COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

AN ASSESSMENT OF KENTUCKY'S ELECTRIC GENERATION, TRANSMISSION AND DISTRIBUTION NEEDS	))))	**ADMINISTRATIVE CASE NO. 2005-00090**

RESPONSE OF NOLIN RURAL ELECTRIC COOPERATIVE CORPORATION TO ORDER OF PUBLIC SERVICE COMMISSION DATED MARCH 10, 2005

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For its Response to the Order of the Public Service Commission in the above-styled matter, Nolin Rural Electric Cooperative Corporation hereby files the attached responses to the questions directed to it in said Order.

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The undersigned counsel for Nolin Rural Electric Cooperative Corporation certifies that an original and ten (10) copies of this Response were served and hand delivered to the Public Service Commission, 211 Sower Boulevard, Frankfort, Kentucky 40601 and mailed to the following persons on the attached service list this 31st day of March, 2005.

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1. ***Provide a summary description of your utility's resource planning process. This should include a discussion of generation, transmission, demand-side, and distribution resource planning.***

Nolin RECC conducts two separate planning processes, a Long Range Plan and a two to four year Work Plan. The Long Range Plan deals with large growth patterns over an extended period, while the Work Plan is used for annual budget planning. The purpose of the Long Range Plan is to develop a distribution configuration with the capacity to serve approximately double the existing system peak over an extended period of time. The purpose of the Work Plan is to provide a proposed system at a realistic system peak under extreme conditions. The results of the Work Plan data are used for budgeting function.

The following considerations are included in the development of the exploratory plans:

1. Increasing the capacity of existing substations.
2. The conversion of existing distribution feeders to a larger conductor size.
3. The installation of new substations and new transmission facilities.
4. The construction of new feeders and tie lines.
5. The conversion of the system or portions of the system to a higher voltage.
6. The installation of capacitors, voltage regulators, and protective devices.

The final selection, for a given plan, is based on one of several scenarios that best track these objectives:

1. System expansion in a manner such that investment in new facilities is compatible with load growth and revenue.
2. Coordination of the various components of the power supply and distribution systems to maintain a reasonable economic balance.
3. Maximum use of opportunities to improve quality of service.
4. Maximum use of anticipated developments in equipment design and application.

The studies contain a detailed analysis and design of all major distribution system components directly owned by Nolin RECC. East Kentucky Power owns the transmission lines and substations that supply the Cooperative. A detailed analysis and design of the transmission system is not considered to be within the scope of the Nolin studies. However, for making an economic comparison of the distribution plans for new substations a separate individual study is prepared on each site. This evaluation is done in conjunction with East Kentucky Power and evaluates the location cost, transmission cost, substation cost, and distribution options.

2. ***Are new technologies for improving reliability, efficiency and safety investigation and considered for implementation in your power generation, transmission and distribution system?***
    a. ***If yes, discuss the new technologies that were considered in the last 5 years and indicate which, if any, were implemented.***
    b. ***If no, explain in detail why new technologies are not considered.***

Automatic Meter Reading - With the Hunt Technologies TS2 AMR Turtle System, there is no need for an employee to drive to each meter on a monthly basis to read meters for billing purposes. Customer satisfaction has improved because employees do not have to enter customer premises to obtain readings. Also, customer bill complaints can be addressed as reads are available on a daily basis. Because the readings are electronic, accuracy is high, and data integration with accounting and billing systems is seamless and all electronic. Additionally, the electronic readings can be integrated with engineering software to improve and ensure model accuracy. Cost savings are derived from reduced labor, reduced vehicle maintenance, accurate reads and billing, and improved engineering efficiencies.

Substation Supervisory Control and Data Acquisition (SCADA) - The Cooperative has 24 hour continuous monitoring of the distribution configuration by a SCADA system. The system monitors feeder Voltage, Amperage, breaker operations, as well as substations total loading. The 24/7/365 Dispatch Center is the control point for the SCADA's data gathering and addressing of Voltage and feeder alarms as well as addressing outages of members. The system is capable of counting feeder's breaker operations and delivering a monthly report to engineering.

3. ***Is your utility researching any renewable fuels for generating electricity?***
    - ***c. If so, what fuels are being researched?***
    - ***d. What obstacles need to be overcome to implement the new fuels?***

Nolin is a Distribution Utility and does not generate or transmit electricity.

4. ***Provide actual and weather-normalized annual native load energy sales for calendar years 2000 through 2004. Provide actual annual off-system energy sales for this same period disaggregated into full requirements sales, firm capacity sales, and non-firm or economy energy sales. Off-system sales should be further disaggregated to show separately those sales in which your utility acts as a reseller, or transporter, in a power transaction between two or more other parties.***

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5. ***Provide actual and weather-normalized annual coincident peak demands for calendar years 2000 through 2004 disaggregated into (a) native load demand, firm and non-firm; and (b) off-system demand, firm and non-firm.***

Refer to *Attachment 1*

6. ***Provide a summary of monthly power purchases for calendar years 2000 through 2004 disaggregated into firm capacity purchases required to serve native load, economy energy purchases, and purchases in which your utility acts as a reseller, or transporter, in a power transaction between two or more other parties. Include the average cost per megawatt-hour for each purchase category.***

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7. ***Provide the most current base case and high case demand and energy forecasts for the period 2005 through 2025, if available. If the current forecast does not extend to 2025, provide forecast data for the longest forecast period available. The information should be disaggregated into (a) native load, firm and non-firm demand; and (b) off-system load, both firm and non-firm demand.***

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8. ***Provide the target reserve margin currently used for planning purposes, stated as a percentage of demand, and a summary of your utility's most recent reserve margin study. If this target reserve margin has changed since 2002, provide the prior target reserve margin and explain the reasons for the change. If the target reserve margin is expected to be reevaluated in the next 3 years, explain the reasons for the reevaluation.***

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9. ***For the period 2005 through 2025, provide projected reserve margins stated in megawatts ("MW") and as a percentage of demand. Identify projected deficits and current plans for addressing these deficits.***

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10. ***Provide the following information for every generation station operated in Kentucky.***

    a. ***Name.***
    b. ***Location (including county).***
    c. ***Number of units.***
    d. ***Date in service for each unit.***
    e. ***Type of fuel for each unit.***
    f. ***Net rating (MV) for each unit.***
    g. ***Emission control equipment in service (list by type).***
    h. ***Date emission control equipment in service.***

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11. ***Provide a summary of any planned base load or peaking capacity additions to meet native load requirements in the years 2005 through 2025. Include capacity additions by the utility, and those by affiliates, if constructed in Kentucky or intended to meet load in Kentucky.***

Nolin is a Distribution Utility and does not generate or transmit electricity.

12. What is the estimated capital cost per KW and energy cost per kWh for new generation by technology?

Nolin is a Distribution Utility and does not generate or transmit electricity.

13. If current plans for addressing projected capacity deficits include the addition of gas-fired generation, describe the extent to which fluctuations in natural gas prices have been incorporated into these plans. Explain how fluctuations in natural gas prices may have altered the results of previous plans.

Nolin is a Distribution Utility and does not generate or transmit electricity.

14. Provide a summary of any permanent reductions in utilization of generation capacity due to Clean Air Act compliance from 2000 through 2004. Identify and describe any forecasted reductions during the 2005 through 2025.

Nolin is a Distribution Utility and does not generate or transmit electricity.

15. Provide a summary of all forced outages and generating capacity retirements occurring during the years 2000 through 2004.

Nolin is a Distribution Utility and does not generate or transmit electricity.

16. Provide a summary of the utility's plans for the retirement of existing generating capacity during the 2005 through 2025 period.

Nolin is a Distribution Utility and does not generate or transmit electricity.

17. Provide a summary description of your utility's existing Demand-Side Management ("DSM") programs, which includes:

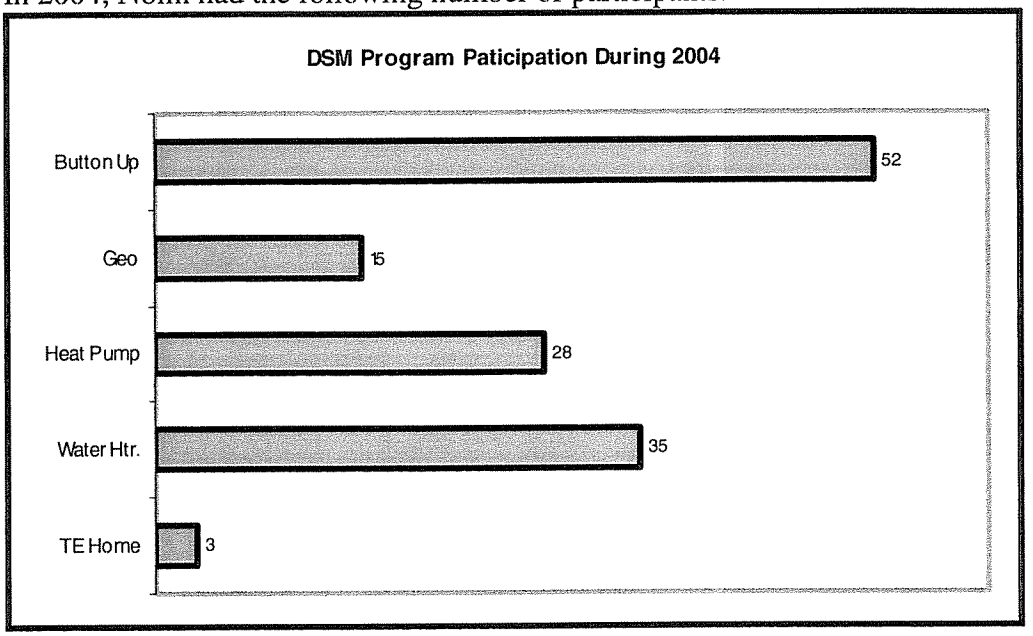
- ***a. Annual DSM budget.***
- ***b. Demand and energy impacts.***
- ***c. The currently scheduled termination dates for the programs.***

Nolin RECC and East Kentucky Power Cooperative work together to design DSM programs. Program implementation is done by Nolin, with support by EKPC. DSM programs are exclusively residential in nature, and almost always involve HVAC or water heating efficiency measures.

DSM programs currently in place are as follows:

1. Air-Source Heat Pump Incentive
2. Button Up Weatherization
3. Electric Water Heater Incentive
4. Geothermal Heating and Cooling
5. Touchstone Energy Home

In 2004, Nolin had the following number of participants.



Button Up Weatherization Program

The program requires the installation of insulation materials or the use of other weatherization techniques to reduce heat loss in the home. Any retail member living in a stick-built or manufactured home that is at least two years old and which uses electric as the primary source of heat is eligible.

Air-Source Heat Pump Incentive

This program promotes efficient air-source heat pumps. The primary targets for this program are retail members building new homes in areas where natural gas heat is an option. An important secondary target is the HVAC retrofit market, offering incentives to retail members to replace electric furnaces and gas or propane heat with high-efficiency electric heat pumps.

Electric Water Heater Incentive

The electric water heater incentive is designed to encourage residential customers engaged in new construction to choose a high-efficiency electric water heater over other available options. It is also designed to encourage conversion from a fossil-fuel water heater to a high-efficiency electric water heater.

Geothermal Heating and Cooling

Traditional air-source heat pumps remove heat from the air. Geothermal heating is a heat pump that removes heat from the ground. It is a very efficient heating and cooling appliance. EKPC and its member systems pioneered the development and implementation of geothermal heating and cooling during the eighties and nineties.

Touchstone Energy Home

This program provides incentives and support relating to new home construction. A home built to Touchstone Energy specifications will be at least as efficient as an Energy Star home.

Demand / Energy Impacts And Annual Budget

The table below reports program impacts. Note that this data is per installation.

	Energy Impact (kWh)	Impact On Winter Peak (kW)	Impact On Summer Peak (kW)
Button Up	(2,700)	(2.7)	(1.0)
Geothermal	(6,000)	(3.5)	(1.5)
Efficient Heat Pump In New Construction	(925)	2.5**	(1.0)
Touchstone Energy Home	(5,100)	(2.4)	(1.4)
Efficient Water Heater	700**	0.2**	0.1**

** Impacts are positive due to customers who normally would have chosen natural gas

Annual budgets are a function of administrative cost and incentive payments. The table below reports EKPC administrative costs, and typical administrative costs and incentive payments by EKPC member distribution cooperatives.

	EKPC Administrative Costs	Distribution Cooperative Administrative Costs*	Incentive Payment
Button Up	$32	$163	Up to $600
Geothermal / Touchstone Energy Home	$17	$254	$900
Efficient Heat Pump In New Construction	$13	$182	$300
Efficient Water Heater	$8	$61	$200

*These costs are averages of all participating member distribution cooperatives, and vary by distribution cooperative.

For a more in depth discussion of EKPC and member distribution cooperative DSM programs, please see Administrative Case No. 2003-00051, Appendix

18. Provide your utility's definition of "transmission" and "distribution."

The distribution system is defined as those facilities owned by the member distribution system beyond the low-side of EKPC's distribution substation. (12,470 volts)

19. Identify all utilities with which your utility is interconnected and the transmission capacity at all points of interconnection.

Nolin is a Distribution Utility and does not generate or transmit electricity.

20. Provide the peak hourly MW transfers into and out of each interconnection for each month of the last 5 years. Provide the data and time of each peak.

Nolin is a Distribution Utility and does not generate or transmit electricity.

21. Identify any areas on your utility's system where capacity constraints, bottlenecks, or other transmission problems have been experienced from January 1, 2003 until the present date. Identify all incidents of transmission problems by date and hour, with a brief narrative description of the nature of the problem. Provide the MW transfers for each of your utility's interconnections for these times.

Nolin is a Distribution Utility and does not generate or transmit electricity.

22. Provide details of any planned transmission capacity additions for the 2005 through 2025 period. If the transmission capacity additions are for existing or expected constraints, bottlenecks, or other transmission problems, identify the problem the addition is intended to address.

Nolin is a Distribution Utility and does not generate or transmit electricity.

23. Is your utility researching or considering methods of increasing transmission capacity of existing transmission routes? If yes, discuss those methods.

Nolin is a Distribution Utility and does not generate or transmit electricity.

24. Provide copies of any reports prepared by your utility or for your utility that analyzes the capabilities of the transmission system to meet present and future needs for import and export of capacity.

Nolin is a Distribution Utility and does not generate or transmit electricity.

25. ***Provide the following transmission energy data forecast for the years2005 through 2025.***
    a. ***Total energy received from all interconnections and generation sources connected to your transmission system.***
    b. ***Total energy delivered to all interconnections on your transmission system.***
    c. ***Peak demand for summer and winter seasons on your transmission system.***

Nolin is a Distribution Utility and does not generate or transmit electricity.

26. ***Provide the yearly System Average Interruption Duration Index ("SAIDI") and the System Average Interruption Frequency Index ("SAIFI"), excluding major outages, by feeder for each distribution substation on your system for the last 5 years.***

Refer to *Attachment 2*

Reliability indices and major outages are derived from IEEE Standard 1388-1998.

27. ***Provide the yearly SAIDI and SAIFI, including major outages, by feeder for each distribution substation on your system for the last 5 years. Explain how you define major outages.***

Refer to *Attachment 2*

Reliability indices and major outages are derived from IEEE Standard 1388-1998.

28. ***What is an acceptable value for SAIDI and SAIFI? Explain how it was derived.***

Refer to *Attachment 2*

Reliability indices and major outages are derived from IEEE Standard 1388-1998.

29. ***Provide the yearly Customer Average Interruption Duration Index ("CAIDI") and the Customer Average Interruption Frequency Index ("CAIFI"), including and excluding major outages, on your system for the last 5 years. What is an acceptable value for CAIDI and CAIFI? Explain how it was derived.***

Refer to *Attachment 2*

Reliability indices and major outages are derived from IEEE Standard 1388-1998.

The Customer Average Interruption Frequency Index (CAIFI) cannot be calculated at this time; our current collection system does not allow for collection at the customer level. In the future, this information will be available via the TS2 AMR Turtle System from Hunt Technologies.

30. ***Identify and describe all reportable distribution outages from January 1, 2003 until the present date. Categorize the causes and provide the frequency of occurrence for each cause category.***

Reliability indices and major outages are derived from IEEE Standard 1388-1998.

Refer to *Attachment 3*

31. ***Does your utility have a distribution and/or transmission reliability improvement program?***
    a. ***How does your utility measure reliability?***
    b. ***How is the program monitored?***
    c. ***What are the results of the system?***
    d. ***How are proposed improvements for reliability approved and implemented?***

Distribution reliability program is based on planning, reports and studies that incorporate statistics from various data gathering entities. The Cooperative has 24 hour continuous monitoring of the distribution configuration by a SCADA system. The system monitors feeder Voltage, Amperage, breaker operations, as well as substations total loading. The 24/7 Dispatch Center is the control point for the SCADA's data gathering and addressing of Voltage and feeder alarms as well as addressing outages of members. The system is capable of counting feeder's breaker operations and delivering a monthly report to engineering.

Nolin RECC is in the process of placing the new Hunt Technologies TS2 AMR 'Turtle' System at each member site. The latest devices will monitor outages, blinks and Voltage swings at the customer level plus provide individual and line section reports for engineering. The Turtle system is already in place for the central and southern portion of the Cooperative service area with a total completion date scheduled for late 2005.

Engineering uses the reports for the Long Range Planning and Work Plan Programs. These reports are the beginning stages of developing corrections projects for overloaded conductors, unusual outage conditions, Voltage improvements, and unbalanced feeders. The projects are subjected to economic and prudent investigation before going to the final stage of construction. The instantaneous data is used to concentrate on immediate problems on the system.

32. ***Provide a summary description of your utility's:***
    a. ***Right-of-way management program. Provide the budget for the last 5 years.***
    b. ***Vegetation management program. Provide the budget for the last 5 years***
    c. ***Transmission and distribution inspection program. Provide the budget for the last 5 years.***

A. Right-of-way Management is an ongoing program consisting of five commercial crews. Each crew consists of three men using bucket-chipper trucks, a pick-up truck, chain saws, and various other cutting and safety equipment. Right-of-way is cleared and windrowed unless chipping is required. A 20 ft area (15 ft each side of center lane) is cleared when practical.

Approximately 25% of the total system is cleared each year, resulting in a four-year cycle. Percentage of ROW cleared is tracked by marking completed sections on a system map. It is estimated that 1,500 acres of the system are cleared each year.

B. SPRAYING AND VEGETATION CONTROL – Nolin contracts ROW spraying. Arsenal and Accord, applied by low volume backpack only, are the herbicides used in the spray mix. Both herbicides are registered with the EPA. No herbicides are stored on Nolin property. Contract employees are licensed by the KY state EPA. Spraying is conducted on an annual basis. An average of two substations are sprayed per year. Spraying is tracked in the same manner as ROW clearing. Coverage areas are placed on a system map.

VEGETATION REPLACEMENT PROGRAM – When ROW supervisors deem that it is necessary to remove a tree on a consumer's property, Nolin will replace the tree or remove the stump.

C. Nolin RECC is responsible for distribution System. Transmission system is owned, operated and maintained by East Ky Power. Distribution system inspections are performed by experienced line technicians. The entire system is inspected every two years. Overhead lines and poles are inspected by walking and driving from pole to pole. Poles are sound tested for structural integrity. Hardware and equipment is visually inspected for damage and deterioration. A written log is kept of all reported defects. Repairs are made with consideration for severity of problem.

Underground inspections are performed by opening each transformer and switch cabinet. An infrared camera or thermometer is used to identify overheated components. A written log is kept of all reported defects. Repairs are made with consideration for severity of problem.

33. Explain the criteria your utility uses to determine if pole or conductor replacement is necessary. Provide costs/budgets for transmission and distribution facilities replacement for the years 2000 through 2025.

Proposed construction is required to meet the following minimum standards of adequacy for voltages, thermal loading, safety and reliability on the system.

1. Voltage levels on primary distribution lines are to fall between117 and 126 Volts on a 120 base.
2. The following equipment is not to be thermally loaded by more than the percentage shown on its nameplate rating (winter loading)
   - Power Transformers 130% Winter ; 100% Summer
   - Voltage Regulators 130% Winter ; 100% Summer
   - Auto-Transformer 130% Winter ; 100% Summer
   - Reclosers 100% Winter or Summer
   - Line Fuses 80% Winter or Summer
3. Primary conductors are not to be loaded over 75% of their thermal rating. A case-by-case limit is used for the major tie lines between substations to allow for different back feed situations.

4. Poles and/or cross-arms are to be replaced if found to be physically deteriorated by regular or drive by visual inspection and testing.
5. Conductors (and associated poles and hardware as required) will be considered for replacement if found to be in poor condition, having excessive sag or in need of being changed out on a systematic basis.
6. Primary distribution lines are to be rebuilt and/or relocated if they are found to be unsafe or fail to meet the applicable National Electrical Safety Code clearances.
7. New lines and line conversions are to be built according to the standard primary voltage levels as determined after review of the Long Range Plan, present loading and future load growth projection.
8. New primary conductor sizes to be determined on a case-by-case basis using the Economic Conductor Sizing Computer Program and presently valid constants and variables. The final proposed conductor may be modified to conform to the cooperative's standard sized and recommendations of the Long Range Plan.
9. All new primary construction is to be overhead except where underground is required to comply with governmental or environmental regulations, local restrictions or favorable economics.
10. All new distributions lines are to be designed and built according to RUS standard construction specifications and guidelines.
11. The fault current available at regulator or autotransformer locations should not exceed 25 times normal base current at the location in question.
12. The fault current available at oil circuit reclosers should not exceed the nameplate rating.
13. System improvements to correct voltage drop and improve phase balance will be made on single and two-phase lines with loads exceeding 50 amps or 70 consumers (based on Operating and Engineering practices).
14. Power factor correction is to be made when the substation power factor decreases below 95% lagging at peak load or 95% leading at minimum load. Power factor correction with capacitors is to be located for maximum loss reduction with considerations given for voltage improvements.
15. The budget projections for Nolin RECC's operation and maintenance for the years of 2000-2026 are on the following page.

Operations and Maintenance Budget Projections

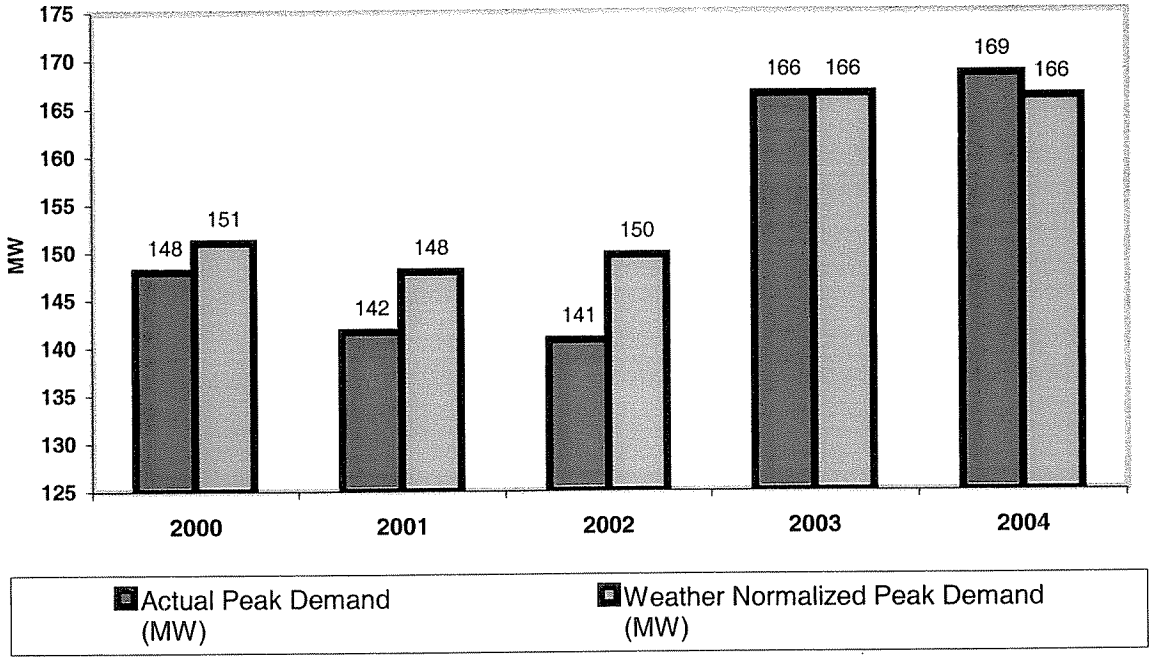
O&M SURVEY	2000	2001	2002	2003	2004	2005	2006
OPERATION	$1,767,591	$1,995,949	$2,183,048	$2,248,539	**$2,315,995**	**$2,385,475**	**$2,392,631**
MAINTENANCE	$1,430,715	$1,592,252	$2,565,651	$2,642,620	**$2,721,899**	**$2,803,556**	**$2,811,967**
		Actual numbers			Projected numbers-----→		

	2007	2008	2009	2010	2011	2012	2013
OPERATION	**$2,399,809**	**$2,407,009**	**$2,414,230**	**$2,421,472**	**$2,428,737**	**$2,436,023**	**$2,443,331**
MAINTENANCE	**$2,820,403**	**$2,828,864**	**$2,837,350**	**$2,845,862**	**$2,854,400**	**$2,862,963**	**$2,871,552**

	2014	2015	2016	2017	2018	2019	2020
OPERATION	**$2,450,661**	**$2,458,013**	**$2,465,387**	**$2,472,783**	**$2,480,202**	**$2,487,642**	**$2,495,105**
MAINTENANCE	**$2,880,167**	**$2,888,807**	**$2,897,474**	**$2,906,166**	**$2,914,885**	**$2,923,629**	**$2,932,400**

	2021	2022	2023	2024	2025	2026
OPERATION	**$2,495,105**	**$2,502,591**	**$2,510,098**	**$2,517,629**	**$2,525,181**	**$2,532,757**
MAINTENANCE	**$2,941,197**	**$2,950,021**	**$2,958,871**	**$2,967,748**	**$2,976,651**	**$2,976,651**

Nolin RECC Annual Peak Demand
Actual and Weather Normalized



Nolin RECC					
Annual Peak	Actual Peak Demand (MW)	Weather Response Function (MW / Degree)	Actual Peak Day Temperature (Degrees F)	Normal Peak Day Temperature (Degrees F)	Weather Normalized Peak Demand (MW)
December-00	148.0	-1.02	5	2	151.1
January-01	141.7	-1.58	6	2	148.0
March-02	140.8	-0.99	11	2	149.7
January-03	166.5	-1.58	2	2	166.5
January-04	168.5	-0.80	-1	2	166.1
Based on Louisville KY Weather Station Data and Nolin RECC Hourly Load Data					

Year 2000		All Events			No Major Event Days		
		SAIDI	SAIFI	CAIDI	SAIDI	SAIFI	CAIDI
Entire system		50	0.75	67	50	0.75	67
Sub	**Ckt**						
Colesburg		16	0.19	80	16	0.19	80
	1			96			96
	2			68			68
	3			74			74
Elizabethtown 1		5	0.61	9	5	0.61	9
	1			6			6
	2			85			85
Glendale		49	0.35	141	49	0.35	141
	1			173			173
	2			44			44
	3			33			33
Hodgenville		63	1.63	39	63	1.63	39
	1			16			16
	2			73			73
	3			130			130
	4			49			49
	5			63			63
Magnolia		219	2.33	94	219	2.33	94
	1			94			94
	2			104			104
	3			74			74
Stephensburg		29	0.34	86	29	0.34	86
	1			111			111
	2			70			70
	3			74			74
	4			142			142
	5			65			65
Upton		98	1.59	61	98	1.59	61
	1			111			111
	2			54			54
	3			57			57
	4			127			127
Vertrees		43	0.81	53	43	0.81	53
	1			47			47
	2			52			52
	3			71			71
	4			55			55
Vine Grove		9	0.11	76	9	0.11	76
	1			45			45
	4			58			58
	5			153			153

Year 2000		All Events			No Major Event Days			
Sub	Ckt	SAIDI	SAIFI	CAIDI	Sub	Ckt	SAIDI	SAIFI	CAIDI
Radcliff		18	0.35	52	Radcliff		18	0.35	52
	1			86		1			86
	2			50		2			50
	3			52		3			52
	5			44		5			44
Tunnel Hill 1		12	0.21	58	Tunnel Hill 1		12	0.21	58
	0					0			
	1			49		1			49
	2			128		2			128
	3			54		3			54
	4			61		4			61
Tharp		67	1.41	48	Tharp		67	1.41	48
	0					0			
	1			32		1			32
	2			100		2			100
	3			147		3			147
	4			48		4			48
Smithersville 1		38	0.39	97	Smithersville 1		38	0.39	97
	0					0			
	1			74		1			74
	2			91		2			91
	3			144		3			144
	4			111		4			111
Fort Knox		52	0.57	92	Fort Knox		52	0.57	92
	0					0			
	1			45		1			45
	2			89		2			89
	3			103		3			103
	4			92		4			92
Kargle		16	0.50	31	Kargle		16	0.50	31
	0					0			
	1					1			
	2			31		2			31
Williams		0	0.00	71	Williams		0	0.00	71
	0					0			
	1			69		1			69
	2			27		2			27
	3			83		3			83
	4			85		4			85
Smithersville 2		0	0.00	0	Smithersville 2		0	0.00	0
	0					0			
Logsdon		0	0.00	0	Logsdon		0	0.00	0
	0					0			

Year 2000

All Events

Sub	Ckt	SAIDI	SAIFI	CAIDI
Tunnell Hill 2	0	0	0.00	0
Elizabethtown 2	0	0	0.00	0

No Major Event Days

Sub	Ckt	SAIDI	SAIFI	CAIDI
Tunnell Hill 2	0	0	0.00	0
Elizabethtown 2	0	0	0.00	0

Year 2001		All Events			No Major Event Days			
		SAIDI	SAIFI	CAIDI		SAIDI	SAIFI	CAIDI
Entire system		61	0.68	90		57	0.82	70
Sub	**Ckt**				**Sub**	**Ckt**		
Colesburg		157	2.00	78	Colesburg		230	2.09	110
	0					0			
	1			77		1			115
	2			197		2			39
	3			81		3			74
	4			96		4			85
Elizabethtown 1		31	1.17	26	Elizabethtown 1		39	0.52	76
	0					0			
	1			27		1			68
	2			23		2			95
	3			71		3			83
	4					4			
	5					5			70
Glendale		36	0.40	92	Glendale		43	0.82	53
	0					0			
	1			52		1			70
	2			79		2			47
	3			640		3			229
	4			38		4			52
	5			36		5			42
Hodgenville		27	0.37	75	Hodgenville		58	0.69	83
	0					0			34
	1			64		1			146
	2			93		2			60
	3			66		3			79
	4			46		4			118
	5			122		5			97
Magnolia		47	0.56	83	Magnolia		23	0.21	109
	0					0			
	1			58		1			112
	2			136		2			111
	3			103		3			138
	4			36		4			71
Stephensburg		39	0.74	53	Stephensburg		97	1.36	71
	0					0			
	1			78		1			73
	2			85		2			72
	3			97		3			89
	4			42		4			47
	5			42		5			97
Upton		29	0.27	106	Upton		29	0.30	97
	0					0			
	1			178		1			42
	2			30		2			144
	3			101		3			137
	4					4			
	5			45		5			43

Year 2001	All Events			No Major Event Days			
		SAIDI	SAIFI	CAIDI		SAIDI	SAIFI	CAIDI
Sub	**Ckt**				**Sub**	**Ckt**			
Vertrees		139	1.92	72	Vertrees		87	1.01	87
	0					0			
	1			82		1			128
	2			135		2			98
	3			203		3			91
	4			33		4			65
	5			38		5			41
Vine Grove		29	0.50	59	Vine Grove		99	2.32	43
	0					0			
	1			63		1			38
	2			51		2			
	3					3			330
	4			60		4			57
	5			37		5			58
Radcliff		22	0.11	202	Radcliff		4	0.09	47
	0					0			
	1			92		1			44
	2			43		2			32
	3			329		3			55
	4			79		4			63
	5			66		5			67
Tunnel Hill 1		8	0.07	108	Tunnel Hill 1		9	0.50	18
	0					0			
	1			126		1			144
	2			162		2			15
	3			27		3			19
	4			39		4			43
	5			33		5			33
Tharp		327	1.28	256	Tharp		27	0.26	102
	0					0			
	1			25		1			
	2			181		2			169
	3			90		3			88
	4			297		4			50
Smithersville 1		65	0.44	150	Smithersville 1		48	0.65	74
	0					0			
	1			182		1			53
	2			40		2			34
	3			45		3			50
	4			69		4			96
Fort Knox		42	0.92	45	Fort Knox		90	0.94	96
	0					0			
	1			35		1			39
	2			51		2			
	3			35		3			133
	4			87		4			74
	5			67		5			59
Kargle		0	0.00	0	Kargle		0	0.00	0
	0					0			

Year 2001	All Events			No Major Event Days		
		SAIDI	SAIFI	CAIDI	SAIDI	SAIFI	CAIDI
Sub	**Ckt**						
Williams	0						
Smithersville 2	0						
Logsdon	0						
Tunnell Hill 2	0						
Elizabethtown 2	0						

Year 2002		ll Events				No Major Event Days		
		SAIDI	SAIFI	CAIDI		SAIDI	SAIFI	CAIDI
Entire system		135	1.49	90		64	0.82	79
Sub	**Ckt**				**Sub**	**Ckt**		
Colesburg		230	2.09	110	Colesburg		217	1.97	110
	0					0			
	1			115		1			115
	2			39		2			39
	3			74		3			74
	4			85		4			85
Elizabethtown 1		50	0.81	62	Elizabethtown 1		61	0.80	76
	0					0			
	1			68		1			68
	2			54		2			95
	3			83		3			83
	4					4			
	5			70		5			70
Glendale		43	0.82	53	Glendale		38	0.72	53
	0					0			
	1			68		1			70
	2			47		2			47
	3			229		3			229
	4			52		4			52
	5			42		5			42
Hodgenville		80	0.96	83	Hodgenville		58	0.69	83
	0			34		0			34
	1			146		1			146
	2			68		2			60
	3			79		3			79
	4			118		4			118
	5			100		5			97
Magnolia		43	2.14	20	Magnolia		22	0.20	109
	0					0			
	1			11		1			112
	2			147		2			111
	3			138		3			138
	4			71		4			71
Stephensburg		98	1.38	71	Stephensburg		81	1.14	71
	0					0			
	1			73		1			73
	2			71		2			72
	3			89		3			89
	4			47		4			47
	5			97		5			97
Upton		35	0.34	101	Upton		31	0.32	97
	0					0			
	1			43		1			42
	2			145		2			144
	3			134		3			137
	4					4			
	5			43		5			43

Year 2002 **All Events** **No Major Event Days**

Sub	Ckt	SAIDI	SAIFI	CAIDI	Sub	Ckt	SAIDI	SAIFI	CAIDI
Vertrees		89	1.02	87	Vertrees		80	0.92	87
	0					0			
	1			128		1			128
	2			100		2			98
	3			93		3			91
	4			65		4			65
	5			41		5			41
Vine Grove		99	2.32	43	Vine Grove		96	2.24	43
	0					0			
	1			38		1			38
	2					2			
	3			112		3			330
	4			57		4			57
	5			58		5			58
Radcliff		70	0.53	131	Radcliff		6	0.13	47
	0					0			
	1			44		1			44
	2			39		2			32
	3			136		3			55
	4			63		4			63
	5			169		5			67
Tunnel Hill 1		9	0.51	18	Tunnel Hill 1		13	0.75	18
	0					0			
	1			144		1			144
	2			15		2			15
	3			19		3			19
	4			43		4			43
	5			33		5			33
Tharp		328	1.28	257	Tharp		29	0.29	102
	0					0			
	1					1			
	2			187		2			169
	3			88		3			88
	4			300		4			50
Smithersville 1		251	0.92	272	Smithersville 1		83	1.12	74
	0					0			
	1			53		1			53
	2			34		2			34
	3			50		3			50
	4			358		4			96
Fort Knox		161	2.59	62	Fort Knox		160	1.67	96
	0					0			
	1			43		1			39
	2					2			
	3			133		3			133
	4			74		4			74
	5			59		5			59
Kargle		0	0.00	0	Kargle		0	0.00	0
	0					0			

Year 2002 **.ll Events** **No Major Event Days**

Sub	Ckt	SAIDI	SAIFI	CAIDI	Sub	Ckt	SAIDI	SAIFI	CAIDI
Williams		0	0.00	87	Williams		126	1.28	98
	0					0			
	1			103		1			103
	2			175		2			29
	3			85		3			100
	4			59		4			59
Smithersville 2		8187	16.22	505	Smithersville 2		121	0.24	505
	0					0			
	1					1			
	2					2			
	3			521		3			521
	4			54		4			54
Logsdon		193	3.76	51	Logsdon		4	0.08	51
	0					0			
	1					1			
	2			107		2			107
	3			52		3			52
	4			128		4			128
	5			37		5			37
Tunnell Hill 2		0	0.00	219	Tunnell Hill 2		1	0.00	2151
	0			0		0			0
Elizabethtown 2		0	0.00	121	Elizabethtown 2		0	0.00	0
	0					0			

Year 2003		All Events				No Major Event Days		
		SAIDI	SAIFI	CAIDI		SAIDI	SAIFI	CAIDI
Entire system		87	0.85	103		55	0.64	86
Sub	**Ckt**				**Sub**	**Ckt**		
Colesburg		172	0.82	210	Colesburg	36	0.28	129
	0					0		
	1			237		1		180
	2			56		2		56
	3					3		
	4			77		4		77
Elizabethtown 1		26	0.38	67	Elizabethtown 1	26	0.38	67
	0					0		
	1			223		1		223
	2			66		2		66
	3					3		
	4			35		4		35
	5			94		5		94
Glendale		157	1.95	80	Glendale	149	1.92	78
	0					0		
	1			62		1		62
	2			107		2		100
	3			1360		3		1360
	4			65		4		65
	5			137		5		137
Hodgenville		107	0.83	128	Hodgenville	75	0.67	111
	0					0		
	1			190		1		178
	2			57		2		29
	3			260		3		292
	4			102		4		102
	5			94		5		87
Magnolia		77	0.87	89	Magnolia	61	0.74	82
	0					0		
	1			85		1		82
	2			97		2		97
	3			100		3		58
	4			91		4		84
Stephensburg		111	0.82	135	Stephensburg	87	0.76	116
	0					0		
	1			211		1		211
	2			93		2		69
	3			104		3		71
	4			193		4		191
	5			174		5		174
Upton		85	0.99	86	Upton	74	0.90	83
	0					0		
	1			85		1		85
	2			84		2		76
	3					3		
	4					4		
	5			94		5		80

Year 2003		All Events			No Major Event Days			
		SAIDI	SAIFI	CAIDI		SAIDI	SAIFI	CAIDI
Sub	Ckt				Sub			
Vertrees		119	1.09	109	Vertrees	118	1.08	110
	0				0			
	1			72	1			72
	2			182	2			182
	3				3			
	4			92	4			92
	5			126	5			127
Vine Grove		134	1.68	80	Vine Grove	40	1.19	34
	0			151	0			151
	1			78	1			29
	2			129	2			129
	3			242	3			150
	4			73	4			73
	5			76	5			76
Radcliff		53	0.32	168	Radcliff	53	0.32	168
	0				0			
	1				1			
	2			55	2			55
	3			447	3			451
	4			115	4			115
	5			394	5			394
Tunnel Hill 1		74	1.09	68	Tunnel Hill 1	68	1.05	65
	0			72	0			72
	1			36	1			36
	2			110	2			77
	3			64	3			64
	4				4			
	5			196	5			196
Tharp		31	0.25	121	Tharp	29	0.25	118
	0				0			
	1				1			
	2			44	2			40
	3				3			
	4			151	4			149
Smithersville 1		81	0.91	89	Smithersville 1	80	0.90	89
	0				0			
	1				1			
	2			53	2			53
	3			81	3			81
	4			111	4			112
Fort Knox		83	0.91	92	Fort Knox	31	0.28	112
	0				0			
	1				1			
	2			81	2			98
	3			88	3			289
	4			118	4			118
	5			93	5			78
Kargle		0	0.00		Kargle	0	0.00	
	0				0			

Year 2003 **All Events** **No Major Event Days**

Sub	Ckt	SAIDI	SAIFI	CAIDI	Sub	Ckt	SAIDI	SAIFI	CAIDI
Williams		185	1.32	141	Williams		28	0.33	85
	0					0			
	1			156		1			98
	2			104		2			104
	3			138		3			85
	4			52		4			52
	5			1139		5			1139
Smithersville 2		9	0.06	137	Smithersville 2		9	0.06	137
	0					0			
	1					1			
	2			33		2			33
	3			91		3			91
	4			256		4			256
Logsdon		41	0.50	83	Logsdon		26	0.18	142
	0					0			
	1					1			
	2					2			
	3			63		3			63
	4			72		4			72
	5			90		5			362
Tunnell Hill 2		4	0.08	52	Tunnell Hill 2		1	0.06	10
	0			0		0			0
	1					1			
	2			35		2			15
	3			0		3			1
	4			3		4			3
Elizabethtown 2		4	0.14	32	Elizabethtown 2		4	0.14	32
	0					0			
	1					1			
	2			31		2			31
	3			32		3			32

Year 2004		All Events			No Major Event Days			
		SAIDI	SAIFI	CAIDI		SAIDI	SAIFI	CAIDI
Entire system		736	2.36	312		70	0.86	81
Sub	**Ckt**				**Sub**	**Ckt**		
Colesburg		651	2.75	237	Colesburg		96	0.61	158
	0			63		0			
	1			220		1			128
	2			372		2			170
	3					3			
	4			364		4			324
Elizabethtown 1		928	1.10	845	Elizabethtown 1		41	0.22	183
	0					0			
	1			733		1			
	2			72		2			72
	3					3			
	4					4			
	5			847		5			184
Glendale		1068	2.87	372	Glendale		69	1.49	46
	0					0			
	1			119		1			77
	2			812		2			105
	3					3			
	4			350		4			74
	5			28		5			27
Hodgenville		1134	2.68	423	Hodgenville		103	0.59	175
	0					0			
	1			459		1			137
	2			308		2			127
	3			266		3			287
	4			133		4			48
	5			553		5			218
Magnolia		929	3.13	297	Magnolia		137	1.60	86
	0					0			
	1			330		1			85
	2			754		2			107
	3			210		3			77
	4			171		4			90
Stephensburg		836	2.17	386	Stephensburg		56	0.89	63
	0					0			
	1			122		1			99
	2			146		2			76
	3			347		3			52
	4			538		4			82
	5			422		5			103
Upton		219	1.82	120	Upton		60	1.49	40
	0			10		0			10
	1			399		1			53
	2			179		2			92
	3					3			
	4					4			
	5			147		5			123

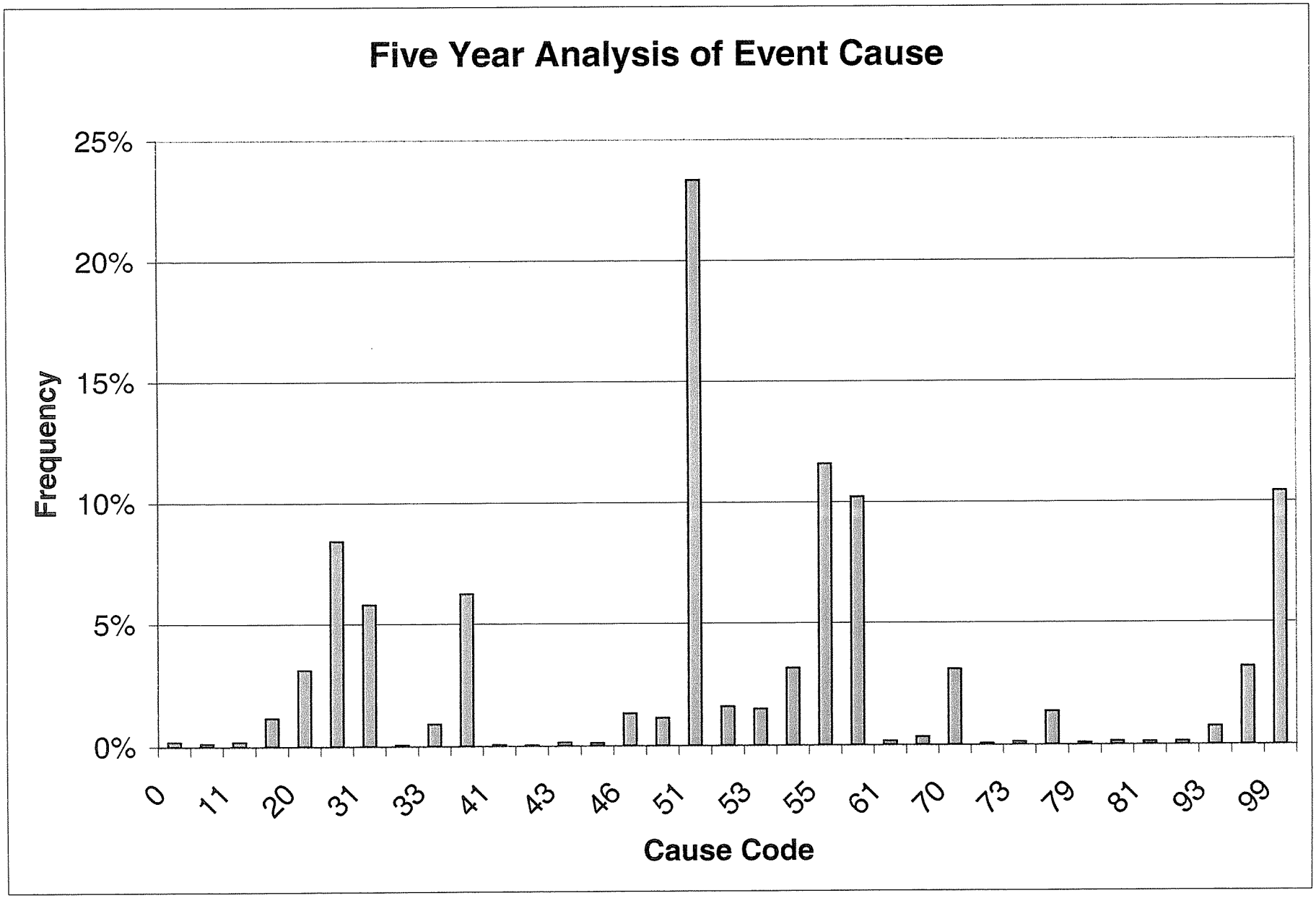
Year 2004 **All Events** **No Major Event Days**

Sub	Ckt	SAIDI	SAIFI	CAIDI	Sub	Ckt	SAIDI	SAIFI	CAIDI
Vertrees		952	2.77	344	Vertrees		173	1.70	102
	0			19		0			19
	1			217		1			136
	2			353		2			85
	3			349		3			283
	4			459		4			360
	5			266		5			69
Vine Grove		1070	3.04	353	Vine Grove		47	0.31	154
	0					0			
	1			659		1			222
	2			139		2			
	3			124		3			56
	4			74		4			74
	5			110		5			90
Radcliff		249	2.15	116	Radcliff		83	1.06	78
	0			99		0			
	1					1			
	2			85		2			73
	3			314		3			693
	4			1047		4			100
	5			379		5			120
Tunnel Hill 1		81	0.77	105	Tunnel Hill 1		10	0.27	38
	0			59		0			59
	1			93		1			30
	2			189		2			32
	3			87		3			87
	4			40		4			40
Tharp		737	3.93	188	Tharp		201	2.66	76
	0					0			
	1			49		1			49
	2			150		2			59
	3					3			
	4			497		4			292
Smithersville 1		1864	4.49	415	Smithersville 1		66	0.64	103
	0					0			
	1			356		1			
	2			132		2			95
	3			580		3			105
	4			21		4			84
Fort Knox		141	0.68	207	Fort Knox		17	0.13	125
	0					0			
	1					1			
	2			15		2			15
	3			361		3			101
	4			110		4			110
	5			153		5			181
Kargle		80	4.00	20	Kargle		80	4.00	20
	0					0			
	1			20		1			20

Year 2004		All Events			No Major Event Days			
		SAIDI	SAIFI	CAIDI		SAIDI	SAIFI	CAIDI
Sub	Ckt				Sub			
Williams		825	1.98	416	Williams	38	0.60	63
	0							
	1			178				106
	2			206				
	3			473				53
	4			216				116
Smithersville 2		243	2.37	102	Smithersville 2	53	0.79	68
	0							
	1			1216				
	2							
	3			208				89
	4			20				36
Logsdon		218	1.79	121	Logsdon	20	0.34	58
	0							
	1							
	2			82				82
	3			98				58
	4			398				
	5			158				57
Tunnell Hill 2		516	1.75	295	Tunnell Hill 2	2	0.64	3
	0							
	1							
	2			1				3
	3			1				0
	4			7				15
Elizabethtown 2		71	0.41	173	Elizabethtown 2	38	0.29	133
	0							
	1							
	2			188				152
	3			91				59

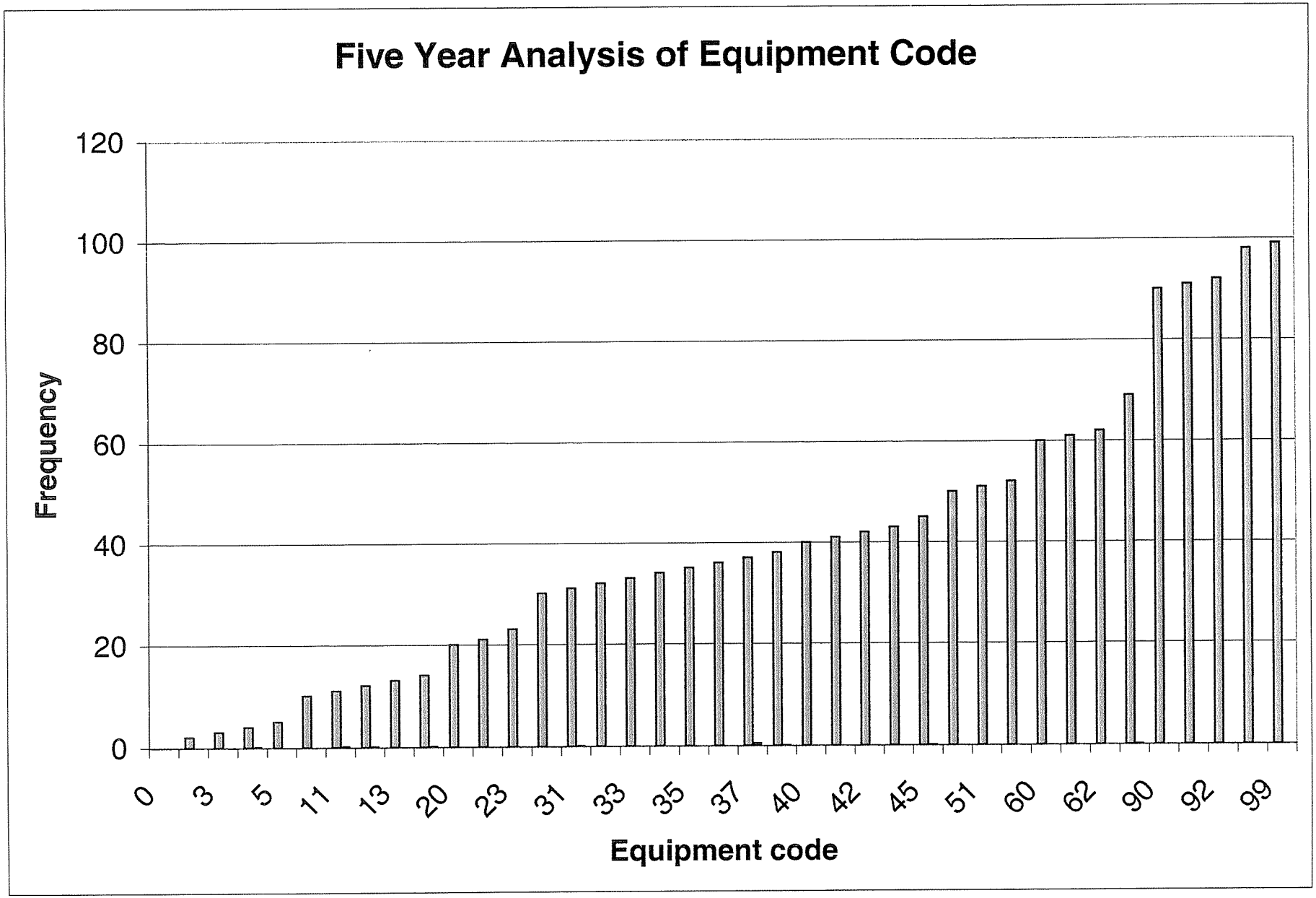
EVENT CAUSE

Cause Description	Cause Code	Events	Frequency
none	0	8	0%
Power supplier	2	5	0%
Construction	11	8	0%
Maintenance	12	55	1%
Scheduled	20	149	3%
Major storm	21	403	8%
Equipment	31	277	6%
Installation	32	2	0%
Conductor sag	33	43	1%
Faulty equipment	40	298	6%
Decay	41	2	0%
Woodpeckers	42	1	0%
Corrosion	43	6	0%
Moisture	45	5	0%
Electrical overload	46	63	1%
Deterioration	50	54	1%
Lightning	51	1118	23%
Wind, not trees	52	76	2%
Ice, sleet, frost	53	71	1%
Trees and ice	54	151	3%
Trees	55	555	12%
Weather	60	489	10%
Large animals	61	7	0%
Other, birds or animals	69	15	0%
Vehicles or machinery	70	148	3%
Public accidents	72	2	0%
Vandalism	73	5	0%
Fire	74	65	1%
Public acticities	79	3	0%
Generation & transmission	80	6	0%
Distribution	81	5	0%
Telephone company	83	6	0%
Utilities, other	93	35	1%
Member caused	98	152	3%
Unknown	99	499	10%


Five Year Analysis of Event Cause
25%
20%
15%
10%
5%
0%
Frequency
0
11
20
31
33
41
43
46
51
53
55
61
70
73
79
81
93
99
Cause Code

EQUIPMENT CODE ANALYSIS

Equipment Description	Equipment Code	Events	Frequency
None	0	62	1%
Generation	2	5	0%
Towers, poles, fixtures	3	69	1%
Conductors & devices	4	121	3%
Transmission substations	5	30	1%
Generation, other	10	9	0%
Transformer, distribution	11	554	12%
Regulator or breaker	12	120	3%
Lightning arrestor	13	15	0%
Source side fuse	14	354	7%
Distribution, other	20	6	0%
Pole, distribution	21	16	0%
Anchor or guy	23	3	0%
Poles and fixtures, other	30	94	2%
Line conductor	31	196	4%
Connector or clamp	32	28	1%
Splice or deadend	33	16	0%
Jumper	34	18	0%
Insulator	35	28	1%
Lightning arrestor, line	36	6	0%
Fuse cutout	37	2073	43%
Ocr	38	267	6%
Overhead line, other	40	28	1%
Primary cable	41	6	0%
Splice or fitting	42	3	0%
Switch, underground	43	3	0%
Secondary cable	45	120	3%
Underground, other	50	28	1%
Transformer bad	51	65	1%
Transformer breaker	52	7	0%
Transformer, other	60	86	2%
Meter or meter loop	61	57	1%
Security light	62	1	0%
Secondaries, other	69	160	3%
Open ocr	90	51	1%
Open fuse	91	7	0%
Open sectionalizer	92	5	0%
Power supplier	98	3	0%
Unknown source	99	67	1%


Five Year Analysis of Equipment Code
120
100
80
60
40
20
0
Frequency
0
3
5
11
13
20
23
31
33
35
37
40
42
45
51
60
62
90
92
99
Equipment code