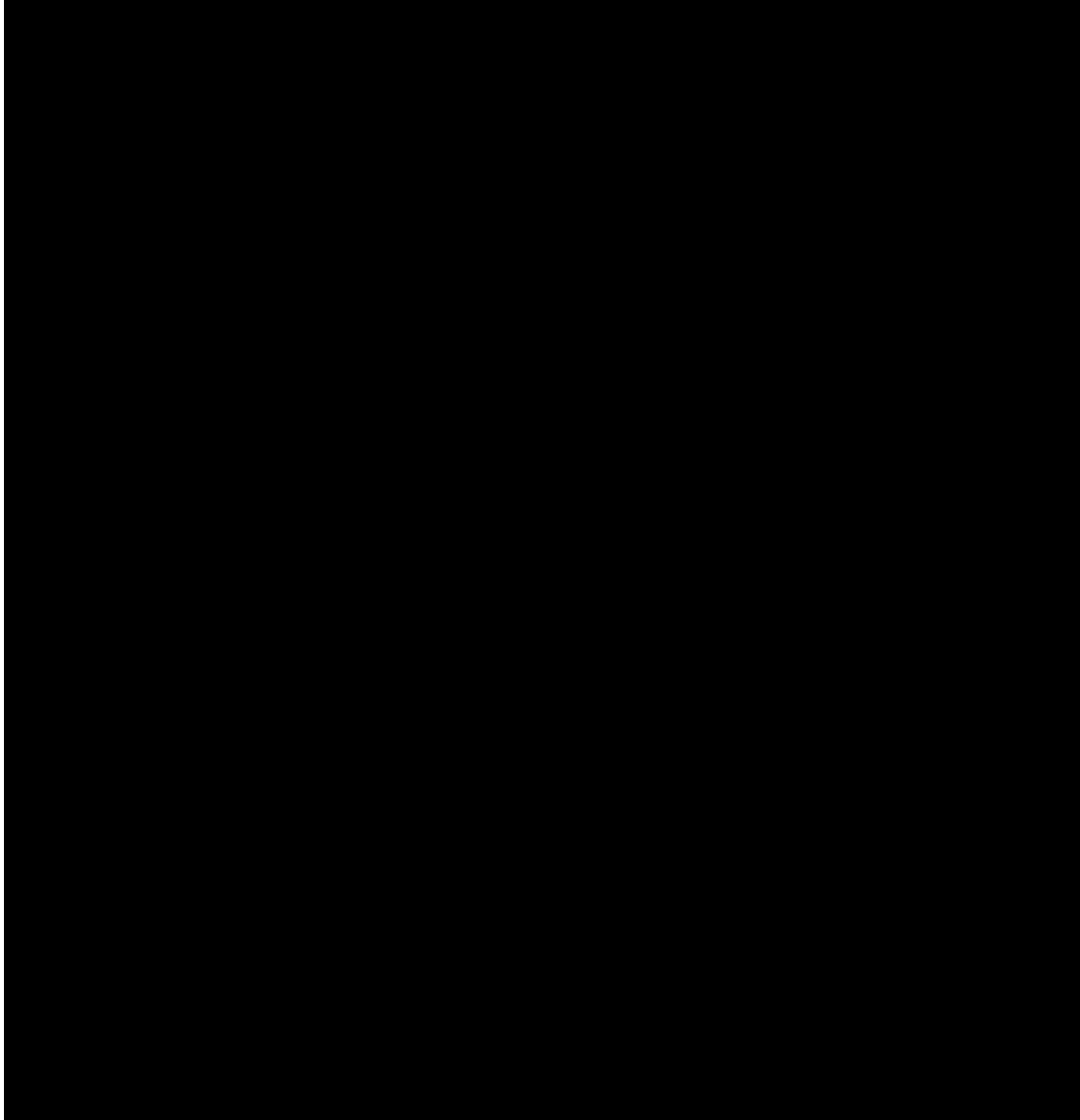
[REDACTED]

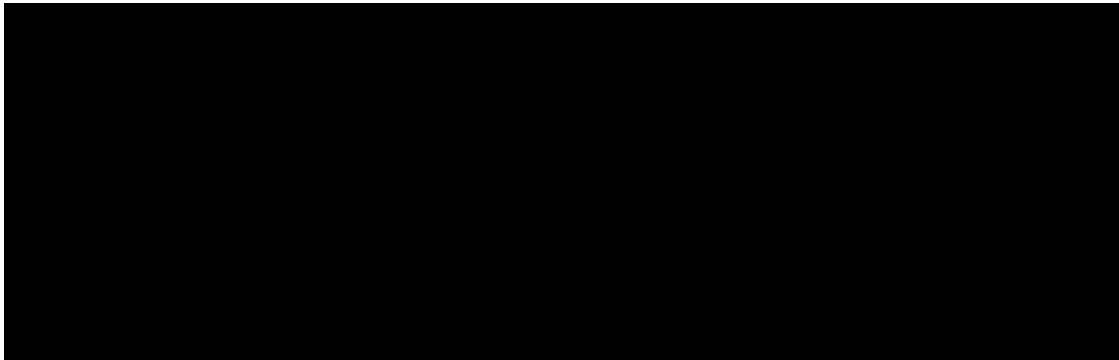
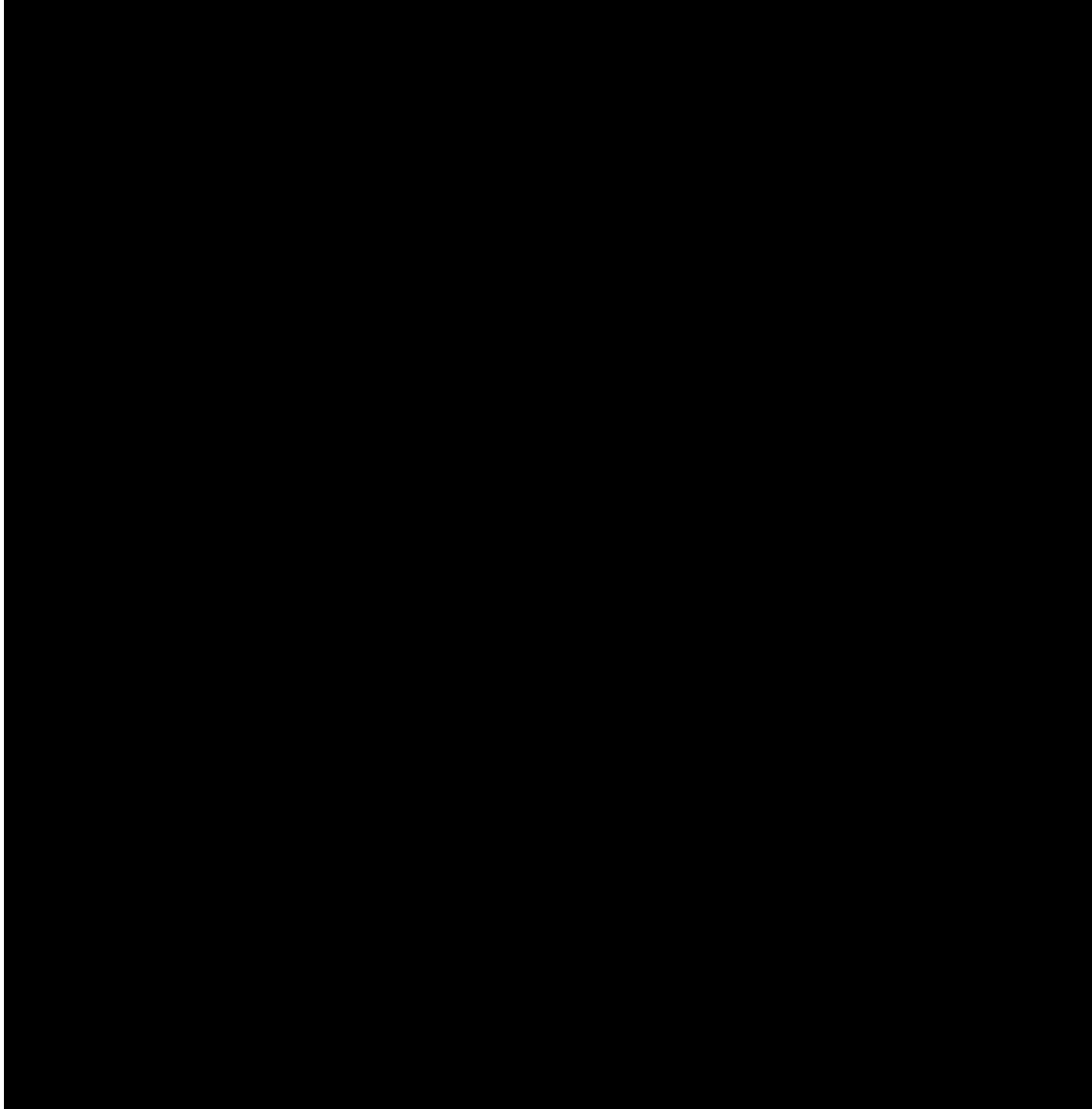




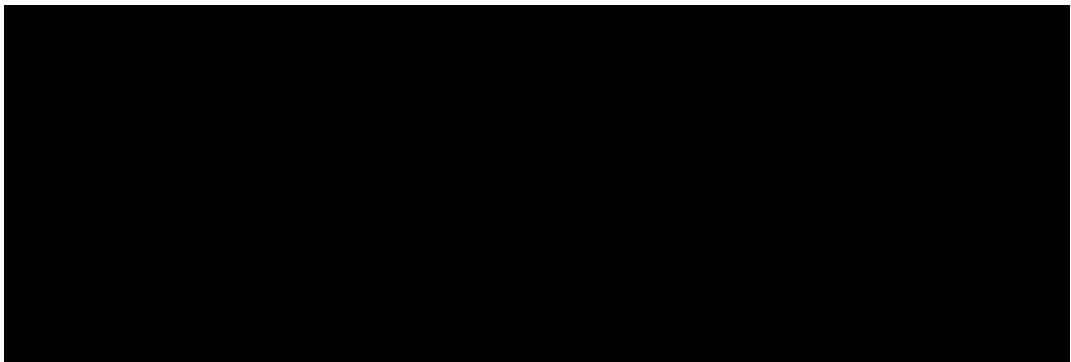
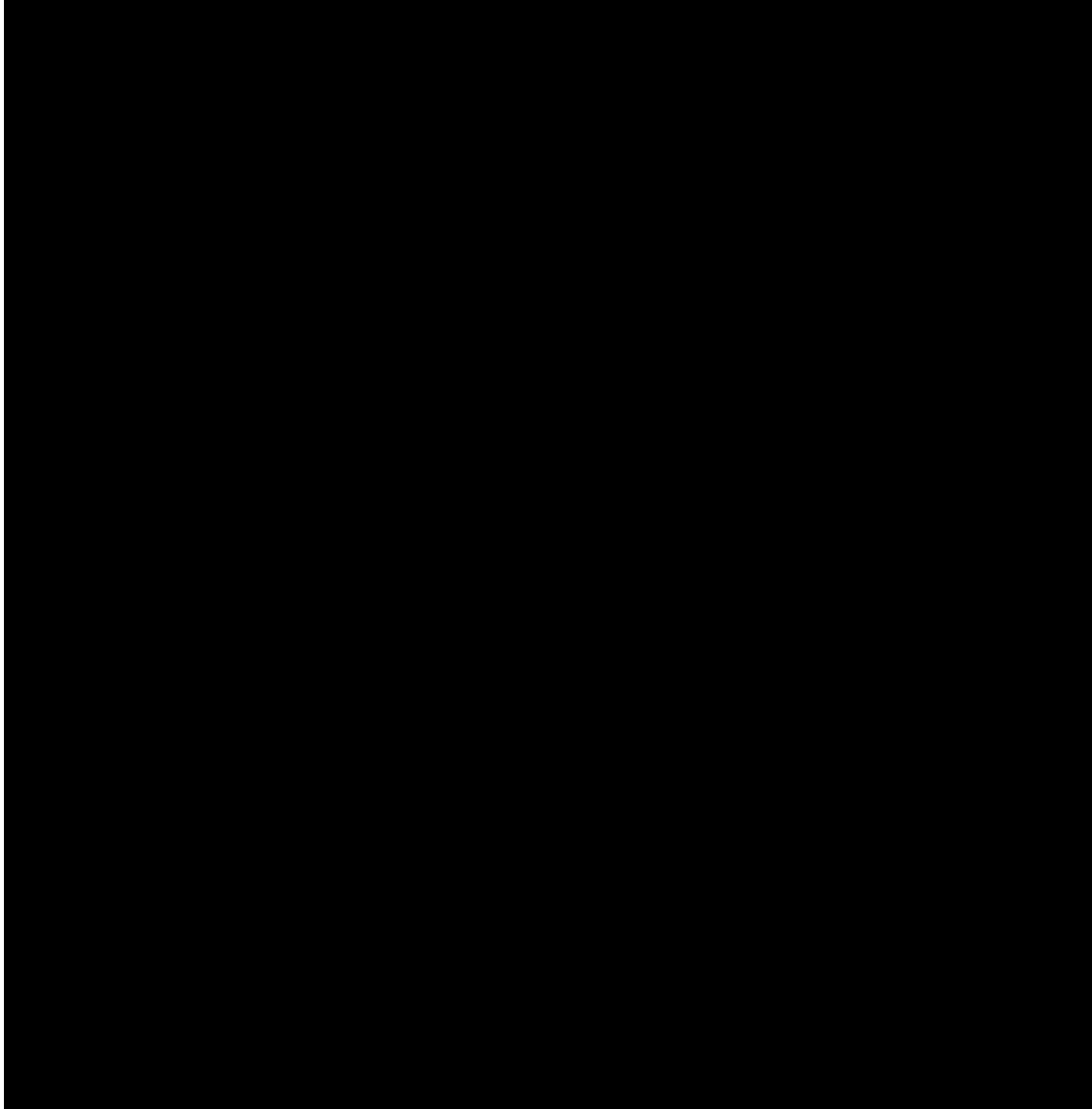


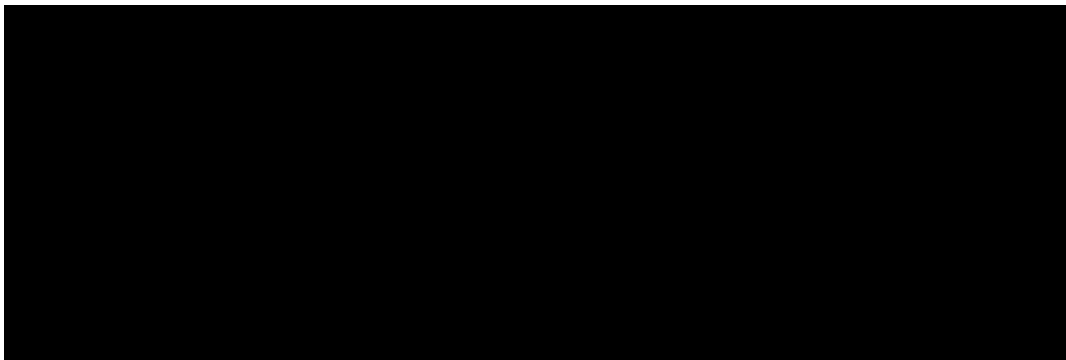
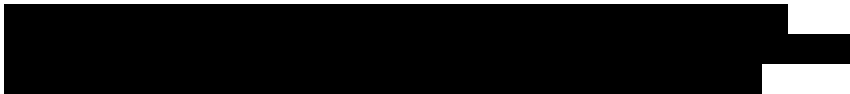
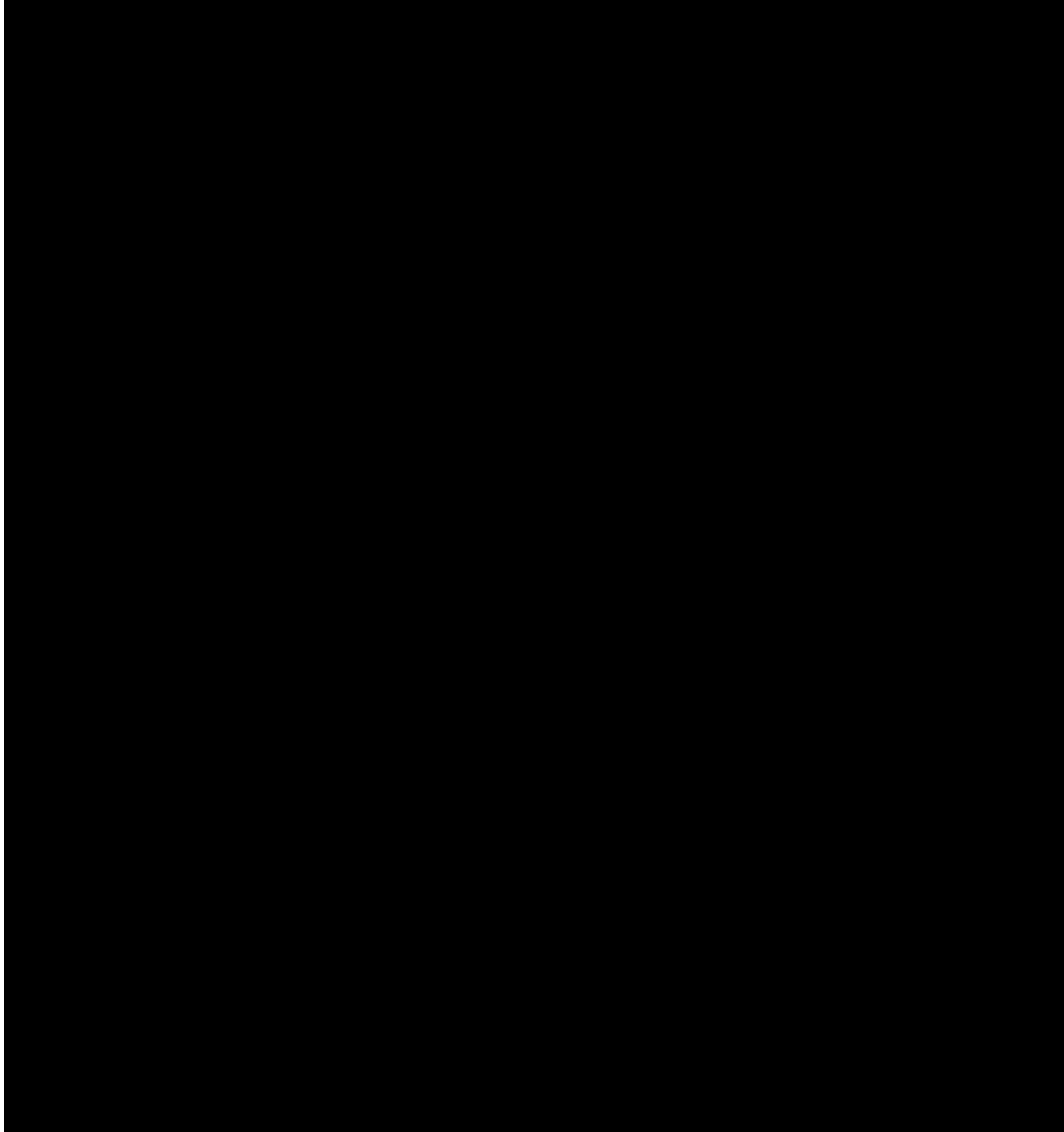


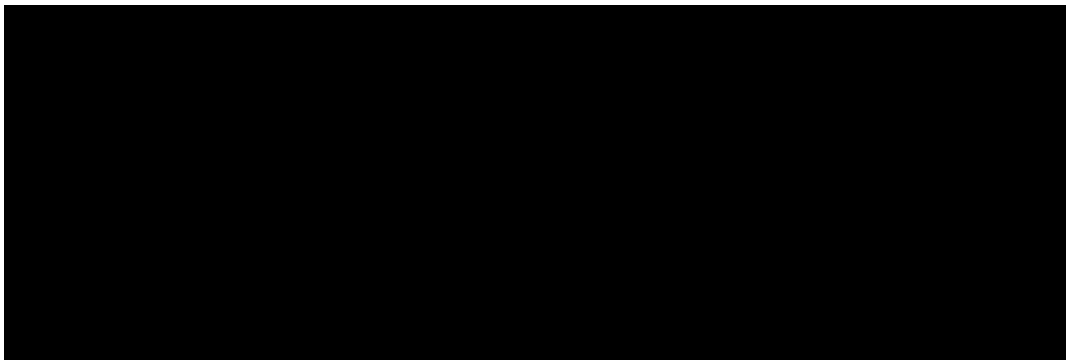
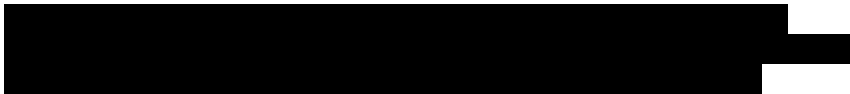
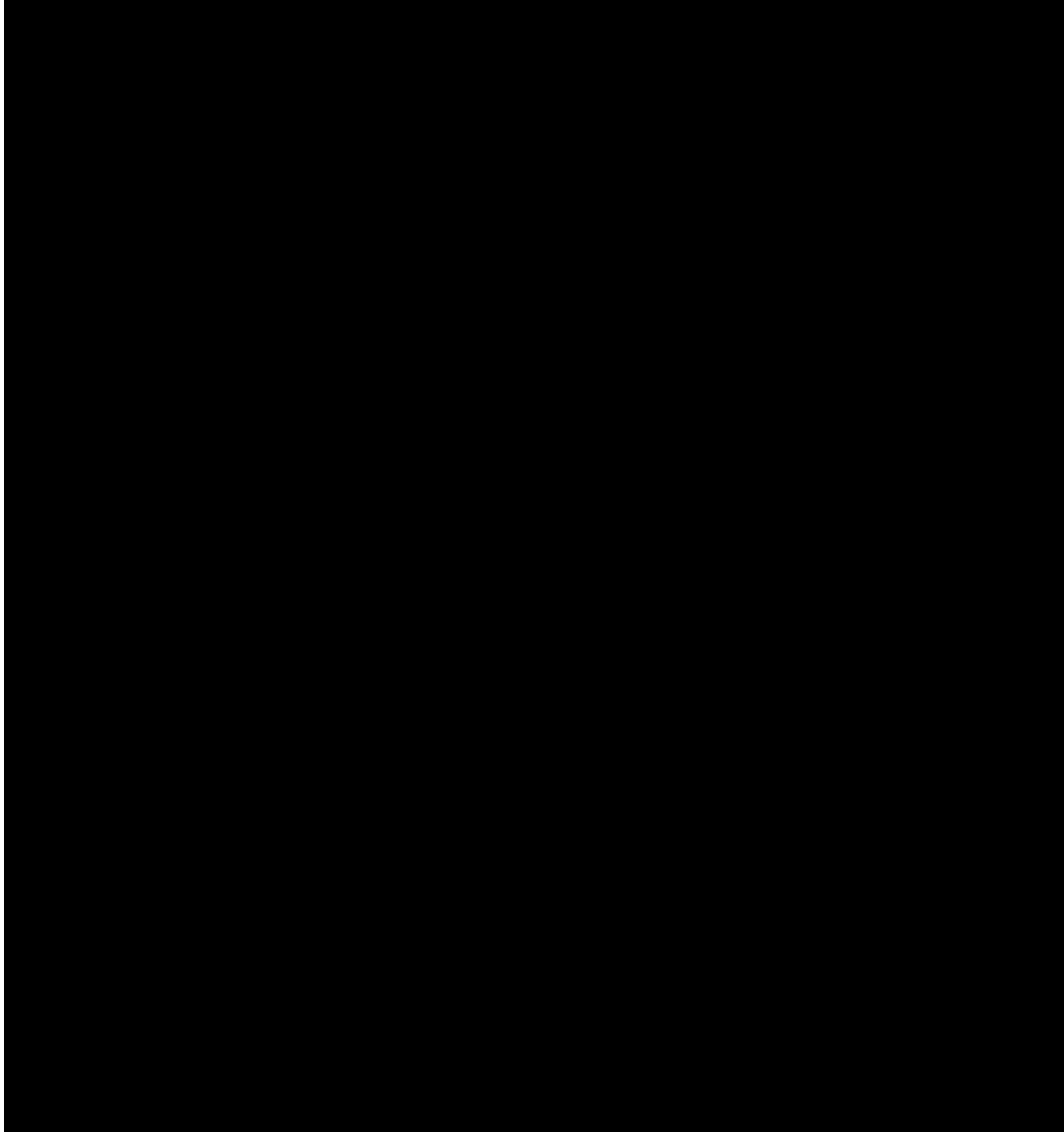


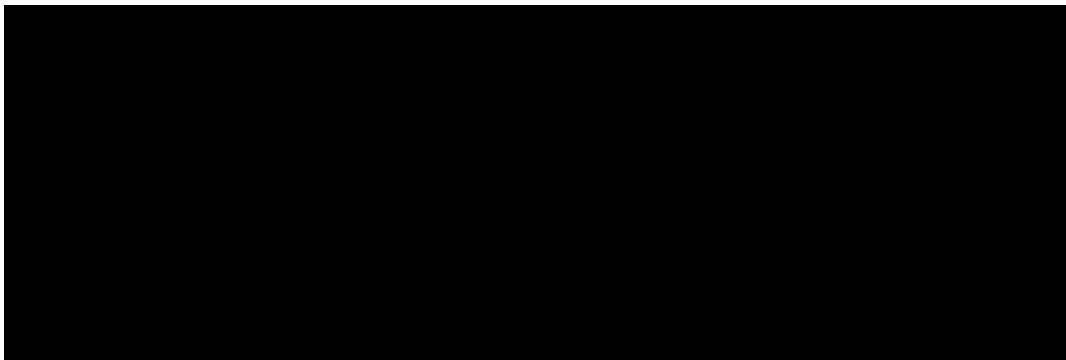
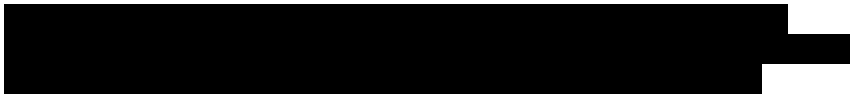
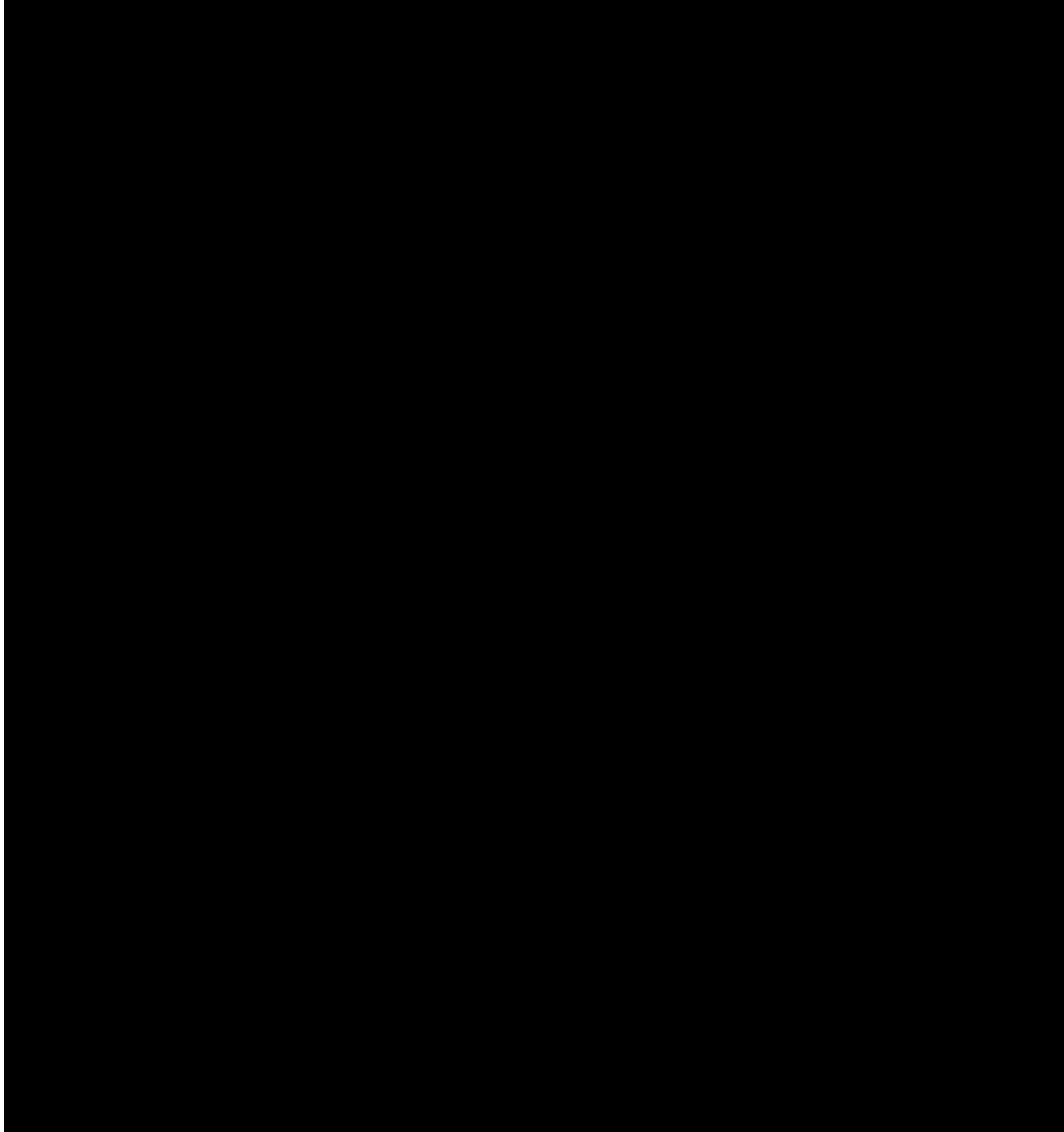


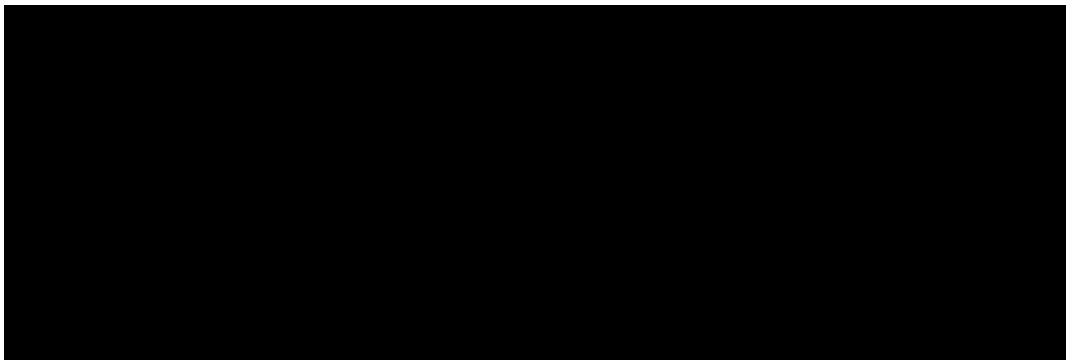
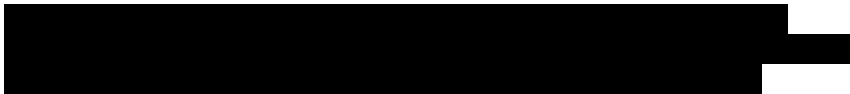
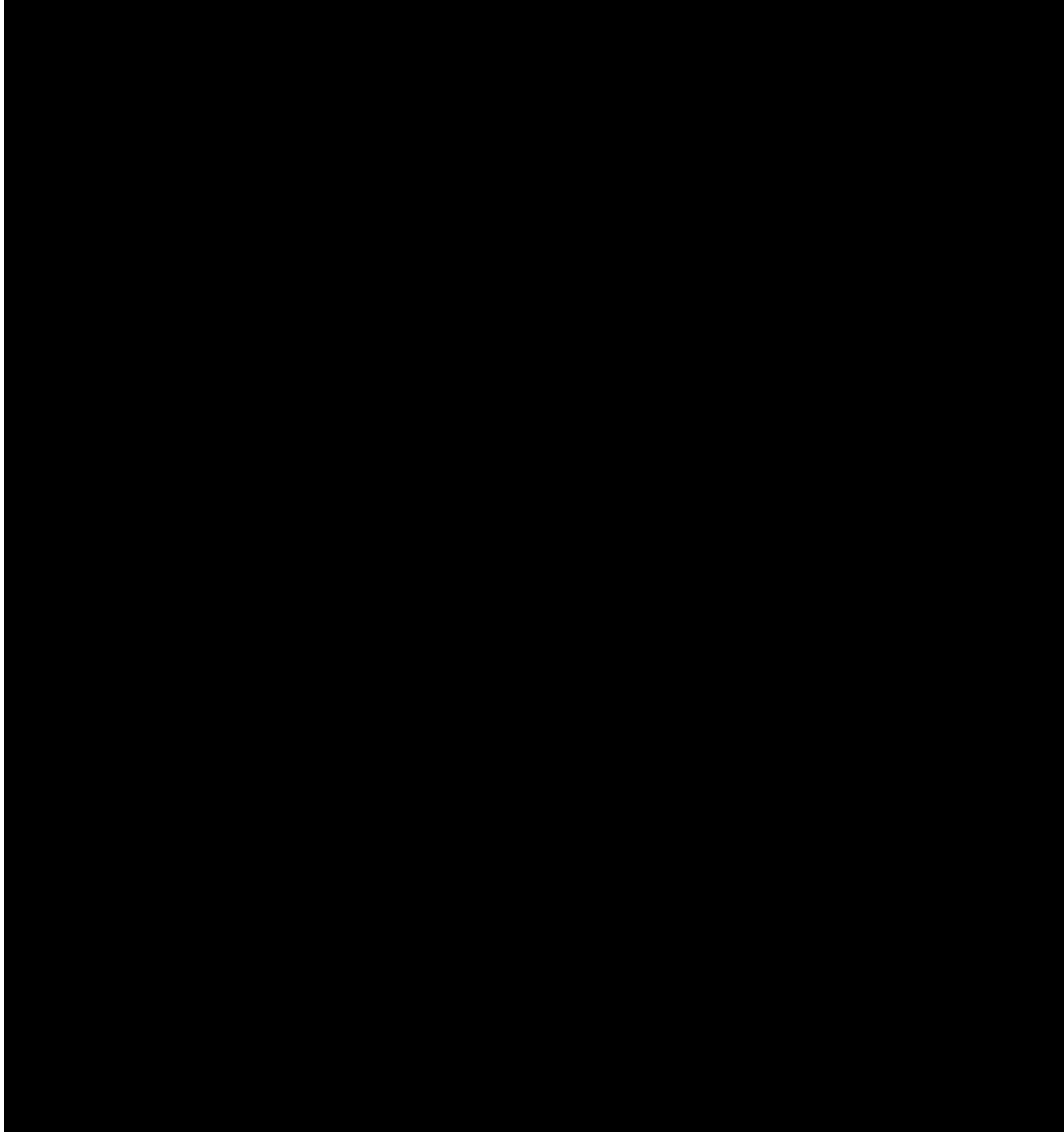


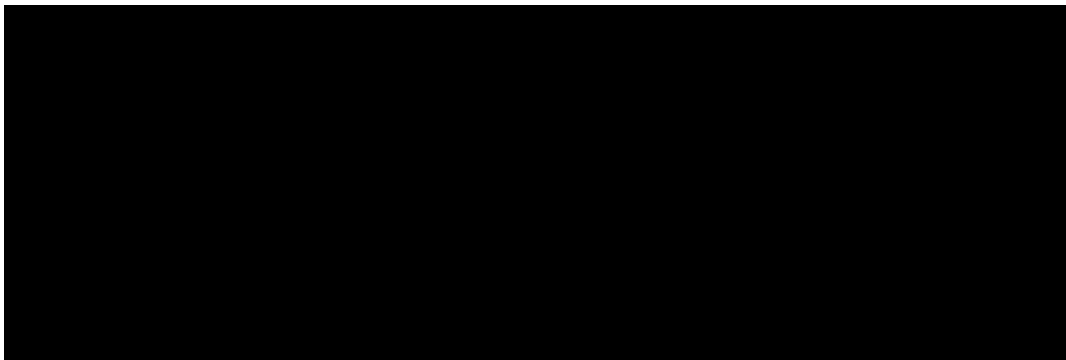
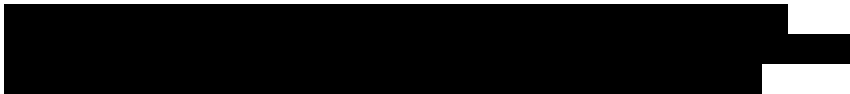
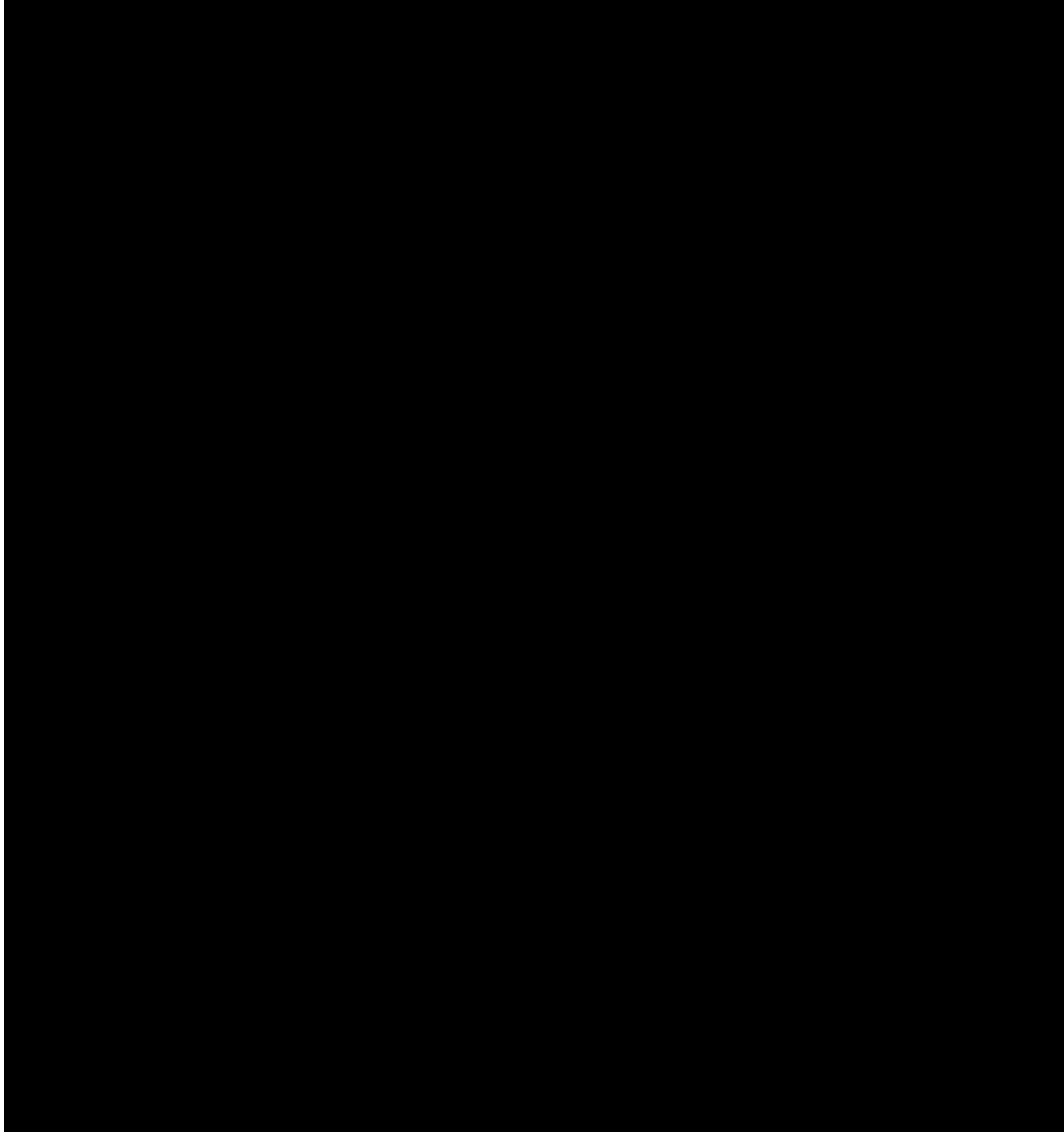


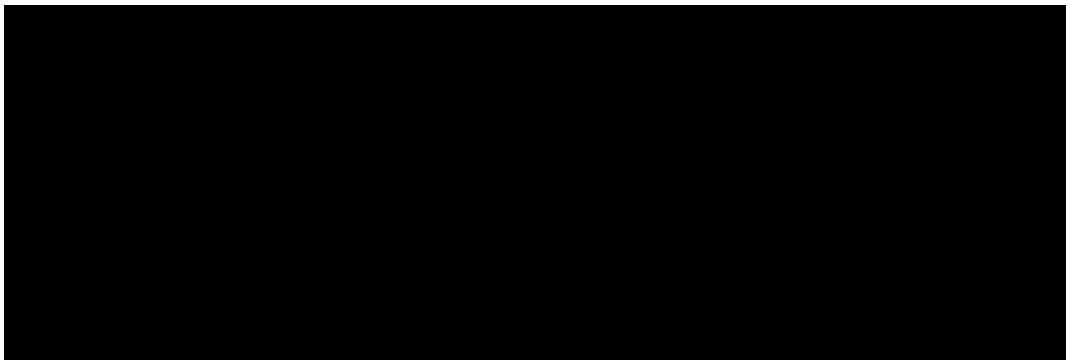
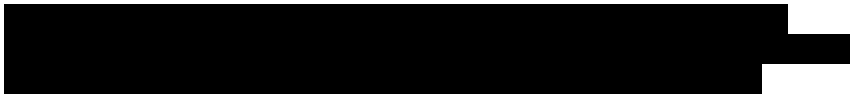
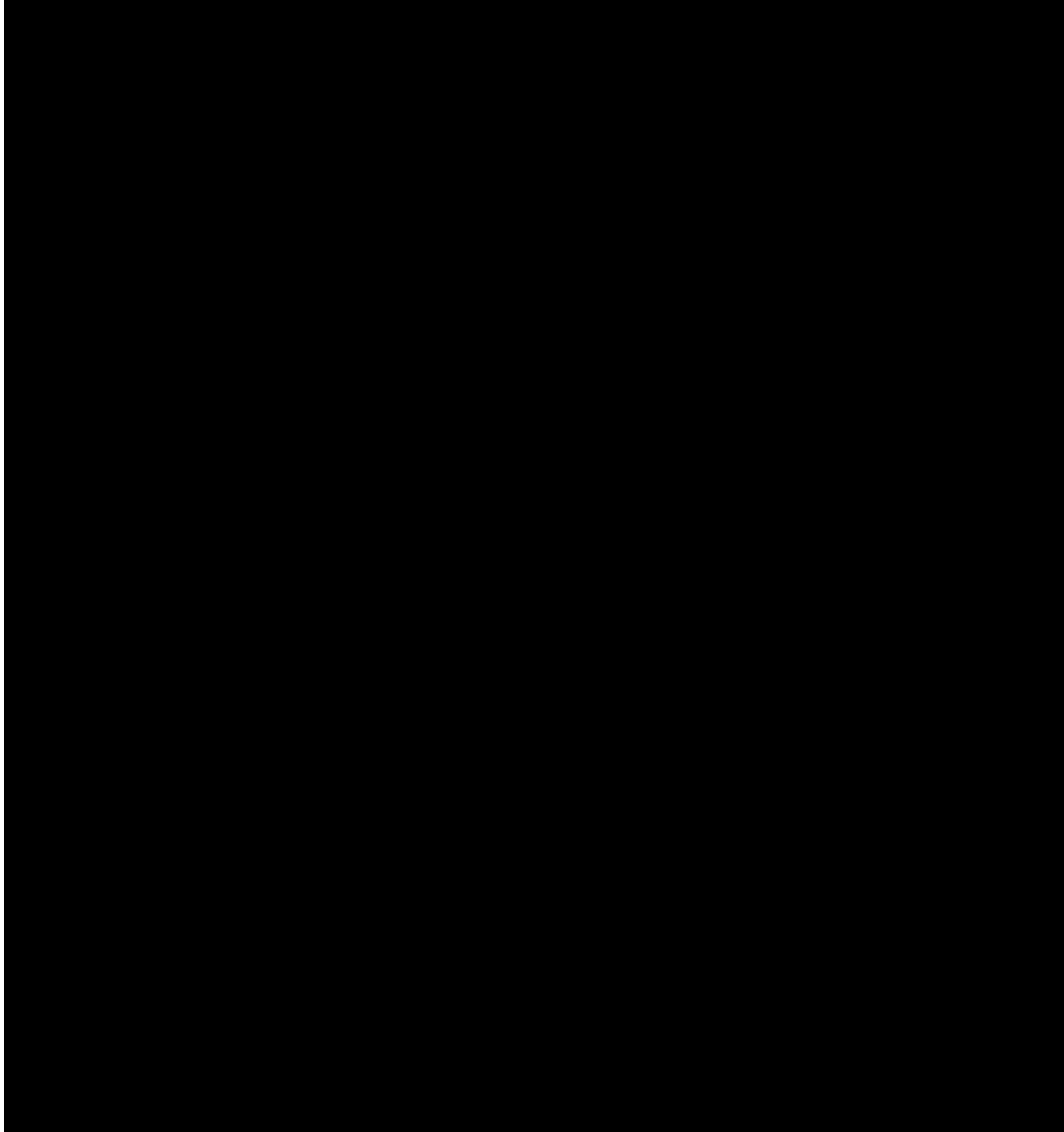


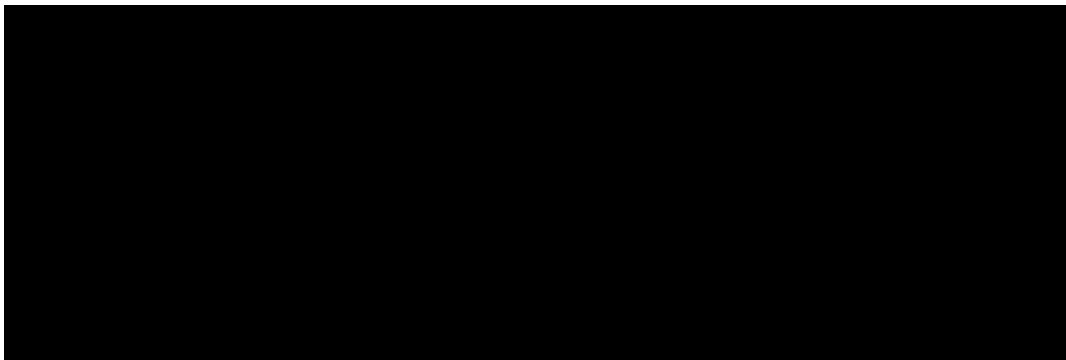
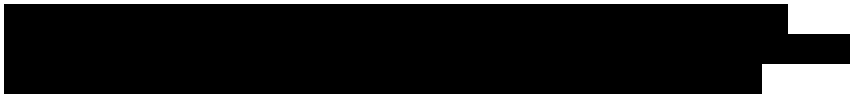
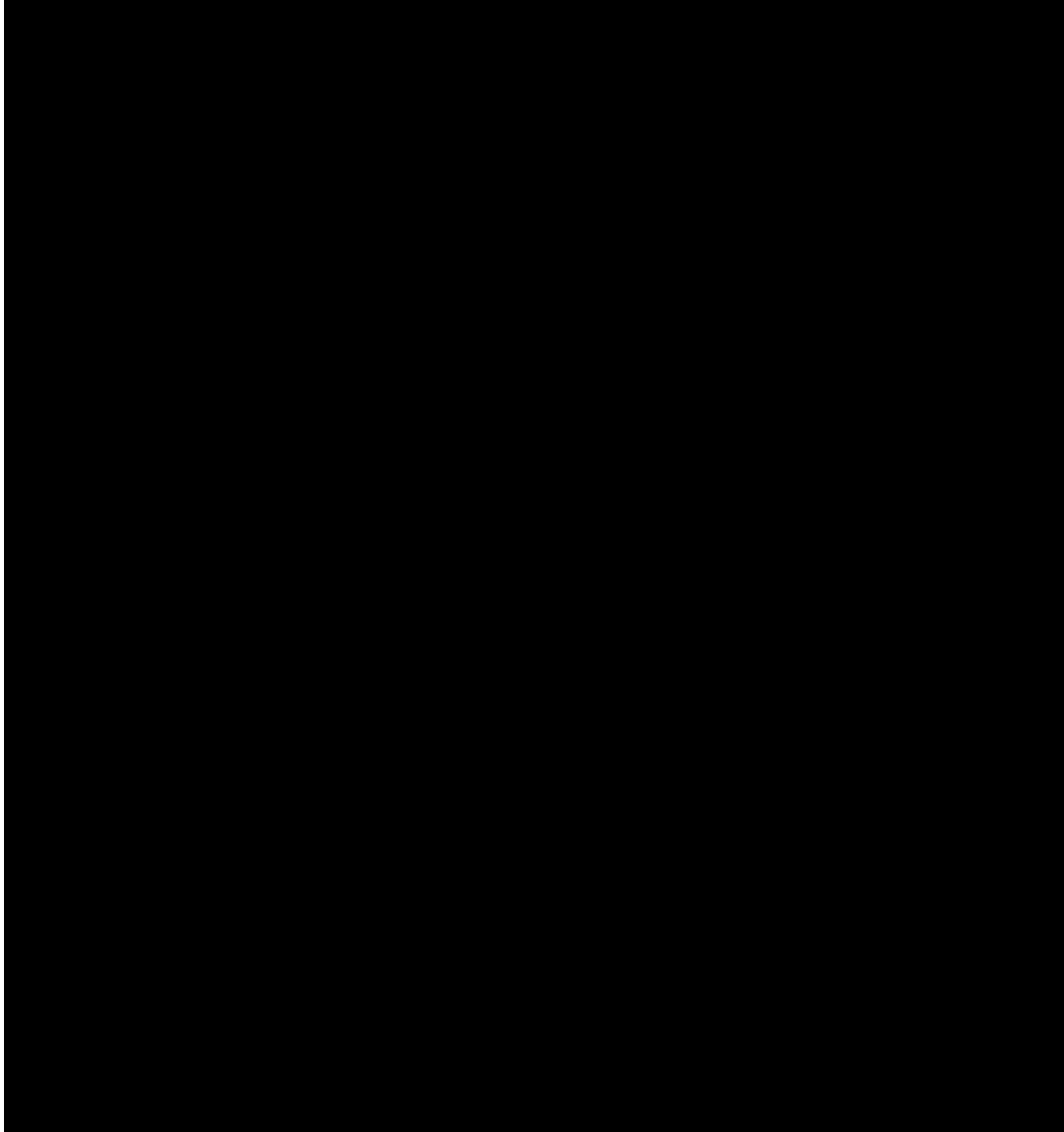




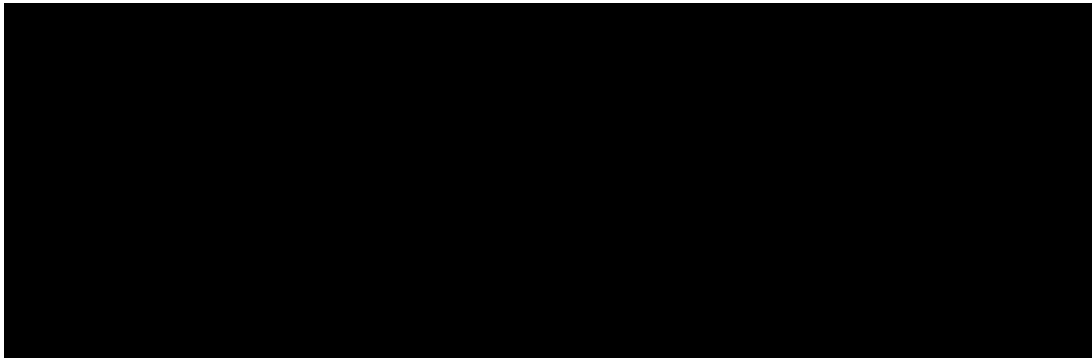
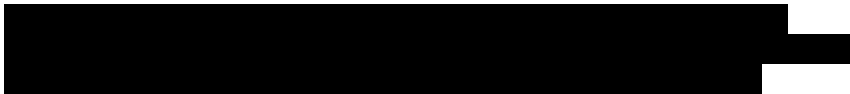
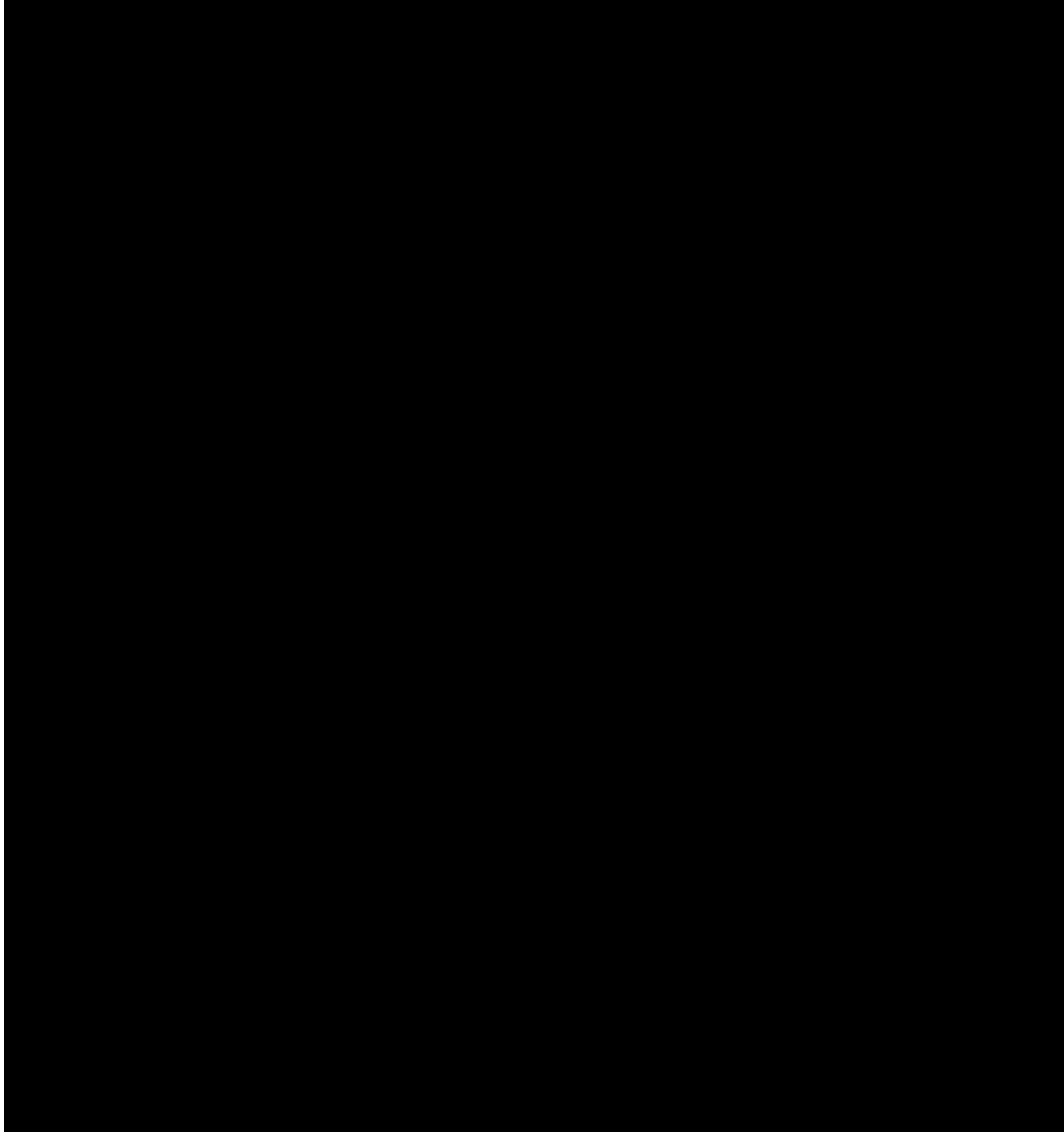


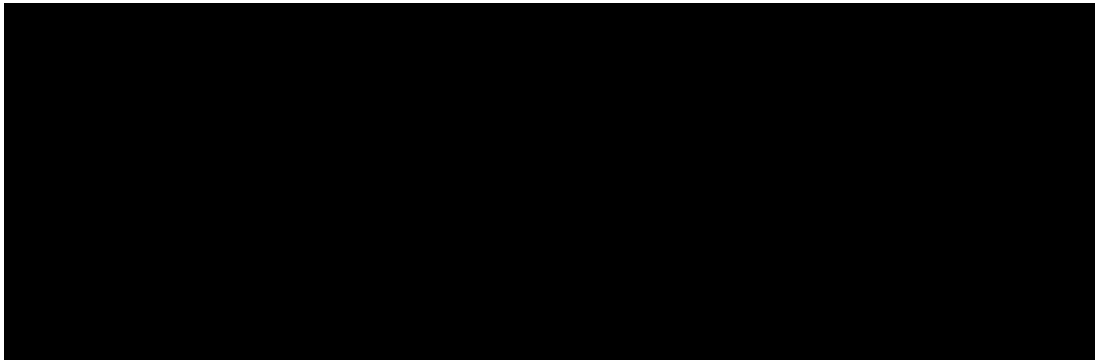
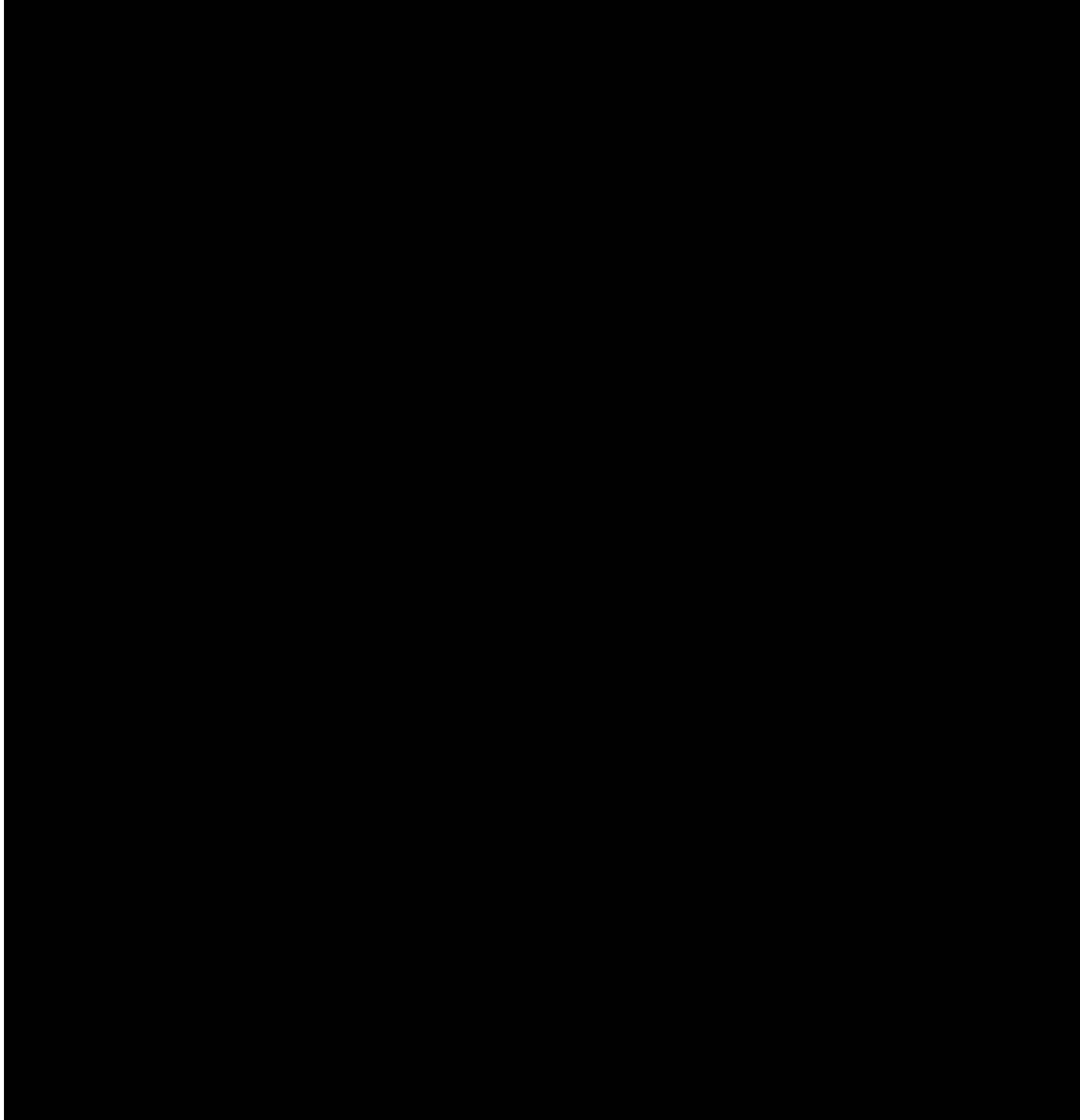


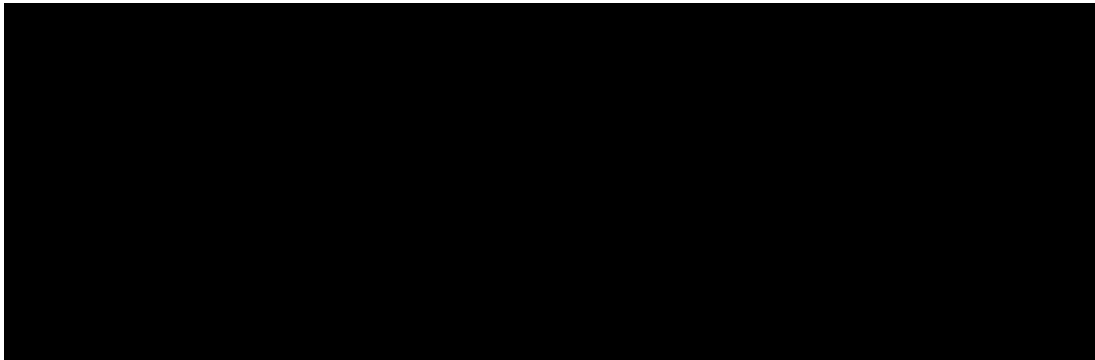
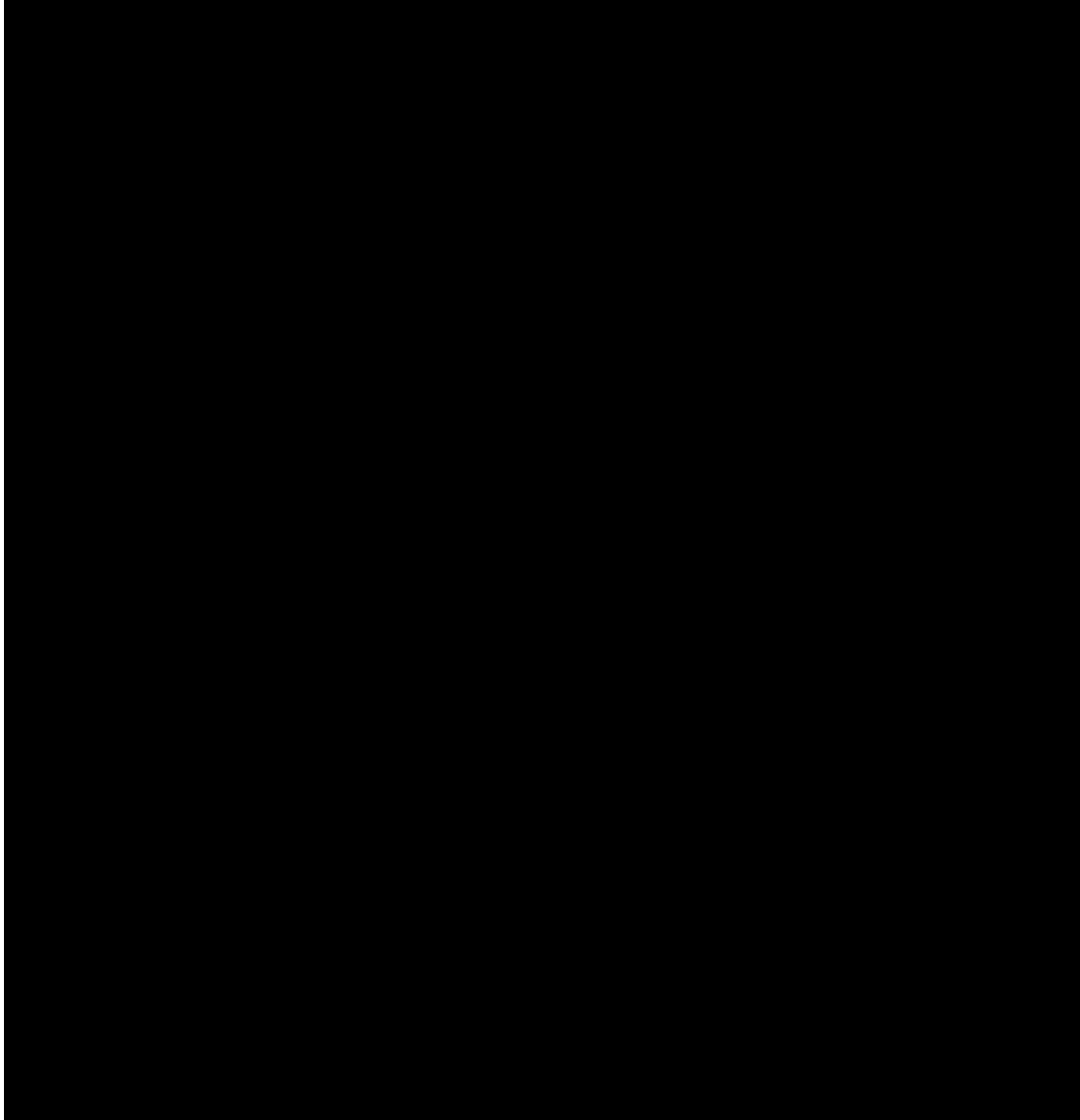


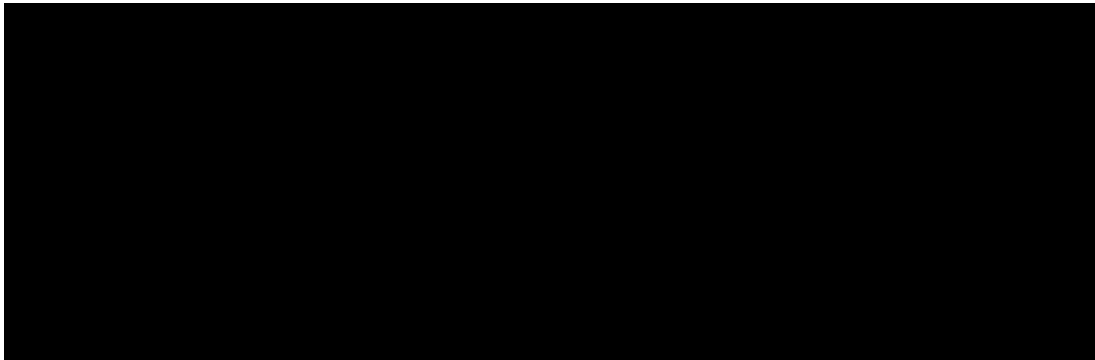
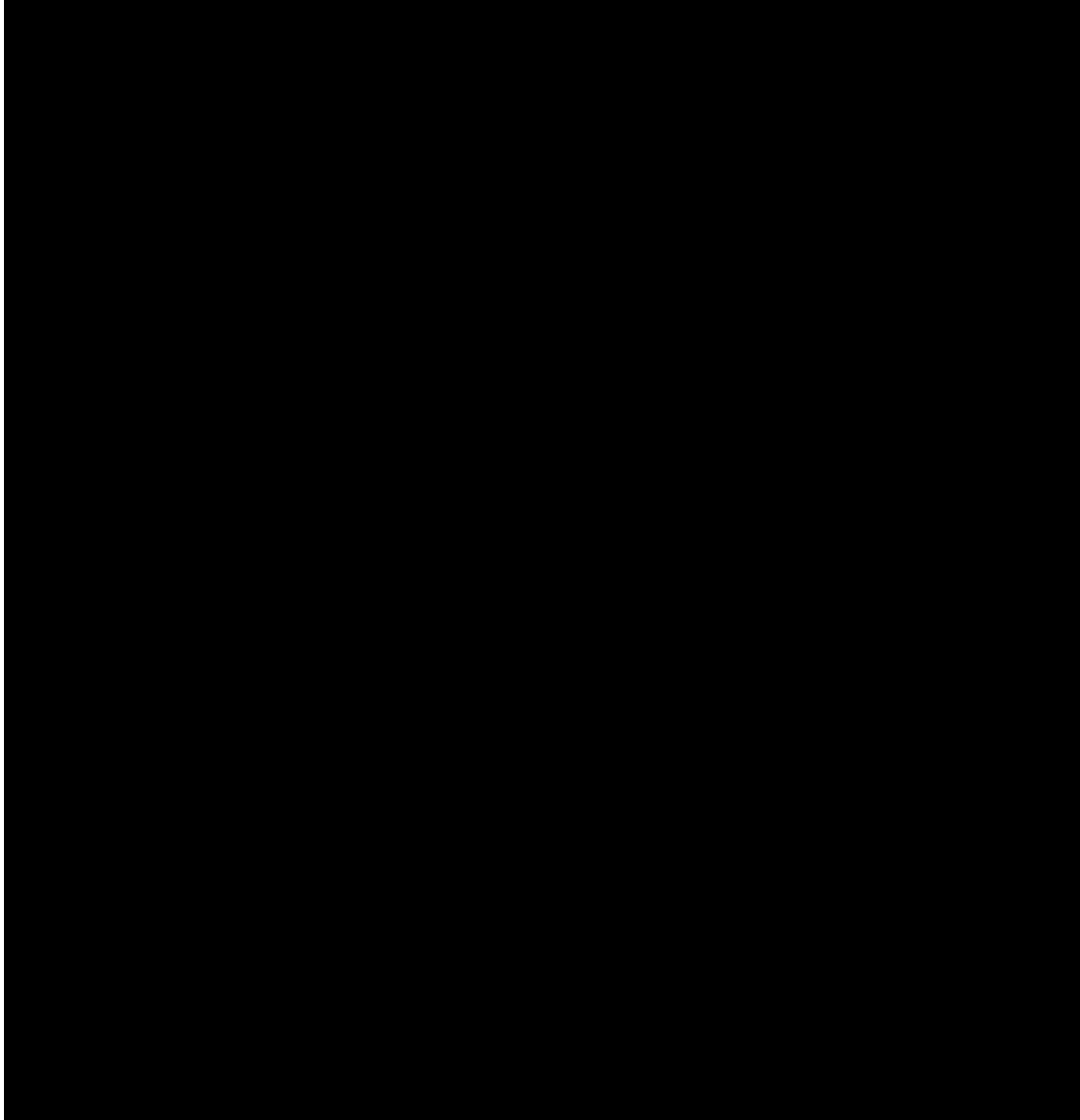


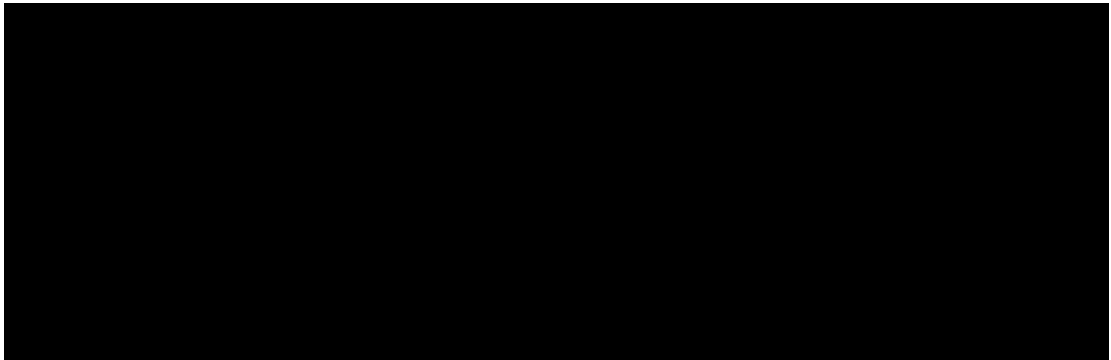
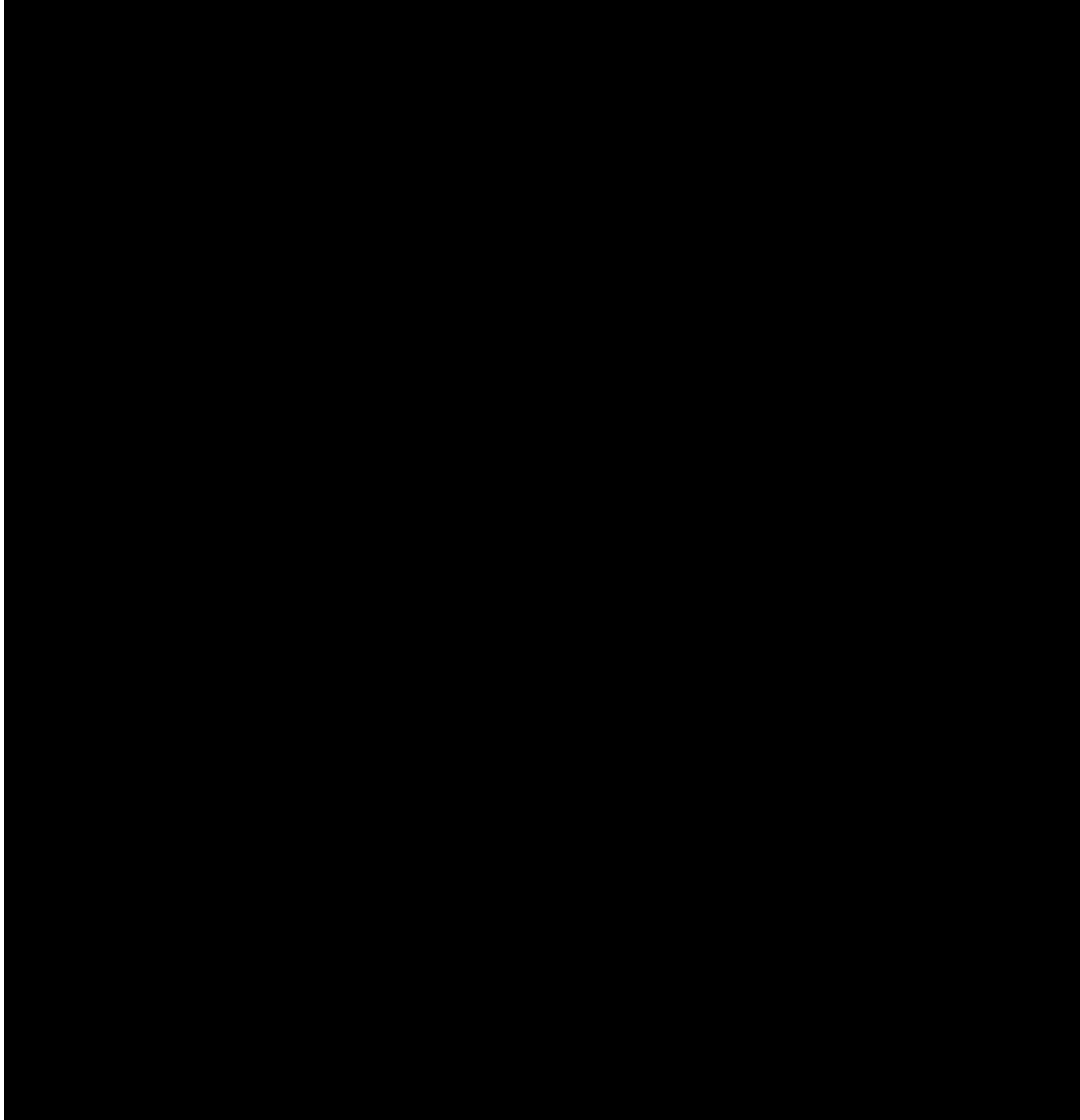


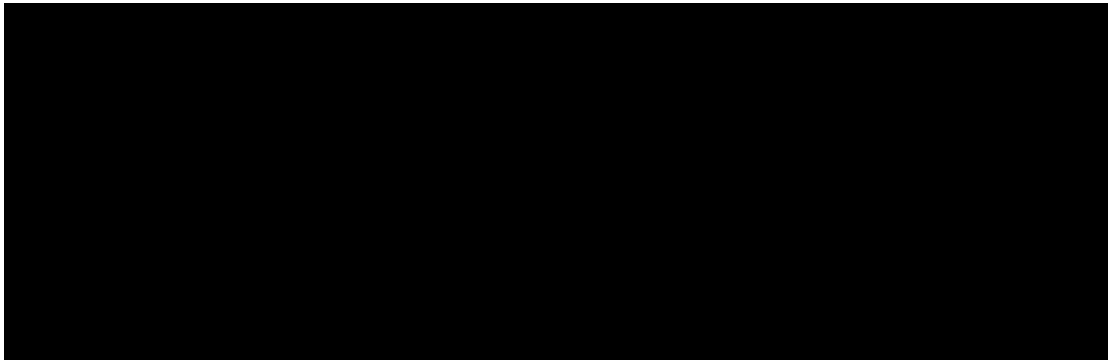
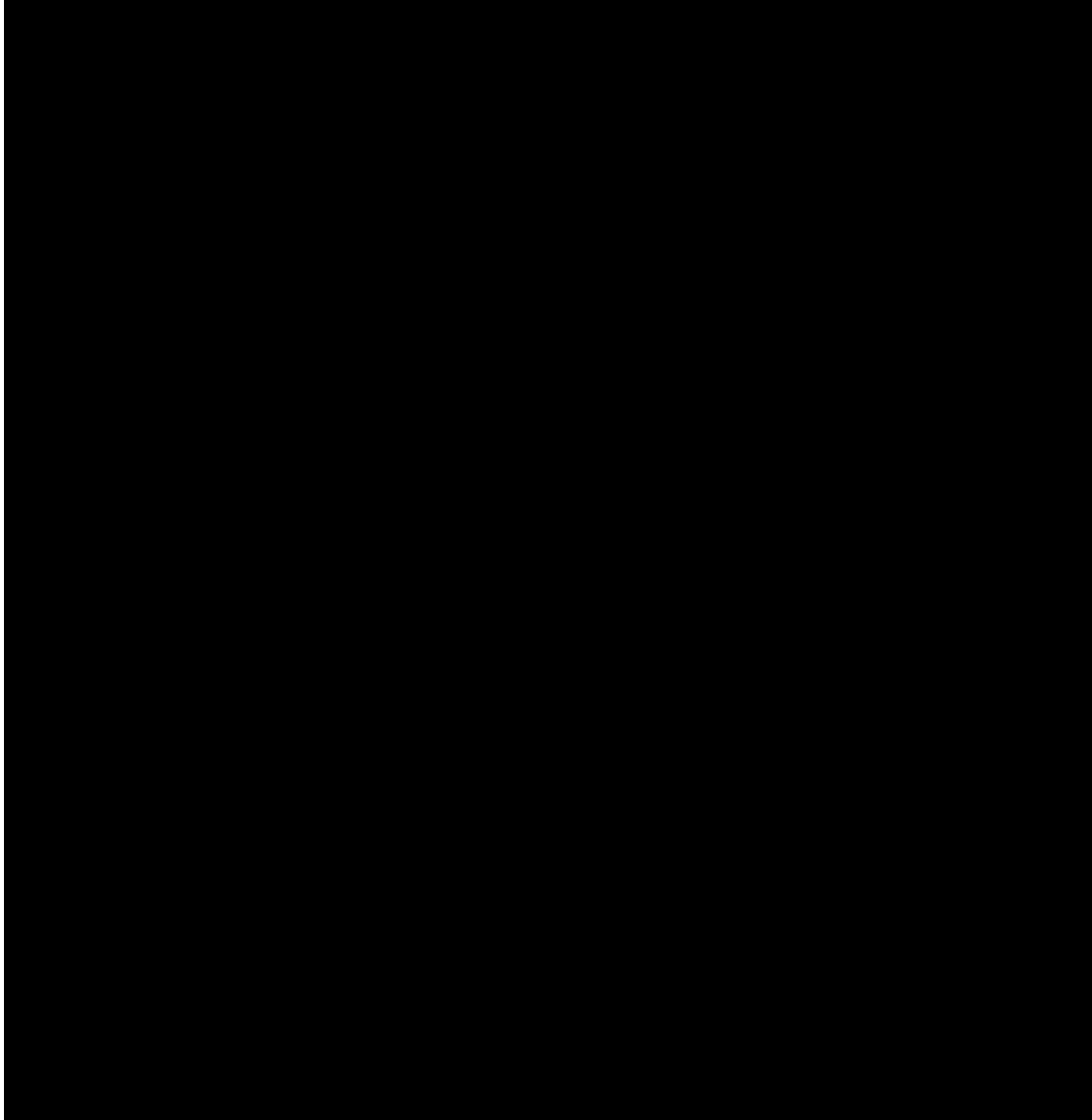


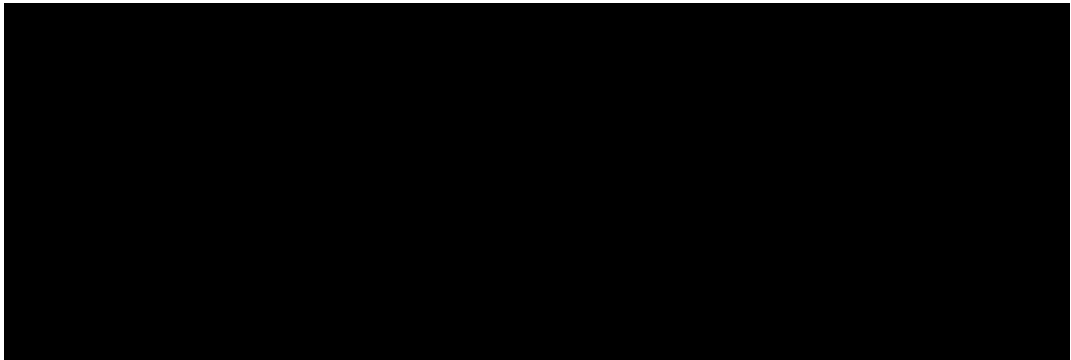
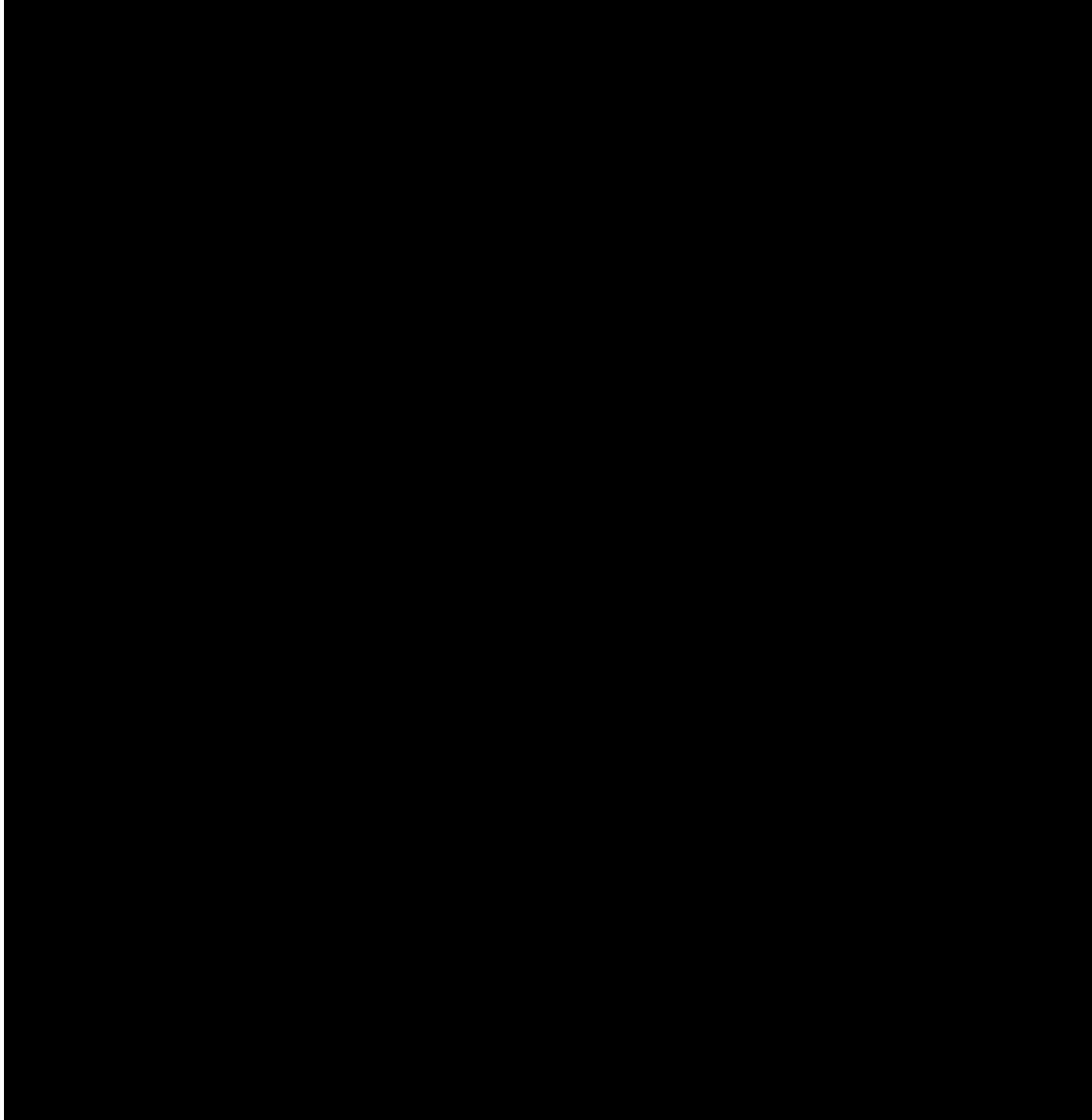


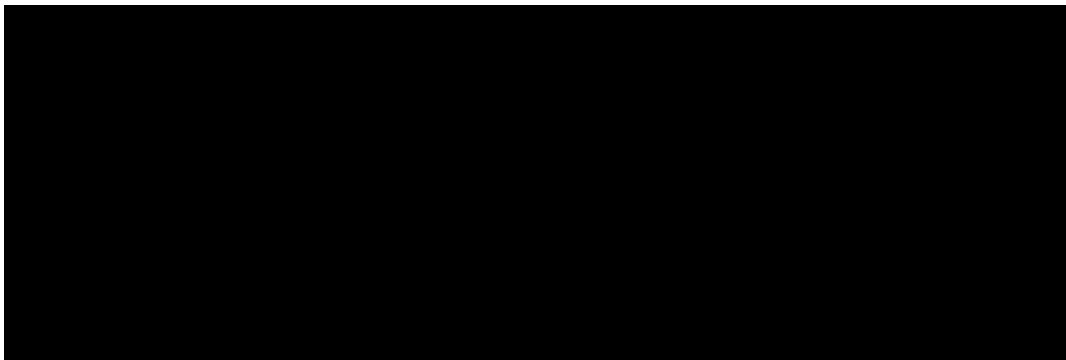
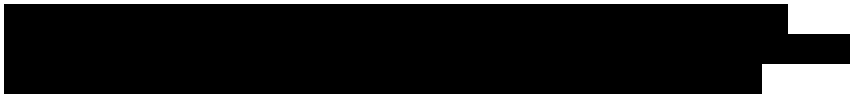
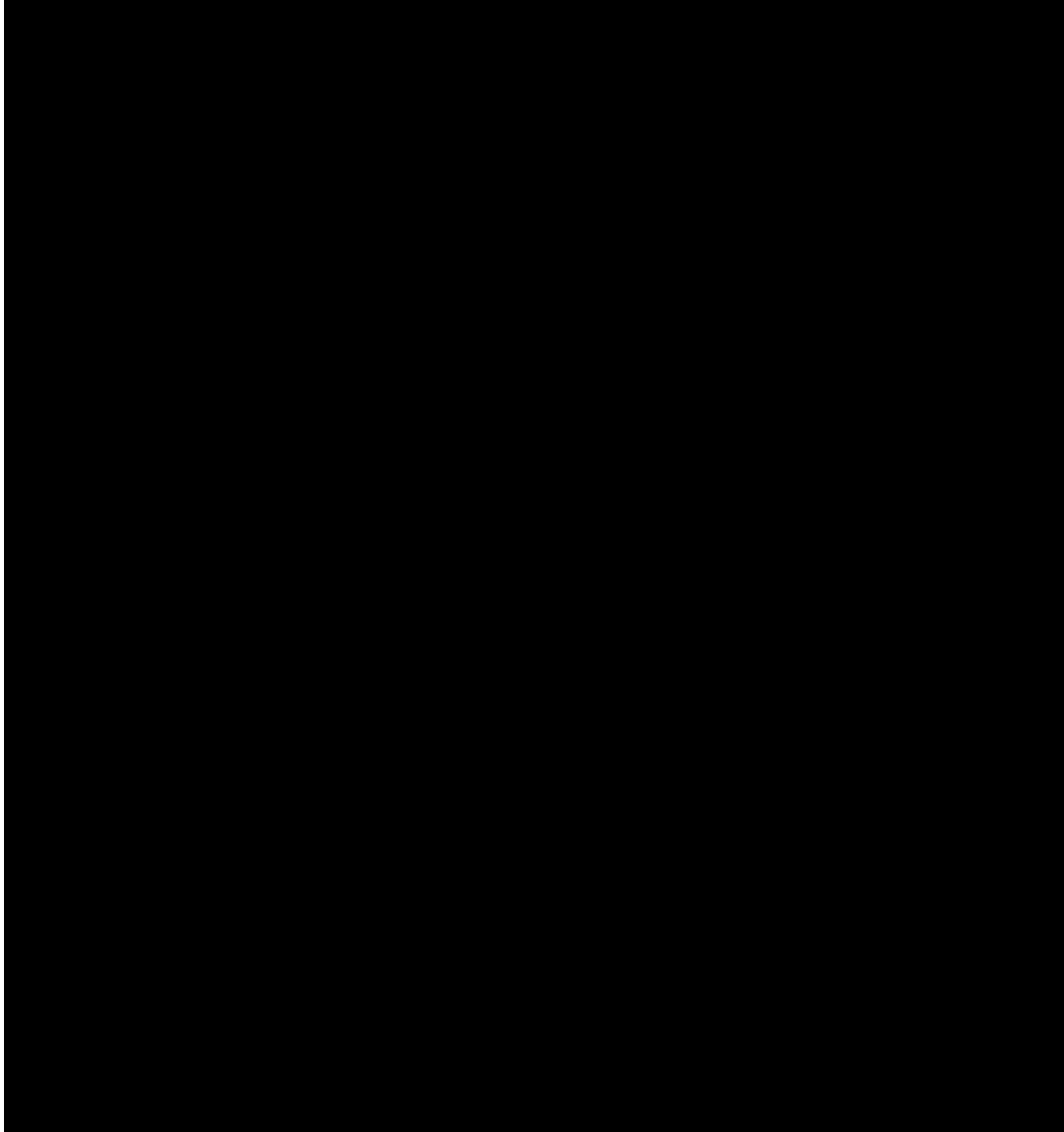




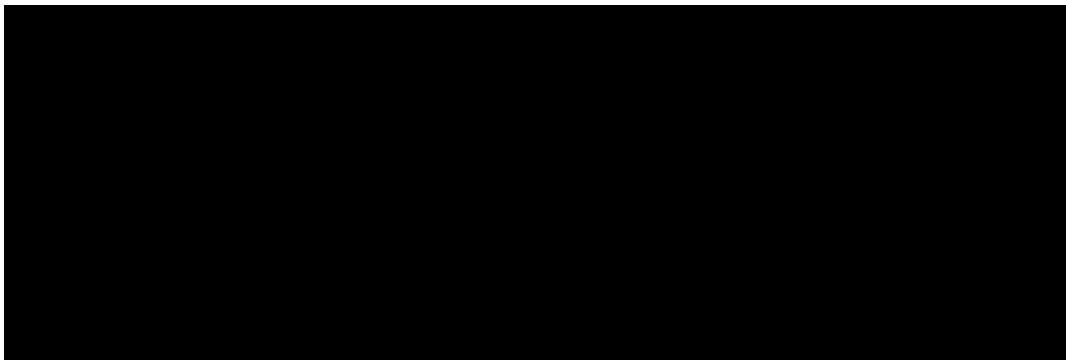
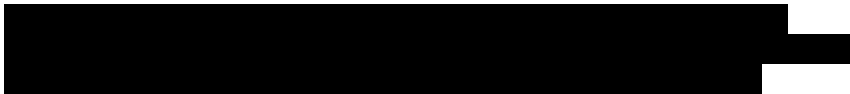
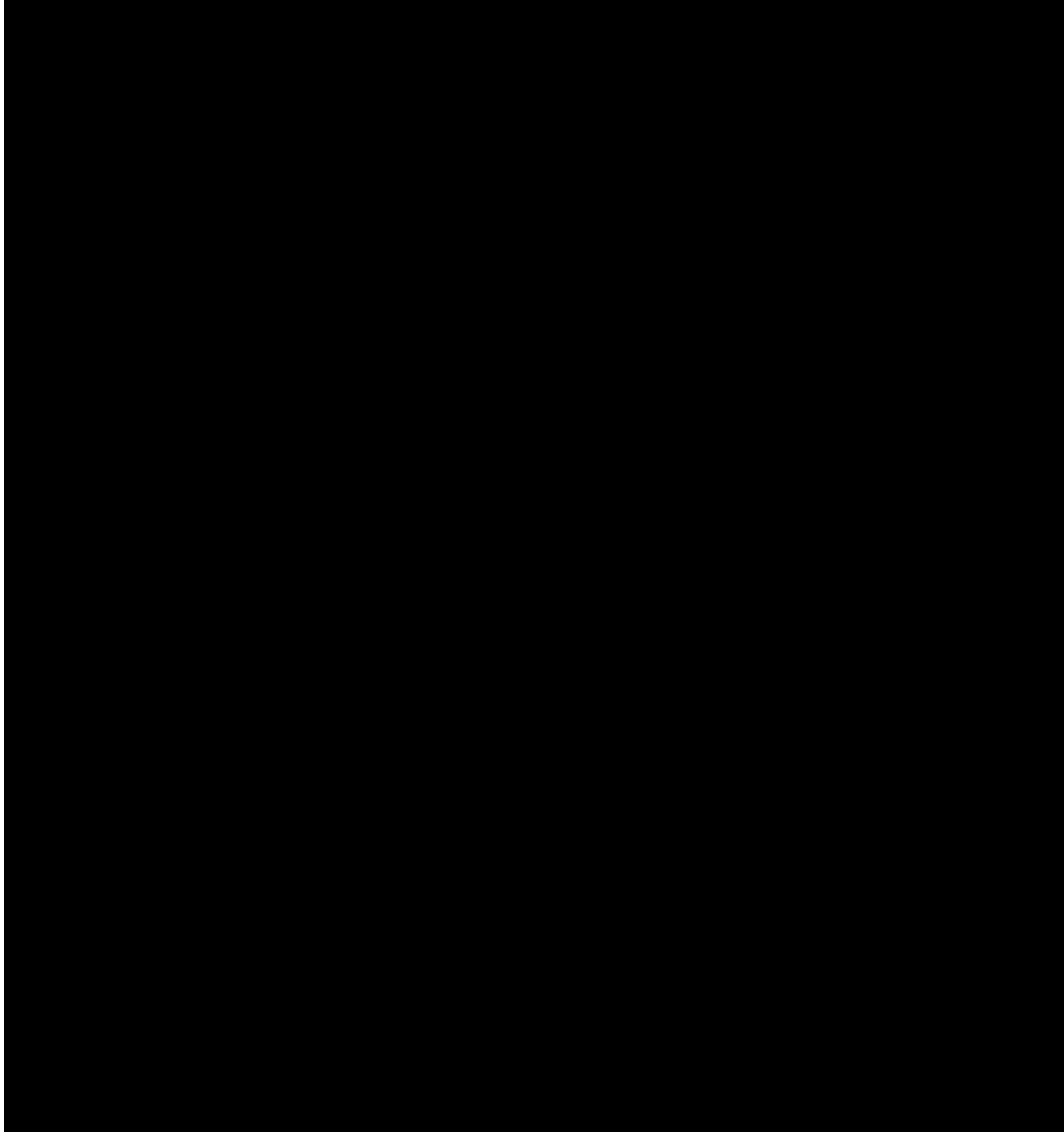


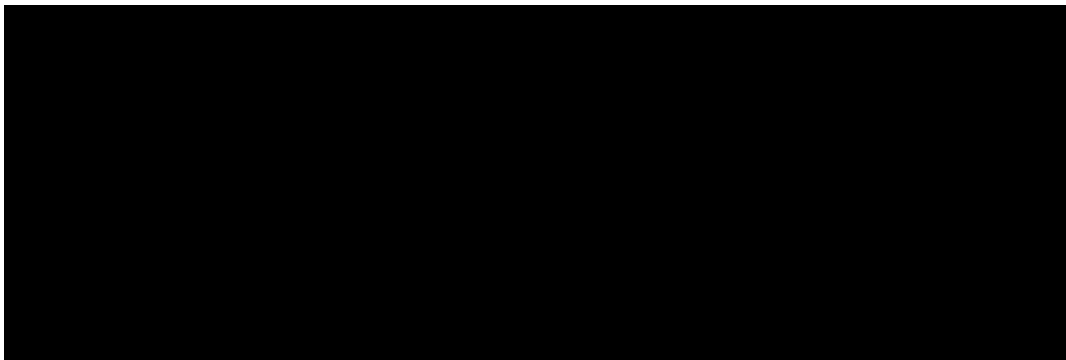
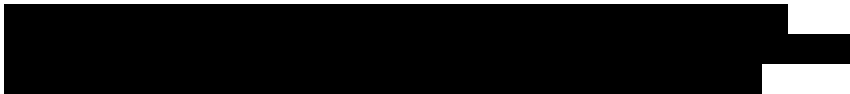
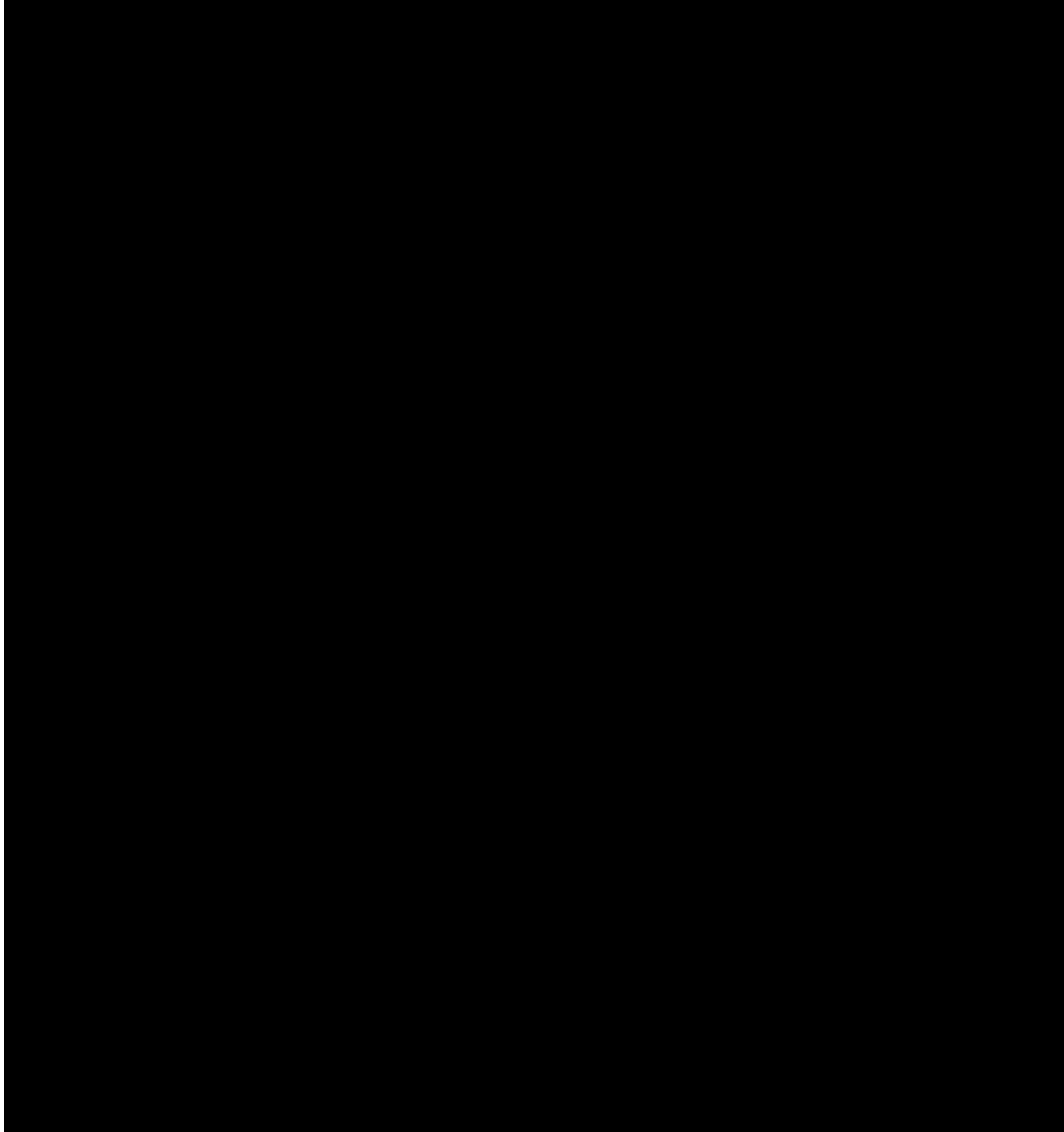


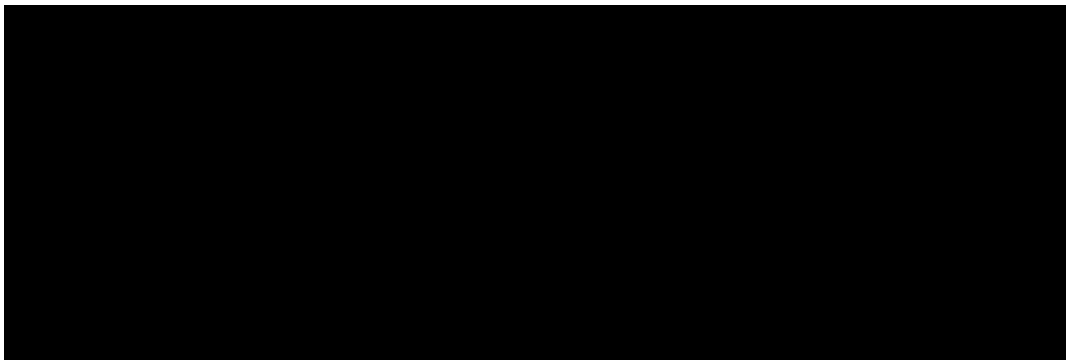
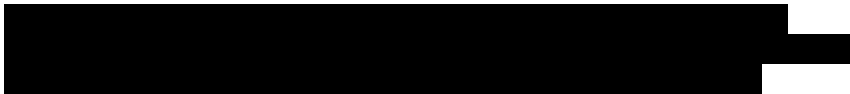
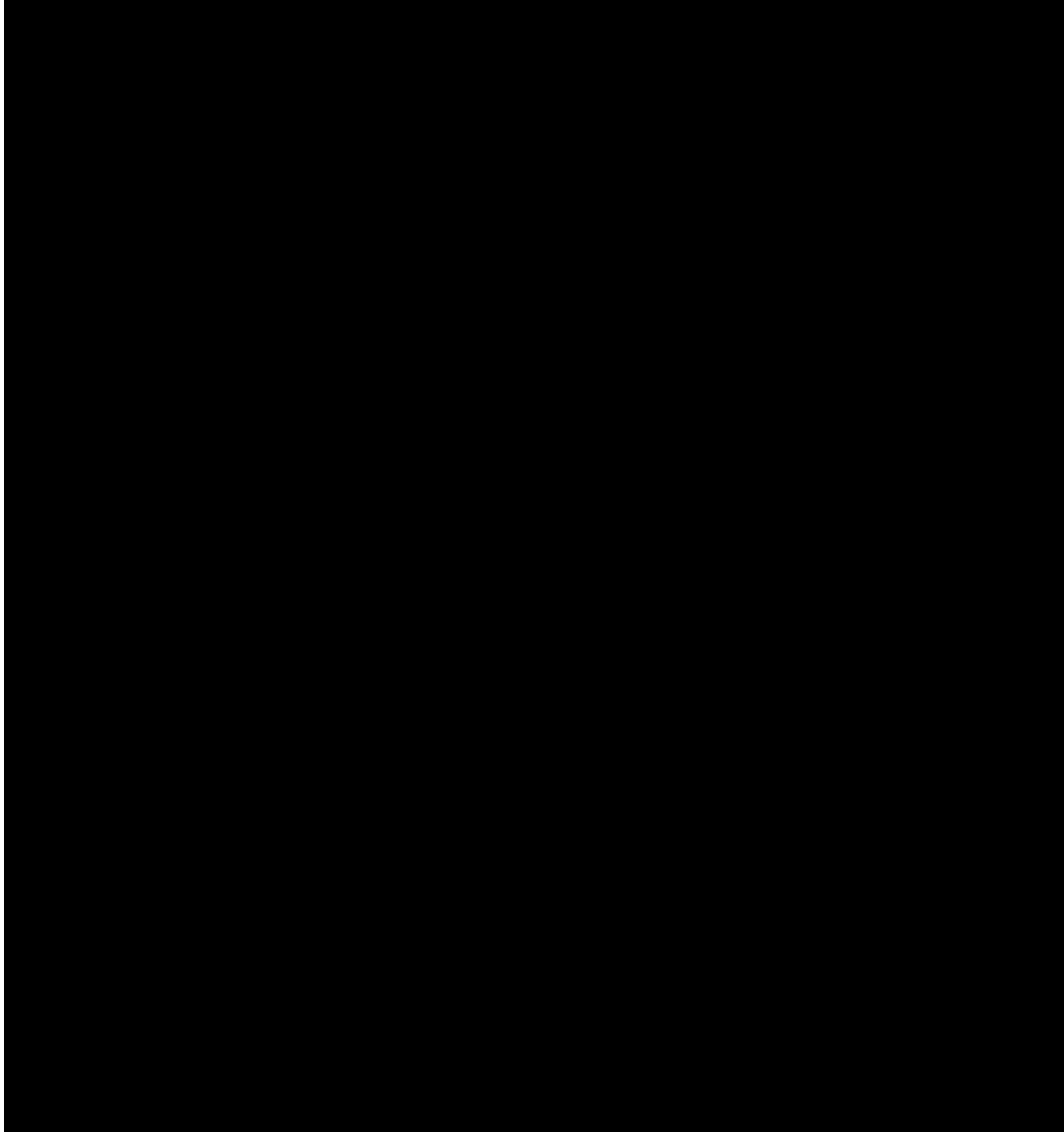


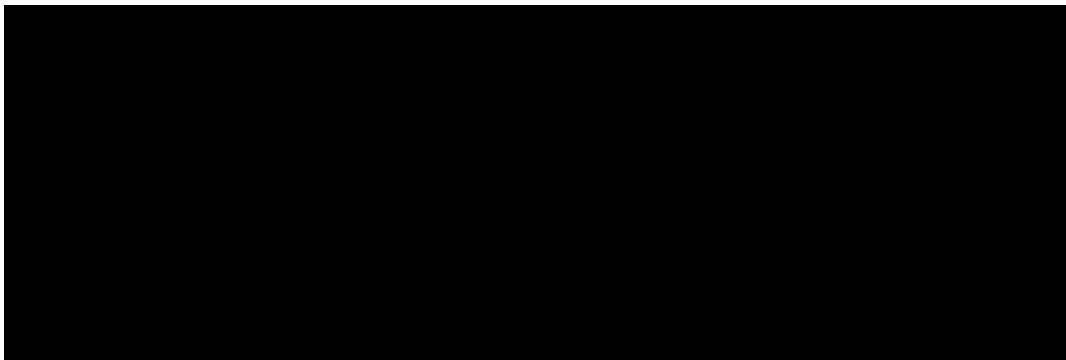
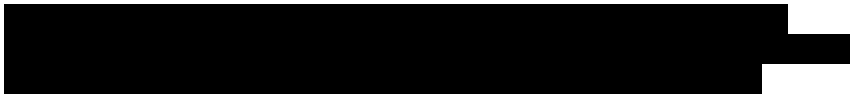
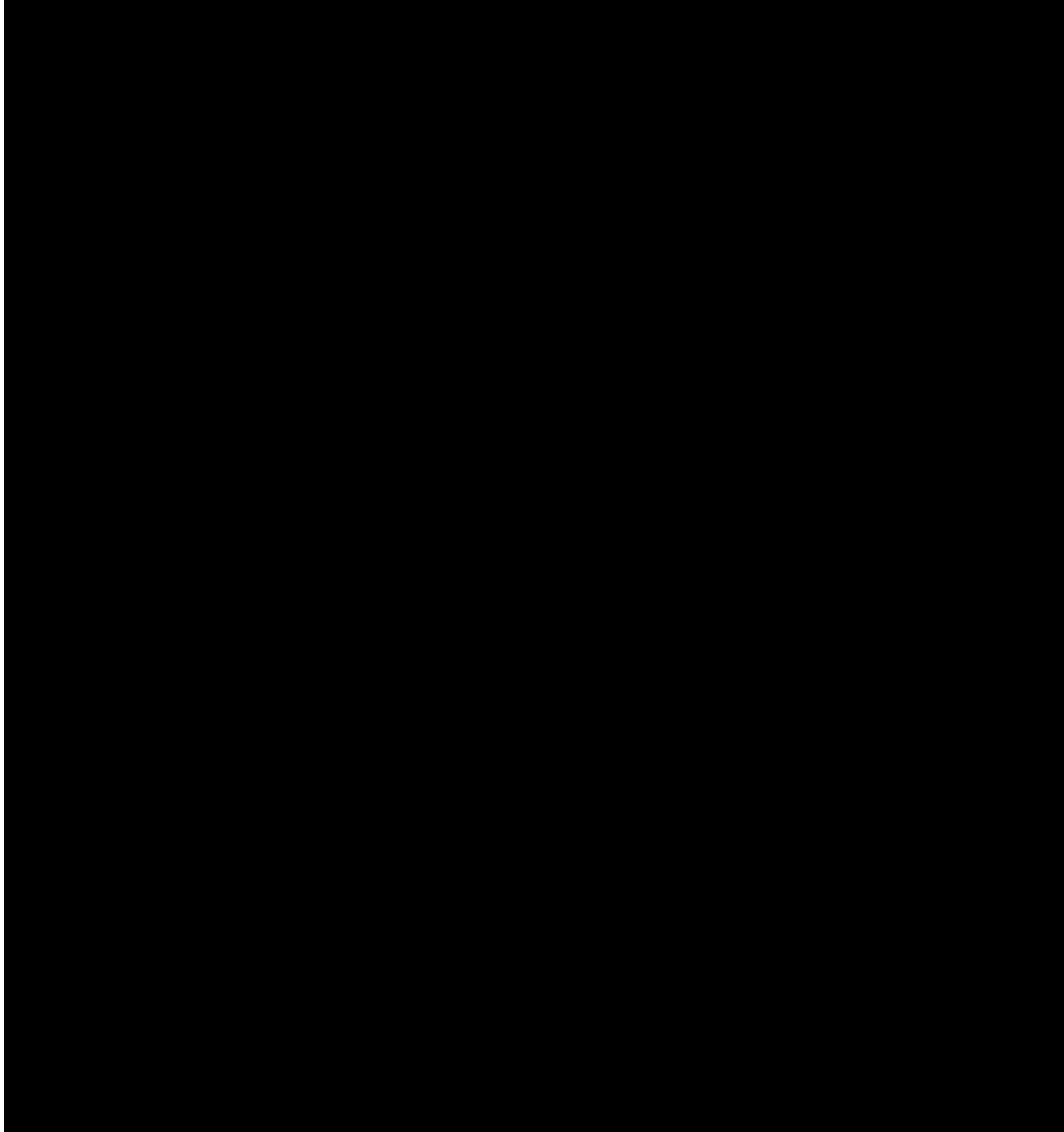


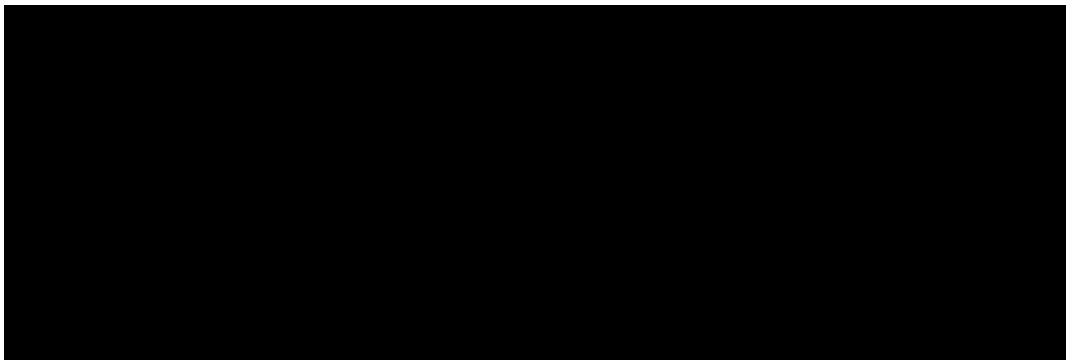
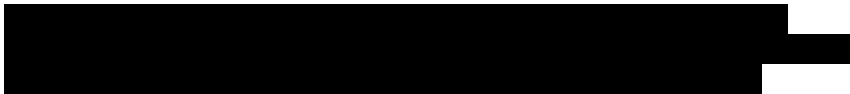
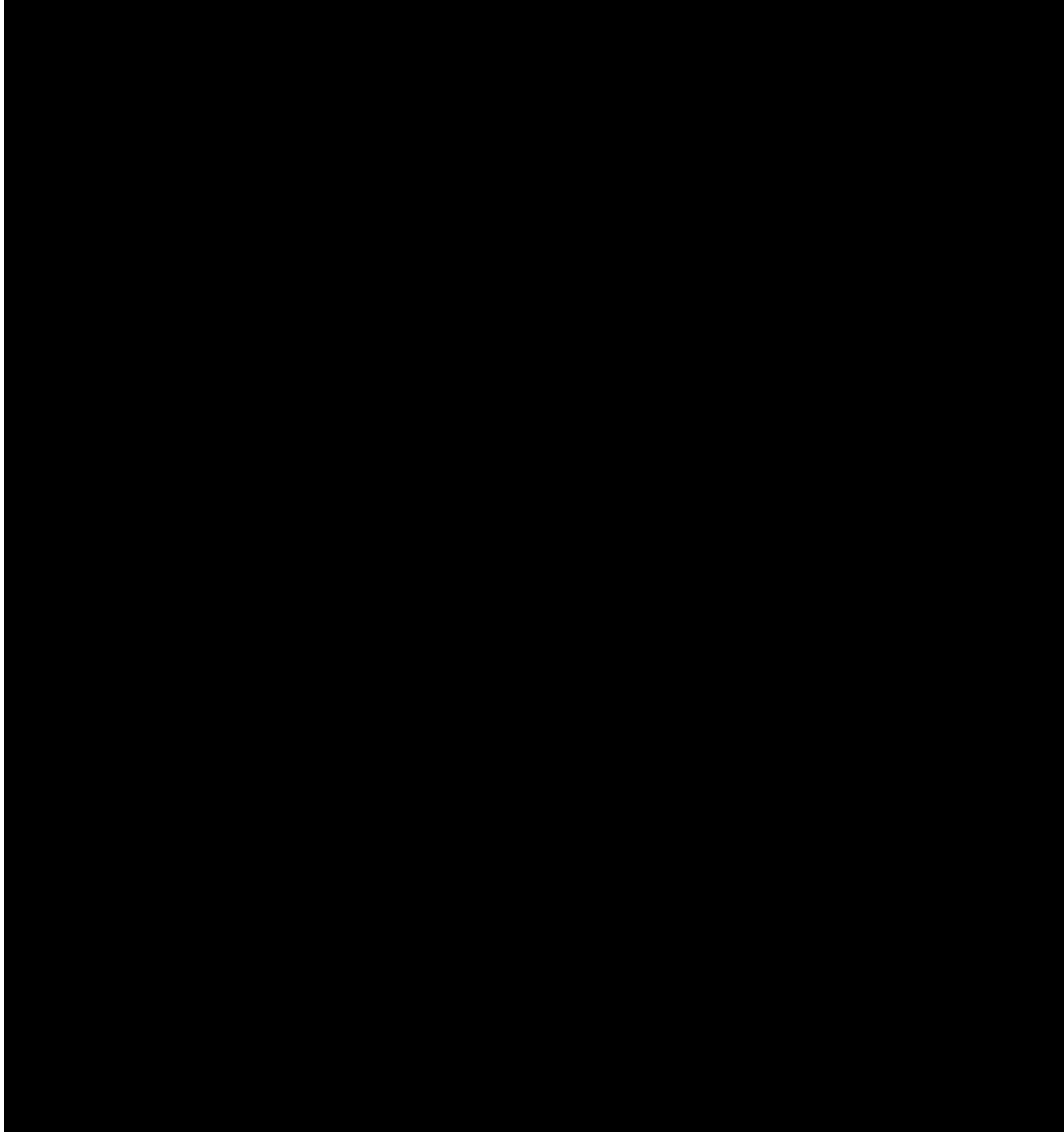


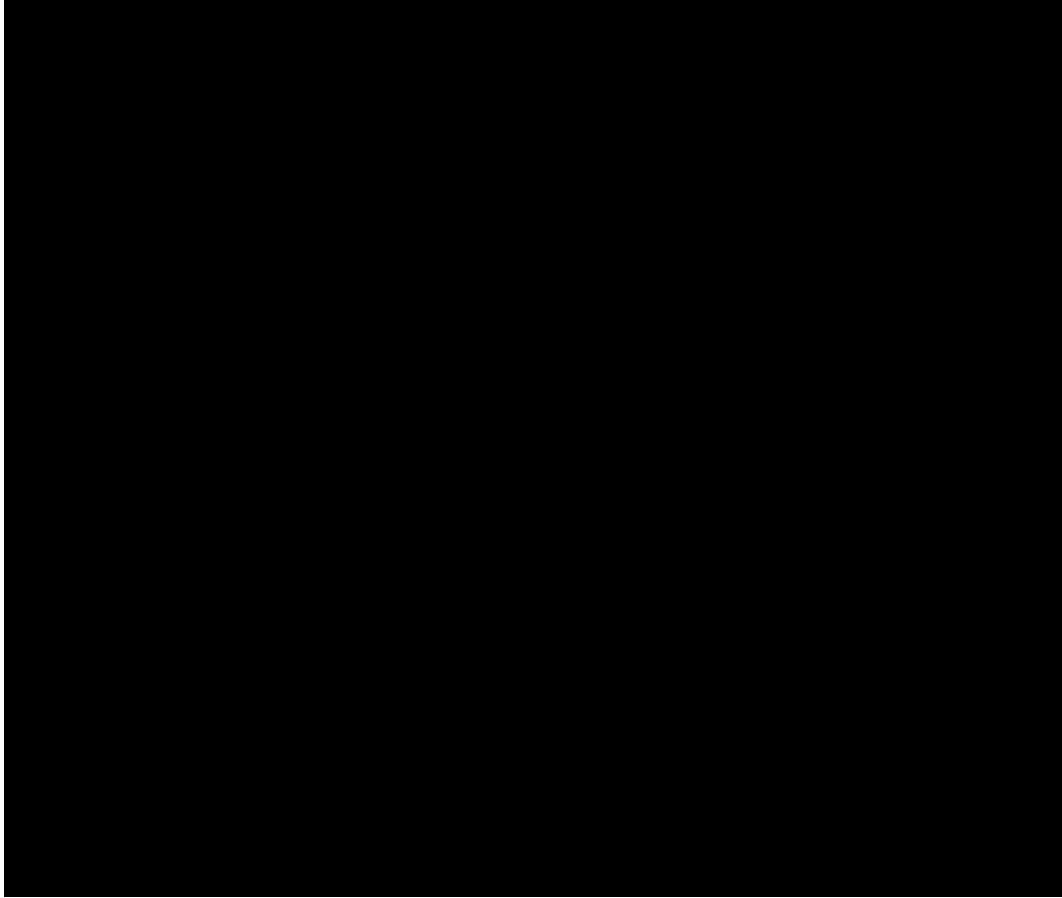






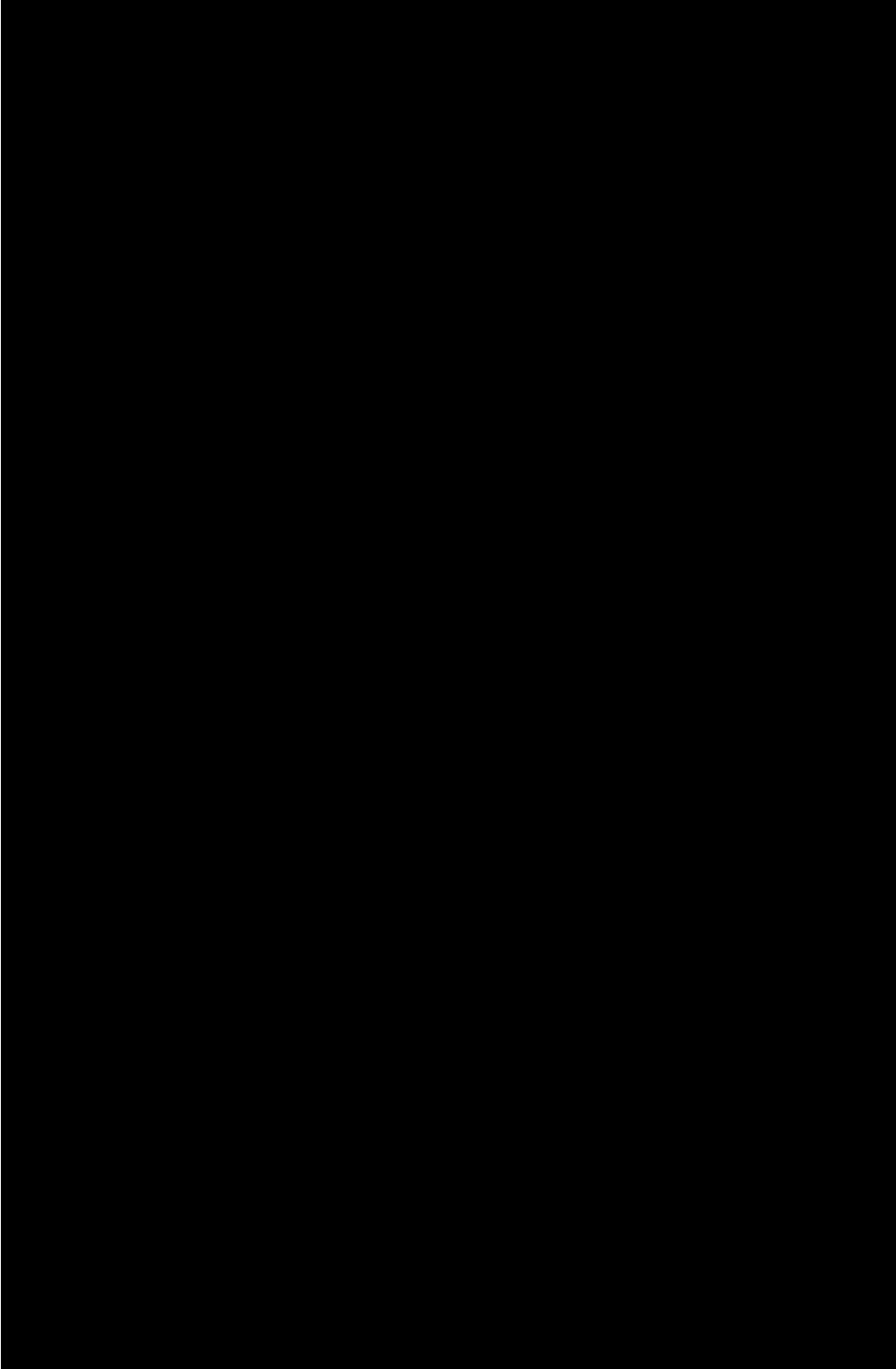






**CONFIDENTIAL  
PRICE FORECASTS**

**Kentucky Power Company**  
**Actual and Forecast Electricity Prices (2009 cents per kWh) By Sector**

Year	Month	Residential	Commercial	Manufacturing	Mine Power	Other Retail	Wholesale
1984	1						
1984	2						
1984	3						
1984	4						
1984	5						
1984	6						
1984	7						
1984	8						
1984	9						
1984	10						
1984	11						
1984	12						
1985	1						
1985	2						
1985	3						
1985	4						
1985	5						
1985	6						
1985	7						
1985	8						
1985	9						
1985	10						
1985	11						
1985	12						
1986	1						
1986	2						
1986	3						
1986	4						
1986	5						
1986	6						
1986	7						
1986	8						
1986	9						
1986	10						
1986	11						
1986	12						
1987	1						
1987	2						
1987	3						
1987	4						



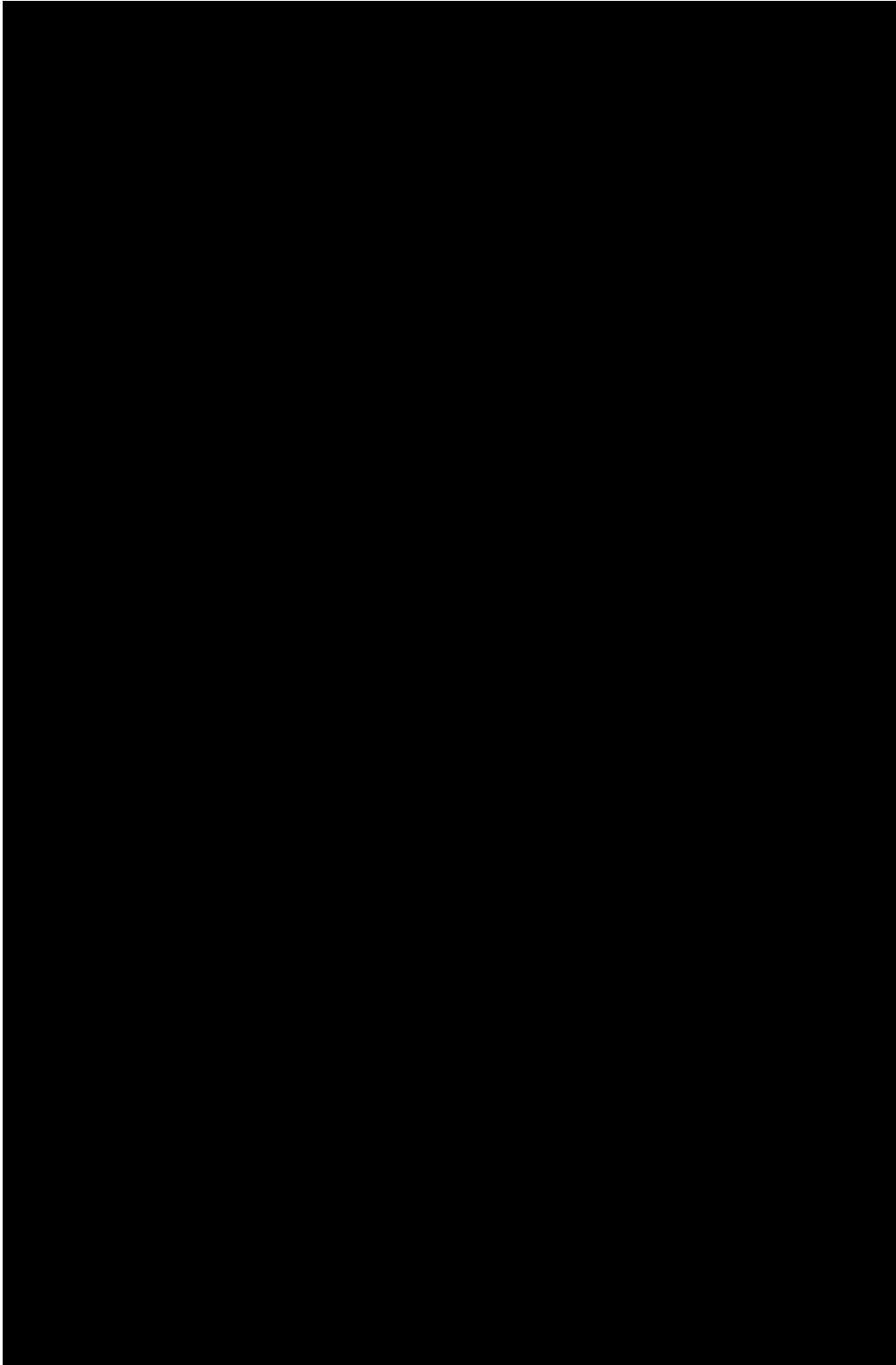
**Kentucky Power Company**  
**Actual and Forecast Electricity Prices (2009 cents per kWh) By Sector**

Year	Month	Residential	Commercial	Manufacturing	Mine Power	Other Retail	Wholesale
1987	5						
1987	6						
1987	7						
1987	8						
1987	9						
1987	10						
1987	11						
1987	12						
1988	1						
1988	2						
1988	3						
1988	4						
1988	5						
1988	6						
1988	7						
1988	8						
1988	9						
1988	10						
1988	11						
1988	12						
1989	1						
1989	2						
1989	3						
1989	4						
1989	5						
1989	6						
1989	7						
1989	8						
1989	9						
1989	10						
1989	11						
1989	12						
1990	1						
1990	2						
1990	3						
1990	4						
1990	5						
1990	6						
1990	7						
1990	8						

**Kentucky Power Company**  
**Actual and Forecast Electricity Prices (2009 cents per kWh) By Sector**

Year	Month	Residential	Commercial	Manufacturing	Mine Power	Other Retail	Wholesale
1990	9						
1990	10						
1990	11						
1990	12						
1991	1						
1991	2						
1991	3						
1991	4						
1991	5						
1991	6						
1991	7						
1991	8						
1991	9						
1991	10						
1991	11						
1991	12						
1992	1						
1992	2						
1992	3						
1992	4						
1992	5						
1992	6						
1992	7						
1992	8						
1992	9						
1992	10						
1992	11						
1992	12						
1993	1						
1993	2						
1993	3						
1993	4						
1993	5						
1993	6						
1993	7						
1993	8						
1993	9						
1993	10						
1993	11						
1993	12						

**Kentucky Power Company**  
**Actual and Forecast Electricity Prices (2009 cents per kWh) By Sector**

Year	Month	Residential	Commercial	Manufacturing	Mine Power	Other Retail	Wholesale
1994	1						
1994	2						
1994	3						
1994	4						
1994	5						
1994	6						
1994	7						
1994	8						
1994	9						
1994	10						
1994	11						
1994	12						
1995	1						
1995	2						
1995	3						
1995	4						
1995	5						
1995	6						
1995	7						
1995	8						
1995	9						
1995	10						
1995	11						
1995	12						
1996	1						
1996	2						
1996	3						
1996	4						
1996	5						
1996	6						
1996	7						
1996	8						
1996	9						
1996	10						
1996	11						
1996	12						
1997	1						
1997	2						
1997	3						
1997	4						

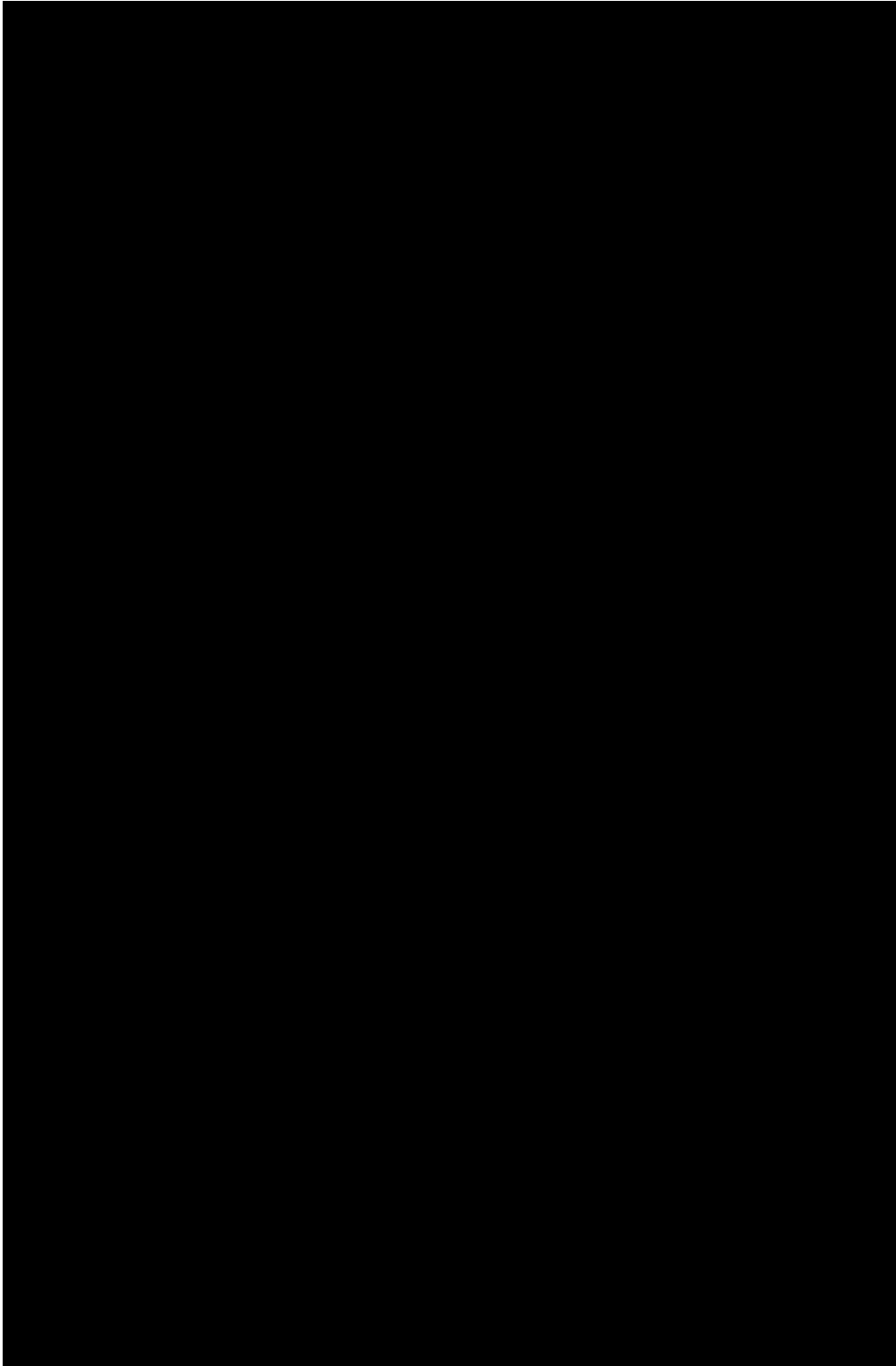
**Kentucky Power Company**  
**Actual and Forecast Electricity Prices (2009 cents per kWh) By Sector**

Year	Month	Residential	Commercial	Manufacturing	Mine Power	Other Retail	Wholesale
1997	5						
1997	6						
1997	7						
1997	8						
1997	9						
1997	10						
1997	11						
1997	12						
1998	1						
1998	2						
1998	3						
1998	4						
1998	5						
1998	6						
1998	7						
1998	8						
1998	9						
1998	10						
1998	11						
1998	12						
1999	1						
1999	2						
1999	3						
1999	4						
1999	5						
1999	6						
1999	7						
1999	8						
1999	9						
1999	10						
1999	11						
1999	12						
2000	1						
2000	2						
2000	3						
2000	4						
2000	5						
2000	6						
2000	7						
2000	8						

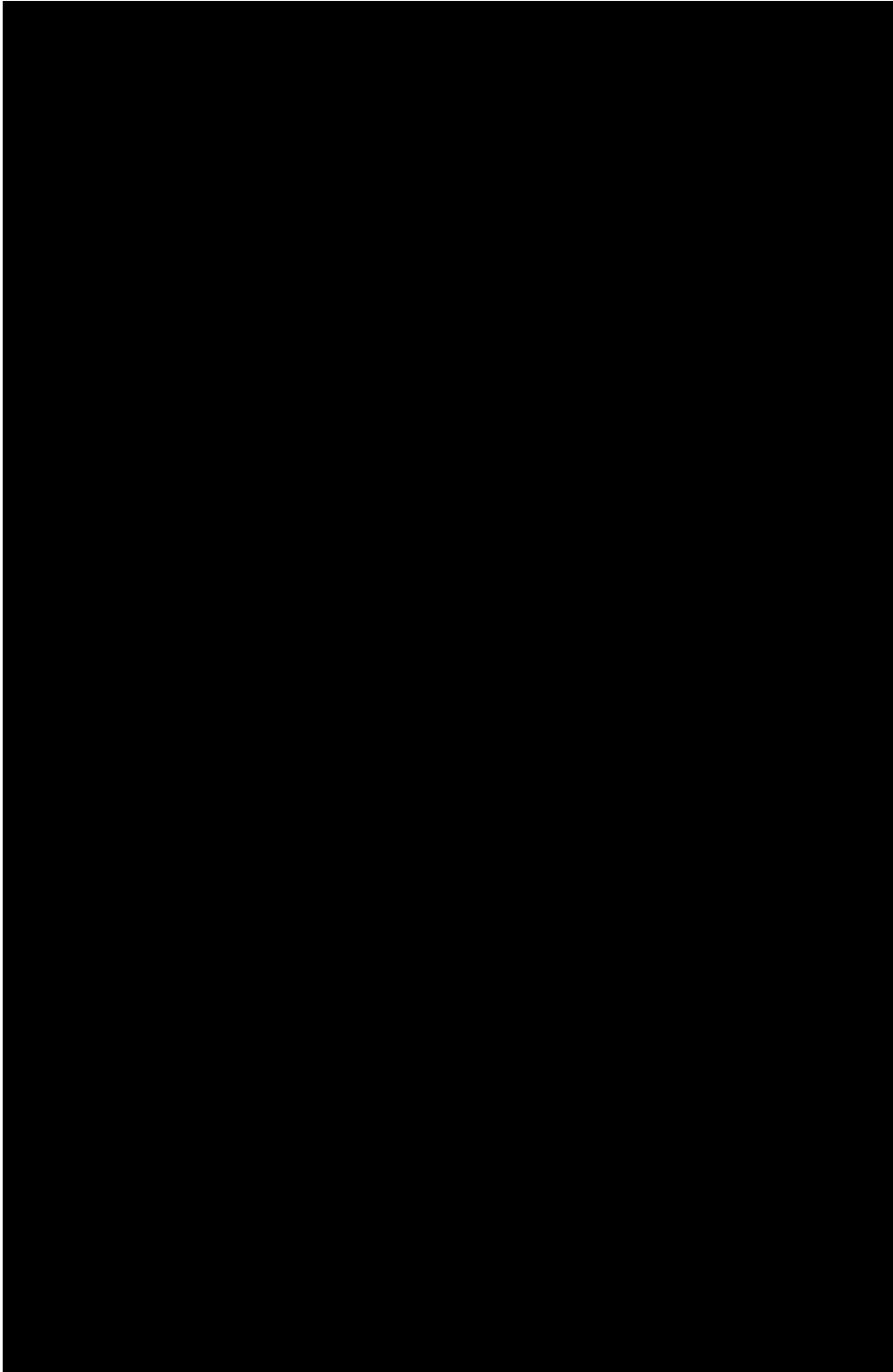
**Kentucky Power Company**  
**Actual and Forecast Electricity Prices (2009 cents per kWh) By Sector**

Year	Month	Residential	Commercial	Manufacturing	Mine Power	Other Retail	Wholesale
2000	9						
2000	10						
2000	11						
2000	12						
2001	1						
2001	2						
2001	3						
2001	4						
2001	5						
2001	6						
2001	7						
2001	8						
2001	9						
2001	10						
2001	11						
2001	12						
2002	1						
2002	2						
2002	3						
2002	4						
2002	5						
2002	6						
2002	7						
2002	8						
2002	9						
2002	10						
2002	11						
2002	12						
2003	1						
2003	2						
2003	3						
2003	4						
2003	5						
2003	6						
2003	7						
2003	8						
2003	9						
2003	10						
2003	11						
2003	12						

**Kentucky Power Company**  
**Actual and Forecast Electricity Prices (2009 cents per kWh) By Sector**

Year	Month	Residential	Commercial	Manufacturing	Mine Power	Other Retail	Wholesale
2004	1						
2004	2						
2004	3						
2004	4						
2004	5						
2004	6						
2004	7						
2004	8						
2004	9						
2004	10						
2004	11						
2004	12						
2005	1						
2005	2						
2005	3						
2005	4						
2005	5						
2005	6						
2005	7						
2005	8						
2005	9						
2005	10						
2005	11						
2005	12						
2006	1						
2006	2						
2006	3						
2006	4						
2006	5						
2006	6						
2006	7						
2006	8						
2006	9						
2006	10						
2006	11						
2006	12						
2007	1						
2007	2						
2007	3						
2007	4						

**Kentucky Power Company**  
**Actual and Forecast Electricity Prices (2009 cents per kWh) By Sector**

Year	Month	Residential	Commercial	Manufacturing	Mine Power	Other Retail	Wholesale
2007	5						
2007	6						
2007	7						
2007	8						
2007	9						
2007	10						
2007	11						
2007	12						
2008	1						
2008	2						
2008	3						
2008	4						
2008	5						
2008	6						
2008	7						
2008	8						
2008	9						
2008	10						
2008	11						
2008	12						
2009	1						
2009	2						
2009	3						
2009	4						
2009	5						
2009	6						
2009	7						
2009	8						
2009	9						
2009	10						
2009	11						
2009	12						
2010	1						
2010	2						
2010	3						
2010	4						
2010	5						
2010	6						
2010	7						
2010	8						

**Kentucky Power Company**  
**Actual and Forecast Electricity Prices (2009 cents per kWh) By Sector**

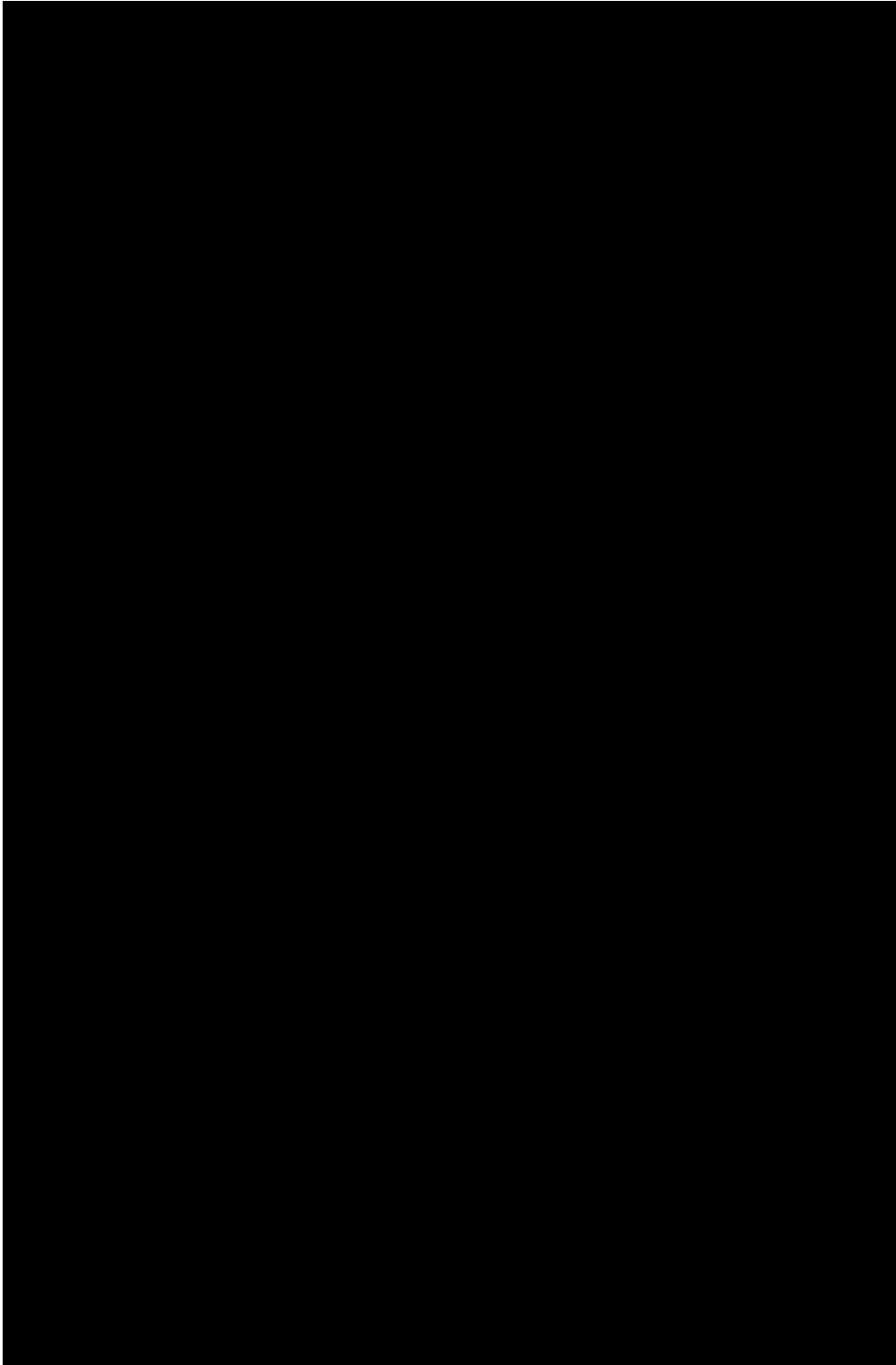
Year	Month	Residential	Commercial	Manufacturing	Mine Power	Other Retail	Wholesale
2010	9						
2010	10						
2010	11						
2010	12						
2011	1						
2011	2						
2011	3						
2011	4						
2011	5						
2011	6						
2011	7						
2011	8						
2011	9						
2011	10						
2011	11						
2011	12						
2012	1						
2012	2						
2012	3						
2012	4						
2012	5						
2012	6						
2012	7						
2012	8						
2012	9						
2012	10						
2012	11						
2012	12						
2013	1						
2013	2						
2013	3						
2013	4						
2013	5						
2013	6						
2013	7						
2013	8						
2013	9						
2013	10						
2013	11						
2013	12						



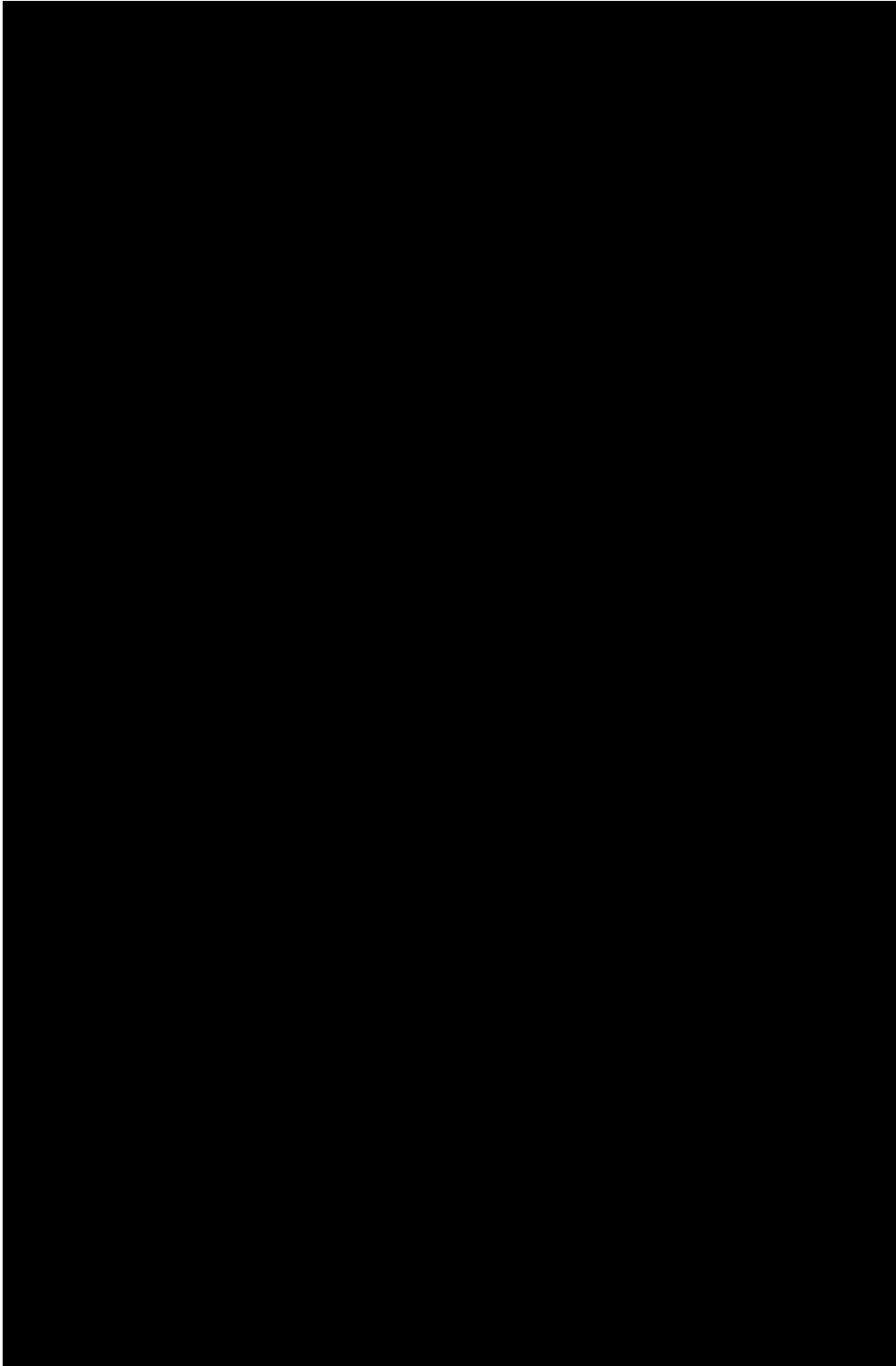
**Kentucky Power Company**  
**Actual and Forecast Electricity Prices (2009 cents per kWh) By Sector**

Year	Month	Residential	Commercial	Manufacturing	Mine Power	Other Retail	Wholesale
2014	1						
2014	2						
2014	3						
2014	4						
2014	5						
2014	6						
2014	7						
2014	8						
2014	9						
2014	10						
2014	11						
2014	12						
2015	1						
2015	2						
2015	3						
2015	4						
2015	5						
2015	6						
2015	7						
2015	8						
2015	9						
2015	10						
2015	11						
2015	12						
2016	1						
2016	2						
2016	3						
2016	4						
2016	5						
2016	6						
2016	7						
2016	8						
2016	9						
2016	10						
2016	11						
2016	12						
2017	1						
2017	2						
2017	3						
2017	4						

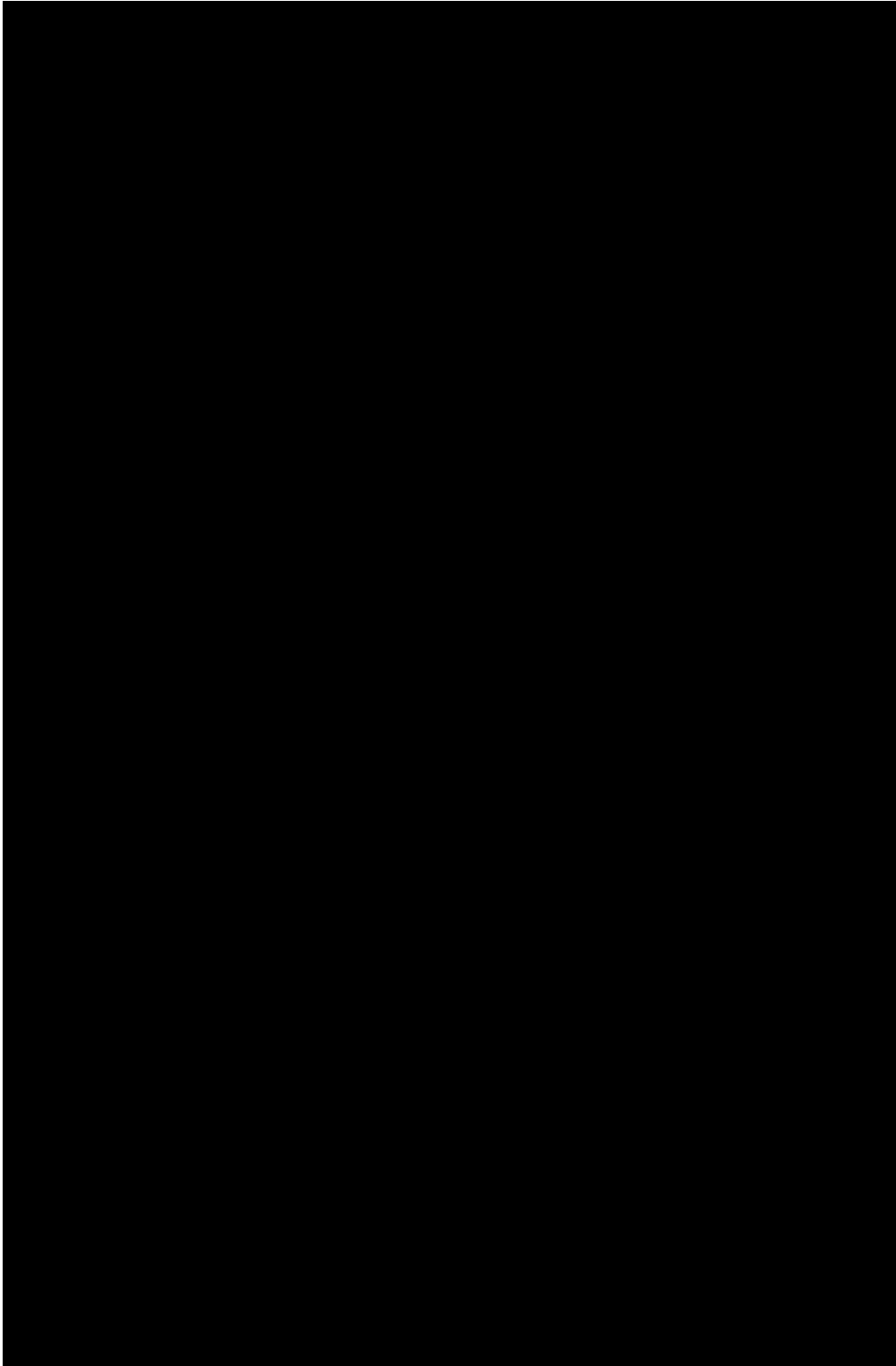
**Kentucky Power Company**  
**Actual and Forecast Electricity Prices (2009 cents per kWh) By Sector**

Year	Month	Residential	Commercial	Manufacturing	Mine Power	Other Retail	Wholesale
2017	5						
2017	6						
2017	7						
2017	8						
2017	9						
2017	10						
2017	11						
2017	12						
2018	1						
2018	2						
2018	3						
2018	4						
2018	5						
2018	6						
2018	7						
2018	8						
2018	9						
2018	10						
2018	11						
2018	12						
2019	1						
2019	2						
2019	3						
2019	4						
2019	5						
2019	6						
2019	7						
2019	8						
2019	9						
2019	10						
2019	11						
2019	12						
2020	1						
2020	2						
2020	3						
2020	4						
2020	5						
2020	6						
2020	7						
2020	8						

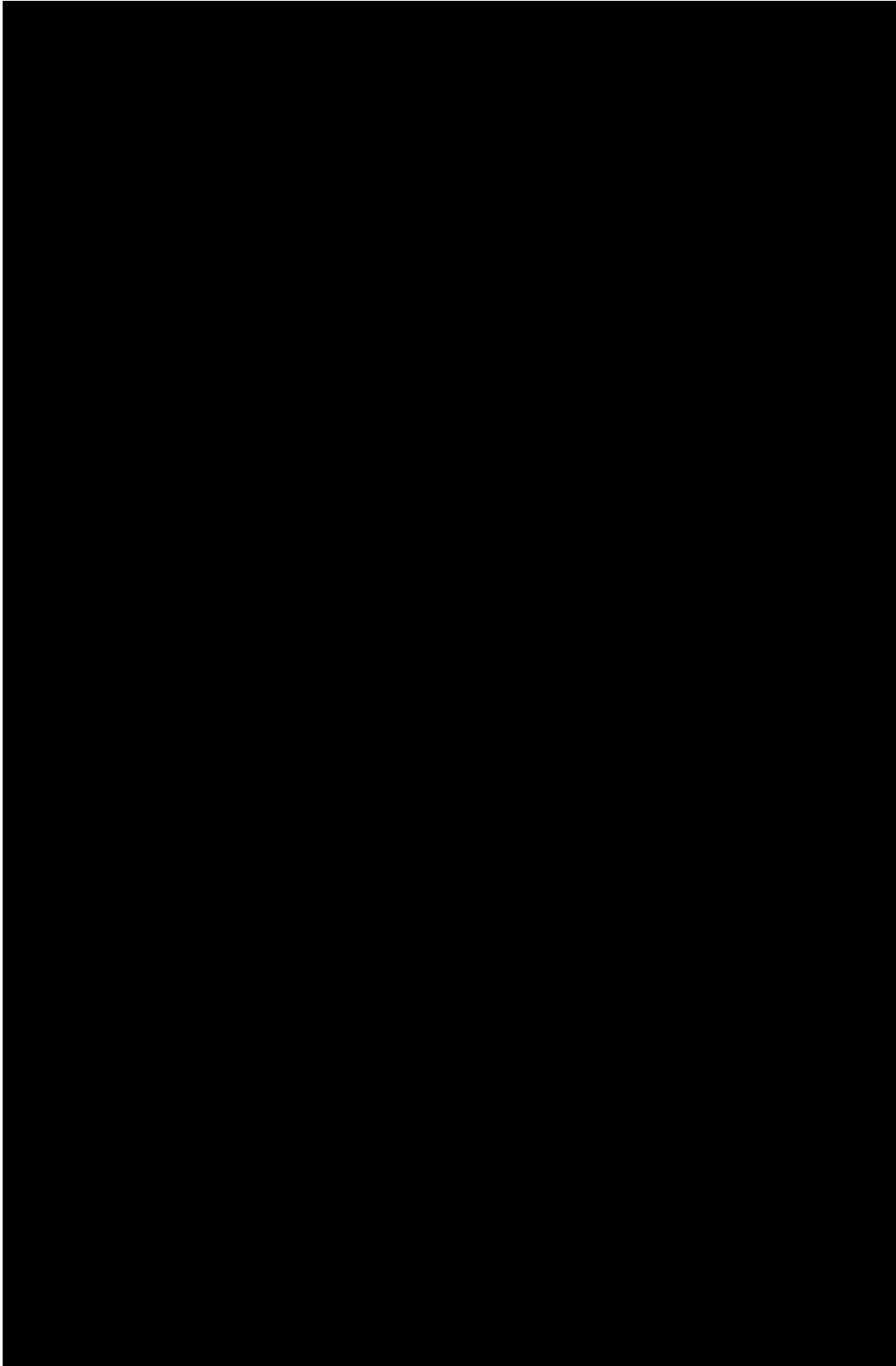
**Kentucky Power Company**  
**Actual and Forecast Electricity Prices (2009 cents per kWh) By Sector**

Year	Month	Residential	Commercial	Manufacturing	Mine Power	Other Retail	Wholesale
2020	9						
2020	10						
2020	11						
2020	12						
2021	1						
2021	2						
2021	3						
2021	4						
2021	5						
2021	6						
2021	7						
2021	8						
2021	9						
2021	10						
2021	11						
2021	12						
2022	1						
2022	2						
2022	3						
2022	4						
2022	5						
2022	6						
2022	7						
2022	8						
2022	9						
2022	10						
2022	11						
2022	12						
2023	1						
2023	2						
2023	3						
2023	4						
2023	5						
2023	6						
2023	7						
2023	8						
2023	9						
2023	10						
2023	11						
2023	12						

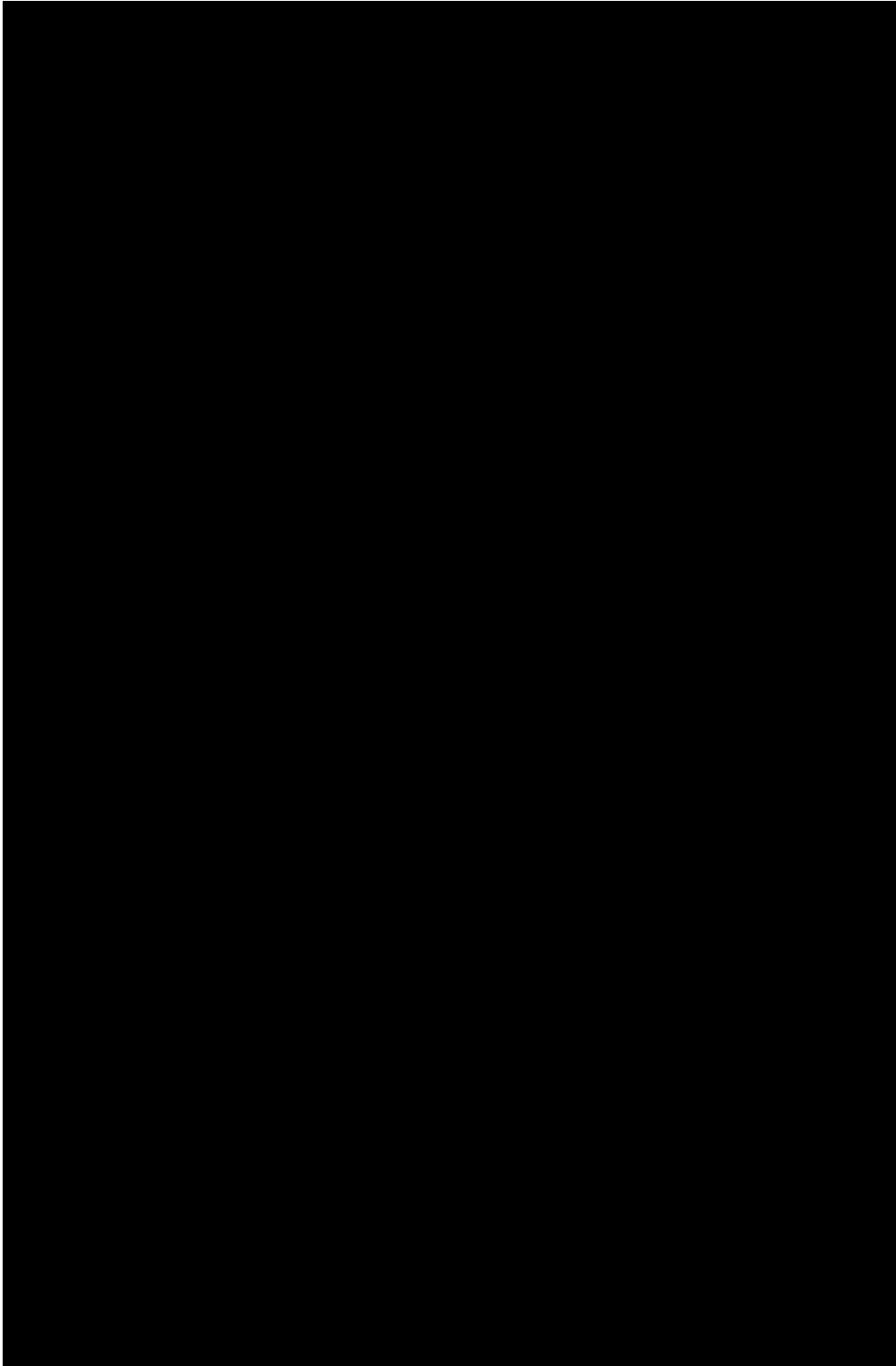
**Kentucky Power Company**  
**Actual and Forecast Electricity Prices (2009 cents per kWh) By Sector**

Year	Month	Residential	Commercial	Manufacturing	Mine Power	Other Retail	Wholesale
2024	1						
2024	2						
2024	3						
2024	4						
2024	5						
2024	6						
2024	7						
2024	8						
2024	9						
2024	10						
2024	11						
2024	12						
2025	1						
2025	2						
2025	3						
2025	4						
2025	5						
2025	6						
2025	7						
2025	8						
2025	9						
2025	10						
2025	11						
2025	12						
2026	1						
2026	2						
2026	3						
2026	4						
2026	5						
2026	6						
2026	7						
2026	8						
2026	9						
2026	10						
2026	11						
2026	12						
2027	1						
2027	2						
2027	3						
2027	4						

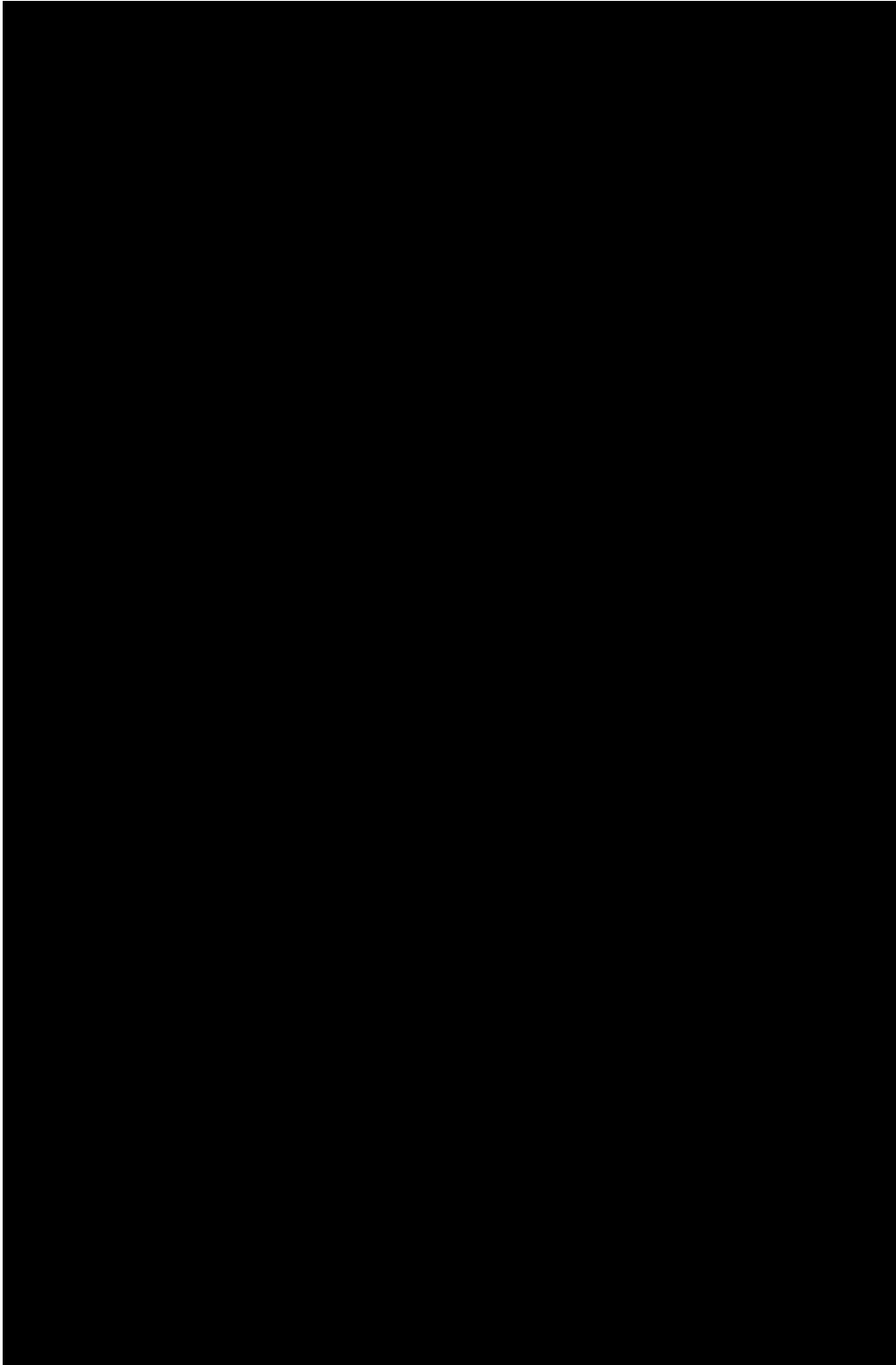
**Kentucky Power Company**  
**Actual and Forecast Electricity Prices (2009 cents per kWh) By Sector**

Year	Month	Residential	Commercial	Manufacturing	Mine Power	Other Retail	Wholesale
2027	5						
2027	6						
2027	7						
2027	8						
2027	9						
2027	10						
2027	11						
2027	12						
2028	1						
2028	2						
2028	3						
2028	4						
2028	5						
2028	6						
2028	7						
2028	8						
2028	9						
2028	10						
2028	11						
2028	12						
2029	1						
2029	2						
2029	3						
2029	4						
2029	5						
2029	6						
2029	7						
2029	8						
2029	9						
2029	10						
2029	11						
2029	12						
2030	1						
2030	2						
2030	3						
2030	4						
2030	5						
2030	6						
2030	7						
2030	8						

**Kentucky Power Company**  
**Actual and Forecast Electricity Prices (2009 cents per kWh) By Sector**

Year	Month	Residential	Commercial	Manufacturing	Mine Power	Other Retail	Wholesale
2030	9						
2030	10						
2030	11						
2030	12						
2031	1						
2031	2						
2031	3						
2031	4						
2031	5						
2031	6						
2031	7						
2031	8						
2031	9						
2031	10						
2031	11						
2031	12						
2032	1						
2032	2						
2032	3						
2032	4						
2032	5						
2032	6						
2032	7						
2032	8						
2032	9						
2032	10						
2032	11						
2032	12						
2033	1						
2033	2						
2033	3						
2033	4						
2033	5						
2033	6						
2033	7						
2033	8						
2033	9						
2033	10						
2033	11						
2033	12						

**Kentucky Power Company**  
**Actual and Forecast Electricity Prices (2009 cents per kWh) By Sector**

Year	Month	Residential	Commercial	Manufacturing	Mine Power	Other Retail	Wholesale
2034	1						
2034	2						
2034	3						
2034	4						
2034	5						
2034	6						
2034	7						
2034	8						
2034	9						
2034	10						
2034	11						
2034	12						
2035	1						
2035	2						
2035	3						
2035	4						
2035	5						
2035	6						
2035	7						
2035	8						
2035	9						
2035	10						
2035	11						
2035	12						
2036	1						
2036	2						
2036	3						
2036	4						
2036	5						
2036	6						
2036	7						
2036	8						
2036	9						
2036	10						
2036	11						
2036	12						
2037	1						
2037	2						
2037	3						
2037	4						

**Kentucky Power Company**  
**Actual and Forecast Electricity Prices (2009 cents per kWh) By Sector**

Year	Month	Residential	Commercial	Manufacturing	Mine Power	Other Retail	Wholesale
2037	5						
2037	6						
2037	7						
2037	8						
2037	9						
2037	10						
2037	11						
2037	12						
2038	1						
2038	2						
2038	3						
2038	4						
2038	5						
2038	6						
2038	7						
2038	8						
2038	9						
2038	10						
2038	11						
2038	12						
2039	1						
2039	2						
2039	3						
2039	4						
2039	5						
2039	6						
2039	7						
2039	8						
2039	9						
2039	10						
2039	11						
2039	12						
2040	1						
2040	2						
2040	3						
2040	4						
2040	5						
2040	6						
2040	7						
2040	8						



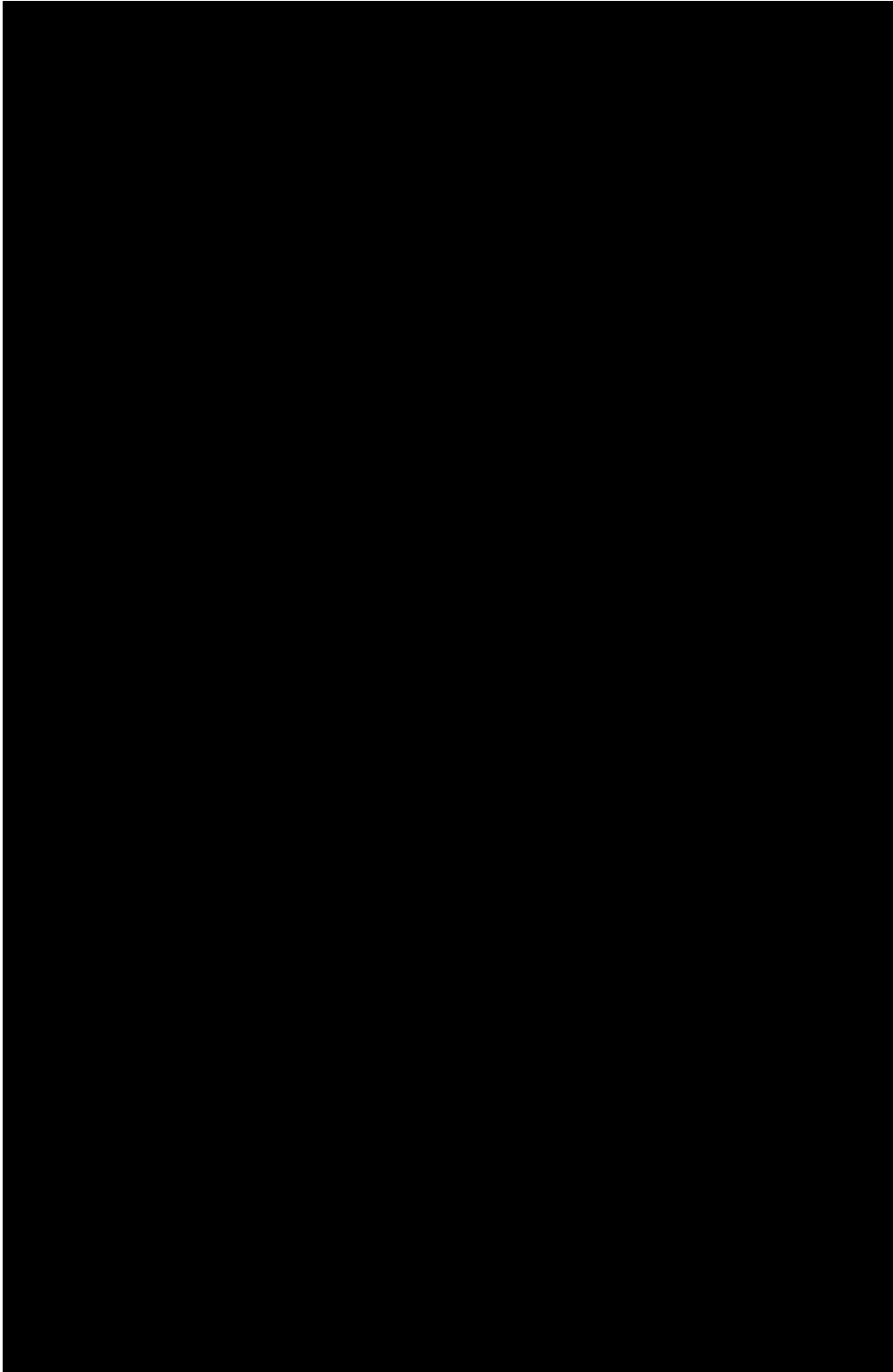
**Kentucky Power Company**  
**Actual and Forecast Electricity Prices (2009 cents per kWh) By Sector**

Year	Month	Residential	Commercial	Manufacturing	Mine Power	Other Retail	Wholesale
2040	9						
2040	10						
2040	11						
2040	12						
2041	1						
2041	2						
2041	3						
2041	4						
2041	5						
2041	6						
2041	7						
2041	8						
2041	9						
2041	10						
2041	11						
2041	12						
2042	1						
2042	2						
2042	3						
2042	4						
2042	5						
2042	6						
2042	7						
2042	8						
2042	9						
2042	10						
2042	11						
2042	12						
2043	1						
2043	2						
2043	3						
2043	4						
2043	5						
2043	6						
2043	7						
2043	8						
2043	9						
2043	10						
2043	11						
2043	12						

**Kentucky Power Company**  
**Actual and Forecast Electricity Prices (2009 cents per kWh) By Sector**

Year	Month	Residential	Commercial	Manufacturing	Mine Power	Other Retail	Wholesale
2044	1						
2044	2						
2044	3						
2044	4						
2044	5						
2044	6						
2044	7						
2044	8						
2044	9						
2044	10						
2044	11						
2044	12						
2045	1						
2045	2						
2045	3						
2045	4						
2045	5						
2045	6						
2045	7						
2045	8						
2045	9						
2045	10						
2045	11						
2045	12						
2046	1						
2046	2						
2046	3						
2046	4						
2046	5						
2046	6						
2046	7						
2046	8						
2046	9						
2046	10						
2046	11						
2046	12						
2047	1						
2047	2						
2047	3						
2047	4						

**Kentucky Power Company**  
**Actual and Forecast Electricity Prices (2009 cents per kWh) By Sector**

Year	Month	Residential	Commercial	Manufacturing	Mine Power	Other Retail	Wholesale
2047	5						
2047	6						
2047	7						
2047	8						
2047	9						
2047	10						
2047	11						
2047	12						
2048	1						
2048	2						
2048	3						
2048	4						
2048	5						
2048	6						
2048	7						
2048	8						
2048	9						
2048	10						
2048	11						
2048	12						
2049	1						
2049	2						
2049	3						
2049	4						
2049	5						
2049	6						
2049	7						
2049	8						
2049	9						
2049	10						
2049	11						
2049	12						
2050	1						
2050	2						
2050	3						
2050	4						
2050	5						
2050	6						
2050	7						
2050	8						

**Kentucky Power Company**  
**Actual and Forecast Electricity Prices (2009 cents per kWh) By Sector**

Year	Month	Residential	Commercial	Manufacturing	Mine Power	Other Retail	Wholesale
2050	9						
2050	10						
2050	11						
2050	12						
2051	1						
2051	2						
2051	3						
2051	4						
2051	5						
2051	6						
2051	7						
2051	8						
2051	9						
2051	10						
2051	11						
2051	12						
2052	1						
2052	2						
2052	3						
2052	4						
2052	5						
2052	6						
2052	7						
2052	8						
2052	9						
2052	10						
2052	11						
2052	12						
2053	1						
2053	2						
2053	3						
2053	4						
2053	5						
2053	6						
2053	7						
2053	8						
2053	9						
2053	10						
2053	11						
2053	12						

**Kentucky Power Company**  
**Actual and Forecast Electricity Prices (2009 cents per kWh) By Sector**

Year	Month	Residential	Commercial	Manufacturing	Mine Power	Other Retail	Wholesale
2054	1						
2054	2						
2054	3						
2054	4						
2054	5						
2054	6						
2054	7						
2054	8						
2054	9						
2054	10						
2054	11						
2054	12						
2055	1						
2055	2						
2055	3						
2055	4						
2055	5						
2055	6						
2055	7						
2055	8						
2055	9						
2055	10						
2055	11						
2055	12						
2056	1						
2056	2						
2056	3						
2056	4						
2056	5						
2056	6						
2056	7						
2056	8						
2056	9						
2056	10						
2056	11						
2056	12						
2057	1						
2057	2						
2057	3						
2057	4						

**Kentucky Power Company**  
**Actual and Forecast Electricity Prices (2009 cents per kWh) By Sector**

<b>Year</b>	<b>Month</b>	<b>Residential</b>	<b>Commercial</b>	<b>Manufacturing</b>	<b>Mine Power</b>	<b>Other Retail</b>	<b>Wholesale</b>	
2057	5							
2057	6							
2057	7							
2057	8							
2057	9							
2057	10							
2057	11							
2057	12							

## **Exhibit J – PJM Capacity Market Analysis**

### PJM Capacity Market Analysis

Item	Description	2029/2030
A	Internal Demand (a)	910
B	Interruptible Demand Response (b)	5
C	Forecast Pool Requirement ©	1.089
D	Total UCAP Obligation (A-B)*C	985
<b>X</b>	<b>Capacity Obligation excluding FPR</b>	<b>904</b>
E	ICAP Existing Capacity & Planned Changes(e)	295
E1	Preferred Plan New ICAP (Thermal)	480
E2	Preferred Plan New ICAP (Renewable)	1,200
F	AEP EFORD	2.9%
F1	Solar ELCC	31%
F2	Wind ELCC	12%
G	Net Installed Capacity (UCAP) = (E+E1)*(1-F) +(New Solar*F1)+(New Wind*F2)	1,030
H	Net Position = G-D	44
<b>Y</b>	<b>PJM Holdback (3% of X)</b>	<b>27</b>
Z	Available for RPM auction if FRR (=H-Y if >0)	17
I	Capacity Obligation Less Effects of IDR+IRM	990
J	Reserve Margin above IRM (=H/I)	4.5%
K	Total Reserve Margin (=IRM + J)	19.2%
IRM	PJM IRM	14.70%
(a)	Includes effects of proposed EE programs	
(b)	DR approved by PJM	
"(c)	Forecast Pool Requirement (FPR) = (1 + IRM) * (1 - PJM EFORD	

Kentucky Power Payment as LSE		Kentucky Revenue as LSE	
KPCO Capacity Obligation excluding FPR	904	Kentucky Power UCAP Capacity	1,030
PJM CT Clearing Price (BRA 2024/2025)	\$29	PJM CT Clearing Price (BRA 2024/2025)	\$29
RPM Reserve (2024/2025 BRA)	1.2170	Days in Planning Year	365
RPM Capacity Obligation	1100.00	Kentucky Power Capacity REV	\$10,867,460
Days in Planning Year	365		
Kentucky Power Payment to PJM	\$11,611,380	Net Payment Received	(\$743,920)
<b>Kentucky Power elects FRR, sells surplus power</b>		<b>FRR Benefit (excl addl capacity rqmts costs)</b>	<b>\$182,598</b>
Capacity available for auction	17	RPM Benefit (Cost)	(\$743,920)
PJM CT Clearing Price (BRA RM)	\$29	Net Benefit FRR over RPM	\$926,518
Days in Planning Year	365		
Kentucky Power Payment to PJM	\$182,597.67		
FPR Obligation	1.0894		



**Exhibit K – Organization of the 2022 Kentucky Power IRP**

## **Organization of the 2022 Kentucky Power IRP**

**807 KAR 5:058 Section 4(2): Each plan filed shall identify the individual for its preparation, who shall be available to respond to inquiries during the commission's review of the plan.**

Kelly Pearce, Managing Director Integrated Resource Planning & Strategy

Akarsh Sheilendranath, Director Resource Planning Strategy

Greg Soller, Resource Planning Manager

Brian West, VP Regulatory & Finance

Reid Newman, Manager Economic Forecasting

Kamran Ali, VP Transmission Planning & Analysis

Nicolas C Koehler, Director Transmission Planning

Carlos Casablanca, Managing Director Distribution Planning & Analysis

Gary Spitznogle, VP Environmental Services

Legal Counsel: Katie M. Glass, Stites & Harbison PLLC

Consultants: Thomas Haratym, Charles River Associates

Jim McMahon, Charles River Associates

Jeffrey Huber, GDS Associates