### COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

#### In the Matter of:

APPLICATION OF KENTUCKY UTILITIES ) CASE NO. COMPANY FOR AN ADJUSTMENT OF ) 2014-00371 ITS BASE RATES )

# RESPONSE OF KENTUCKY UTILITIES COMPANY TO THE FIRST SET OF DATA REQUESTS OF KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC. DATED JANUARY 8, 2015

**FILED: JANUARY 23, 2015** 

COMMONWEALTH OF KENTUCKY	)	
	)	SS
COUNTY OF JEFFERSON	)	

The undersigned, **Daniel K. Arbough**, being duly sworn, deposes and says that he is Treasurer for Louisville Gas and Electric Company and Kentucky Utilities Company and an employee of LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

Daniel K. Arbough

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 1914 day of 1915.

Jildy Schooles
Joseph Public

My Commission Expires:

STATE OF TEXAS	)	SS:
COUNTY OF TRAVIS	)	55.
The undersigned, William E. Aver	a, t	being duly sworn, deposes and says he is
President of FINCAP, Inc., that he has pers	ona	l knowledge of the matters set forth in the
responses for which he is identified as the	witn	ess, and the answers contained therein are
true and correct to the best of his information	n, k	nowledge and belief.
	U	MEA
	W	illiam E. Avera
Subscribed and sworn to before me and State, this day of day of	C	Notary Public in and before said County  2015.  (SEAL)
My Commission Expires:		•



COMMONWEALTH OF KENTUCKY	)	
	)	SS:
COUNTY OF JEFFERSON	)	

The undersigned, **Kent W. Blake**, being duly sworn, deposes and says that he is Chief Financial Officer for Kentucky Utilities Company and Louisville Gas and Electric Company and an employee of LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

Kent W. Blake

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 12M day of 12015.

flideschoole (SEAL)

My Commission Expires:

COMMONWEALTH OF KENTUCKY	)	
	)	SS
COUNTY OF JEFFERSON	)	

The undersigned, **Dr. Martin J. Blake**, being duly sworn, deposes and states that he is a Principal of The Prime Group, LLC, that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

Martin J. Blake

Dr. Martin J. Blake

Jely Schoole (SEAL)

My Commission Expires:

COMMONWEALTH OF KENTUCKY	)	
	)	SS:
COUNTY OF JEFFERSON	)	

The undersigned, **Robert M. Conroy**, being duly sworn, deposes and says that he is Director - Rates for Louisville Gas and Electric Company and Kentucky Utilities Company, an employee of LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

Robert M. Conroy

Helity Selvolle (SEAL)

My Commission Expires:

COMMONWEALTH OF KENTUCKY	)	
	)	SS:
COUNTY OF JEFFERSON	)	

The undersigned, **Christopher M. Garrett**, being duly sworn, deposes and says that he is Director – Accounting and Regulatory Reporting for Kentucky Utilities Company and Louisville Gas and Electric Company and an employee of LG&E and KU Services Company, that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

Christopher M. Garrett

Subscribed and sworn to before me, a Notary Public in and before said County and State, this day of 2015.

Notary Public (SEAL)

My Commission Expires:

SUSAN M. WATKINS
Notary Public, State at Large, KY
My Commission Expires Mar. 19, 2017
Notary ID # 485723

COMMONWEALTH OF KENTUCKY	)	
	)	SS:
COUNTY OF JEFFERSON	)	

The undersigned, Russel A. Hudson, being duly sworn, deposes and says that he is Director – Financial Resource Management for Louisville Gas and Electric Company and Kentucky Utilities Company, an employee of LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

Subscribed and sworn to before me, a Notary Public in and before said County

and State, this /44 day of Amining 2015.

| Character | Line | Li

My Commission Expires:

COMMONWEALTH OF KENTUCKY	)	) ) SS
COUNTY OF JEFFERSON	)	

The undersigned, **Thomas A. Jessee**, being duly sworn, deposes and says that he is Vice President, Transmission for Kentucky Utilities Company and Louisville Gas and Electric Company and an employee of LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

Thomas A. Jessee

Subscribed and sworn to before me, a Notary Public in and before said County

(SEAL)

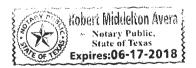
Notary Public

My Commission Expires:

SUSAN M. WATKINS

Notary Public, State at Large, KY My Commission Expires Mar. 19, 2017 Notary ID 2 435723

STATE OF TEXAS	)
COUNTY OF TRAVIS	) SS:
The undersigned, Adrien M. McKe	enzie, being duly sworn, deposes and says he
is Vice President of FINCAP, Inc., that he	e has personal knowledge of the matters set
forth in the responses for which he is identif	fied as the witness, and the answers contained
therein are true and correct to the best of his	information, knowledge and belief.
	Adrien M. McKenzie
Subscribed and sworn to before me and State, this	2015.  Notary Public in and before said County  (SEAL)
My Commission Expires:	



COMMONWEALTH OF KENTUCKY	)	
	)	SS:
COUNTY OF JEFFERSON	)	

The undersigned, **Paula H. Pottinger**, **Ph.D.**, being duly sworn, deposes and says that she is Senior Vice President, Human Resources for Kentucky Utilities Company and Louisville Gas and Electric Company and an employee of LG&E and KU Services Company, and that she has personal knowledge of the matters set forth in the responses for which she is identified as the witness, and the answers contained therein are true and correct to the best of her information, knowledge and belief.

Paula H. Pottinger, Ph.D.

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 2011.

Motary Public

My Commission Expires:

COMMONWEALTH OF KENTUCKY	)	
	)	SS:
COUNTY OF JEFFERSON	)	

The undersigned, **Valerie L. Scott**, being duly sworn, deposes and says that she is Controller for Kentucky Utilities Company and Louisville Gas and Electric Company and an employee of LG&E and KU Services Company, and that she has personal knowledge of the matters set forth in the responses for which she is identified as the witness, and the answers contained therein are true and correct to the best of her information, knowledge and belief.

Valerie L. Scott

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 10th day of 2015.

Selde Sehovle (SEAL)

My Commission Expires:

COMMONWEALTH OF KENTUCKY	)	SS
COUNTY OF JEFFERSON	)	

The undersigned, David S. Sinclair, being duly sworn, deposes and says that he is Vice President, Energy Supply and Analysis for Kentucky Utilities Company and Louisville Gas and Electric Company and an employee of LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

Subscribed and sworn to before me, a Notary Public in and before said County

and State, this 19th day of Almeany

My Commission Expires:

COMMONWEALTH OF KENTUCKY	)	
	)	SS:
COUNTY OF JEFFERSON	)	

The undersigned, **Edwin R. Staton**, being duly sworn, deposes and says that he is Vice President, State Regulation and Rates, for Kentucky Utilities Company and Louisville Gas and Electric Company and an employee of LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

Edwin R. Staton

Subscribed and sworn to before me, a Notary Public in and before said County

and State, this 19th day of January

\_ 2013.

Notary Public

My Commission Expires:

SUSAN M. WATKINS

Notary Public, State at Large, KY My Commission Expires Mar. 19, 2017 Notary ID & 485723

COMMONWEALTH OF KENTUCKY	)	
	)	SS
COUNTY OF JEFFERSON	)	

The undersigned, **Paul W. Thompson**, being duly sworn, deposes and says that he is Chief Operating Officer for Kentucky Utilities Company and Louisville Gas and Electric Company and an employee of LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

Paul W. Thompson

John Schooler (SEAL

My Commission Expires:

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 1** 

Responding Witness: Edwin R. "Ed" Staton

- Q.1-1. Provide all schedules, workpapers, and computations which support any aspect of the rate case filing in electronic spreadsheet format with all formulas intact. For all input values, provide the source documents and/or calculations, including all electronic spreadsheets with all formulas intact.
- A.1-1. See the response to Kroger 1-1.

#### CASE NO. 2014-00371

#### Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

#### **Question No. 2**

Responding Witness: Christopher M. Garrett

- Q.1-2. Refer to line 7 on Sch H-1 tab on the Attachment\_to\_LGE\_PSC\_1-59\_LGE\_Schedule\_C\_Schedule\_D spreadsheet showing the production activities deduction. Please provide the calculation of this percentage. Provide all workpapers and assumptions, including electronic spreadsheets with formulas intact.
- A.1-2. See the response to PSC 1-59 Attachment\_to\_KU\_PSC\_1-59-KU\_Schedule\_H spreadsheet.

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 3** 

Responding Witness: Daniel K. Arbough

- Q.1-3. Refer to line 15, column (C) on Sch J-1 on the Attachment\_to\_LGE\_PSC\_1-59\_LGE\_Schedule\_C\_Schedule\_D showing the amount of short-term debt projected for the test year. Please provide all decision criteria that led to this amount of short-term debt rather than some lesser or greater amount on this schedule for the test year. If the Company has reduced the decision criteria to some formula that is solved in the Company's budgeting software, then provide the specific formula. If the decision criteria are subjective and the result is directly input into the budgeting software, then describe how the criteria are applied and by whom.
- A.1-3. Please see Section 10 of the Attachment to Filing Requirement 807 KAR 5:001 Section 16(7)(c) –Item A for a detailed description of how short-term debt projections were determined for the test year.

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

#### **Question No. 4**

Responding Witness: Daniel K. Arbough

- Q.1-4. Please provide a copy of the Company's guidelines and/or all written criteria that describe when, what (type), how, and how much short-term debt will be issued and outstanding at any time. If the Company has no written guidelines and/or written criteria, then please state.
- A.1-4. Please see Section 10 of the Attachment to Filing Requirement 807 KAR 5:001 Section 16(7)(c) –Item A for a detailed description of how short-term debt projections were determined for the test year.

In the forecast model, KU maintains a cash balance of \$5 million. The model then issues short-term debt up to \$300 million to finance operations and other cash needs.

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 5** 

Responding Witness: Daniel K. Arbough

- Q.1-5. Please provide the fees and other expenses associated with the Company's credit facility, commercial paper program, and letters of credit by FERC O&M/A&G and/or other FERC account for each year 2010 through 2014, the base year, and the test year. Provide the calculation of the expenses for the test year. In addition, please describe how the Company reflected these costs in its filing.
- A.1-5. See attached.

	Re			L/C Faci	Commercial Paper Program				
FERC ACCOUNT	428090	<u>431104</u>	921003	<u>Total</u>	428090	431104	921003	<u>Total</u>	<u>921003</u>
2010	\$169,070	\$147,158	\$30,000	\$346,228	\$0	\$2,983,748	\$0	\$2,983,748	\$0
2011	\$997,274	\$646,472	\$15,000	\$1,658,746	\$192,265	\$2,978,507	\$50,000	\$3,220,772	\$0
2012	\$901,895	\$508,333	\$15,750	\$1,425,978	\$305,247	\$2,175,445	\$50,000	\$2,530,692	\$5,000
2013	\$675,385	\$521,477	\$15,000	\$1,211,863	\$428,716	\$2,003,378	\$25,000	\$2,457,093	\$6,000
2014	\$874,495	\$506,944	\$11,000	\$1,392,439	\$510,810	\$1,632,813	\$25,000	\$2,168,623	\$6,000
Base Year	\$581,685	\$500,000	\$15,000	\$1,096,685	\$201,561	\$1,487,322	\$25,000	\$1,713,883	\$6,000
Test Year	\$539,931	\$583,333	\$25,000	\$1,148,264	\$221,525	\$1,487,322	\$25,000	\$1,733,846	\$6,000

Calculation of Expenses for Test Year		
Revolving Credit Facility		
<u> </u>	Amount	Fee @ 12.5bps
KU \$400MM Facility	\$400,000,000	\$500,000
KU \$100 MM Facility (3/15 - 2/16)	\$100,000,000	\$83,333
Annual Adm. Fee - \$400MM Facility		\$15,000
Annual Adm. Fee - \$100MM Facility		\$10,000
Amortized Expenses	\$1,475 per day	<u>\$539,931</u>
Total Revolving Credit Facility		\$1,148,264
L/C Facility		
	L/C Amount	Fee @ 75bps
KU \$54MM Bond	\$54,998,630	\$412,490
KU \$77.9MM Bond	\$79,388,898	\$595,417
KU \$50MM Bond	\$50,863,014	\$381,473
KU \$12.9MM Bond	\$13,059,041	\$97,943
Sub-total	\$198,309,583	\$1,487,322
Annual Administration Fee		\$25,000
Amortized Expenses	\$605 per day	<u>\$221,525</u>
Total L/C Facility		\$1,733,846
Commercial Paper Program		<u>Annual Fee</u>
Paying Agent Fee	\$500/month	\$6,000

#### Notes:

2. Fees are reflected as O&M in the filing.

<sup>1.</sup> Fees are reflected as interest expense in the filing.

#### CASE NO. 2014-00371

#### Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

#### **Question No. 6**

Responding Witness: Christopher M. Garrett / Russel A. Hudson

- Q.1-6. Refer to pages 27-28 of Mr. Thompson's Direct Testimony wherein he describes the "capital investments" both Companies are expected to incur over the next several years, including the demolition of the retired units at Paddy's Creek and the costs to retire the coal units at Cane Run.
  - a. Please provide the projected amounts for each of these projects by unit, by month, and in total through June 30, 2016. Also, please indicate which line item includes these amounts on the table on page 28 of Mr. Thompson's Direct Testimony.
  - b. Please describe the Company's accounting for the costs that will be incurred to retire the coal units, e.g. will they be expensed?
  - c. Please describe the costs included by the Company in the revenue requirement to retire the coal units, to recover the remaining net book value at the date of retirement, if any, and to demolish the units.
  - d. Please provide a copy of all studies performed by or on behalf of the Company that address: i) the legal requirements to demolish the units; ii) any alternatives to demolition that were considered; and iii) why the Company chose to demolish the units rather than retire them in place for an extended period.
  - e. Please provide a copy of demolition/dismantling studies and/or cost estimates. If no such studies exist, then please state.
- A.1-6. a. See attached. The costs will all be incurred by LG&E. In reference to the table on page 28 of the Mr. Thompson direct testimony, these costs are in the "Other Generation Projects" line for Paddy's Run Coal and the "Investment in Existing Generation" line for Cane Run Coal.

- b. The Company's accounting for the costs that will be incurred to retire the coal units will be in accordance with the guidelines prescribed in the Code of Federal Regulations 18 CFR, Chapter 1, Subchapter C, Part 101, Electric Plant Instruction 10, Additions and Retirements of Electric Plant. The Company will charge the accumulated provision for depreciation reserve for the majority of the costs to physically retire the units, e.g. cost of removal and salvage. A smaller portion of the costs may be expensed.
- c. See the response to part b. above regarding the costs to physically retire and demolish the coal units. The costs charged to the accumulated reserve for depreciation are reflected in the Company's capitalization. To the extent the retired unit has a remaining net book value, LG&E plans to recover the value through future depreciation expense in accordance with the next depreciation study as normal retirement treatment is appropriate.
- d. There have been no such studies prepared.
  - i) There is no legal requirement to demolish the units.
  - ii) For Paddy's Run Coal, the only alternative is to leave the station in its current state, which continues to deteriorate over time.
  - iii) The Paddy's Run Coal Station has already been retired for an extended period of time. Once Cane Run Coal is retired, it will be retired in place, with the only retirement expenditures in the 2015 Business Plan to preserve it in a "dry" state which won't rapidly deteriorate. There is no retirement capital for demolition in the 2015 Business Plan specific to the Cane Run Coal facility. A decision for dismantlement of the Cane Run Coal units has not been determined at this time.
- e. See attached. The cost estimate for the complete demolition of Paddy's Run Coal is \$17.4 million, consistent with the 2015 Business Plan. There has not been an estimate done to-date on the Cane Run Coal facility.

### Capital Expenditures for Paddy's Run Coal Retirement and Cane Run Coal Retirement

#### 2012 (actuals)

Project	January	February	March	April	May	June	July	August	September	October	November	December	Total
132874 Paddy's Run	\$0	\$0	\$1,650	\$7,924	\$5,119	\$6,620	\$8,106	\$13,471	\$211,811	\$255,060	\$379,224	\$207,168	\$1,096,153
					20	013 (actual	s)						
Project	January	February	March	April	May	June	July	August	September	October	November	December	Total
132874 Paddy's Run	\$196,191	\$20,078	\$60,080	(\$7,223)	\$15,370	(\$7,084)	(\$2,131)	\$0	\$0	(\$129)	\$0	\$0	\$275,153
	2014 (actuals through August, forecast September through December)												
Project	January	February	March	April	May	June	July	August	September	October	November	December	Total
132874 Paddy's Run	\$1,685	\$3,074	\$7,822	\$4,245	\$3,514	\$18,054	\$56,329	\$53,876	\$29,457	\$34,004	\$25,612	\$12,328	\$250,000
						10							
					20	015 (foreca	st)						
Project	January	February	March	April	May	June	July	August	September	October	November	December	Total
132874 Paddy's Run	\$0	\$0	\$0	\$500,000	\$750,000	\$750,000	\$1,500,000	\$1,500,000	\$1,500,000	\$0	\$0	\$0	\$6,500,000
137600 Cane Run					\$0	\$0	\$0	\$0	\$250,000	\$750,000	\$3,800,000	\$0	\$4,800,000
2016 (forecast)													
Project	January	February	March	April	May	June	July	August	September	October	November	December	Total
132874 Paddy's Run	\$750,000	\$750,000	\$750,000	\$750,000	\$1,000,000	\$1,000,000							\$5,000,000





# Paddy's Run Station Conceptual Phase Study Demolition with Clean Fill Option











Prepared by: AMEC Environment & Infrastructure, Inc. 11003 Bluegrass Parkway, Suite 690 Louisville, Kentucky 40299 14 June 2013

Mr. Greg Jones, PE LG&E-KU Services Company Project Engineering 820 West Broadway Louisville, KY 40202

Re: Paddy's Run Station

Conceptual Phase Study - Demolition with Clean Fill Option

Louisville, KY

Dear Mr. Jones:

The attached *Conceptual Phase Study - Demolition with Clean Fill Option* presents our findings, cost estimates, preliminary risk evaluation, and recommendations for final disposition of the Paddy's Run Station former coal powerhouse complex located at 4512 Bells Lane in Louisville, Jefferson County, Kentucky.

We appreciate the opportunity to provide engineering and environmental support services to LG&E-KU on this project. If you have any questions or require further clarification, please feel free to contact Wade Turner or Douglas Lane at (502) 267-0700.

Sincerely,

J. Wade Turner, PE

Client Manager

Douglas Lane, PG Project Manager

**Enclosures** 

/cf

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#### **APPENDICES**

APPENDIX 1 - PRELIMINARY CONCEPTS REPORT

#### APPENDIX 2 - FIGURES

- Figure 1 Site Location Map
- Figure 2 Site Layout Maps and Plot Plans
- Figure 3 Cross Section of Main Powerhouse
- Figure 4 General Cross Sections of FPS

APPENDIX 3 - PHOTO LOG

#### APPENDIX 4 - OPTION 3 ORDER-OF-MAGNITUDE COST ESTIMATE DETAILS

- Demolition cost estimate
- Hazardous building material abatement cost estimate
- Implementation phase planning

APPENDIX 5 - OPTION 3 STAKEHOLDERS AND PERMITS

#### 1.0 PROJECT BACKGROUND

Louisville Gas and Electric Company (LG&E) commissioned AMEC Environment & Infrastructure, Inc. (AMEC) to perform the *Paddy's Run Generating Station-Demolition Consulting-Conceptual Phase Study.* The final Request for Proposal (RFP) dated January 14, 2013 identified the following key objectives of the project:

- 1) Prepare a conceptual project plan(s),
- 2) Perform or subcontract vital testing/ monitoring for assessment needed to perform conceptual development, and
- 3) Prepare estimate(s) for remedial and/or removal work as described in the conceptual project plan to secure the sites against physical and environmental liabilities while minimizing operating and maintenance costs.

AMEC examined several feasible options for disposition of the former coal powerhouse complex at Paddy's Run Station, including removal of hazardous building materials (HBMs), along with various scenarios of demolition and on-site vs. off-site disposal of debris. AMEC presented a draft *Preliminary Concepts Report* on April 14, 2013 which addressed the aforementioned objectives. The final *Preliminary Concepts Report*, which includes comments from LG&E is included in **Appendix 1**. The alternative project paths considered included four main options:

- Mothball Structures: Physical hazards would be addressed, but the structures would remain in place. This option would reduce risks associated with hazardous materials and worker safety, but would not eliminate risks associated with structural systems and trespassers.
- Demolition with On-site Disposal: The HBMs would be removed and deconstruction would include removal of all structures to a depth of 6 feet below the ground surface. Non-hazardous, non-salvageable building materials such as clean masonry and concrete materials would be crushed on-site and used as backfill to the maximum extent feasible.
- 3. Demolition with Clean Fill: HBMs would be removed and deconstruction of the structures would include complete removal and off-site disposal and/or salvage of all building materials, with the exception of foundation pilings. Clean, engineered backfill would be used to establish the final grade and meet USACE Flood Protection System (FPS), or levee, design specifications. The screen house and intake structures would be demolished to the higher elevation of the Ohio River normal pool or current water level at the time of demolition. No underwater deconstruction or substantial use of sheet piling to enable underwater work has been included in the cost estimates.
- 4. Demolition with Residual Landfill: Demolition of structures would be accomplished to approximately six (6) feet below ground surface (bgs). Asbestos containing material (ACM) would be abated above-grade only and would be disposed in the basement area of the structure. A residual landfill permit with long-term monitoring would be required.

Based on the draft Preliminary Concepts Report, LG&E has chosen to pursue <u>Option 3:</u> <u>Demolition with Clean Fill</u> because it provides the widest possible range of property reuse opportunities. AMEC estimated an order-of-magnitude cost of \$11.7 million would be required to achieve the aforementioned objectives for Option 3. This final report focuses on health & safety aspects (Section 3.0), environmental aspects (Section 4.0), flood protection system

aspects (Section 5.0), deconstruction aspects (Section 6.0), and costs (**Appendix 4**) for Option 3. A more detailed discussion of the conceptual phase study of various options is provided below.

For the *Paddy's Run Generating Station-Demolition Consulting-Conceptual Phase Study*, AMEC was tasked to evaluate only the inactive portion of the property on the west side of the Louisville Metro Flood Protection System (FPS) levee, also known as the former coal powerhouse complex; the active operating areas on the east side of the levee were not included in the study. The final Preliminary Concepts Report presents an evaluation of key project aspects and an order-of-magnitude cost estimate for the four (4) above-referenced options. AMEC evaluated the following key aspects or issues which significantly influence project strategy regardless of the project path selected:

- Louisville Metro Flood Protection System (FPS). Any action or option which results in alteration of the existing Flood Protection System must be approved through the federal (Section 408) permitting process to meet the current design standards of the U.S. Army Corps of Engineers (USACE) and any additional standards imposed by the owner, Louisville and Jefferson County Metropolitan Sewer District (MSD).
- 2. Environmental, Health, and Safety Aspects, including physical hazards, asbestos, lead-based paint, and other hazardous building materials require careful management to minimize risks to site workers and the public while complying with appropriate regulatory permits and agency requirements to achieve a final, clean closure of the property. Current conditions of the site present safety and environmental risks associated with falling objects, deteriorated structures, potential trespassers, and the potential for environmental releases.
- 3. Deconstruction of the structures will include careful sequencing to achieve safe removal and off-site disposal and/or salvage of building materials. The screen house structures will be demolished to the higher of the Ohio River normal pool or current water level at the time of demolition. No underwater deconstruction has been included in the cost estimates. The backfill used to return the site to grade must meet FPS design specifications.

The RFP required submittal of draft and final reports which include the following specific elements (*italics*). Each scope item is further addressed in detail in the below-referenced sections of this report:

- Assessment of environmental issues (Section 4.0)
- Assessments of current site conditions and likely risks (Section 2.0, Appendix 1)
- Assessments of continuing liability (Appendix 1)
- Assessments of future regulations that could impact the site (Appendix 1)
- Other assessments as proposed by Contractor in the bid. AMEC reviewed existing hazardous materials assessments and conducted additional asbestos and lead-based paint sampling to better identify the nature and extent of those materials (Appendix 6).
- Testing or monitoring processes related to environmental issues that are proposed by Contractor and agreed to with LG&E during the bid process. The contractor shall specify what testing will be necessary during the conceptual phase development and during the engineering/construction phase (Appendix 6).
- Appropriate remediation for any hazardous materials (Section 4.0, Appendix 1).

## Attachment to Response to KU KIUC Question No. 6(e) Page 6 of 53 Garrett/Hudson

- Assessment of impacts to adjoining neighborhoods, properties, etc. from things such as demolition, impact on traffic patterns (Section 4.0).
- Identify and address material and equipment that may have salvage value as well as disposal issues (Section 6.0).
- Identify specific local, state, federal agencies and other stakeholder groups that LG&E will need to interact with as part of this project, such as the US Army Corps of Engineers, the EPA, Kentucky Division of Water Management, etc. Potentially interact with these agencies identified as required to develop a concept (Appendix 5).
- Assess and prepare a list of permits, inclusive of schedule requirements for the permits, required to implement ultimate plan (Section 4.0, Appendix 5).
- Identify alternative project paths (Appendix 1).

The order-of-magnitude costs were developed for the HBM abatement, deconstruction, and FPS concerns according to the four options described above. These costs do not include:

- Removal or abandonment of structures below the Ohio River water level.
- Relocation of the river crossing transmission line.

The final Preliminary Concepts Report (**Appendix 1**) includes order-of-magnitude cost estimates for each option. Estimated order-of-magnitude costs may vary significantly from the actual costs dependant on a number of factors including competition, disposal, season, insurance, salvage material and metal values, and finalized scope of work, etc. These limitations should be considered during budget formulation.

Additional study is recommended to further define the scope and costs associated with abatement of HBMs, FPS alterations, deconstruction and salvage of building materials, as well as to facilitate the project schedule by completing certain preliminary planning tasks. A list of implementation phase planning activities and associated estimated costs is included in **Appendix 4**.

#### 2.0 SITE DESCRIPTION

Paddy's Run Station is an approximately 40-acre property located in an industrial area at 4512 Bell's Lane in Louisville, Kentucky on the bank of the Ohio River (**Figure 1**). The property is

transected by the Louisville Metro Flood Protection System (FPS) levee (**Figure 2A**).

The property has an active switching station and three (3) operating natural gas-fired turbine (peaking) units located on the east side of the levee and a former coal powerhouse complex along and on the west side of the levee (**Figure 2A**).

The former powerhouse complex was developed in the late 1930s and the 1940s,



including a 600-foot long building containing six (6) former coal-fired boilers, six (6) turbine generating units, three (3) screen house water intake structures, sub-surface river intake tunnels, and one (1) coal railcar shaker house and associated conveyor systems. An active river-crossing transmission line utilizes a tower mounted on the south end of the roof of the main powerhouse structure (see photo above). Most of the powerhouse complex is integral to or immediately adjacent to the levee (see Figures 2A-C and discussion in Section 5.0). The powerhouse complex has been inactive since the early 1980s. Five (5) chimneys were demolished in 2012 due to imminent structural concerns, but various hazardous building materials (HBMs), including asbestos and lead-based paints, remain in the structures (see Section 4.0).



The structural and mechanical systems are in a continual state of decline and the structures present numerous risks to LG&E.

The powerhouse structures are integral to the levee of the FPS, as detailed in Section 5 of

this report and on Figures 2 and 3. The levee is generally situated approximately at the centerline of the rail spur serving the railcar shaker house on the northern portion of the site, and along the road bed continuing to the south.

#### 3.0 HEALTH & SAFETY

Key health and safety aspects such as physical hazards, asbestos, lead, and other HBMs require careful management to minimize risks to site workers and the public while complying with appropriate regulatory provisions and agency requirements.

Physical hazards, including deteriorated metal grating and plates in floor openings, mezzanines, and stairs, falling brick veneer & broken glass, will need to be addressed by installing covers/rails for floor openings, barricades near falling object hazards, etc. Additionally, appropriate site security and access control measures should be employed to reduce exposure for site workers and potential trespassers.

HBMs, including asbestos and lead-based paints are significantlyin а deteriorated condition, with visible releases of containing asbestos materials and paint chips on the floors of the structure, particularly on the boiler side. Access to the site currently requires use of a respirator and protective clothing due to these hazards. Exposure to airborne HBMs is a significant concern.

Other health and safety concerns for abatement and deconstruction



projects include, but are not limited to: exposure to heat/cold, bird droppings, and wet conditions; working at heights; heavy equipment operation; electrical work; hot work; and portable powered tools.

Throughout the abatement and deconstruction phases of the project, strict safety rules, including those addressed in LG&E's Passport Safety Program should be employed to minimize the exposure of workers to the site hazards. An approved site-specific health and safety plan should be implemented by all contractors and site workers.

#### 4.0 ENVIRONMENTAL

Key environmental aspects include asbestos, lead, protection of the natural environment, and others. Complying with appropriate regulatory provisions and agency requirements is of paramount importance. Anticipated environmental permits and anticipated timelines are listed in **Appendix 5**.

Asbestos is the most significant HBM present in the powerhouse complex structures, confirmed by previous documentation and additional limited sampling by AMEC. The interior of the main powerhouse structure is currently managed as an asbestos area due to uncontrolled releases of fibers, requiring employees to use personal protective equipment to perform routine maintenance tasks. The current EPA regulation for the removal of asbestos in buildings, the National Emission Standard for Hazardous Air Pollutants (NESHAP, 40 CFR 61, Subpart M) requires regulated ACMs be properly removed prior to performing renovation and demolition activities which would disturb them. The Louisville Metro Air Pollution Control District (APCD) regulates asbestos activities through the issuance of permits and oversight of abatement activities. A licensed Asbestos Designer should develop ACM abatement specifications to address the scope of removal work, regulatory requirements, notification procedures, air sampling requirements and other pertinent information.

Asbestos removal should be monitored to ensure no asbestos is released into ambient air. During enclosed asbestos removals, a licensed independent or 3<sup>rd</sup> party consultant should perform monitoring during the abatement and perform clearance air testing prior to the removal of the containment/enclosure barriers. If concealed ACM is later observed during demolition activities as access is gained to previously inaccessible areas, it will be necessary to investigate and collect bulk samples of each potential ACM in order to confirm the presence or absence of asbestos content. Inaccessible locations include: inside wall cavities or other finishing/structural/architectural materials; above fixed ceiling systems; inside mechanical systems, boilers, ducts, equipment, or manufacturing/production equipment (e.g. air handling units, ductwork, etc.); and areas that were previously unsafe to access (including excessive heights, confined spaces, etc.).

AMEC recommends a more comprehensive inventory of hazardous materials be completed to confirm the full scope of environmental remediation and associated costs. Potential additional hazardous materials and environmental conditions which should be addressed include:

- Lead-based paint (LBP) in structural and equipment coating systems.
- Mercury-containing equipment such as switches, manometers, etc.
- Polychlorinated biphenyls (PCBs) in ballasts, equipment, and elastomeric materials. The EPA generally regulates the handling and disposal of PCBs in building materials above 50 mg/kg.
- Radioactive sources.
- Chlorofluorocarbon (CFC) containing equipment; refrigeration equipment, canisters, etc.
- Duct, tank, trench, pit, and pipe residues; dusts, liquids, etc.
- Contaminated soils; associated with spills, underground petroleum tanks, etc.
- Miscellaneous containers of unknown chemicals and hazardous substances.
- Characterize concrete and masonry for salvage and off-site reuse in lieu of disposal.

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A Pre-Acquisition Site Audit of the facility performed for LG&E in July 1991 identified the following additional potential environmental issues which should be considered for further investigation depending on the final scope of site disposition:

- Prior groundwater sample analyses detected measureable quantities of metals and organics, presumably from area industrial facilities to the east.
- Stained wood floor blocks in the maintenance shop.
- An area of possible fly ash disposal on the north portion of the property between the rail spurs.
- Phenolics were detected in soil samples in various locations at the site.
- A sludge sample on a transformer pad was found to have high levels of metals, specifically lead.

HBMs should be identified, characterized, removed and disposed off-site in accordance with local, state, and federal regulations. AMEC estimated quantities of asbestos and other HBMs to develop the order-of-magnitude cost estimates for abatement (**Appendix 4**) based on a brief site examination, limited sampling during the walkthrough, and a review of existing documentation. A more extensive evaluation of HBMs and HBM quantities could further refine the cost estimate.

Depending on the final FPS alteration permit and/or funding mechanisms, a National Environmental Policy Act (NEPA) review of certain aspects of the project may be required. This could include preparation of an Environmental Assessment or other NEPA document, including examining the historical value of the property, noise impacts, air quality impacts, water quality impacts, etc.

The estimated order-of-magnitude costs and assumptions for implementation of additional environmental planning, permitting, and hazardous materials assessments are also presented in **Appendix 4**.

#### 5.0 FLOOD PROTECTION SYSTEM

The Flood Protection System (FPS) dissecting the Paddy's Run Generating Station property consists of USACE-designed and constructed earthen levees (**Figure 2A**) and existing "high-ground" containing the rail spur and ancillary structures. The former powerhouse is situated on the wet-side of the levee. Because portions of the powerhouse complex are integral to the levee, any deconstruction of structures affecting the integrity of the levee must be approved through the USACE Section 408 permitting process.

The levee begins at the northernmost property entrance on Bells Lane at levee station 553 + 00 and incorporates the "high-ground" portion of the property from levee station 561+50 (shaker house basement) to levee station 568+15. The levee extends to the south, exiting the property at levee station 572 + 00, south of the powerhouse complex (**Figure 2A**). The levee provides flood protection for the industrial, commercial, and residential areas to the east known as Rubbertown, including LG&E's operating electrical substation and natural gas fired turbine generators.

The "high-ground" portion of the property was constructed to support rail access to the powerhouse and the chimney structures at a higher elevation than the current levee, and predates the initial construction of the FPS in this area during the 1950s. Figures 2A, 2B, and 2C provide layout, design and right-of-way (ROW) details of the levee system. This existing "high-ground" portion of the facility immediately adjacent to the east side of the powerhouse structure, consisting of the rail spur/ road bed, coal railcar shaker house basement and attached coal conveyor, and powerhouse chimney foundations, was incorporated (and grandfathered) into the levee system. Figures 3 and 4A, 4B, 4C provide cross-sectional views of the levee and powerhouse complex structures, respectively.

The earthen levee ("high-ground" excepted) is owned, operated, and maintained by MSD with established right-of-way (ROW) easements. LG&E-KU has been responsible for maintenance of the "high-ground" section of the levee. At the time of AMEC's site inspection, the levee appeared to be in generally good condition. According to MSD, the levee in this area does not have outstanding issues or deficiencies, based on recent USACE Periodic Inspection Reports (PIRs). The following alterations to the levee system have been documented by MSD within the ROW since the levee was completed:

- 1. A scrubber sludge waste disposal facility was installed in 1976 in the "high-ground" portion of the levee. This facility was later removed.
- 2. Installation of a 95-foot steel power pole in 1976 at levee station 552+66.
- 3. Construction of an earthen ramp in 2000 to allow for installation of a gas turbine at levee station 560 + 50.
- 4. Closure of a pedestrian tunnel by concrete in-fill in the "high-ground" portion of the levee in 2006.
- 5. Demolition of five (5) 225-foot concrete chimneys in 2012 between levee stations 564 + 45 and 569 + 10.

At present, MSD and the USACE are reportedly nearing an agreement for the USACE to perform a FEMA-mandated levee certification (44 CFR 65.10) of the entire 26.5+ mile flood protection system around the north and west sides of Louisville Metro. AMEC estimates this process will require a minimum of two years to complete, but should not significantly affect approval of any proposed LG&E alteration plans that meet current USACE design criteria.

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During a meeting with the USACE and MSD at the USACE office, the USACE and MSD indicated proposed levee alteration plans would need their input and concurrence. The USACE expressed concern penetrations and utilities located within the high-ground and constructed levee portions have not been fully defined and are viewed as open items to be addressed if the powerhouse structure were to be demolished. The USACE further indicated future demolition plans for the buildings and/or intake structures would need to comply with hydrology/hydraulics modeling and slope stability requirements of the current USACE flood protection system design criteria. Finally, USACE personnel indicated demolition and modifications as described above may be considered a minor modification under Section 408 and could likely be approved at the local level, significantly reducing the time required to obtain a permit to construct.

AMEC considers levee alteration permit approvals from MSD and the USACE critical to implementation of the deconstruction of the Paddy's Run Station structures. An engineering evaluation and hydraulic modeling of any planned levee alteration is the first step to developing the Section 408 permit application.

### 6.0 DECONSTRUCTION

The Paddy's Run Station powerhouse complex structures consist mainly of steel beam construction, with brick, metal sheeting, and transite facades, built-up roofs, and concrete reinforcements. Below-grade or basement walls and floor slabs are steel-reinforced concrete. Slabs and walls rest on grade beams and vertical pilings. Process equipment, including boilers, tanks, piping, pumps, etc. are mounted on steel and concrete structures throughout the structures, most of which will be removed for salvage during or following asbestos abatement activities. **Figure 3** provides cross-section details of the main powerhouse complex structures.

Option 3: Demolition with Clean Fill provides for complete removal and off-site disposition of the main building structures, down to and including footings and grade beams. Vertical auger cast piles or other driven pilings will remain. Chimney foundations have previously been altered per MSD and USACE requirements and will remain. Existing transmission towers will remain, except AMEC understands LG&E is making arrangements to reroute the river-crossing transmission lines currently supported by the tower on the southern portion of the powerhouse roof. Subsurface structures associated with the water intake and effluent structures below the water table are also assumed to remain. These structures are not likely to affect future site development other than new port-related facilities, contain no known HBMs, and are not expected to be a hazard to navigation. If future development plans include waterfront structures, then deconstruction of those structures and resultant costs could be addressed at that time.

Conventional deconstruction, or demolition, with continual separation of salvageable materials will be the most cost effective method of removing these structures. The project is expected to follows the below typical sequence, however, some tasks may be completed simultaneously and may be subject to change based on levee alteration permit requirements:

- Work Plan Development, including approval of designated disposal/recycling targets, HBM abatement plans, permitting, grading, Site-specific Health & Safety Plan, etc.
- Mobilization and set up of site security
- Make site and structures safe and secure for worker access and deconstruction
- Implement erosion control plan
- Verify energy sources, utilities, and pipelines, etc.
- Develop and implement utility capping plan and lockout/tagout (LOTO) plan, as required
- Removal of universal wastes
- Removal of asbestos and lead
- Equipment and scrap recovery
- Remove structure through mechanical means
- Process steel, segregate masonry/concrete from other streams
- Remove subsurface structures to top of pilings, as limited by the structure, groundwater, or river water levels.
- Backfill subsurface with approved clean fill to final grade and restore surface cover per plan
- Demobilize

Scrap metal value recovery return for Paddy's Run will likely be substantial, though equipment values are likely to be low due to the relative age of the facility. Our estimate utilized a conservative value based on a limited quantity take-off from the brief site visit. The market value used for our cost estimate was \$200 per ton. Actual returns will depend on market

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conditions and project timing. Implementation phase planning should include a more detailed analysis and quantity take-off of salvage/scrap materials in order to better evaluate contractor's bids and their proposed credit scheme for scrap values. Copper scrap recovery was not included in the initial estimate, but may also be substantial. Steam turbines may also be sold for scrap.

A comprehensive specification for this project would include the necessary data to allow contractors to accurately price the hazardous material handling, asbestos removal, floodwall system preservation, structure demolition, and site restoration aspects of the project. This includes assembling available construction or as-built drawings, hazardous/asbestos surveys, geotechnical, flood wall profiles, specifications, final grading plan, SWPPP and the owner's preferences for the disposition/reuse of waste streams. It is preferable to use performance-based specifications on large demolition projects to allow the Contractor to provide creative solutions to project challenges, but still allows the owner to be specific and prescriptive about elements of work or requirements of high interest/risk.

Given the significant quantities of HBMs, primarily asbestos and lead-based paint, AMEC recommends that HBM abatement, structural demolition, and site restoration be contracted under one general Contractor, if possible. The general contractor can also be responsible for key permitting activities, subject to LG&E review and approval. This also allows the bidders to determine exact sequencing (as allowed by permit issuance). Creating a contract that balances the risks of incidents and poor performance with effective control of the work, while recovering the maximum value of assets, can produce a successful outcome. The selection of qualified bidders should at a minimum reflect the Owner's values of Safety, Compliance, Quality and financial responsibility.

AMEC has provided an estimate of demolition costs consistent with other similar projects for Option 3 Demolition with Clean Fill (see detailed cost estimate in **Appendix 4**). Option 3 is the most conservative deconstruction option and provides for the widest possible range of site reuse options. The extent of demolition has been defined in the various possible options (see *Preliminary Concepts Report* in **Appendix 1**) relative to disposition of subsurface structures, concrete/ masonry disposal vs. reuse, backfill materials, and other considerations.

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# APPENDIX 1 PRELIMINARY CONCEPTS REPORT



# PADDY'S RUN STATION RETIRED ASSET DISPOSITION PRELIMINARY CONCEPTS REPORT

Prepared by:



June 14, 2013





Louisville Gas & Electric 220 West Main Street, Suite 1400 Louisville, KY. 40202



DATUM: NADB3
PROJECTION:

PADDY'S RUN STATION LOUISVILLE GAS & ELECTRIC LOUISVILLE, KY

# Legend Floodgate Floodwall LG&E Property Elevated Berm

FIGURE 1

# Attachment to Response to KU KIUC Question No. 6(e)

# PADDY'S RUN STATION OVERVIEW Page 18 of 53 Garrett/Hudson

### Background

- Flood Protection System (FPS) levee integral and/or adjacent to structures
- Active switching station and 3 gas turbine peaking units
- Former coal boiler units (6), screenhouses (3) and shakerhouse
- Active transmission line tower on powerhouse structure
- Industrial area
- Chimneys (5) demolished in 2012

### **Site Conditions**

- Primary Hazardous Building Materials (HBM) asbestos and leadbased paint (LBP) in poor condition
- Other potential HBM: PCBs, mercury, tank/pipe residues, etc.
- Ongoing monitoring and maintenance of basement sumps
- Interior access difficult requires respirator and protective suit
- Structural Hazards
  - > Significant corrosion on major structural members
  - Steel decking / grating / stairs / mezzanines potentially unsafe
  - Roof leaks
  - > Collapsing exterior brick veneer & broken glass– falling objects
- Evidence of periodic trespassing

### **Options**

### 1. Mothball

- > Traditional asbestos & other HBM abatement & disposal off-site
- "Cleaned" structures remain
- Address building security & physical hazards

### 2. Demolition & Debris Fill (Limited Re-sale/Re-development)

- > Traditional asbestos & other HBM abatement & disposal off-site
- Demolition of powerhouse, screenhouses, and shakerhouse to 6 feet below ground surface (bgs): Segregate & salvage
- Clean debris (masonry, concrete) crushed on-site and used as basement fill; balance of clean fill for capping per approved FPS alteration design
- Subgrade walls, slabs, & footings greater than 6 feet bgs or below river level to remain

## 3. Demolition & Clean Fill (Best Re-sale/Re-development)

- > Traditional asbestos & other HBM abatement & disposal off-site
- Demolition of powerhouse and shakerhouse structures to top of pilings: Segregate & salvage
- > Off-site disposal of all non-salvaged building materials
- Clean fill per approved FPS alteration design
- Screenhouse structures demolished to water level

### 4. Residual Landfill

- Limited asbestos abatement and disposal in basement vault
- > Remove other HBMs & dispose off-site
- Demolition to 6 feet bgs: Segregate & salvage
- > Register/permit as residual landfill for on-site asbestos disposal
- Clean debris (masonry, concrete) crushed and used as basement fill; Balance clean fill per FPS alteration design
- Considerable regulatory permitting hurdles

# **Key Potential Issues**

- FPS- Levee alteration
  - Metropolitan Sewer District (MSD) and US Army Corps of Engineers (USACE) are lead agencies for permitting
  - > Alteration must meet current USACE design specifications
  - > Sealing of FPS penetrations / conduits are critical element
  - Communication of FPS alteration strategies with USACE & MSD
- Property may not be highly marketable due to FPS & wet-side location
- Regulatory permitting / agency concurrence with strategies
- Address MSD and USACE stakeholder regulatory requirements to facilitate the planned demolition
- National Environmental Policy Act (NEPA)
- Public relations & communications
- Potential historic value / preservation of structures
- Knowledge gaps (roof, fire brick, fuel tanks, etc.)
- Scrap value offsets some costs Market varies
- Abandonment of intake/discharge structures below Ohio River Level

# **Risks of Inaction**

- Continued deterioration of structures and HBM
- Increasing safety hazards to employees and trespassers
- Increasing potential for uncontrolled asbestos/other releases
- Negative agency / public reaction to deteriorating conditions
- Cost escalation





# **Option 1: Mothball**

This option involves traditional hazardous building material (HBM) abatement and off-site disposal, with ongoing maintenance of current structures.

F-4	
Est.	
Year	General Sequence of Work
1	Planning (budgeting, additional environmental assessment, permitting, stakeholder/public involvement, etc.)
2	Establish safe work environment: Remove/repair/ restrict access to internal unsafe structures (e.g., metal grating); Install covers/rails as needed for floor openings, etc.  Asbestos abatement and off-site disposal
	Removal and off-site disposal of other HBM (e.g., mercury-containing devices, lead paint chips, PCBs, residues, tanks, etc.)
	Improve site security
3	Stabilize/maintain structures

Benefits
Initiates actions to address issues and risks
Lowers risks for LG&E employees and trespassers
Demonstrates a pro-active approach to address concerns
HBM on-site risks eliminated
Reduces risk of potential negative public / agency reaction
Avoids FPS alteration issues

Risks / Negatives
Structures & components will continue to deteriorate
Does not eliminate risk altogether, including safety risks to LG&E employees and trespassers
Monitoring & maintenance costs will continue and escalate

Key Permits: Asbestos Removal Permits





# **Option 2: Demolition & Debris Fill**

This option involves traditional hazardous building material (HBM) abatement and demolition, with salvageable materials and HBM sent off-site for sale, recycling, or disposal. Clean demolition debris (e.g., densified or crushed concrete and masonry) to be used for basement backfill in powerhouse, screen houses and shakerhouse. Clean demolition debris is estimated to provide approximately 25-45% of required volume for basement backfill. Based on recent input from the USACE, backfill materials can include clean, densified demolition debris materials, sand, soil, concrete, grout, or other materials so long as hydrologic models confirm the FPS will maintain integrity during the design flood event. This option may require closure of the intake and discharge structures to the satisfaction of the USACE.

Est. Year	General Sequence of Work
1	Design & permit any alteration(s) of current FPS (408 permit)
1	Planning (budgeting, additional environmental assessment, permitting, stakeholder/public involvement, NEPA, etc.)
2	Establish safe work environment: Remove/repair/ restrict access to internal unsafe structures (e.g., metal grating); Install covers/rails for floor openings, etc.
	Abatement and off-site disposal of asbestos
	Removal and off-site disposal of other HBM (e.g., mercury-containing devices, lead paint chips, PCBs, residues, tanks, etc.)
2-3	Demolition of above-grade structures to 6 feet bgs and per USACE approved FPS alteration
	FPS alteration

Benefits
Eliminates exposure risks to
LG&E employees and trespassers; HBM on-site risks
eliminated
Demonstrates a pro-active
approach to address concerns
Improves site value and
eliminates future escalation
costs for abatement
Provides cost recovery for
salvage materials and clean infill materials for basement
Reduces risk of potential
negative public / agency
reaction
Reduces risk of cost escalation
Minimizes on-going
maintenance costs

Risks / Negatives	
MSD / USACE permit requirements for FPS alteration will strongly influence project strategy	
Cost to complete and potential for budget overruns	

Key Permits: 408 Floodwall /Levee Permit; Water Quality Permits; Wrecking Permit; Asbestos Removal Permits





# PADDY'S RUN STATION **Option 3: Demolition & Clean Fill**

This option involves traditional abatement and complete structural demolition with all building materials sent off-site for recycling/ disposal and engineered basement backfill. The primary intent of this option is to better position the property for potential redevelopment and/or resale. This option may require closure of the intake and discharge structures to the satisfaction of the USACE.

Est. Year	General Sequence of Work
1	Design & permit any alteration(s) of current FPS (408 permit)
1	Planning (budgeting, additional environmental assessment, permitting, stakeholder/public involvement, NEPA, etc.)
2	Establish safe work environment: Remove/repair/ restrict access to internal unsafe structures (e.g., metal grating); Install covers/rails for floor openings, etc.
2	Abatement and off-site disposal of asbestos
2	Removal and off-site disposal of other hazardous building materials (e.g., mercury-containing devices, lead paint chips, PCBs, residues, tanks, etc.)
2-3	FPS alteration
2-3	Demolition of structures, including basement walls, slabs, and footers, except as Specified for FPS alteration
2-3	Recover salvageable material value to maximum extent practicable; off-site disposal of all other building materials
2-3	Basement filled with engineered backfill & capped as specified for FPS alteration

Benefits
Eliminates exposure risks for LG&E employees and trespassers
Demonstrates a pro-active approach to address concerns; best option for sale/redevelopment
Removes risks of further building deterioration, structure maintenance, trespassers
Clean, homogenous fill and removal of building foundations allows the widest range of possible reuse options
HBM on-site risks eliminated
Reduces risk of potential negative public / agency reaction
Reduces risk of cost escalation
Minimizes on-going maintenance costs

Risks / Negatives
MSD / USACE permit requirements for flood wall / levee alteration will strongly
influence project strategy

Highest cost option with potential for budget overruns

Key Permits: 408 Floodwall /Levee Permit; Water Quality Permits; Wrecking Permit; Asbestos Removal Permits





# **Option 4: Residual Landfill**

This option involves traditional hazardous building material (HBM) abatement and demolition, with salvageable materials and HBM sent off-site for sale, recycling, or disposal, except that asbestos will be disposed in the basement structure and the site permitted as a residual landfill. Clean demolition debris (e.g., densified or crushed concrete and masonry) to be used for basement backfill in powerhouse, screenhouses and shakerhouse. Clean debris is estimated to provide approximately 25-45% of required volume for basement backfill. Based on recent input from the USACE, backfill materials can include clean, densified demolition debris materials, sand, soil, concrete, grout, or other materials so long as hydrologic models confirm the FPS will maintain integrity during the design flood event. This option may require closure of the intake and discharge structures to the satisfaction of the USACE.

Est. Year	General Sequence of Work
1	Design & permit any alteration(s) of current FPS (408 permit)
	Planning (budgeting, additional environmental assessment, permitting, stakeholder/public involvement, NEPA, etc.)
2	Establish safe work environment: Remove/repair/ restrict access to internal unsafe structures (e.g., metal grating); Install covers/rails for floor openings, etc. Abatement of above-grade asbestos and disposal in basement/vault. Limited asbestos removal below-grade.  Removal and off-site disposal of other hazardous building materials (e.g., mercury-containing devices, lead paint chips, PCBs, residues, tanks, etc.)
2-3	Demolition of structures to 6" bgs except as specified for FPS alteration
	Recover salvageable material value to maximum extent practicable
	Use clean concrete and masonry for fill onsite as much as practical
	Basement filled with engineered fill & capped as specified for FPS alteration

Benefits
Less expensive than traditional "abate & demolish" options
Initiates actions to address issues and risks
Demonstrates a pro-active approach to address concerns
Lowest cost for abatement
Reduces risk of potential negative public / agency reaction
Reduces risk of cost escalation

Risks / Negatives
Hazardous materials still on-site
Site will become solid waste facility/landfill, with obligations for long-term stewardship
Regulatory agencies may not approve residual landfill concepts or methods; site on wet-side
Limited below-grade activities may limit salvage value
Potential negative public reaction / public meetings

Key Permits: 408 Floodwall /Levee Permit; Water Quality Permits; Residual Landfill Permit; Wrecking Permit; Asbestos Removal Permits





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# **Stakeholders**

Potential Stakeholder	Interest	Potential Issues
SHPO	Historic Preservation	Resistance to demolition or significant site alteration
KDWM	Waste characterization & disposition	Modify EPA ID No. Registration, waste manifesting, transportation
KDWM	Residual Landfill	Permitting & Design
KDOW / MSD	Work in or along river	Permitting
KDOW / MSD	Storm water quality	Permitting, BMPs
MSD / USACE	Flood Protection System Integrity	Current Design Criteria; 408 Permit; NEPA review
MSD / USACE	Work in Floodplain	Permitting
Louisville Metro APCD	Asbestos abatement methods	Permitting, monitoring
Neighboring Businesses	Air Quality, Traffic, Economic	Security, safety, air monitoring, communications
State of Indiana (Counties, Cities)	Viewshed	Viewshed consultation
KOSHA	Safety	Variances, Inspections
USACE / MSD / PSC	Publicly Funded Project	NEPA Documentation
Louisville Metro Departments (Dept. Inspections, Permits, and Licensing)	Demolition, Street Closures, etc.	Permitting (Wrecking Permits, etc.)
Public Service Commission (PSC)	Financial Planning	Financial Planning





# Attachment to Response to KU KIUC Question No. 6(e)

# PADDY'S RUN STATION

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# **Implementation Phase Planning**

- Engineering & Permitting of Flood Protection System Alteration Measures (408 Permit Application)
- Conduct Comprehensive Surveys: ACM, PCBs, chemicals, wastes, building materials, equipment
  - Additional ACM Survey:
    - Roof materials
    - Fire Brick
    - Other difficult to access materials
    - Quantify known ACM to determine abatement specifications and more accurate costs
  - > Building material characterization, e.g., for PCBs in concrete, paint, building sealants (e.g., caulk), wiring insulation, lamp ballasts, and other electrical equipment. All structural paints presumed to be lead-containing.
  - > Sample & analyze fire brick/mortar for asbestos, hexavalent Cr, NORM (naturally-occurring radioactive material) to determine management during abatement/demolition
  - > Chemical inventory: inventory hazardous materials/wastes in drums & other containers (LBP chips, etc.)
  - > Universal waste inventory: e.g., lamps, mercury-containing devices, etc
  - > Inventory stacks, ducts, pipes that may contain waste residues/ash
  - Quantify steel, copper and other salvageable materials/equipment (detailed material takeoffs)
  - Verify status of tanks. Remove or close in place any remaining USTs.
  - > Site investigation to identify and delineate subsurface contamination issues; if deemed necessary
- Interface with regulatory agencies to determine final permitting requirements, NEPA Documentation, and site restrictions for preferred option
  - > MSD Metropolitan Sewer District
  - ➤ USACE US Army Corps of Engineers
  - DOW Kentucky Division of Water
  - > APCD Louisville Metro Air Pollution Control District
  - > SHPO State Historic Preservation Office
  - ➤ KDWM Kentucky Division of Waste Management
- Obtain permits and prepare NEPA documents as required, prepare compliance plans, etc.
- Preliminary Bid Package to refine estimates with demolition / abatement contractors
- Develop final estimated project costs for selected option
- Public Input / Meetings
- Design & relocate active electrical transmission towers and lines (LG&E, not included in the cost estimates)





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# Garrett/Hudson

# Permitting

Type of Permit	Regulatory Agency	Existing Permits/ Registrations?	New Permit Required?	Potential Option(s) Affected	Agency Timeframe to Issue Permit
Flood Protection System Permit (408)	MSD / USACE	No	Yes	2, 3, 4	Minor: 90-120 days Major: 12-18 mo
Asbestos Removal Air Permits	APCD	<ul> <li>Asbestos Blanket Permit 350031 expiring 12/31/2013: non-friable</li> <li>Asbestos Blanket Permit 350059 expiring 12/31/2013: friable</li> <li>Title V air permit for GTUs (#2111100125); should not be affected.</li> </ul>	Yes	all	<30 days
Site Disturbance - Erosion/Sediment Control Plan	MSD and KDOW – Surface Water Permits Branch	MSD general permit for soil disturbance activities.	No	2, 3, 4	<30 days
401 Water Quality Certification / Permit to Construct Across or Along a Stream	KDOW – Floodplain Management Section	No	Yes	2, 3, 4	<90 days
KPDES Storm Water Discharge Permit with BMP Plan	KDOW – Storm water Permits Branch / MSD	EPA ID KY0002071 Expires June 30, 2013 Modify BMP Plan after demo.		2, 3, 4	<90 days
Construction in Floodplain	USACE / MSD	No	Yes	2, 3, 4	60 days+
Wrecking Permit	Louisville Metro Dept. of Codes & Regulations, MSD	No	Yes	2, 3, 4	<60 days 30 day waiting period
Residual Landfill	KDWM-Solid Waste Branch	No	Only if option 4 selected	4	180 days+
Hazardous Waste Registration	KDWM – Hazardous Waste Branch	RCRA registration as CESQG / transporter (EPA ID # KYD 000827477)	May need to modify for quantity	all	<30 days
DOT Registration	USDOT	TBD	Yes	all	<30 days
Hazardous Material Spill Prevention & Control Plan/Permit (HMPC)	MSD	HMPC Plan	Yes	all	<30 days
HAZMAT Permit	Louisville Metro Fire Department	TBD	Yes	all	<30 days
NEPA Documentation	USACE / MSD	No	Likely	2, 3, 4	3-12 mos.+





# **Order-of-Magnitude Cost Estimate**

OPTION No.	DESCRIPTION	Planning (\$ million)	Demolition (\$ Million)	Asbestos & Haz. Building Material Abatement (\$ Million)	Steel Salvage Value (\$ Million)	Flood Protection System Alteration (\$ Million)	Estimated Order-Of- Magnitude Total Cost (\$ Million)
1	Mothball	0.3		5.4	-	NA	5.7
2	Demolition & Debris Fill	0.4	2.5	5.4	(0.4)	0.5	8.4
3	Demolition & Clean Fill	0.4	6.0	5.4	(0.4)	0.5	11.9
4	Residual Landfill	0.5	2.5	4.0	(0.4)	0.5	7.1

# **Assumptions:**

- 1. FPS budget to address shakerhouse and other levee penetrations. Design and permitting must include USACE and MSD involvement.
- 2. Demolition and backfill costs for the shaker house are included in the demolition budget.
- 3. No budget has been allocated to abandonment of intake and outlet structures.
- 4. Roofing will be removed as part of demolition operation. Roofing material is assumed to contain asbestos and requires special handling. Additional sampling is recommended to confirm limited previous samples which indicated roof may not have asbestos.
- 5. Current estimated steel salvage value is included: non-ferrous and copper salvage not included.
- 6. No structure repair, roof repair, lifecycle or rehabilitation costs are included for Options 1 or 2.
- 7. No costs of demolition of underwater structures, sheet pile, or dewatering are included.
- 8. ported backfill material may consist of sand or engineered fill capped by three feet of crushed limestone, but must ultimately comply with FPS alteration design.
- 9. Concrete/Masonry to be processed to 8" minus and free of rebar if reused on site as backfill.
- 10. Estimated field duration is 9 to 12 months for abatement & demolition (does not include FPS alteration implementation).
- 11. Includes Project Management, Health and Safety Monitoring and on-site general project superintendent
- 12. These cost estimates to be updated as regulatory requirements and LG&E preferences are finalized.





# PADDY'S RUN STATION

# Tank Status Based on Records Review

Per UST Registration Records						Per Other LG&E Records				
Tank No. (original/amended)	Size (gal)	Estimated Age (Yrs)	Location	Concrete Vault	Use	Last Contents	Date Last Used	Date Closed	Removed or Filled	Comments
1 (C-4)	1000	71	Not Identified	N	Heating	Kerosene	50's	2008	Filled	Heating oil tanks near entrance
2 (C-4)	1000	71	Not Identified	N	Heating	Kerosene	50's	2008	Filled	Heating oil tanks near entrance
3 (C-4)	1000	71	Not Identified	N	Heating	Kerosene	50's	2008	Filled	Heating oil tanks near entrance
4 (C-5)	1000	66	Not Identified	Υ	Heating	Kerosene	July-82	2007	Filled	Boiler light off tanks
5 (C-5)	1000	66	Not Identified	Υ	Heating	Kerosene	July-82	2007	Filled	Boiler light off tanks
6 (C-5)	1000	64	Not Identified	Y	Heating	Kerosene	July-82	2007	Filled	Boiler light off tanks
7 (C-5)	1000	64	Not Identified	Υ	Heating	Kerosene	July-82	2007	Filled	Boiler light off tanks
8 (C-5)	1000	63	Not Identified	Υ	Heating	Kerosene	July-82	2007	Filled	Boiler light off tanks
9 (C-5)	1000	63	Not Identified	Y	Heating	Kerosene			Filled?	verification required
10 (C-5)	1000	61	Not Identified	Y	Heating	Kerosene	July-82		Filled?	verification required
11 (C-5)	1000	61	Not Identified	Υ	Heating	Kerosene	July-82		Filled?	verification required
12 (C-4)	10000	40	Front Gate	N	Motor Fuel	Gasoline	Jun-88	3/28/1991	Removed	No Further Action letter issued by KYUSTB
16 (B) / 13	10000	71	Inside Plant	N		NaOH				assumed to be above ground tank
17 (B) / 14	4000	59	Inside Plant	N		S2OH4				assumed to be above ground tank
18 (B) / 15	4000	59	Inside Plant	N		S2OH4	1980			assumed to be above ground tank
19 (B) / 16	3000	66	Inside Plant	N		Used Oil				assumed to be above ground tank
20 (B) / 17	1500	66	Inside Plant	N		Used Oil				assumed to be above ground tank
21 (B) / 18	2500	64	Inside Plant	N		Used Oil				assumed to be above ground tank
22 (B) / 19	2500	64	Inside Plant	N		Used Oil	July-82			assumed to be above ground tank
23 (B) / 20	2500	61	Inside Plant	N		Used Oil				assumed to be above ground tank

Notes: Tanks 1 through 20 were originally registered as Underground Storage Tanks, registration amended in 1991 to reflect tanks located "inside plant" No further Action Letter issued by KYUSTB for Tank 12 in January 1992, all other USTs not required to be registered because use was heating oil Tanks 1 through 8 filled with low strength concrete per records provided by LG&E Environmental Affairs





Garrett/Hudson

# **Summary Table of Limited Asbestos & Lead-based Paint Sample Results**

Material Description	Sample Numbers	Result	Type of Asbestos	Friability
Boiler Seam	P1A, P1B, P1C	50%-75%	Chrysotile	F
Caulk	P2A, P2B, P2C	<1%	Chrysotile	NF
Plaster - Skim Coat	P3A, P3B, P3C	None Detected		F
Plaster - Base Coat	P3A, P3B, P3C	None Detected	-1	F
Ceiling Tile	P4A, P4A, P4B	None Detected	1	F
Ceiling Tile Mastic	P4A, P4A, P4B	None Detected	-1	F
Foundation Coating	P5A, P5B, P5C	None Detected		NF
Coal Shaft Sealer	P6A, P6B, P6C	10%	Chrysotile	NF

### Notes:

### F - Friable

			Lead Result	OSHA Level
Sample ID	Sample Location	Building	% wt	% wt
PL1	Gray Boiler	Paddy's Run	0.35	>0%
PL2	Green Control Panels	Paddy's Run	0.25	>0%
PL3	Yellow Insulation	Paddy's Run	0.81	>0%
PL4	Yellow Office	Paddy's Run	0.2	>0%

### Notes:



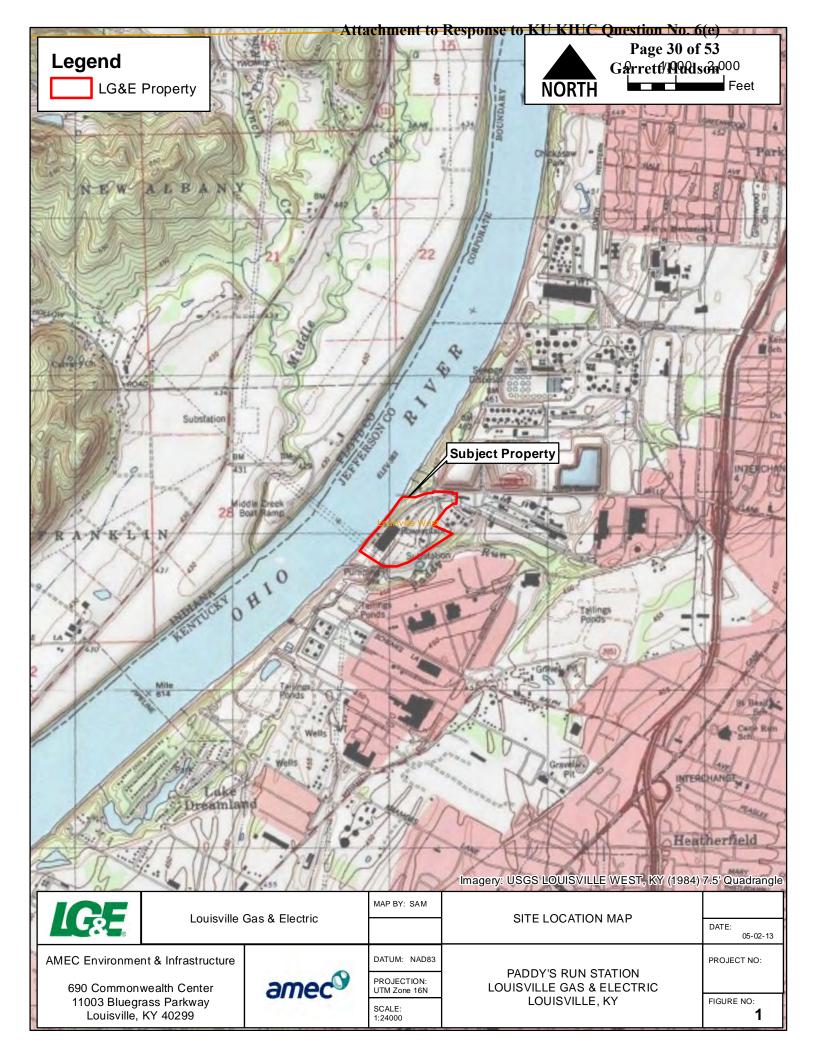


<sup>\*</sup>Any amount of lead requires compliance with OSHA regulations. wt - weight

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APPENDIX 2

**FIGURES** 





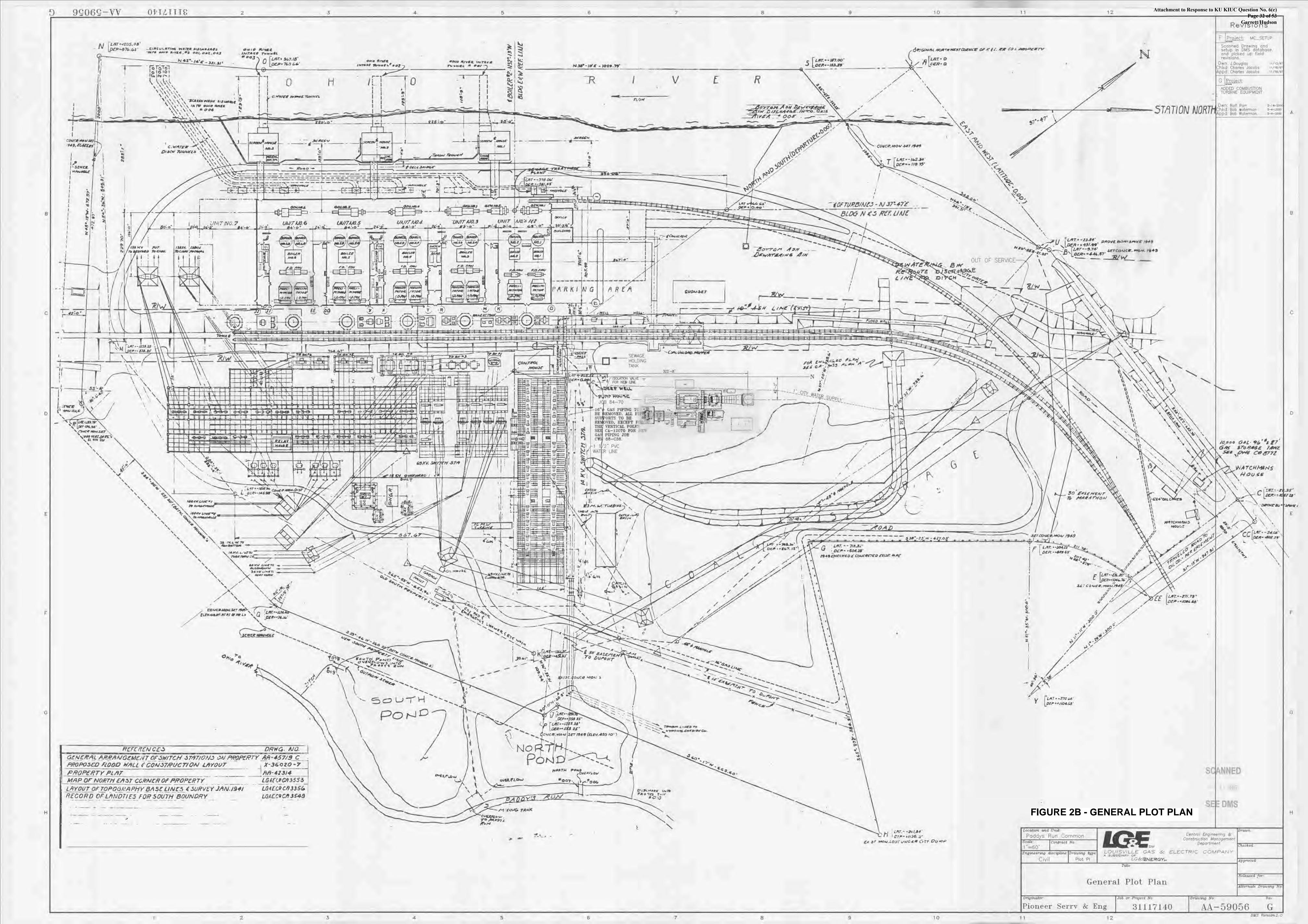


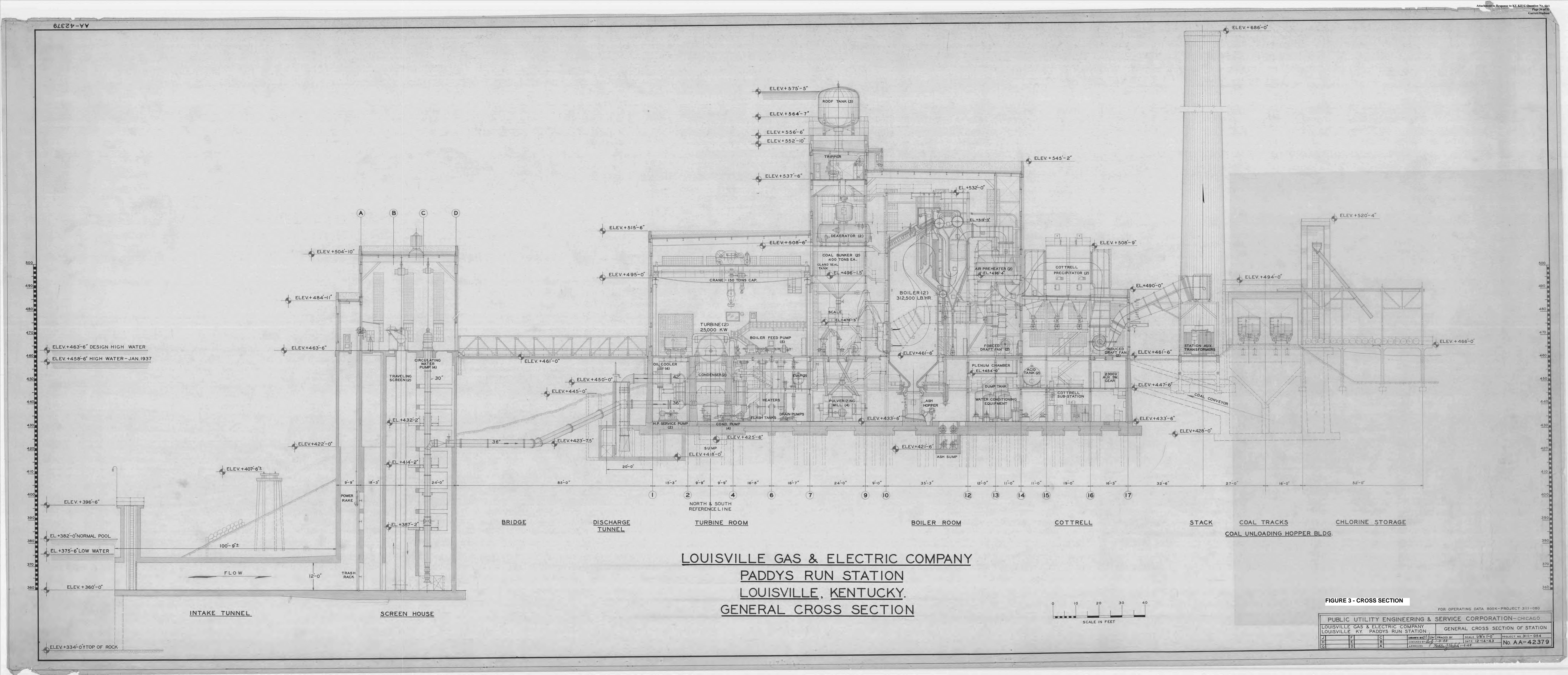
Louisville Gas & Electric 220 West Main Street, Suite 1400 Louisville, KY. 40202

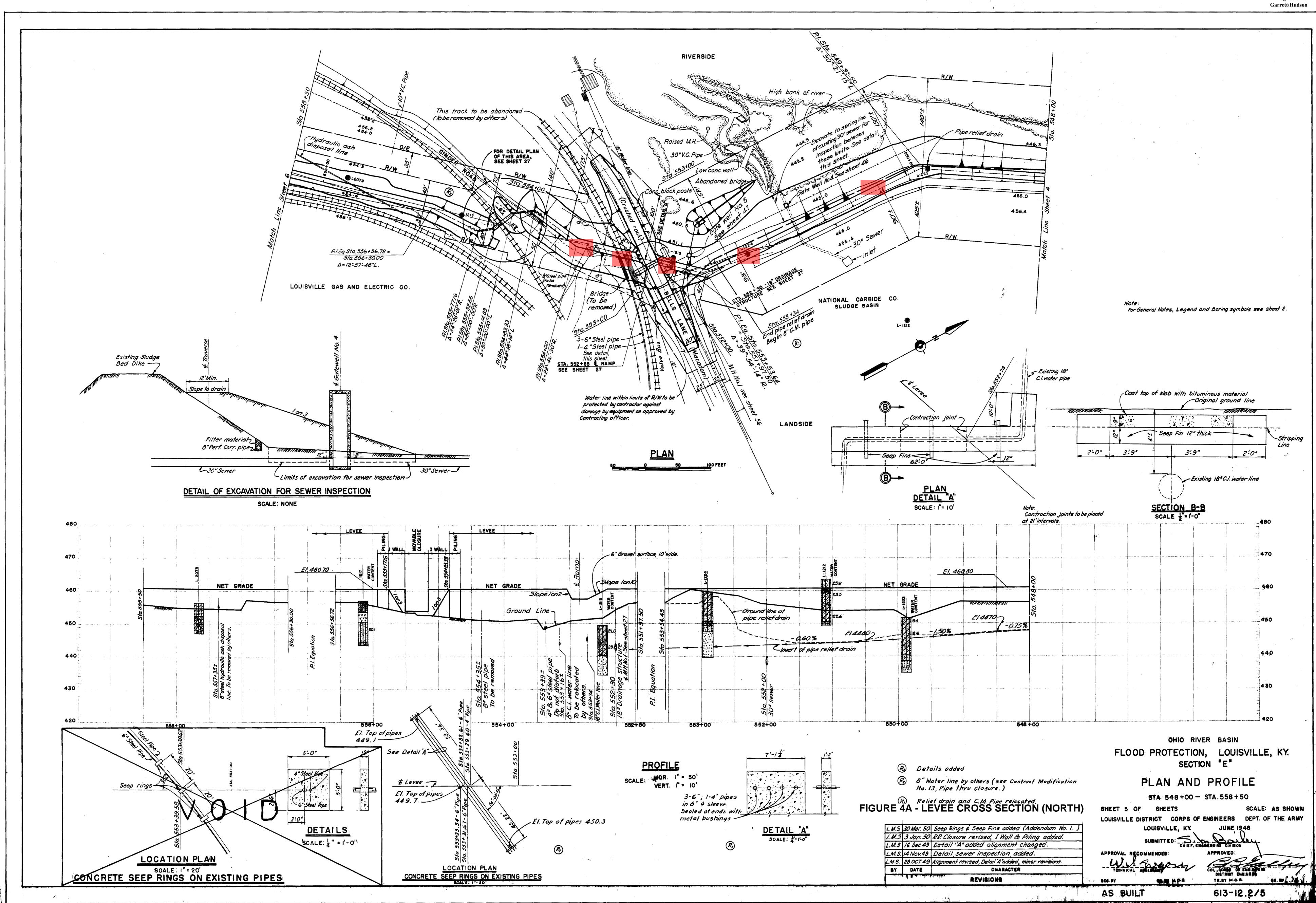
PADDY'S RUN STATION LOUISVILLE GAS & ELECTRIC LOUISVILLE, KY

# Legend ---- Floodgate LG&E Property ---- Floodwall Elevated Berm

**FIGURE** 2A







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**APPENDIX 3** 

**PHOTO LOG** 

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# AMEC Environment & Infrastructure, Inc. Photographic Record

Garrett/Hudson

Client: LG&E Project Number: 7362131577

Site Name: Paddy's Run Station Site Location: 4512 Bells Lane, Louisville, KY

# Photographer:

D. Lane

Date:

3/13/13

**Direction:** 

W

# **Comments:**

**P-1 –** View of north side of plant.

# Photographer:

D. Lane

Date:

3/13/13

**Direction:** 

WSW

# Comments:

**P-2** – View of east side of plant.





Garrett/Hudson

# AMEC Environment & Infrastructure, Inc. Photographic Record

Client: LG&E Project Number: 7362131577

Site Name: Paddy's Run Station Site Location: 4512 Bells Lane, Louisville, KY

# Photographer:

D. Lane

Date:

3/13/13

Direction:

### Comments:

P-3 – View of "high-ground" berm between former powerhouse & active substation.



# Photographer:

D. Lane

Date:

3/13/13

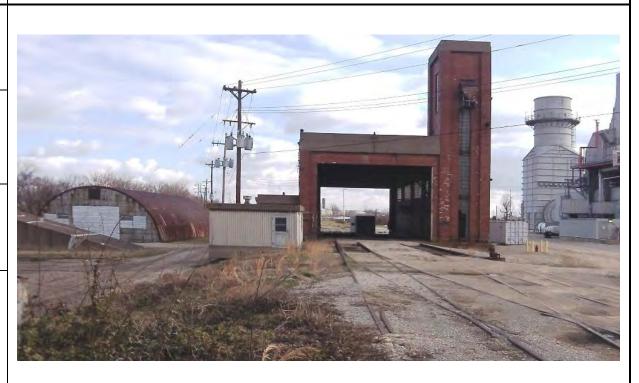
**Direction:** 

ΝE

**Comments:** 

P-4 -

Shakerhouse.



# AMEC Environment & Infrastructure, Inc. Photographic Record

Client: LG&E Project Number: 7362131577

Site Name: Paddy's Run Station Site Location: 4512 Bells Lane, Louisville, KY

Photographer:

M. Eldridge

Date:

4/8/13

**Direction:** 

S

**Comments:** 

**P-5** – View of turbine

deck.

# **Photographer:**

D. Zopff

Date:

1/11/13

**Direction:** 

NA

**Comments:** 

**P-6 –** View of deteriorated pipe insulation.





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# AMEC Environment & Infrastructure, Inc. Photographic Record

Garrett/Hudson

Client: LG&E Project Number: 7362131577

Site Name: Paddy's Run Station Site Location: 4512 Bells Lane, Louisville, KY

# Photographer:

D. Zopff

Date:

1/11/13

**Direction:** 

NA

### **Comments:**

**P-7** – Powerhouse main floor, water accumulation from roof leaks.

# Photographer:

D. Zopff

Date:

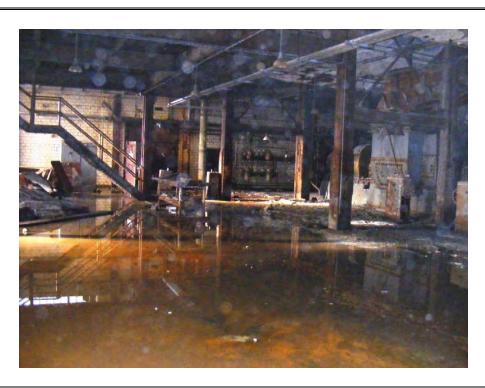
1/11/13

**Direction:** 

NA

### Comments:

**P-8** – Boiler lagging and insulation deterioration.





Garrett/Hudson

# AMEC Environment & Infrastructure, Inc. Photographic Record

Client: LG&E Project Number: 7362131577

Site Name: Paddy's Run Station Site Location: 4512 Bells Lane, Louisville, KY

Photographer:

M. Eldridge

Date:

4/8/13

**Direction:** 

NA

**Comments:** 

**P-9** – Pump motors in screen house.

# Photographer:

M. Matilainen

Date:

3/13/13

**Direction:** 

NA

# Comments:

**P-10 –** Deteriorated pipe insulation in Powerhouse.





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# AMEC Environment & Infrastructure, Inc. Photographic Record

Garrett/Hudson

Client: LG&E Project Number: 7362131577

Site Name: Paddy's Run Station Site Location: 4512 Bells Lane, Louisville, KY

# Photographer:

M. Matilainen

Date:

3/13/13

**Direction:** 

NA

### Comments:

**P-11 –** Floor debris, boiler room.

# Photographer:

M. Matilainen

Date:

3/13/13

**Direction:** 

NA

## Comments:

**P-12** – Deteriorated paint on steel structures inside powerhouse.





# AMEC Environment & Infrastructure, Inc. Photographic Record

Client: LG&E Project Number: 7362131577

Site Name: Paddy's Run Site Location: 4512 Bells Lane, Louisville, KY

# Photographer:

M. Matilainen

Date:

3/13/13

**Direction:** 

S

### **Comments:**

P-13 - Turbine deck.



# **Photographer:**

D. Lane

Date:

3/13/13

**Direction:** 

NA

# **Comments:**

P-14 – Tank vault outside west side powerhouse structure.



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# **APPENDIX 4**

**OPTION 3: ORDER-OF-MAGNITUDE COST ESTIMATE DETAILS** 

# Cost Estimate Summary (Order-of-Magnitude) Option 3: Demolition with Clean Fill

OPTION No.	DESCRIPTION	Planning (\$ Million)	Demolition (\$ Million)	Asbestos & Haz. Building Material Abatement (\$ Million)	Steel Salvage Value (\$ Million)	Flood Protection System Alteration (\$ Million)	Estimated Order-Of- Magnitude Total Cost (\$ Million)
3	Demolition & Clean Fill	0.4	6.0	5.4	(0.4)	0.5	11.9

# **Assumptions:**

- 1. No costs of demolition of underwater structures, sheet pile, or dewatering are included.
- 2. No budget has been allocated to abandonment of intake and outlet structures.
- 3. Roofing will be removed as part of demolition operation. Due to limited available sample results, roofing material is assumed to contain asbestos containing and requires special handling. Additional sampling is recommended to confirm previous results, which indicated roof may not contain asbestos.
- 4. Current estimated steel salvage value is included: non-ferrous and copper salvage not included.
- 5. Imported backfill material may consist of clean sand, soil, crushed limestone, or engineered fill, but must ultimately comply with FPS alteration design.
- 6. Concrete/Masonry to be removed and disposed off-site.
- 7. Estimated field duration is 9 to 12 months for abatement & demolition (does not include FPS alteration implementation).
- 8. Includes Project Management, Health and Safety Monitoring and on-site general project superintendent

# HBM Abatement Cost Estimate (Order of Magnitude) Option 3: Demolition with Clean Fill

			APPROXIMATE			
DESCRIPTION	RESULTS	COMMENTS	QUANTITY	UNITS	UNIT RATE	BASE PRICE
Ground Contamination	Law Confirmed Positive	From stacks, ducts and pipes	5,000	SF	\$25.00	\$125,000.00
Floor Tile	Law Confirmed Positive	Office Area	3,200	SF	\$5.00	\$16,000.00
Pipe Insulation	Law Confirmed Positive	1500 LF Outside	26,000	LF	\$25.00	\$650,000.00
Above Grade Thermal Insulation	Law Confirmed Positive	Includes all thermal except piping	13,000	SF	\$25.00	\$325,000.00
Below Grade Thermal Insulation	Law Confirmed Positive	Includes all thermal except piping	13,000	SF	\$25.00	\$325,000.00
Window Caulk and Sealants	AMEC Confirmed Positive	On windows and construction joints	500	EA	\$150.00	\$75,000.00
Transite	Assumed Positive	On siding and electrical panels 11000 SF Outside	12,000	SF	\$10.00	\$120,000.00
Gaskets	AMEC Confirmed Positive	Throughout	10,000	LF	\$25.00	\$250,000.00
Foundation waterproofing	AMEC Confirmed Negative	Below grade	0	EA	\$25.00	\$0.00
Wire and Cable Insulation	Assumed Positive	Throughout	1,000	LF	\$10.00	\$10,000.00
Refractory Brick	Assumed Positive	Inside boilers	10,000	SF	\$25.00	\$250,000.00
Containerized Materials	Assumed Positive	Includes tanks, lights, drums, switches	500	EA	\$500.00	\$250,000.00
Lead Paint	AMEC Confirmed Positive	Worker protection requirements	1,000	SF	\$50.00	\$50,000.00
Ash	Assumed Positive	Located throughout process equipment	500	CY	\$250.00	\$125,000.00
C&D Waste	Assumed Positive	Throughout and includes lead paint chip disposal	500	CY	\$250.00	\$125,000.00
Wood block floor	Assumed Positive	Maintenance Area	4,000	SF	\$50.00	\$200,000.00
Boiler Roofing	Law Confirmed Negative	Need More Samples, but conservatively assumed positive	120,000	SF	\$10.00	\$1,200,000.00
Intake Screen House Roofing	Law Confirmed Negative	Need More Samples	0	SF	\$10.00	\$0.00
Stacks	Law Confirmed Positive	Stacks Removed	0	SF	\$25.00	\$0.00
Conveyor Belt	Law Confirmed Negative	Need more samples	0	SF	\$25.00	\$0.00
Ceiling Tiles	AMEC Confirmed Negative	Throughout offices	0	SF	\$10.00	\$0.00
Plaster	AMEC Confirmed Negative	Throughout offices	0	SF	\$25.00	\$0.00
Waste Characterization	NA	Hazardous waste characterization	100	EA	\$250.00	\$25,000.00
Engineering	NA	Testing, Specifications, Monitoring and Oversight	240	EA	\$1,500.00	\$360,000.00

 SUB TOTAL
 \$4,481,000.00

 CONTINGENCY
 20%
 \$896,200.00

 TOTAL
 \$5,377,200.00

## Demolition Cost Estimate (Order of Magnitude) Option 3: Demolition with Clean Fill

Task/Activity/Item	Quantity	Units	Rate	Extension	Notes
Mobilization	1	lump sum	\$75,000	\$75,000	Includes mob , fencing, site overheads, etc.
Clean Demolition	152,812	square feet	\$3	\$397,311	Stacks have been removed. easy access
Process Conc./Masonry	32,000	cubic yards	\$30	\$960,000	Process for T&D
Load T&D	32,000	cubic yards	\$45	\$1,440,000	Assumes non impacted
Process Steel	2,375	tons	\$65	\$154,375	Shear to acceptable size to smelter
Steel Credit	2,375	tons	-\$200	-\$475,000	P&S, boilers
Misc. Disposal	2,700	cubic yards	\$37	\$99,900	Windows, trash, partitions
Basement Work	1	lump sum	\$600,000	\$600,000	Remove to top of piling, remove aqueducts as accessible
Backfill	45,000	cubic yards	\$12	\$540,000	import sand and cap with engineered fill
Oversight, procurement, HSE	9	months	\$45,000	\$405,000	Assumes 1/3 PM full CM and HSE representation
GC Markup	1	lump sum	10%	\$282,659	Assumes AMEC procures and manages
Engineering Support+plans specs	1	lump sum	5%	\$141,329	
Contingency	1	lump sum	25%	\$878,561	

With Credit \$ 5,499,13

5,499,135 Does not include copper and assumes \$200/Ton

Without Credit \$ 5,974,135

## Implementation Phase Planning Cost Estimate (Order of Magnitude) Option 3: Demolition with Clean Fill

- Comprehensive ACM surveys & quantification of ACM to develop abatement specifications and more accurate costs: \$25,000 each site
- Development of abatement and demolition specifications, detailed salvage material takeoffs, and complete bid packages: \$50,000 each site
- Conducting inventories of hazardous materials/wastes, universal wastes, equipment, examine ducts/pipes/tanks/pits to identify residuals: \$10,000 each site
- Sampling & analysis of fire brick to determine management during abatement/demolition: \$5,000 each site
- Building material characterization, e.g., for PCBs in concrete, paint, caulk: \$50,000 each site
- Subsurface environmental due diligence to support property sale: \$125,000 each site
- Resolution of historic preservation & viewshed issues: \$10,000 each site
- Obtaining required permits; \$50,000 each site
- NEPA Documentation: \$50,000 each site
- Verify status and complete UST Closures / Removals: \$25,000

Total \$ 400,000

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#### **APPENDIX 5**

**OPTION 3: STAKEHOLDERS AND PERMITS** 

#### **Potential Stakeholders**

Potential Stakeholder	Interest	Potential Issues			
MSD / USACE	Flood Protection System Integrity	Current Design Criteria; 408 Permit; NEPA review			
MSD / USACE	Work in Floodplain	Permitting			
KDOW / MSD	Work in or along river	Permitting			
KDOW / MSD	Storm water quality	Permitting, BMPs			
KDWM	Waste characterization & disposition	Modify EPA ID No. Registration, waste manifesting, transportation			
Louisville Metro APCD	Asbestos abatement methods and NESHAPs compliance	Permitting, monitoring			
Louisville Metro Departments (Dept. Inspections, Permits, and Licensing)	Demolition, Street Closures, etc.	Permitting (Wrecking Permits, etc.)			
Public Service Commission (PSC)	Financial Planning	Financial Planning			
USACE / MSD / PSC	Publicly Funded Project	NEPA Documentation			
KOSHA	Safety	Variances, Inspections			
Neighboring Businesses	Air Quality, Traffic, Economic	Security, safety, air monitoring, communications			
SHPO	Historic Preservation	Resistance to demolition or significant site alteration			
State of Indiana (Counties, Cities)	Viewshed, Air Quality	Viewshed consultation			

### **Anticipated Regulatory Permits and Approvals**

Type of Permit	Regulatory Agency	Existing Permits/ Registrations?	New Permit Required?	Potential Option(s) Affected	Agency Timeframe to Issue Permit
Flood Protection System Permit (408)	MSD / USACE	No	Yes	2, 3, 4	Minor: 90-120 days Major: 12-18 mo
Asbestos Removal Air Permits	APCD	Asbestos Blanket Permit 350031 expiring 12/31/2013: non-friable     Asbestos Blanket Permit 350059 expiring 12/31/2013: friable     Title V air permit for GTUs (#2111100125); should not be affected.	Yes	all	<30 days
Site Disturbance - Erosion/Sediment Control Plan	MSD and KDOW – Surface Water Permits Branch	MSD general permit for soil disturbance activities	No	2, 3, 4	<30 days
401 Water Quality Certification / Permit to Construct Across or Along a Stream	KDOW – Floodplain Management Section	No	Yes	2, 3, 4	<90 days
KPDES Storm Water Discharge Permit with BMP Plan	KDOW – Storm water Permits Branch / MSD	EPA ID KY0002071 Expires June 30, 2013	Modify BMP Plan after demo.	2, 3, 4	<90 days
Construction in Floodplain	USACE / MSD	No	Yes	2, 3, 4	60 days+
Wrecking Permit	Louisville Metro Dept. of Codes & Regulations, MSD	No	Yes	2, 3, 4	<60 days 30 day wait period
Hazardous Waste Registration	KDWM – Hazardous Waste Branch	RCRA registration as CESQG / transporter (EPA ID # KYD 000827477)	May need to modify for quantity	all	<30 days
DOT Registration	USDOT	TBD	Yes	all	<30 days
Hazardous Material Spill Prevention & Control Plan/Permit (HMPC)	MSD	HMPC Plan	TBD	all	<30 days
HAZMAT Permit	Louisville Metro Fire Department	TBD	TBD	all	<30 days
NEPA Documentation	USACE / MSD	No	TBD	2, 3, 4	3-12 mos.+

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 7** 

Responding Witness: Russel A. Hudson

- Q.1-7. Please provide in an Excel spreadsheet the operating expenses by FERC O&M and A&G and other expense accounts by month from January 2013 through December 2017 for each generating unit that the Company has retired or plans to retire during that five-year period. Provide a copy of all assumptions, data, and calculations, including electronic spreadsheets with all formulas intact
- A.1-7. See attachment being provided in Excel format. The Tyrone steam plant was retired on February 28, 2013. Continuing costs charged and forecasted attributable to Tyrone are related to ongoing costs to oversee maintenance of the structures at the site. The assumption included in base and test year periods is that the Green River Coal Steam plant will retire on April 16, 2016. O&M costs remaining in the plans past the retirement date are related to five employees remaining at the plant to provide supervisory oversight over maintenance of remaining structures and to monitor environmental needs.

## Attachment in Excel

The attachment(s) provided in separate file(s) in Excel format.

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 8** 

Responding Witness: Russel A. Hudson

- Q.1-8. Please provide in an Excel spreadsheet the FTE staffing levels and related payroll (direct and burdens) by month from January 2013 through December 2017 at each generating unit/plant that the Company has retired or plans to retire during that five-year period.
- A.1-8. See the response to Question No. 7. See tab labeled "Q.8 KU labor."

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 9** 

Responding Witness: Russel A. Hudson

- Q.1-9. Please provide a breakdown of the total headcount by department and in total for the Company as of: i) December 31 for each of the years 2009-2013; ii) April 1, 2012; iii) the most current date available; iv) the end of the forecasted base year ended February 28, 2015; and v) the end of forecasted test year.
- A.1-9. The Companies' workforce includes LG&E and KU Services Company ("LKS"), LG&E and KU employees. For actuals, LKS employees' labor costs are allocated to LG&E or KU consistent with the Cost Allocation Manual ("CAM"). For purposes of this response, we have included headcount for each Company. See attached.

## Breakdown of total headcount, by department as of i) 12/31/2009, 12/31/2010, 12/31/2011, 12/31/2012, 12/31/2013

#### **KU** Headcount

Business Area	12/31/2008	12/31/2009	12/31/2010	12/31/2011	12/31/2012	12/31/2013
CEO	-	-	-	-	-	-
CAO (exclusive of IT)	8	8	8	8	8	8
IT	23	10	10	10	11	11
CFO	-	2	3	2	3	3
COO department only	-	-	-	-	-	=
Generation / Project Engineering	406	402	406	399	387	406
Energy Supply & Analysis	-	-	ı	-	-	-
Transmission	-	-	-	-	-	-
Electric Distribution	372	365	368	371	372	365
Gas Distribution	-	-	-	-	-	ı
Customer Service	168	175	176	149	150	151
Safety / Technical Training	-	-	-	-	-	-
TOTAL	977	962	971	939	931	944

#### LGE Headcount

Business Area	12/31/2008	12/31/2009	12/31/2010	12/31/2011	12/31/2012	12/31/2013
CEO	-	-	-	-	-	-
CAO (exclusive of IT)	-	-	-	-	-	-
IT	10	9	10	10	10	10
CFO	-	3	3	3	3	3
COO department only	-	-	-	-	-	-
Generation / Project Engineering	460	461	476	476	485	495
Energy Supply & Analysis	-	-	-	-	-	-
Transmission	-	-	-	-	-	-
Electric Distribution	199	202	205	202	214	203
Gas Distribution	210	211	215	217	218	224
Customer Service	100	104	104	57	59	62
Safety / Technical Training	1	1	1	1	1	1
TOTAL	980	991	1,014	966	990	998

#### LKS Headcount

Business Area	12/31/2008	12/31/2009	12/31/2010	12/31/2011	12/31/2012	12/31/2013
CEO	2	2	3	3	3	3
CAO (exclusive of IT)	167	167	166	176	180	187
IT	217	220	222	230	249	265
CFO	131	136	135	132	133	131
COO department only	=	-	-	-	-	2
Generation / Project Engineering	90	88	94	93	112	118
Energy Supply & Analysis	75	76	67	68	65	60
Transmission	102	109	117	134	137	140
Electric Distribution	64	61	63	72	61	86
Gas Distribution	1	1	1	1	1	4
Customer Service	241	241	235	358	396	419
Safety / Technical Training	18	17	17	18	18	19
TOTAL	1,108	1,118	1,120	1,285	1,355	1,434

Breakdown of total headcount, by department as of ii) April 1, 2012; iii) 12/31/2014; iv) base year ended 2/28/15; and v) forecast test year ending 6/30/16

#### **KU** Headcount

Business Area	3/31/2012	12/31/2014	2/28/2015	6/30/2016
CEO	-	-	-	-
CAO (exclusive of IT)	8	8	9	9
IT	11	11	11	11
CFO	3	3	3	3
COO department only	-	-	-	-
Generation / Project Engineering	397	408	424	397
Energy Supply & Analysis	-	-	-	-
Transmission	-	-	-	-
Electric Distribution	369	367	373	375
Gas Distribution	-	-	-	-
Customer Service	150	152	152	167
Safety / Technical Training	-	_	-	-
TOTAL	938	949	972	962

#### LGE Headcount

Business Area	3/31/2012	12/31/2014	2/28/2015	6/30/2016
CEO	-	-	-	-
CAO (exclusive of IT)	-	-	-	-
IT	10	10	10	10
CFO	3	3	3	3
COO department only	-	-	-	-
Generation / Project Engineering	476	498	512	489
Energy Supply & Analysis	-	-	-	-
Transmission	=	-	-	-
Electric Distribution	210	215	229	235
Gas Distribution	216	239	244	255
Customer Service	57	63	66	66
Safety / Technical Training	1	1	1	1
TOTAL	973	1,029	1,065	1,059

#### LKS Headcount

Business Area	3/31/2012	12/31/2014	2/28/2015	6/30/2016
CEO	3	2	2	2
CAO (exclusive of IT)	178	190	193	194
IT	237	272	290	290
CFO	136	136	136	136
COO department only	-	2	2	2
Generation / Project Engineering	94	135	127	135
Energy Supply & Analysis	67	63	64	63
Transmission	135	147	149	154
Electric Distribution	72	93	94	94
Gas Distribution	1	4	4	4
Customer Service	386	434	451	453
Safety / Technical Training	18	26	25	26
TOTAL	1,327	1,504	1,537	1,553

#### CASE NO. 2014-00371

#### Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

#### **Question No. 10**

#### Responding Witness: Russel A. Hudson

Q.1-10. Please refer to Mr. Thompson's and Mr. Blake's Direct Testimonies for Kentucky Utilities ("KU"), discussing workforce additions for KU/LG&E (the "Companies"). Refer further to their discussion of the workforce and the reasons for increases in the number of employees for each of the Companies' functional departments since the end of their last test year, April 1, 2012, as follows:

	Increase in Number	<u>% Increase</u>
Mr. Thompson:		
Pages 23-24 – Generation	50	5%
Page 31 – Transmission	19	14%
Page 53 – Distribution	53	8%
Page 62 – Customer Service	93	16%
Page 67 – Safety & Technical Training	8	Not Provided
Mr. Blake:		
Pages 9-10 – Information Technology	53	Not Provided
Page 10 – Administrative	17	Not Provided
Total	293	

- a. Please confirm that the Companies' total net forecasted gain in positions is 293, excluding LG&E's gas operations, for the end of the projected test period compared to the number of employees as of April 1, 2012. If the total and the breakdown of projected net addition employees are different than those listed above, please describe the differences.
- b. Please provide a breakdown of the Company's net forecasted gains by department listed above.

- c. Please provide the number of positions that have already been added since April 1, 2012 for each of the departments listed above separately for the Company.
- d. Please provide the estimated annual reduction in contractor expense that has occurred since April 1, 2012 for each of the departments listed above for the Company.
- e. Please provide the estimated annual reduction in contractor expense for the Company that will occur between now and the end of the projected test year for each of the departments listed above.
- f. Please provide the estimated increase in wages expense and related benefits expense for the Company that has occurred since April 1, 2012 related to the employees already added for each of the departments listed above separately.
- g. Please provide the estimated increase in wages expense and related benefits expense for the Company that will occur between now and the end of the projected test year related to the employees projected to be added for each of the departments listed above separately.
- h. For each of the net employee position additions enumerated in the list above, please provide a listing and description of each position. For the generation department, please also provide a description of the positions that were reduced or are expected to be reduced due to generating unit retirements.
- i. For each of the departments listed above, please provide the number of net employee additions for the Company that has already occurred related to compliance with the NERC's current or proposed Critical Infrastructure Protection ("CIP") standards.
- j. For each of the departments listed above, please provide the number of net employee additions for the Company that is estimated to occur between now and the end of the projected test year related to compliance with the NERC's current or proposed CIP standards.

A.1-10. a-j. See attached.

[								LG	&E				
								Sa	fety & Technical	Information			
	(	Generation	Transmission	[	Distribution	Cι	ıstomer Service		Training	Technology	Administrative		Total
a.		Yes	Yes		Yes		Yes		Yes	Yes	Yes		
b.		(14)	6		41		30		3	25	8		99
c.		23	4		19		24		3	17	6		96
d.	\$	-	\$ 88,503	\$	1,379,941	\$	246,063	\$	-	\$ -	\$ -	\$	1,714,507
e.	\$	-	\$ 158,896	\$	1,476,493	\$	14,750	\$	-	\$ -	\$ -	\$	1,650,139
f.	\$	3,411,104	\$ 457,805	\$	1,551,163	\$	1,762,370	\$	420,989	\$ 2,314,392	\$ 646,799	\$	10,564,622
g.	\$	(5,664,780)	\$ 240,039	\$	1,867,740	\$	450,122	\$	89,103	\$ 899,514	\$ 321,381	\$	(1,796,881)
h.							See pages 2 thro	ugh	6				
i.		-	1		-		2		-	4	-		7
j.		-	-		-		-		-	-	-		-
								K					
								Sa	fety & Technical	Information			
	(	Generation	Transmission	١	Distribution	Cι	ıstomer Service		Training	Technology	Administrative		Total
a.		Yes	Yes		Yes		Yes		Yes	Yes	Yes		
b.		64	13		12		63		5	28	9		194
c.		47	8		5		32		5	18	6		121
d.	\$	-	\$ 197,079	\$	440,947	\$	188,137	\$	-	\$ -	\$ -	\$	826,163
e.	\$	-	\$ 353,842	\$	310,687	\$	576,535	\$	-	\$ -	\$ -	\$	1,241,064
f.	\$	4,254,608	\$ 1,019,464	\$	352,626	\$	2,044,008	\$	571,560	\$ 2,503,270	\$ 731,252	\$	11,476,788
g.	\$	3,538,548	\$ 534,526	\$	715,234	\$	2,380,574	\$	120,971	\$ 972,929	\$ 363,341	\$	8,626,123
h.							See pages 2 thro	ugh	6				-
i.		2	3		-		2		_	5	1		13
j.		-	-		-		-		-	1	-		1
ſ							Coml	oine	d Utilities				
ŀ									fety & Technical	Information			
	(	Generation	Transmission		Distribution	Cι	ıstomer Service		, Training	Technology	Administrative		Total
a.		Yes	Yes		Yes		Yes		Yes	Yes	Yes		
b.		50	19		53		93		8	53	17		293
c.		70	12		24		56		8	35	12		217
d.	\$	-		\$		\$	434,200	\$	-	\$ -	\$ -	\$	2,540,670
e.	\$	-	\$ 512,738	\$	1,787,180	\$	591,285	\$	-	\$ -	\$ -	\$	2,891,203
f.	\$	7,665,712	\$ 1,477,269	\$		\$	3,806,378	\$	992,549	\$ 4,817,662	\$ 1,378,051	\$	22,041,410
g.	\$	(2,126,232)		\$	2,582,974	\$	2,830,696	\$	210,074	\$ 1,872,443	\$ 684,722	-	6,829,242
h.		· ·			-		See pages 2 thro			-			

Note: \$ amounts are annual totals

i.

		# of	
Dept	Title	positions	Business Need
Generation	Chemical Engineer	3	Capital Projects
Generation	Civil Engineer	1	Capital Projects
Generation	Electrical Engineer	3	Capital Projects
Generation	Mechanical Engineer	1	Capital Projects
Generation	Mgr Major Capital Projects	1	Capital Projects
Generation	Project Coordinator	9	Capital Projects
Generation	Boiler Welding QA/QC Specialist	1	Core Skill Building/Knowledge Retention and Transfer
Generation	Buyer		Core Skill Building/Knowledge Retention and Transfer
Generation	CCS Administrative Coordinator	1	Core Skill Building/Knowledge Retention and Transfer
Generation	Civil Engineer		Core Skill Building/Knowledge Retention and Transfer
Generation	Commercial Ops Analyst	1	Core Skill Building/Knowledge Retention and Transfer
Generation	Compliance Engineer	1	Core Skill Building/Knowledge Retention and Transfer
Generation	Consumer Behavioral Analyst		Core Skill Building/Knowledge Retention and Transfer
Generation	Contract Administrator	3	Core Skill Building/Knowledge Retention and Transfer
Generation	Dept/Div Secretary		Core Skill Building/Knowledge Retention and Transfer
Generation	Dir. Fleet Maint Perfm & Reliab	1	Core Skill Building/Knowledge Retention and Transfer
Generation	Drafter	1	Core Skill Building/Knowledge Retention and Transfer
Generation	E&I Technician	5	Core Skill Building/Knowledge Retention and Transfer
Generation	Electrical Engineer	3	Core Skill Building/Knowledge Retention and Transfer
Generation	Engineer		Core Skill Building/Knowledge Retention and Transfer
Generation	Group Leader - Engineering	1	Core Skill Building/Knowledge Retention and Transfer
Generation	I&E Maintenance Planner		Core Skill Building/Knowledge Retention and Transfer
Generation	I&E Technician (SAM)		Core Skill Building/Knowledge Retention and Transfer
Generation	Lab Assistant	1	Core Skill Building/Knowledge Retention and Transfer
Generation	Lab Tech	1	Core Skill Building/Knowledge Retention and Transfer
Generation	Maintenance Tech	10	Core Skill Building/Knowledge Retention and Transfer
Generation	Material Handling Leader	1	Core Skill Building/Knowledge Retention and Transfer
Generation	Mechanic	1	Core Skill Building/Knowledge Retention and Transfer
Generation	Mechanical Engineer	10	Core Skill Building/Knowledge Retention and Transfer
Generation	OF Turbine Mechanic	2	Core Skill Building/Knowledge Retention and Transfer
Generation	Operator/Production Leader	9	Core Skill Building/Knowledge Retention and Transfer
Generation	Production Leader	1	Core Skill Building/Knowledge Retention and Transfer
Generation	R&D Scientist	5	Core Skill Building/Knowledge Retention and Transfer
Generation	Service Shop Coordinator	1	Core Skill Building/Knowledge Retention and Transfer
Generation	Sourcing Assistant	1	Core Skill Building/Knowledge Retention and Transfer
Generation	Sr. Labor Distribution Clerk/Timekeeper	2	Core Skill Building/Knowledge Retention and Transfer
Generation	Supervisor - Maintenance		Core Skill Building/Knowledge Retention and Transfer
Generation	Supply Mkt and Inv Analyst		Core Skill Building/Knowledge Retention and Transfer
Generation	Technician/Mntc Leader		Core Skill Building/Knowledge Retention and Transfer
Generation	Trainer		Core Skill Building/Knowledge Retention and Transfer
Generation	Turbine Specialist		Core Skill Building/Knowledge Retention and Transfer

		# of	
Dept	Title	positions	Business Need
Generation	Warehouse Supervisor	1	Core Skill Building/Knowledge Retention and Transfer
Generation	Dir ES Business Information		Corporate Reorganization
Generation	ES SR. Business Info Analyst	-1	Corporate Reorganization
Generation	Mgr Eng Serv Business Info		Corporate Reorganization
Generation	Mgr. Ops Analysis		Corporate Reorganization
Generation	Chief Operating Officer	-2	Corporate Reorganization
Generation	Green River transfer to metering		Plant retirement
Generation	Manager- Tyrone	-1	Plant retirement
Generation	Green River retirement	-15	Plant retirement
Generation	Cane Run Retirement	-25	Plant retirement
Generation	CCR Supervisor	1	Regulatory Compliance
Generation	CIP Clerk		Regulatory Compliance
Generation	CIP Control Specialist		Regulatory Compliance
Generation	Control Specialist		Regulatory Compliance
Transmission	Cascade Analyst		Core Skill Building/Knowledge Retention and Transfer
Transmission	Drafting Technician		Core Skill Building/Knowledge Retention and Transfer
Transmission	Electrical Engineer		Core Skill Building/Knowledge Retention and Transfer
Transmission	Group Leader Substation Asset Mgmt		Core Skill Building/Knowledge Retention and Transfer
Transmission	Lines Inspector		Core Skill Building/Knowledge Retention and Transfer
Transmission	Mgr Transmission Substation, Eng., Constr., Maint		Core Skill Building/Knowledge Retention and Transfer
Transmission	Planning Engineer		Core Skill Building/Knowledge Retention and Transfer
Transmission	Planning Engineer		Regulatory Compliance
Transmission	Project Coordinator		Capital Projects
Transmission	Protection/Relay Technician		Core Skill Building/Knowledge Retention and Transfer
Transmission	Protection/Relay Technician		Capital Projects
Transmission	Protection Engineer		Regulatory Compliance
Transmission	Substation Inspector		Core Skill Building/Knowledge Retention and Transfer
Transmission	System Control Engineer		Regulatory Compliance
Transmission	System Control Engineer		Core Skill Building/Knowledge Retention and Transfer
Transmission	System Administrator		Corporate Reorganization
Transmission	Safety Coordinator	-1	Corporate Reorganization
Transmission	Contract Coordinator		Position not backfilled
Transmission	Cascade Administrator		Core Skill Building/Knowledge Retention and Transfer
Distribution	Computer Graphics Technician		Core Skill Building/Knowledge Retention and Transfer
Distribution	Distribution operations Assistant		Core Skill Building/Knowledge Retention and Transfer
Distribution	Electrical Apprentice		Core Skill Building/Knowledge Retention and Transfer
Distribution	Electrical Engineer		Core Skill Building/Knowledge Retention and Transfer
Distribution	Electrical Engineer (Danville)		Core Skill Building/Knowledge Retention and Transfer
Distribution	Electrical Engineer (Maysville)		Core Skill Building/Knowledge Retention and Transfer
Distribution	Electrical Engineer (SC&M)		Core Skill Building/Knowledge Retention and Transfer
Distribution	Electrical Engineer (System Planning)		Core Skill Building/Knowledge Retention and Transfer

		# of	
Dept	Title	positions	Business Need
Distribution .	Engineer (Reliability)	1	Core Skill Building/Knowledge Retention and Transfer
Distribution	Engineer Design Tech		Core Skill Building/Knowledge Retention and Transfer
Distribution	Engineer Design Tech (Danville)		Core Skill Building/Knowledge Retention and Transfer
Distribution	Facility Records Technician		Core Skill Building/Knowledge Retention and Transfer
Distribution	Field Coordinator		Core Skill Building/Knowledge Retention and Transfer
Distribution	Line Technician (Greenville)		Core Skill Building/Knowledge Retention and Transfer
Distribution	Line Technician (Louisville)		Core Skill Building/Knowledge Retention and Transfer
Distribution	Line Technician (Pineville)	1	Core Skill Building/Knowledge Retention and Transfer
Distribution	Line Technician (Richmond)		Core Skill Building/Knowledge Retention and Transfer
Distribution	Mechanic Helper		Core Skill Building/Knowledge Retention and Transfer
Distribution	Network Technician		Core Skill Building/Knowledge Retention and Transfer
Distribution	Project Coordinator		Core Skill Building/Knowledge Retention and Transfer
Distribution	Records Coordinator		Core Skill Building/Knowledge Retention and Transfer
Distribution	Restoration Coordinator		Core Skill Building/Knowledge Retention and Transfer
Distribution	SC&M Coordinator Analyst		Core Skill Building/Knowledge Retention and Transfer
Distribution	Utility Arborist		Core Skill Building/Knowledge Retention and Transfer
Distribution	Sr. Distribution operations assistant		Core Skill Building/Knowledge Retention and Transfer
Distribution	Substation Tech		Core Skill Building/Knowledge Retention and Transfer
Distribution	Sys Admin		Core Skill Building/Knowledge Retention and Transfer
Distribution	Team Leader (SC&M)		Core Skill Building/Knowledge Retention and Transfer
Customer Services	AMR Tech		Regulatory Compliance
Customer Services	Area Retail Operations Manager		Customer Service
Customer Services	Billing Analysis Associate		Core Skill Building/Knowledge Retention and Transfer
Customer Services	Billing Analysis Associate		Customer Service
Customer Services	Call Center Business Analyst		Customer Service
Customer Services	Call Center Performance Operations rep		Customer Service
Customer Services	Call Center QA Rep		Customer Service
Customer Services	Call Center Representative (Morganfield)		Customer Service
Customer Services	CIP Associate		Regulatory Compliance
Customer Services	CIP Coordinator		Regulatory Compliance
Customer Services	Corp Security Secretary		Core Skill Building/Knowledge Retention and Transfer
Customer Services	Customer Care Coach		Customer Service
Customer Services	Customer Relations Associate		Core Skill Building/Knowledge Retention & Transfer
Customer Services	Customer Representative - Business Office		Customer Service
Customer Services	Customer Representatives		Customer Service
Customer Services	Customer Representatives - Residential Call Center		Customer Service
Customer Services	Dept/Div Secretary		Core Skill Building/Knowledge Retention and Transfer
Customer Services	Electric Meter Tech		Core Skill Building/Knowledge Retention and Transfer
Customer Services	Electrical Engineer		Core Skill Building/Knowledge Retention and Transfer
Customer Services	Energy Efficiency		Customer Service
Customer Services	Gas Meter Mechanic Helper		Core Skill Building/Knowledge Retention and Transfer

		# of	
Dept	Title	positions	Business Need
Customer Services	Gas Meter Shop Supervisor	1	Core Skill Building/Knowledge Retention and Transfer
Customer Services	Manager Facilities Construction and Space Utilization		Core Skill Building/Knowledge Retention and Transfer
Customer Services	Manager ROW	_	Core Skill Building/Knowledge Retention and Transfer
Customer Services	Manager, Facility Services		Core Skill Building/Knowledge Retention and Transfer
Customer Services	Meter Reader		Regulatory Compliance
Customer Services	Meter Reading Process Analyst	1	Core Skill Building/Knowledge Retention and Transfer
Customer Services	Program Manager		Customer Service
Customer Services	ROW Agent	7	Core Skill Building/Knowledge Retention and Transfer
Customer Services	Security Technical Assistant		Regulatory Compliance
Customer Services	Supervisor Corp Facility Services		Core Skill Building/Knowledge Retention and Transfer
Customer Services	Supervisor Facility Operations		Core Skill Building/Knowledge Retention and Transfer
Customer Services	Meter Tech		NA
Safety & Technical training	Safety Specialist	3	Core Skill Building/Knowledge Retention and Transfer
Safety & Technical training	Fire and Security Investigator		Corporate Reorganization
Safety & Technical training	Manager, ED and Transmission Safety	1	Corporate Reorganization
Safety & Technical training	Manager, Gas Distribution Safety		Core Skill Building/Knowledge Retention and Transfer
Safety & Technical training	Safety Coordinator		Corporate Reorganization
Safety & Technical training	Training Consultant		Core Skill Building/Knowledge Retention and Transfer
Safety & Technical training	Safety Metrics Analyst		Core Skill Building/Knowledge Retention and Transfer
Safety & Technical training	Health and Safety Coordinator		Core Skill Building/Knowledge Retention and Transfer
Information Technology	Business Relationship Manager		Corporate Reorganization
Information Technology	Computer Operator Associate		Core Skill Building/Knowledge Retention and Transfer
Information Technology	Data Architect		Regulatory Compliance
Information Technology	Database Administrator		Capital Projects
Information Technology	Enterprise Architect		Core Skill Building/Knowledge Retention and Transfer
Information Technology	Group Leader - Energy Mgmt		Corporate Reorganization
Information Technology	IT Systems Engineer	5	Corporate Reorganization
Information Technology	IT Technical Specialist	1	Corporate Reorganization
Information Technology	Manager, IT Development & Support		Corporate Reorganization
Information Technology	Manager, IT Requirement	1	Corporate Reorganization
Information Technology	Manager, IT Security Compliance	1	Regulatory Compliance
Information Technology	Manager, IT Security Operations	1	Regulatory Compliance
Information Technology	Network Engineer	5	Regulatory Compliance
Information Technology	Network Engineer		Customer Service
Information Technology	Network Systems Engineer	2	Core Skill Building/Knowledge Retention and Transfer
Information Technology	Network Systems Engineer		Capital Projects
Information Technology	Programmer Analyst		Core Skill Building/Knowledge Retention and Transfer
Information Technology	Programmer Analyst		Regulatory Compliance
Information Technology	Programmer Analyst		Capital Projects
Information Technology	Programmer Analyst		Customer Service
Information Technology	Project Manager		Customer Service

		# of	
Dept	Title	positions	Business Need
Information Technology	Service Desk Analyst	1	Customer Service
Information Technology	Tech Support Analyst	2	Core Skill Building/Knowledge Retention and Transfer
Information Technology	Telecom Engineer	1	Core Skill Building/Knowledge Retention and Transfer
Information Technology	Telecom Engineer	1	Capital Projects
Information Technology	Telecom Technician	1	Regulatory Compliance
Information Technology	Telecom Technician	1	Capital Projects
Information Technology	Workstation System Support	3	Customer Service
Administrative	Environmental Scientist	2	Regulatory Compliance
Administrative	Air Emissions Testing Coordinator	1	Regulatory Compliance
Administrative	Air Emissions Test Scientist	1	Regulatory Compliance
Administrative	Manager, Compliance	1	Regulatory Compliance
Administrative	Sr. Oracle Business Support Analyst	2	Corporate Reorganization
Administrative	Web Specialist	1	Customer Service
Administrative	Director, Media Relations	1	Customer Service
Administrative	Community Relations Specialist	1	Customer Service
Administrative	Rates Analyst	2	Core Skill Building/Knowledge Retention and Transfer
Administrative	Manager, Corporate Responsibility	1	Core Skill Building/Knowledge Retention and Transfer
Administrative	Assistant to VP External Affairs	1	Core Skill Building/Knowledge Retention and Transfer
Administrative	Corporate Events Specialist	1	Core Skill Building/Knowledge Retention and Transfer
Administrative	HRIS Analyst	1	Core Skill Building/Knowledge Retention and Transfer
Administrative	Sourcing Leader	1	Core Skill Building/Knowledge Retention and Transfer

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Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

#### **Question No. 11**

Responding Witness: Thomas A. (Tom) Jessee

- Q.1-11. Please refer to Mr. Blake's Direct Testimony at page 11, lines 18-21 which states "[t]he information technology positions are also necessary to enhance existing network security to prevent information security breaches and to enable the Companies to meet newly announced Critical Infrastructure Protection ("CIP") standards."
  - a. Please indicate whether the Company is in compliance with the NERC's current CIP standards.
  - b. Please describe the "announced CIP standards" and why it is expected that even more personnel will be required to meet those standards. Please discuss as part of the answer the timeline required to be in compliance with the "announced CIP standards."
- A.1-11. a. The Company has an extensive program to promote its compliance with the current CIP standards. Through this program, the Company has achieved compliance with the current CIP standards, but from time-to-time the Company has also identified (and reported to its regulator, SERC Reliability Corporation) specific violations which are not material. As specific violations have been identified, the Company has implemented a mitigation plan to both correct the violations and prevent future violations of a similar nature.
  - b. The CIP standards currently in effect are commonly referred to as "Version 3." NERC developed a "Version 4" of those standards, and FERC ultimately opted to not make "Version 4" effective. Instead, a "Version 5" of the CIP standards was developed by NERC and approved by FERC; these are the "announced CIP standards" referenced in the testimony. "Version 5" of the CIP standards becomes effective on April 1, 2016. Additionally, there have been proposed changes to "Version 5" of the CIP standards which are under development. These proposed changes relate to several specific issues that FERC remanded to NERC for reconsideration in

connection with its approval of "Version 5." However, these changes to date have not altered the effective date.

"Version 5" of the CIP standards will create multiple resource impacts. Most importantly, many new assets will be within the scope for compliance, thus requiring the Company to implement and sustain a number of new IT security protections for existing equipment. For instance, a number of transmission substations and generation stations not previously required to meet compliance with the CIP standards and the associated IT security protections will be expected to meet such compliance protections. Personnel will be needed to implement and maintain all of these additional protections. Additionally, "Version 5" of the CIP standards changes the compliance expectations for existing assets. These changes in some cases simplify compliance expectations but in most cases increase those. Overall, these changes are anticipated to increase the required IT security protections and personnel time required to maintain compliance.

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#### Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

#### **Question No. 12**

Responding Witness: Paula H. Pottinger, Ph.D.

- Q.1-12. Please provide the incentive compensation expense for 2013, 2014, the base year, and the test year by incentive compensation plan and by goal or target for each plan. This includes incentive compensation expense assigned and allocated to the Company as well as incentive compensation expense incurred directly by the Company.
- A.1-12. See the response to AG 1-150 for incentive compensation expense.

For the forecasted test year, the utility incentive compensation expense assumes payout of 100% for financial, customer satisfaction and team results and 120% for individual goals.

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#### Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

#### **Question No. 13**

Responding Witness: Paula H. Pottinger, Ph.D.

- Q.1-13. Please provide a copy of each incentive compensation plan.
- A.1-13. See the response to AG 1-75.

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Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 14** 

Responding Witness: Paula H. Pottinger, Ph.D.

- Q.1-14. Refer to Tab 16(I) in the Company's filing, which provides projected benefit expense levels. Please explain the spike in medical/dental expense in 2015 compared to 2014, followed by relatively stable growth.
- A.1-14. The Company's medical/dental plans are self-insured, therefore the plans can experience large cost fluctuations across years due to the unpredictability of the claims amount and timing of claims processing. In 2014, the Company claims experience was better than budgeted. The benefits department, working with its benefit consultants, recommended an annual increase of 6% for medical and 4% for dental expense. There is also an adjustment made for the incremental headcount in the plan.

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#### Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

#### **Question No. 15**

Responding Witness: Daniel K. Arbough

- Q.1-15. Please provide the Company's 2013 and 2014 pension and OPEB actuarial reports as well as the actuarial cost projections for the base year and the test year in a comparable format.
- A.1-15. See attachments 1-5 for the 2013 and 2014 actuarial reports.

See the response to Question No. 20 for pension actuarial cost projections for the base year and test year.

See attachment 6 for the OPEB actuarial cost projections for the base year and test year.

#### Attachment #1 to Response to KU KIUC-1 Question No. 15 **Page 1 of 10**

Linda C. Myers, F.S.A. Principal

Arbough



400 West Market Street, Suite 700 Louisville, KY 40202 +1 502 561 4726 Fax +1 502 561 4748 linda.myers@mercer.com www.mercer.com

#### **Private & Confidential**

Ms. Kelli Higdon LG&E and KU Energy LLC 220 West Main Street Louisville, KY 40202

March 4, 2013

#### Dear Kelli:

Enclosed are exhibits illustrating the 2013 accounting expense (for both financial and regulatory accounting purposes) for the Qualified Retirement Plans for the fiscal year ending December 31, 2013.

Compared to the 2013 projections prepared on May 18, 2012, the net periodic pension cost for financial accounting purposes decreases from \$12.5 million to \$7.8 million, the regulatory accounting expense increases from \$36.1 million to \$56.9 million and the consolidated financial statement accounting expense increases from \$30.8 million to \$44.3 million. Please see the attached analysis for the change in net periodic pension cost relative to the estimate provided on May 18, 2012.

A measurement date of December 31, 2012 was used in these calculations. Plan liabilities were based on census data collected as of September 30, 2012. A summary of the participant data is attached. All other methods, assumptions, plan provisions and assets used in calculating the 2013 accounting expense are the same as those used in the December 31, 2012 disclosures. dated January 17, 2013 with the exception that the expected return on assets assumption was lowered from 7.25% to 7.10%.

In addition, we assumed the following contributions were made to the Plans on January 15, 2013:

Plan	Amount (In Millions)
LG&E Union	\$10.6
Non-Union	
– LG&E	30.9
– KU	59.4
- ServCo	48.3





Page 2 March 4, 2013 Ms. Kelli Higdon LG&E and KU Energy LLC

If you have any questions or need anything else, please give me a call.

Mercer has prepared this report exclusively for LG&E and KU Energy LLC; subject to this limitation, LG&E and KU Energy LLC may direct that this report be provided to its auditors in connection with the audit of its financial statements. Mercer is not responsible for use of this report by any other party.

The only purpose of this report is to provide an actuarial estimate of the net periodic benefit cost for defined benefit plans relating to the LG&E and KU Energy LLC Retirement Plans for the fiscal year ending December 31, 2013.

This report may not be used for any other purpose. Mercer is not responsible for the consequences of any unauthorized use. Its content may not be modified, incorporated into or used in other material, sold or otherwise provided, in whole or in part, to any other person or entity, without Mercer's permission.

All parts of this report, including any documents incorporated by reference, are integral to understanding and explaining its contents, no part may be taken out of context, used or relied upon without reference to the report as a whole.

Decisions about benefit changes, granting new benefits, investment policy, funding policy, benefit security and/or benefit-related issues should not be made on the basis of this valuation, but only after careful consideration of alternative economic, financial, demographic and societal factors, including financial scenarios that assume future sustained investment losses.

To prepare this report Mercer has used and relied on participant data as of September 30, 2012 as summarized herein. LG&E and KU Energy LLC is responsible for ensuring that such participant data provides an accurate description of all persons who are participants under the terms of the plan or otherwise entitled to benefits that is sufficiently comprehensive and accurate for the purposes of this report. If the data supplied are not sufficiently comprehensive and accurate for the purposes of this report, the valuation results may differ significantly from the results that would be obtained with such data; this may require a later revision of this report. Although Mercer has reviewed the data in accordance with Actuarial Standards of Practice No. 23, Mercer has not verified or audited any of the data or information provided.

Mercer has used and relied on the plan documents, including amendments, and interpretations of plan provisions, as summarized in the Plan Provisions section of the 2012 accounting valuation report. LG&E and KU Energy LLC is solely responsible for the validity, accuracy and comprehensiveness of this information. If any data or plan provisions supplied are not accurate





Page 3 March 4, 2013 Ms. Kelli Higdon LG&E and KU Energy LLC

and complete, the valuation results may differ significantly from the results that would be obtained with accurate and complete information; this may require a later revision of this report. Moreover, plan documents may be susceptible to different interpretations, each of which could be reasonable, and that the different interpretations could lead to different valuation results.

This report is based on our understanding of applicable law and regulations as of the valuation date. Mercer is not an accountant or auditor and is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. Mercer is not engaged in the practice of law. This report does not constitute and is not a substitute for legal advice.

The plan sponsor is ultimately responsible for selecting the plan's accounting policies, methods and assumptions. The policies, methods, and assumptions used in this valuation are described in the valuation report. The plan sponsor is solely responsible for communicating to Mercer any changes required to those policies, methods and assumptions.

A valuation report is only a snapshot of a plan's estimated financial condition at a particular point in time; it does not predict the plan's future financial condition or its ability to pay benefits in the future and does not provide any guarantee of future financial soundness of the plan. Over time, a plan's total cost will depend on a number of factors, including the amount of benefits the plan pays, the number of people paid benefits, the period of time over which benefits are paid, plan expenses and the amount earned on any assets invested to pay benefits. These amounts and other variables are uncertain and unknowable at the valuation date.

Because modeling all aspects of a situation is not possible or practical, we may use summary information, estimates, or simplifications of calculations to facilitate the modeling of future events in an efficient and cost-effective manner. We may also exclude factors or data that, if used, in our judgment, would not have significantly affected our results. Use of such simplifying techniques does not, in our judgment, affect the reasonableness of valuation results for the plan.

Valuations do not affect the ultimate cost of the plan, only the timing of when benefit costs are recognized. Cost recognition occurs over time. If the costs recognized over a period of years are lower or higher than necessary, for whatever reason, normal and expected practice is to adjust future expense levels with a view to recognizing the entire cost of the plan over time.

To prepare the valuation report, assumptions are used in a forward looking financial and demographic model to present a single scenario from a wide range of possibilities; the results based on that single scenario are included in the valuation. The future is uncertain and the plan's





Page 4 March 4, 2013 Ms. Kelli Higdon LG&E and KU Energy LLC

actual experience will differ from those assumptions; these differences may be significant or material because these results are very sensitive to the assumptions made and, in some cases, to the interaction between the assumptions.

Different assumptions or scenarios within the range of possibilities may also be reasonable and results based on those assumptions would be different. As a result of the uncertainty inherent in a forward looking projection over a very long period of time, no one projection is uniquely "correct" and many alternative projections of the future could also be regarded as reasonable. Two different actuaries could, quite reasonably, arrive at different results based on the same data and different views of the future. A "sensitivity analysis" shows the degree to which results would be different if you substitute alternative assumptions within the range of possibilities for those utilized in this report. We have not been engaged to perform such a sensitivity analysis and thus the results of such an analysis are not included in this report. At LG&E and KU Energy LLC's request, Mercer is available to perform such a sensitivity analysis.

Assumptions may also be changed from one valuation to the next because of changes in mandated requirements, plan experience, changes in expectations about the future and other factors. A change in assumptions is not an indication that prior assumptions were unreasonable when made.

This report was prepared in accordance with generally accepted actuarial principles and procedures. Based on the information provided to us, we believe that the actuarial assumptions are reasonable for the purposes described in this report.

LG&E and KU Energy LLC should notify Mercer promptly after receipt of the report if LG&E and KU Energy LLC disagrees with anything contained in the report or is aware of any information that would affect the results of the report that has not been communicated to Mercer or incorporated therein. The report will be deemed final and acceptable to LG&E and KU Energy LLC unless LG&E and KU Energy LLC promptly provides such notice to Mercer.





Page 5 March 4, 2013 Ms. Kelli Higdon LG&E and KU Energy LLC

I am available to answer any questions on the material contained in the report, or to provide explanations or further details as may be appropriate. The undersigned credentialed actuary meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report. I am not aware of any direct or material indirect financial interest or relationship, including investments or other services that could create a conflict of interest, that would impair the objectivity of this work.

Linda C. Myers, F.S.A. Enrolled Actuary (No. 11-04846)	Date	
Vinde C. Myco	3/4/2013	
Findu C. Mycis		

#### Copy:

Dan Arbough, Kent Blake, Chris Garrett, Elliott Horne, Greg Meiman, Heather Metts, Vaneeca Mottley, Ken Mudd, Lesley Pienaar, Valerie Scott, Cathy Shultz, Jeanne Wright, Henry Erk, Marcie Gunnell, Patrick Baker

#### Enclosure

The information contained in this document (including any attachments) is not intended by Mercer to be used, and it cannot be used, for the purpose of avoiding penalties under the Internal Revenue Code that may be imposed on the taxpayer.

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#### 2013 Net Periodic Pension Cost for Qualified Plans

#### **Regulatory Accounting Purposes**

	NonUnion Retirement Plan						
	LG&E Union	LG&E	ServCo	KU	WKE	Total	WKE-Union
Service cost     Interest cost     Expected return on assets     Amortizations:	\$ 2,009,930 13,564,734 (19,750,316)	\$ 2,135,701 9,688,835 (13,542,925)	\$ 12,932,918 17,648,530 (21,911,895)	\$ 8,228,879 17,237,432 (24,643,746)	\$		
<ul><li>a. Transition</li><li>b. Prior service cost</li><li>c. Gain/loss</li></ul> 5. Net periodic pension cost	0 2,118,027 13,633,023 <b>\$ 11,575,398</b>	0 1,915,245 6,931,648 <b>7,128,504</b>	0 2,502,694 8,018,278 <b>19,190,525</b>	0 691,710 12,731,350 <b>\$ 14,245,625</b>	\$		

#### **Financial Accounting Purposes**

	NonUnion Retirement Plan						
	LG&E Union	LG&E	ServCo	KU	WKE	Total	WKE-Union_
Service cost     Interest cost     Expected return on assets     Amortizations:	\$ 2,009,930 13,564,734 (19,750,316)	\$ 2,135,701 9,688,835 (13,542,925)	\$ 12,932,918 17,648,530 (21,911,895)	\$ 8,228,879 17,237,432 (24,643,746)	\$		
a. Transition     b. Prior service cost     c. Gain/loss	0 778,382 492,338	0 0 231,849	0 0 0	0 0 0			
5. Net periodic pension cost	\$ (2,904,932)	\$ (1,486,540)	\$ 8,669,553	\$ 822,565	\$		

#### 2013 Net Periodic Pension Cost for Non-Qualified Plans

#### Non-Qualified **Regulatory Accounting Purposes** Restoration Plan Plans Officer SERP LG&E ServCo KU WKE Total Grand Total SERP Total LG&E ServCo 1. Service cost 2. Interest cost 3. Expected return on assets 4. Amortizations: a. Transition b. Prior service cost c. Gain/loss 5. Net periodic pension cost **Financial Accounting Purposes** Officer SERP Restoration Plan WKE Total LG&E ServCo Total LG&E ServCo KU SERP 1. Service cost 2. Interest cost 3. Expected return on assets 4. Amortizations: a. Transition b. Prior service cost c. Gain/loss 5. Net periodic pension cost

Qualified and



#### LG&E and KU ENERGY LLC RETIREMENT PLANS

# COMPARISON OF PROJECTED 2013 EXPENSE CALCULATED ON MAY 18, 2012 TO ACTUAL 2013 EXPENSE (In Millions)

	Financial Accounting Purposes	Regulatory Accounting Purposes	Consolidated Financial Statement Purposes*
2013 Projected Expense calculated on May 18, 2012**	\$12.5	\$36.1	\$30.8
Increase due to updating of mortality table	0.1	0.4	0.3
Increase due to reduction in discount rates	2.3	27.6	20.0
Decrease due to favorable investment experience for 2012 (assets earned approximately 12.5% compared to 7.25% assumed)	(1.3)	(2.4)	(2.1)
Increase due to reduction in expected return on assets assumption from 7.25% to 7.10%	1.7	1.7	1.7
Decrease due to additional \$96.4 million contribution made on January 15, 2013	(6.6)	(6.6)	(6.6)
Increase/(decrease) due to updated data***	(0.9)	0.1	0.2
2013 Actual Expense	\$7.8	\$56.9	\$44.3

<sup>\*</sup> Consolidated Financial Statement Purposes is Regulatory accounting expense for LG&E Union Plan, LG&E division of Non-Union Plan and KU division of Non-Union Plan and Financial accounting expense for all else.

<sup>\*\*</sup> Please note that the discount rates used in the May 18, 2012 Projected 2013 Expense were 44 basis points higher than the December 31, 2011 discount rates.

<sup>\*\*\*</sup> Service cost was approximately \$0.9 million less than expected; however amortization of losses under regulatory accounting and consolidated financial statement purposes were higher than expected.



#### LG&E AND KU ENERGY LLC RETIREMENT PLANS

#### SUMMARY OF PARTICIPANT DATA AS OF SEPTEMBER 30, 2012

	Qualified Plans			
	LG&E Union	Non-Union	WKE Union	
Participants included in valuation				
Active	515	1,836		
<ul> <li>Inactive with deferred benefits</li> </ul>	679	1,104		
<ul> <li>Inactive with immediate benefits</li> </ul>	1,564	2,337		
<ul> <li>Total (includes QDRO beneficiaries</li> </ul>	2,758	5,277		
Active Statistics				
Average age	51.3	51.7		
<ul> <li>Average years of service</li> </ul>	25.9	24.2		
nactive deferred statistics				
Average age	55.0	52.7		
<ul> <li>Total annual benefits</li> </ul>	\$7,610,076	\$11,126,544		
<ul> <li>Average annual benefits</li> </ul>	\$11,208	\$10,078		
Inactive immediate statistics				
Average age	68.0	71.3		
<ul> <li>Total annual benefits</li> </ul>	\$13,789,956	\$31,644,264		
Average annual benefits	\$8,817	\$13,541		



#### LG&E AND KU ENERGY LLC RETIREMENT PLANS

#### SUMMARY OF PARTICIPANT DATA AS OF SEPTEMBER 30, 2012

	Non-Qualified Plans				
	Officer's SERP	Restoration Plan	SERP		
Participants included in valuation					
• Active					
<ul> <li>Inactive with deferred benefits</li> </ul>					
<ul> <li>Inactive with immediate benefits</li> </ul>					
• Total					
Active Statistics					
Average age					
Average years of service					
Inactive deferred statistics					
Average age					
<ul> <li>Total annual benefits</li> </ul>					
<ul> <li>Average annual benefits</li> </ul>					
Inactive immediate statistics					
Average age					
<ul> <li>Total annual benefits</li> </ul>					
Average annual benefits					

#### Attachment #2 to Response to KU KIUC-1 Question No. 15

Marcie S. Gunnell, A.S.A., M.A.A.A.
Principal Principal Arbough



400 West Market Street, Suite 700 Louisville, KY 40202 502 561 4622 marcie.gunnell@mercer.com www.mercer.com

**Private & Confidential** 

Ms. Kelli Higdon LG&E and KU Energy LLC 220 West Main Street Louisville, KY 40202

March 4, 2013

Subject: 2013 Net Periodic Benefit Cost for Postretirement Benefit Plan

Dear Kelli:

Enclosed are exhibits illustrating the 2013 net periodic benefit cost for financial and regulatory accounting purposes for the Postretirement Benefit Plans of LG&E and KU Energy LLC. The figures in the exhibits may be revised if assets and/or liabilities are remeasured during the year due to a plan amendment, curtailment, settlement or other significant event.

A measurement date of December 31, 2012 was used in these calculations. Plan liabilities were based on census data collected as of September 30, 2012 and claims costs and the expected return on assets (from 7.25% to 7.10%) assumptions were updated. The market values of assets as of December 31, 2012 were provided by LG&E and KU Energy LLC. All other methods, assumptions and plan provisions used in calculating the 2013 net periodic benefit costs were the same as those used in the December 31, 2012 disclosures, including a 3.99% discount rate.

We have assumed no contributions to the 401(h) for 2013.

Compared to the 2013 net periodic benefit cost projections provided on May 18, 2012, the net periodic benefit cost increased. The financial accounting expense increased from \$7.5 million to \$10.1 million and the regulatory accounting expense increased from \$8.8 million to \$10.9 million and the consolidated financial statement accounting expense increased from \$8.6 million to \$10.9 million. Consolidated financial statement accounting includes the expense amounts under regulatory accounting for KU and LG&E (Union and Non-union) and expense amounts under financial accounting for ServCo, WKE (Union and Non-union) and International. The increase was primarily due to losses generated by the decrease in discount rate (from 5.22% to 3.99%), updated per capita claims cost and a lower expected return on 401(h) assets, partially offset by gains generated by updated participant data.

Based on our discussions, we have assumed that LG&E and KU Energy LLC will apply for and receive the subsidy available under Medicare in 2013 for the grandfathered pre-2000 Kentucky Utilities retirees that have post-65 drug coverage. The full amount of the reduction in expense has





Page 2 March 4, 2013 Ms. Kelli Higdon LG&E and KU Energy LLC

been applied to Kentucky Utilities. The following assumptions were used with the Medicare Modernization Act calculations:

- LG&E and KU Energy LLC will determine actuarial equivalence by benefit option. Testing by benefit option, the grandfathered pre-2000 Kentucky Utilities post-65 retiree medical drug plan is projected to meet the definition of actuarial equivalence indefinitely.
- LG&E and KU Energy LLC will apply for and receive the subsidy available under Medicare indefinitely for all pre-2000 Kentucky Utilities retirees that have post-65 drug coverage.
- · Retirees do not elect the Medicare Part D benefit.

The estimated subsidy was based on Mercer's understanding of the Medicare Reform legislation based on the final Center for Medicare Services (CMS) regulations issued in January 2005 and on the provided claims information from the medical plan administrator.

Mercer has prepared this report exclusively for LG&E and KU Energy LLC; subject to this limitation, LG&E and KU Energy LLC may direct that this report be provided to its auditors in connection with the audit of its financial statements. Mercer is not responsible for use of this report by any other party.

The only purpose of this report is to present Mercer's actuarial estimate of net periodic benefit cost for the fiscal year ending December 31, 2013 for other postretirement benefit plans relating to LG&E and KU Energy LLC, for LG&E and KU Energy LLC to incorporate, as LG&E and KU Energy LLC deems appropriate, in its financial statements under US accounting standards.

This report may not be used for any other purpose. Mercer is not responsible for the consequences of any unauthorized use. Its content may not be modified, incorporated into or used in other material, sold or otherwise provided, in whole or in part, to any other person or entity, without Mercer's permission.

All parts of this report, including any documents incorporated by reference, are integral to understanding and explaining its contents, no part may be taken out of context, used or relied upon without reference to the report as a whole.

Decisions about benefit changes, granting new benefits, investment policy, funding policy, benefit security and/or benefit-related issues should not be made on the basis of this valuation, but only after careful consideration of alternative economic, financial, demographic and societal factors, including financial scenarios that assume future sustained investment losses.





Page 3 March 4, 2013 Ms. Kelli Higdon LG&E and KU Energy LLC

To prepare this report Mercer has used and relied on participant data as provided by LG&E and KU Energy LLC to Mercer Outsourcing as summarized on the attached exhibits. LG&E and KU Energy LLC is responsible for ensuring that such participant data provides an accurate description of all persons who are participants under the terms of the plan or otherwise entitled to benefits that is sufficiently comprehensive and accurate for the purposes of this report. If the data supplied are not sufficiently comprehensive and accurate for the purposes of this report, the valuation results may differ significantly from the results that would be obtained with such data; this may require a later revision of this report. Although Mercer has reviewed the data in accordance with Actuarial Standards of Practice No. 23, Mercer has not verified or audited any of the data or information provided.

Mercer has used and relied on the plan documents, including amendments, and interpretations of plan provisions provided by LG&E and KU Energy LLC. The plan provisions used in this valuation are described in the December 31, 2012 year end disclosure report, dated January 18, 2013. LG&E and KU Energy LLC is solely responsible for the validity, accuracy and comprehensiveness of this information. If any data or plan provisions supplied are not accurate and complete, the valuation results may differ significantly from the results that would be obtained with accurate and complete information; this may require a later revision of this report. Moreover, plan documents may be susceptible to different interpretations, each of which could be reasonable, and that the different interpretations could lead to different valuation results.

This report is based on our understanding of applicable law and regulations as of the valuation date. Mercer is not an accountant or auditor and is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. Mercer is not engaged in the practice of law. This report does not constitute and is not a substitute for legal advice.

The plan sponsor is ultimately responsible for selecting the plan's accounting policies, methods and assumptions. The policies, methods, and assumptions used in this valuation are described in herein. The plan sponsor is solely responsible for communicating to Mercer any changes required to those policies, methods and assumptions.

A valuation report is only a snapshot of a plan's estimated financial condition at a particular point in time; it does not predict the plan's future financial condition or its ability to pay benefits in the future and does not provide any guarantee of future financial soundness of the plan. Over time, a plan's total cost will depend on a number of factors, including the amount of benefits the plan





Page 4 March 4, 2013 Ms. Kelli Higdon LG&E and KU Energy LLC

pays, the number of people paid benefits, the period of time over which benefits are paid, plan expenses and the amount earned on any assets invested to pay benefits. These amounts and other variables are uncertain and unknowable at the valuation date.

Because modeling all aspects of a situation is not possible or practical, we may use summary information, estimates, or simplifications of calculations to facilitate the modeling of future events in an efficient and cost-effective manner. We may also exclude factors or data that, if used, in our judgment, would not have significantly affected our results. Use of such simplifying techniques does not, in our judgment, affect the reasonableness of valuation results for the plan.

Valuations do not affect the ultimate cost of the plan, only the timing of when benefit costs are recognized. Cost recognition occurs over time. If the costs recognized over a period of years are lower or higher than necessary, for whatever reason, normal and expected practice is to adjust future expense levels with a view to recognizing the entire cost of the plan over time.

To prepare the valuation report, assumptions are used in a forward looking financial and demographic model to present a single scenario from a wide range of possibilities; the results based on that single scenario are included in the valuation. The future is uncertain and the plan's actual experience will differ from those assumptions; these differences may be significant or material because these results are very sensitive to the assumptions made and, in some cases, to the interaction between the assumptions.

Different assumptions or scenarios within the range of possibilities may also be reasonable and results based on those assumptions would be different. As a result of the uncertainty inherent in a forward looking projection over a very long period of time, no one projection is uniquely "correct" and many alternative projections of the future could also be regarded as reasonable. Two different actuaries could, quite reasonably, arrive at different results based on the same data and different views of the future. A "sensitivity analysis" shows the degree to which results would be different if you substitute alternative assumptions within the range of possibilities for those utilized in this report. We have not been engaged to perform such a sensitivity analysis and thus the results of such an analysis are not included in this report. At LG&E and KU Energy LLC's request, Mercer is available to perform such a sensitivity analysis.

Assumptions may also be changed from one valuation to the next because of changes in mandated requirements, plan experience, changes in expectations about the future and other factors. A change in assumptions is not an indication that prior assumptions were unreasonable when made.





Page 5 March 4, 2013 Ms. Kelli Higdon LG&E and KU Energy LLC

This report was prepared in accordance with generally accepted actuarial principles and procedures. Based on the information provided to us, we believe that the actuarial assumptions are reasonable for the purposes described in this report.

LG&E and KU Energy LLC should notify Mercer promptly after receipt of the valuation report if LG&E and KU Energy LLC disagrees with anything contained in the valuation report or is aware of any information that would affect the results of the valuation report that has not been communicated to Mercer or incorporated therein. The valuation report will be deemed final and acceptable to LG&E and KU Energy LLC unless LG&E and KU Energy LLC promptly provides such notice to Mercer.

#### **Professional qualifications**

We are available to answer any questions on the material contained in the report, or to provide explanations or further details as may be appropriate. Collectively, the credentialed actuaries Marcie Gunnell and Linda Myers meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report. We are not aware of any direct or material indirect financial interest or relationship, including investments or other services that could create a conflict of interest, that would impair the objectivity of our work.





Page 6 March 4, 2013 Ms. Kelli Higdon LG&E and KU Energy LLC

Please distribute copies of this letter to the appropriate parties. If you have any questions, please call me at 502 561 4622 or Patrick Baker at 502 561 4504.

Sincerely,

Marcie S. Gunnell, A.S.A., M.A.A.A.

Marci & Dunnell

Principal

Linda C. Myers, F.S.A., M.A.A.A

Linda C. Mycis

Principal

Copy:

Dan Arbough, Kent Blake, Chris Garrett, Elliott Horne, Greg Meiman, Heather Metts, Vaneeca Mottley, Ken Mudd, Lesley Pienaar, Valerie Scott, Cathy Shultz, Jeanne Wright, Henry Erk, Linda Myers, Patrick Baker, Ryan Sloat

**Enclosure** 

The information contained in this document (including any attachments) is not intended by Mercer to be used, and it cannot be used, for the purpose of avoiding penalties under the Internal Revenue Code that may be imposed on the taxpayer.

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#### LG&E and KU Energy LLC 2013 Net Periodic Benefit Cost For Postretirement Benefit Plans

#### December 31, 2012 Measurement Date **Financial Accounting**

	Non-Union								
	LG&E	KU	ServCo	WKE	International	Total	LG&E Union	WKE Union	Grand Total
Service cost	\$558,714	\$1,627,357	\$1,948,537				\$543,711		
Interest cost	1,401,064	3,144,110	1,467,859				2,166,007		
Expected return on assets	(514,386)	(1,976,373)	(1,963,676)				0		
Amortizations:									
Transition	0	0	0				0		
Prior service cost	283,863	586,092	512,905				375,701		
Gain/loss	0	0	0				0		
Net periodic benefit cost	\$1,729,255	\$3,381,186	\$1,965,625				\$3,085,419		

#### **Regulatory Accounting**

	Non-Union								
	LG&E	KU	ServCo	WKE	International	Total	LG&E Union	WKE Union	Grand Total
Service cost	\$558,714	\$1,627,357	\$1,948,537				\$543,711		
Interest cost	1,401,064	3,144,110	1,467,859				2,166,007		
Expected return on assets	(514,386)	(1,976,373)	(1,963,676)				0		
Amortizations:									
Transition	0	0	0				0		
Prior service cost	419,309	749,385	602,613				1,118,030		
Gain/loss	0	0	0				(198,854)		
Net periodic benefit cost	\$1,864,701	\$3,544,479	\$2,055,333				\$3,628,894		
Accumulated Postretirement Benefit Obligation (APBO) as of December 31, 2012	36,513,343	81,394,201	37,280,350				55,914,515		

Attachment #2 to Response to KU KIUC-1 Question No. 15 Page 7 of 9

#### LG&E and KU ENERGY LLC RETIREMENT PLANS

## COMPARISON OF PROJECTED 2013 EXPENSE CALCULATED ON May 18, 2012 TO ACTUAL 2013 EXPENSE (In Millions)

	Financial Accounting Purposes	Regulatory Accounting Purposes	Consolidated Financial Statement Purposes <sup>1</sup>
2013 Projected Expense calculated on May 18, 2012	\$7.5	\$8.8	\$8.6
Decrease due to change in updating of mortality table	(0.1)	(0.1)	(0.1)
Increase due to reduction in discount rates	2.1	2.0	2.0
Increase due to not funding 401(h) account in 2012	0.4	0.4	0.4
ncrease due to updated projected medical costs	0.9	0.9	0.9
ncrease due to lower return on assets assumption (from 7.25% to 7.10%)	0.1	0.1	0.1
Decrease due to demographic and other gains / osses	(0.8)	(1.2)	(1.0)
2013 Actual Expense	10.1	\$10.9	\$10.9

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<sup>&</sup>lt;sup>1</sup> Consolidated Financial Statement Purposes is Regulatory accounting expense for LG&E (Union and Non-Union) and KU (Union and Non-Union) and Financial accounting expense for all else.

### LG&E and KU Energy LLC Summary of Participant Data and Per Capita Claims Costs

	9/30/2012	9/30/2011
Active participants	3,228	3,120
Average age	47.4	47.5
Average service	18.8	19.2
Inactive participants		
Retirees	2,621	2,635
Spouses of retirees	1,198	1,233
Surviving spouses	292	295
Disableds	119	122
Total	4,230	4,285
	Fiscal Year Ending December 31, 2013	Fiscal Year Ending December 31, 2012
Annual average per capita claims cost		
LG&E, Kentucky Utilities post-1999 and WKE Union average pre-Medicare	\$8,640	\$7,805
Kentucky Utilities pre-1993 average cost per person (pre and post Medicare)	\$6,255	\$5,950
Kentucky Utilities 1993-1999 average cost per person (pre and post Medicare)	\$4,141	\$3,987
Annual average expected Medicare Part D subsidy		
Kentucky Utilities pre-1993	\$806	\$734
Kentucky Utilities 1993-1999	\$740	\$682
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LG&E and KU Energy LLC ("LKE") **2014 Net Periodic Pension Cost** Qualified Pension Plans - Revised to reflect original non-union inactive division codes

	Regulatory	Regulatory	Financial	Regulatory	Financial		Financial	Consolidated	Regulatory
			Non-	Union Retirement Pl	lan				Non-Union
	LG&E Union	LG&E	ServCo	KU	WKE	Non-Union Total	WKE Union	Total Qualified US GAAP	ServCo
<b>Funded Status</b> ABO	291,960,791	181,895,592	314,238,243	319,364,020					314,238,243
PBO Fair value of assets Funded status	291,960,791 281,471,417 (10,489,374)	203,826,984 193,333,088 (10,493,896)	382,044,504 324,413,186 (57,631,318)	358,066,243 354,179,143 (3,887,100)	_				382,044,504 324,413,186 (57,631,318)
Amounts recognized in accumulated other comprehensive income consist of: Net actuarial loss/(gain) Prior service cost/(credit) Transition obligation/(asset)	90,205,599 15,386,016 -	49,955,184 7,097,210 -	(15,372,183) - -	79,418,733 1,451,525 -					56,237,829 11,455,908 
Total	105,591,615	57,052,394	(15,372,183)	80,870,258					67,693,737
Market related value of assets	284,346,002	196,254,558	327,456,800	359,368,151					327,456,800
2014 Net Periodic Pension Cost Service cost Interest cost Expected return on assets Amortization of:	1,326,414 14,383,940 (19,094,174)	1,679,175 10,170,845 (13,714,725)	10,833,938 19,470,548 (24,055,778)	6,814,810 17,966,530 (24,425,285)					10,833,938 19,470,548 (24,055,778)
Transition obligation (asset) Prior service cost (credit) Actuarial (gain) loss Net periodic pension cost	2,118,027 6,041,249 4,775,456	1,915,249 2,807,143 2,857,687	6,248,708	691,710 4,033,380 5,081,145	_				2,502,695 1,578,867 10,330,270
Key assumptions: Discount rate Expected return on plan assets Rate of compensation increase Mortality	5.13% 7.00% N/A	5.20% 7.00% 4.00% 2014 IRS-prescri	5.20% 7.00% 4.00% bed RP-2000 tables	5.20% 7.00% 4.00% . Includes projection f	or 7 years beyond	d valuation date for annu	uitants; 15 years for	r non-annuitants.	5.20% 7.00% 4.00%

The results contained in this document are based on the data provided by Mercer Outsourcing as of January 1, 2014. All other assumptions, methods, and plan provisions are the same as those used for the year-end 2013 financial statement fisclosures provided on January 22, 2014. The descriptions of the assumptions, methods, plan provisions, and limitations as set forth in the year-end 2013 financial statement disclosure letter should be considered part of these results.

The results above have been revised to reflect the non-union plan division codes used for Mercer's 2013 accounting valuation, which were provided to us in the 2013 actuarial transition data. 95 inactive participants were reverted back to their original division. In addition, two deceased participants provided by LKE on 6/20/2014 were removed from the results.

> Attachment #3 to Response to KU KIUC-1 Question No. 15 Page 1 of 1 Arbough

## Attachment #4 to Response to KU KIUC-1 Question No. 15 Page 1 of 5 Arbough



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April 30, 2014

Ms. Kelli Higdon Senior Accounting Analyst LG&E and KU Energy LLC 220 West Main Street Louisville, KY 40202

Dear Kelli:

#### 2014 ASC 715 ACOUNTING RESULTS FOR QUALIFIED PENSION PLANS

LG&E and KU Energy LLC ("LKE" or "the Company") engaged Towers Watson Delaware, Inc. ("Towers Watson") to determine the Net Periodic Pension Cost/Income ("Expense") for its qualified pension plans, in accordance with FASB Accounting Standards Codification Topic 715 ("ASC 715") for the fiscal year beginning January 1, 2014. The exhibits that follow provide results on a plan by plan basis, with allocations as requested by LKE.

The benefit obligations were measured as of LKE's fiscal year begin date of January 1, 2014, and are based on January 1, 2014 census data collected from the plan administrator for the following valuations:

- LG&E and KU Retirement Plan
- Louisville Gas and Electric Company Bargaining Employees' Retirement Plan

10

We have reviewed the census information for reasonableness and consistency, but have neither audited nor independently verified this information. Based on discussions with and concurrence by the plan sponsor, assumptions or estimates may have been made if data were not available. We are not aware of any errors or omissions in the data that would have a significant effect on the results of our calculations.

Please note the following regarding these results:

As of January 1, 2014, LG&E and KU Energy LLC has selected the following economic assumptions:
 Discount rate:

January 1, 2014
5.20%
5.13%

All discount rates are based on the results of the Towers Watson BOND:Link model. At December 31, 2013, cash flows by plan were provided by the prior actuary and used to develop individual discount rates. Further information regarding the BOND:Link model parameters chosen by LKE can be found in our e-mail correspondence from January 7, 2014.



Ms. Kelli Higdon April 30, 2014

#### Rate of compensation increase:

The January 1, 2014 rate of compensation increase assumption for all LKE plans is a flat 4% at all ages.

#### Expected return on assets (EROA):

January 1, 2014
7.00%
7.00%

- 2. All demographic assumptions are the same as those selected by LKE at January 1, 2013 with the exception of the mortality assumption. The mortality assumption has been changed from the optional combined 2013 mortality table with static mortality improvement published by the IRS to separate 2014 IRS rates for non-annuitants (based on RP-2000 "Employees" table without collar or amount adjustments, projected 15 beyond the valuation) and annuitants (based on RP-2000 "Healthy Annuitants" table without collar or amount adjustments, projected 7 years beyond the valuation date). The optional combined table used for the 2013 valuation is a blended table with a single mortality assumption for non-annuitants and annuitants based on similar mortality tables and mortality improvement projections. A summary of all assumptions can be found in the Assumption Setting Presentation provided to LKE on January 7, 2014. Detailed descriptions of these assumptions will be included in the actuarial valuation reports for the fiscal year ending December 31, 2014 (to be published during the coming months).
- 3. All plan provisions are the same as those valued at January 1, 2013, updated at January 1, 2014 to reflect scheduled increases in the dollar per month multiplier, if applicable.

Detailed descriptions of the plan provisions will be included in the actuarial valuation reports for the fiscal year ending December 31, 2014 (to be published during the coming months).

4. The expected contributions for 2014 were set equal to the actual contributions made on January 14, 2014, specifically according to the table below:

	Contribution (in \$millions)
LG&E and KU Retirement Plan	71
LG&E non-union	\$8.2
ServCo	\$24.7
KU	\$2.2
Louisville Gas and Electric Company Bargaining Employees' Retirement Plan	\$0.0



Ms. Kelli Higdon April 30, 2014

#### Reconciliation to February 21, 2014 Budget Projections

The preliminary 2014 consolidated US GAAP expense for the three pension plans of \$17.9 million compares to the projected 2014 consolidated expense of \$24.6 million provided in our February 21, 2014 e-mail as follows:

	Consolidated US GAAP Expense (in \$millions)
2014 Projected Expense provided on February 21, 2014	\$24.6*
5% load on service cost and interest cost included in 2014 budgets	(4.2)
Demographic gains due to updated data	(2.7)
Difference between expected and actual 2014 bulk lump sum amounts	0.1
2014 Preliminary Expense	\$17.9

<sup>\*</sup>Estimated expense provided on February 21, 2014 did not include the WKE non-union portion of the LG&E and KU Retirement Plan on a Financial basis or the Western Kentucky Energy Corp. Bargaining Employees' Retirement Plan on a Financial basis.

#### **Actuarial Certification**

In preparing the results presented in this letter (including attached exhibits), we have relied upon information regarding plan provisions, participants, assets and sponsor accounting policies and methods provided by LKE and other persons or organizations designated by LKE. We have relied on all the data and information provided as complete and accurate. We have reviewed this information for overall reasonableness and consistency, but have neither audited nor independently verified this information. Based on discussions with and concurrence by the plan sponsor, assumptions or estimates may have been made if data were not available. We are not aware of any errors or omissions in the data that would have a significant effect on the results of our calculations. The results presented in this report are directly dependent upon the accuracy and completeness of the underlying data and information. Any material inaccuracy in the data, assets, plan provisions or other information provided to us may have produced results that are not suitable for the purposes of this report and such inaccuracies, as corrected by LKE, may produce materially different results that could require that a revised report be issued.

The measurement date is January 1, 2014. The benefit obligations were measured as of January 1, 2014 and are based on participant data as of the census data, January 1, 2014.

Information about the fair value of plan assets was furnished to us by BNY Mellon. LKE also provided information about the general ledger account balances for the pension plan costs at December 31, 2013, which reflect the expected funded status of the plans before adjustment to reflect the plans' funded status based on the year-end measurements. Towers Watson used information supplied by LKE regarding amounts recognized in accumulated other comprehensive income as of December 31, 2013. This data was reviewed for reasonableness and consistency, but no audit was performed.

As required by U.S. GAAP, the actuarial assumptions and the accounting policies and methods employed in the development of the pension cost have been selected by LKE. Towers Watson has concurred with these assumptions and methods. ASC 715-30-35 requires that each significant assumption "individually represent the best estimate of a particular future event."

The results shown in this report have been developed based on actuarial assumptions that, to the extent evaluated by Towers Watson, we consider to be reasonable and within the "best-estimate range" as

## Attachment #4 to Response to KU KIUC-1 Question No. 15 Page 4 of 5 Arbough



Ms. Kelli Higdon April 30, 2014

described by the Actuarial Standards of Practice. Other actuarial assumptions could also be considered to be reasonable and within the best-estimate range. Thus, reasonable results differing from those presented in this report could have been developed by selecting different points within the best-estimate range for various assumptions.

The results shown in this report are estimates based on data that may be imperfect and on assumptions about future events that cannot be predicted with any certainty. The effects of certain plan provisions may be approximated, or determined to be insignificant and therefore not valued. Reasonable efforts were made in preparing this valuation to confirm that items that are significant in the context of the actuarial liabilities or costs are treated appropriately, and are not excluded or included inappropriately. The numbers shown in this report are not rounded, but this is for convenience and should not implay precision, which is not a characteristic of actuarial calculations.

If overall future plan experience produces higher benefit payments or lower investment returns than assumed, the relative level of plan costs reported in this valuation will likely increase in future valuations (and vice versa). Future actuarial measurements may differ significantly from the current measurements presented in this report due to many factors, including: plan experience differing from the anticipated by the economic or demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for the measurements (such as the end of an amortization period), and changes in plan provisions or applicable law.

The information contained in this report was prepared for the internal use of LKE and its auditors in connection with our actuarial valuations of the qualified pension plans. It is neither intended for and may not be used for other purposes, and we accept no responsibility or liability in this regard. LKE may distribute this actuarial valuation report to the appropriate authorities who have the legal right to require LKE to provide them this report, in which case LKE will use best efforts to notify Towers Watson in advance of this distribution. Further distribution to, or use by, other parties of all or part of this document is expressly prohibited without Towers Watson's prior written consent. Towers Watson accepts no responsibility for any consequences arising from any other party relying on this report or any advice relating to its contents.

The undersigned consulting actuaries are members of the Society of Actuaries and meet the "Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States" relating to pension plans. Our objectivity is not impaired by any relationship between the plan sponsor and our employer, Towers Watson Delaware Inc.

Page 4 of 5

## Attachment #4 to Response to KU KIUC-1 Question No. 15 Page 5 of 5 Arbough



Ms. Kelli Higdon April 30, 2014

Please do not hesitate to call if you have any questions.

Sincerely,

Jennifer A. Della Pietra, ASA, EA

William Lot

Jornefu a. Della littes

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cc: George Sunder – PPL Corporation
Dan Arbough – LG&E and KU Energy LLC
Karla Durn – PPL Corporation

Kristin May, FSA, EA - Towers Watson

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### Attachment #5 to Response to LGE KIUC-1 Question No. 15

Page 1 of 6 Arbough

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May 16, 2014

Ms. Kelli Higdon Senior Accounting Analyst LG&E and KU Energy LLC 220 West Main Street Louisville, KY 40202

TOWERS WATSON /

Dear Kelli:

#### 2014 ASC 715 ACOUNTING RESULTS FOR THE POSTRETIREMENT BENEFIT PLAN

LG&E and KU Energy LLC ("LKE" or "the Company") engaged Towers Watson Delaware, Inc. ("Towers Watson") to determine the Net Periodic Benefit Cost/Income ("Expense") for the LG&E and KU Energy Postretirement Benefit Plan, in accordance with FASB Accounting Standards Codification Topic 715 ("ASC 715") for the fiscal year beginning January 1, 2014. The exhibits that follow provide results for the plan, with allocations as requested by LKE.

Please note the following regarding these results:

1. As of January 1, 2014, LG&E and KU Energy LLC has selected the following economic assumptions:

#### Discount rate:

The discount rate of 4.91% is based on the results of the Towers Watson BOND:Link model. At December 31, 2013, cash flows by plan were provided by the prior actuary and used to develop individual discount rates. Further information regarding the BOND:Link model parameters chosen by LKE can be found in our e-mail correspondence from January 7, 2014.

#### Rate of compensation increase:

The January 1, 2014 rate of compensation increase assumption for the plan is a flat 4% at all ages.

#### Expected return on assets (EROA):

The January 1, 2014 EROA assumption for the plan is 7.00% for the 401(h) account and 0.00% for the Union and Non-union VEBAs.

#### Health care cost trend:

	December 31, 2013
2014	7.6%
2015	7.2%
2016	6.8%
2017	6.4%
2018	6.0%
2019	5.5%
2020+	5.0%

### Attachment #5 to Response to KU KIUC-1 Question No. 15 Page 2 of 6

Page 2 of 6 Arbough



Ms. Kelli Higdon May 16, 2014

#### Per capita claims cost:

The per capita claims costs and employee contribution amounts for 2014 were provided by Mercer. We have reviewed the claims information for reasonableness and consistency, but have neither audited nor independently verified this information.

- 2. All demographic assumptions are the same as those selected by LKE at January 1, 2013 with the exception of the mortality assumption. The mortality assumption has been changed from the optional combined 2013 mortality table with static mortality improvement published by the IRS to separate 2014 IRS rates for non-annuitants (based on RP-2000 "Employees" table without collar or amount adjustments, projected 15 beyond the valuation) and annuitants (based on RP-2000 "Healthy Annuitants" table without collar or amount adjustments, projected 7 years beyond the valuation date). The optional combined table used for the 2013 valuation is a blended table with a single mortality assumption for non-annuitants and annuitants based on similar mortality tables and mortality improvement projections. A summary of all assumptions can be found in the Assumption Setting Presentation provided to LKE on January 7, 2014. Detailed descriptions of these assumptions will be included in the actuarial valuation reports for the fiscal year ending December 31, 2014 (to be published during the coming months).
- 3. All plan provisions are the same as those valued at January 1, 2013. Detailed descriptions of the plan provisions will be included in the actuarial valuation reports for the fiscal year ending December 31, 2014 (to be published during the coming months).
- 4. The expected contributions to the 401(h) sub-account are assumed to be contributed on December 31<sup>st</sup>, 2014 and, therefore, have no impact on the calculation of the expected return on assets. The expected contributions to the Union and Non-union VEBAs are assumed to be made monthly equal to the amounts paid out of the VEBA account each month.
- 5. Under PPACA, the Transitional Reinsurance Fee ("TRF") is scheduled to be collected from both self-insured employer medical plans and fully insured medical plans beginning in 2014 and continuing through 2016 as a means to help stabilize premiums for coverage in the individual market (inside and outside the exchanges). Consistent with the prior year, the TRF will be accounted for outside of the plan, and therefore, the 2014 postretirement benefit obligations have not been adjusted to reflect the expected cost of the TRF.

Arbough
Ms. Kelli Higdon



May 16, 2014

#### Reconciliation to February 21, 2014 Budget Projections

The preliminary 2014 consolidated US GAAP expense for the postretirement benefit plan of \$10.4 million compares to the projected 2014 consolidated expense of \$10.7 million provided in our February 21, 2014 e-mail as follows:

	Consolidated US GAAP Expense (in
	\$millions)
2014 Projected Expense provided on February 21, 2014	\$10.7*
Demographic gains due to updated data	(0.1)
Reflection of updated per capita claims data	0.6
5% load on service cost and interest cost included in 2014 budgets	(0.7)
2014 Preliminary Expense	\$10.4

<sup>\*</sup>Estimated expense provided on February 21, 2014 did not include the International, WKE non-union and WKE Union portions of the plan on a Financial basis.

#### Retiree Drug Subsidy under the Medicare Modernization Act

2014 Net Periodic Benefit Cost (\$) (Regulatory Accounting Basis)	With Subsidy	Effect of Subsidy	Without Subsidy	
Service cost	4,332,469	-	4,332,469	
Interest cost	9,283,250	178,329	9,461,579	
Expected return on assets	(5,016,620)	-	(5,016,620)	
Amortization of:	-			
Transition obligation (asset)	-	-	-	
Prior service cost (credit)	2,486,179	-	2,486,179	
Actuarial (gain) loss	(731,851)	258,487	(473,364)	
Net periodic benefit cost	\$ 10,353,427	\$ 436,816	\$ 10,790,243	

The present value of the Medicare Retiree Drug Subsidy for the pre-2000 Kentucky Utilities retirees, measured as of January 1, 2014, using the assumptions outlined in this letter is \$3,804,507.

#### **Actuarial Certification**

In preparing the results presented in this letter (including the attached exhibit), we have relied upon information regarding plan provisions, participants, assets and sponsor accounting policies and methods provided by LKE and other persons or organizations designated by LKE. We have relied on all the data and information provided as complete and accurate. We have reviewed this information for overall reasonableness and consistency, but have neither audited nor independently verified this information. Based on discussions with and concurrence by the plan sponsor, assumptions or estimates may have been made if data were not available. We are not aware of any errors or omissions in the data that would have a significant effect on the results of our calculations. The results presented in this report are directly dependent upon the accuracy and completeness of the underlying data and information. Any material inaccuracy in the data, assets, plan provisions or other information provided to us may have produced results that are not suitable for the purposes of this report and such inaccuracies, as corrected by LKE, may produce materially different results that could require that a revised report be issued.

#### Attachment #5 to Response to KU KIUC-1 Question No. 15 Page 4 of 6



Ms. Kelli Higdon May 16, 2014 Arbough

The measurement date is January 1, 2014. The benefit obligations were measured as of January 1, 2014 and are based on participant data as of the census date, January 1, 2014.

Information about the fair value of plan assets was furnished to us by LKE. LKE also provided information about the general ledger account balances for the postretirement benefit plan cost at December 31, 2013, which reflect the expected funded status of the plans before adjustment to reflect the plans' funded status based on the year-end measurements, and differences between the expected Medicare Part D subsidies and amounts received during the year. Towers Watson used information supplied by LKE regarding postretirement benefit asset, postretirement liability and amounts recognized in accumulated other comprehensive income as of December 31, 2013. This data was reviewed for reasonableness and consistency, but no audit was performed.

Accumulated other comprehensive (income)/loss amounts shown in this letter are shown prior to adjustment for deferred taxes. Any deferred tax effects in AOCI should be determined in consultation with LKE's tax advisors and auditors.

As required by U.S. GAAP, the actuarial assumptions and the accounting policies and methods employed in the development of the postretirement benefit cost and financial reporting have been selected by LKE. Towers Watson has concurred with these assumptions and methods. ASC 715-30-35 requires that each significant assumption "individually represent the best estimate of a particular future event."

The results shown in this report have been developed based on actuarial assumptions that, to the extent evaluated by Towers Watson, we consider to be reasonable and within the "best-estimate range" as described by the Actuarial Standards of Practice. Other actuarial assumptions could also be considered to be reasonable and within the best-estimate range. Thus, reasonable results differing from those presented in this report could have been developed by selecting different points within the best-estimate range for various assumptions.

The results shown in this report are estimates based on data that may be imperfect and on assumptions about future events that cannot be predicted with any certainty. The effects of certain plan provisions may be approximated, or determined to be insignificant and therefore not valued. Reasonable efforts were made in preparing this valuation to confirm that items that are significant in the context of the actuarial liabilities or costs are treated appropriately, and are not excluded or included inappropriately. The numbers shown in this report are not rounded, but this is for convenience and should not imply precision, which is not a characteristic of actuarial calculations.

If overall future plan experience produces higher benefit payments or lower investment returns than assumed, the relative level of plan costs reported in this valuation will likely increase in future valuations (and vice versa). Future actuarial measurements may differ significantly from the current measurements presented in this report due to many factors, including: plan experience differing from that anticipated by the economic or demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for the measurements (such as the end of an amortization period), and changes in plan provisions or applicable law.

The information contained in this report was prepared for the benefit of LKE and its auditors in connection with our actuarial valuation of the postretirement benefit plan. This letter should not be used for other purposes, and Towers Watson accepts no responsibility for any such use. It should not be relied upon by any other person without Towers Watson's prior written consent.

The undersigned consulting actuaries are members of the Society of Actuaries and meet the "Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States" relating to other postretirement benefit plans. Our objectivity is not impaired by any relationship between the plan sponsor and our employer, Towers Watson Delaware Inc.

\* \* \* \* \* \*



Please do not hesitate to call if you have any questions.

Sincerely,

Jennifer A. Della Pietra, ASA, EA

William Lot

Jerrefu a. Della lette

Senior Consulting Actuary Direct Dial: 215-246-6861 Royce S. Kosoff, FSA, EA, CFA

Senior Consulting Actuary Direct Dial: 215-246-6815

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William R. Loth, FSA, EA Consulting Actuary

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cc: George Sunder - PPL Corporation

Dan Arbough - LG&E and KU Energy LLC

Karla Durn - PPL Corporation

Kristin May, FSA, EA – Towers Watson

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LG&E and KU Energy LLC ("LKE") 2014 Net Periodic Benefit Cost Post Retirement Welfare Plans (Regulatory)

	Regulatory	Financial	Financial	Regulatory	Financial		Regulatory	Financial	Consolidated	Regulatory
	LG&E Non-			<b></b> .			<b>I</b>		Т	
	union	ServCo		KU .			LG&E Union		_	ServCo
Funded Status										
APBO	32,626,922	38,254,043		70,611,930			52,652,997			38,254,043
Fair Value of Assets	8,981,980	30,849,603		31,115,600			807,256			30,849,603
Funded Status	(23,644,942)	(7,404,440)		(39,496,330)			(51,845,741)			(7,404,440)
Amounto no constitue d'in constitue d										
Amounts recognized in accumulated other comprehensive income consist of:										
Net actuarial loss/(gain)	11,140,595	623,646		(29,920,615)			(9,887,860)			5,347,850
Prior service cost/(credit)	851,587	1,538,715		1,758,273			4,329,552			1,538,716
Transition obligation/(asset)	-	-		1,730,273			-,020,002			1,000,710
Total	11,992,182	2,162,361		(28,162,342)			(5,558,308)			6,886,566
	, ,	, ,		, , , ,			, , ,			, ,
2014 Net Periodic Benefit Cost										
Service cost	455,921	1,878,366		1,545,624			452,558			1,878,366
Interest cost	1,534,039	1,842,064		3,343,811			2,495,154			1,842,064
Expected return on assets	(595,499)	(2,159,472)		(2,082,994)			-			(2,159,472)
Amortization of:										
Transition obligation (asset)	-	<u>-</u>		-			- 			-
Prior service cost (credit)	283,863	512,905		586,092			1,096,964			512,905
Actuarial (gain) loss	4 070 004	(82,087)		(258,487)			(374,721)		_	- 0.070.000
Net periodic benefit cost	1,678,324	1,991,776		3,134,046			3,669,955			2,073,863
Key assumptions:										
Discount Rate	4.91%	4.91%		4.91%			4.91%			4.91%
Expected return on 401(h) assets	7.00%	7.00%		7.00%			7.00%			7.00%
Rate of compensation increase	4.00%	4.00%		4.00%			4.00%			4.00%
Mortality		2014 II	RS-prescribed RP-2	000 tables. Includes p	rojection for 7 years	beyond valuation d	ate for annuitants; 15	years for non-annu	itants.	
Health care cost trend rate							_		_	1
Initial rate	7.60%	7.60%		7.60%			7.60%			7.60%
Ultimate rate	5.00%	5.00%		5.00%			5.00%			5.00%
Years to ultimate	6	6		6			6			6

The results contained in this document are based on the individual participant data provided by Mercer and LKE as of January 1, 2014. 2014 per capita claim cost assumptions were provided by Mercer Health and Welfare actuaries. All other assumptions, methods, and plan provisions are the same as those used for the year-end 2013 financial statement disclosures provided on January 22, 2014. The descriptions of the assumptions, methods, plan provisions, and limitations as set forth in the year-end 2013 financial statement disclosure letter should be considered part of these results.

Attachment #5 to Response to KU KIUC-1 Question No. 15
Page 6 of 6
Arbough

Kentucky Utilities' OPEB Costs							
	Base Year	Test Year					
Service cost	2,638,417	3,080,539					
Interest cost	4,385,681	4,638,513					
Expected return on assets	(3,303,053)	(3,862,134)					
Amortizations:							
Transition	-	-					
Prior service cost	864,425	868,378					
(Gain)/loss	(214,544)	-					
ASC 715 NPBC	4,370,926	4,725,296					

#### KENTUCKY UTILITIES COMPANY

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 16** 

Responding Witness: Daniel K. Arbough

- Q.1-16. Please provide the Company's 2015, 2016, and 2017 pension actuarial cost projections using the same pension methodology and mortalities that were used in 2013 and 2014.
- A.1-16. See attached. Towers Watson, KU's actuary, has not calculated the pension actuarial cost projections for 2015, 2016 and 2017 using the methodology and mortalities used in the 2013 and 2014 cost calculations. The 2015, 2016 and 2017 pension actuarial cost projections are based on calculations provided by Towers Watson on May 30, 2014. On the last page of the attached report in Note 2, the actuary compares the consolidated 2014 expense for the qualified plans (\$18.7M), which was based on the RP-2000 scale AA mortality table, to the projected expense for 2015, which was based on the RP-2014 scale BB mortality table. Note 2 indicates that the expense projection is \$31.2 million higher than the 2014 expense primarily due to the change in the mortality Preparation of actuarial cost projections for 2015, 2016, and assumption. 2017 using the same pension methodology and mortalities that were used in 2013 and 2014 would require original work, significant time and additional cost.

#### Attachment to Response to KU KIUC-1 Question No. 16 Page 1 of 17





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towerswatson.com

May 30, 2014

Ms. Kelli Higdon Senior Accounting Analyst LG&E and KU Energy LLC 220 West Main Street Louisville, KY 40202

Dear Kelli:

### 2015-2019 FINANCIAL PROJECTIONS OF PENSION AND POSTRETIREMENT WELFARE PLANS

Towers Watson Delaware, Inc. ("Towers Watson") was engaged by LG&E and KU Energy LLC ("LKE" or "the Company") to provide 5-year projections of the Financial Accounting Standards Codification ("ASC") Topic 715 accounting cost for the following pension and postretirement welfare plans with allocations as requested by LKE:

- LG&E and KU Retirement Plan
- Louisville Gas and Electric Company Bargaining Employees' Retirement Plan



■ LG&E and KU Postretirement Benefit Plan

The exhibits for the years 2015-2019 are as follows:

- Estimated ASC 715 accounting cost
- Estimated cash contributions to the pension plan trusts for the LG&E and KU Retirement Plan, the Louisville Gas and Electric Company Bargaining Employees' Retirement Plan, and the Western Kentucky Energy Corp. Bargaining Employees' Retirement Plan
- Expected cash flows for the LG&E and KU Postretirement Benefit Plan
- Expected employer contributions to the 401(h) account of the LG&E and KU Postretirement Benefit Plan

The projections are based on the 2014 actuarial valuation results provided to you on April 30 (qualified pension plans), May 16 (LG&E and KU Postretirement Benefit Plan), and May 23 (nonqualified pension plans). Except where otherwise noted, the assumptions, methods, data, and plan provisions used to develop these projections are the same as those used to develop the 2014 actuarial valuation results



Ms. Kelli Higdon May 30, 2014 Arbough

1. These projections reflect the following key economic assumptions:

#### Discount rate:

	December 31, 2014 and all subsequent years	December 31, 2013
LG&E and KU Retirement Plan	4.70%	5.20%
Louisville Gas and Electric Company Bargaining Employees' Retirement Plan	4.63%	5.13%
		-
		_ _
LG&E and KU Postretirement Benefit Plan	4.41%	4.91%

All discount rates are based on the results of the Towers Watson BOND:Link model as of April 30, 2014, which resulted in a 50 basis point reduction from the discount rates at December 31, 2013

Cash flows by plan are based on the results of the 2014 actuarial valuation results.

#### Rate of compensation increase:

The projected rates of compensation increase for all legacy LKE plans are flat at all ages.

	December 31, 2014 and all subsequent years	December 31, 2013
All legacy LKE plans	4.00%	4.00%

#### Expected return on assets (EROA):

	December 31, 2014 and all subsequent years	December 31, 2013
LG&E and KU Retirement Plan	7.00%	7.00%
Louisville Gas and Electric Company Bargaining Employees' Retirement Plan	7.00%	7.00%
LG&E Energy LLC Postretirement Benefit		
- Union VEBA* - Nonunion VEBA* - 401(h) sub-account	0.00% 0.00% 7.00%	0.00% 0.00% 7.00%

<sup>\*</sup> Historically used as a short-term payment vehicle, not long-term investment trust



Ms. Kelli Higdon May 30, 2014

#### Service cost growth:

The service cost is expected to grow at varying rates, depending on whether the plan is open or closed as well as the type of benefits provided by the plan.

	All projection years
LG&E and KU Retirement Plan	2.00%
Louisville Gas and Electric Company Bargaining Employees' Retirement Plan	2.00%
LG&E and KU Postretirement Benefit Plan	4.41%

#### Actual return on assets:

The actual return on assets during 2014 is assumed to be equal to the actual return through March 31, 2014 and a 0% return for the remainder of 2014.

	2015 and all subsequent years	2014
LG&E and KU Retirement Plan	7.00%	5.26%
Louisville Gas and Electric Company Bargaining Employees' Retirement Plan	7.00%	5.37%
	_	
LG&E Energy LLC Postretirement Benefit Plan - Union VEBA* - Nonunion VEBA* - 401(h) sub-account	0.00% 0.00% 7.00%	0.00% 0.00% 5.23%

#### Health care cost trend:

	December 31, 2014 and all subsequent years	December 31, 2013
	ali subsequent years	
2014	N/A	7.6%
2015	7.2%	7.2%
2016	6.8%	6.8%
2017	6.4%	6.4%
2018	6.0%	6.0%
2019	5.5%	5.5%
2020+	5.0%	5.0%

All demographic assumptions are the same as those selected by LKE at December 31, 2013 with the
exception of the mortality assumption. Projections include the estimated impact for the potential
mortality assumption change to the fully generational RP-2014 mortality table with MP-2014
projection scale with white collar adjustment (no collar adjustment for the Louisville Gas and Electric

## Attachment to Response to KU KIUC-1 Question No. 16 Page 4 of 17 Arbough



Ms. Kelli Higdon May 30, 2014

Company Bargaining Employees' Retirement Plan
at fiscal year-end 2014. A summary of all other
assumptions can be found in the Assumption Setting Presentation provided to LKE on January 7,
2014. Detailed descriptions of these assumptions will be included in the actuarial valuation reports for
the fiscal year ending December 31, 2014 (to be published during the coming months).

3. All plan provisions are the same as those valued at January 1, 2014 with the exception of the dollar per month multiplier for the Louisville Gas and Electric Company Bargaining Employees' Retirement Plan, which is assumed to increase 3% per year throughout the projection period.

Detailed descriptions of the plan provisions will be included in the actuarial valuation reports for the fiscal year ending December 31, 2014 (to be published during the coming months).

- 4. For the Louisville Gas and Electric Company Bargaining Employees' Retirement Plan, the increases in benefit multipliers are assumed to be collectively bargained and reflected every three years. The increase in Prior Service Cost for the increases in the benefit multipliers for 2015-2017 is assumed to be reflected at December 31, 2014, and the increase in Prior Service Cost for the increase in the benefit multipliers for 2018-2020 is assumed to be reflected at December 31, 2017.
- 5. The expected future service to retirement age (expected future lifetime of the plan population for the the LG&E and KU Supplemental Executive Plan for , each of which have no active plan participants) used in the development of the unrecognized (gain) / loss amortization is equal to the amount developed in the January 1, 2014 actuarial valuation results and is assumed to decrease 0.5 per year for most plans to reflect the aging of the closed populations. The LG&E and KU Non-Executive Pension Restoration Plan and the LG&E and KU Postretirement Benefit Plan are not closed, so they have no assumed decrease in the amortization period.
- 6. The projections for the LG&E and KU Retirement Plan and the Louisville Gas and Electric Company Bargaining Employees' Retirement reflect the actual lump sum payments made to terminated vested participants during the first half of 2014.
- 7. All contributions are assumed to be made at the end of the year. The projections reflect no prefunding for the Non-union and Union VEBAS.
- 8. Under the Affordable Care Act, the Transitional Reinsurance Fee ("TRF") is scheduled to be collected from both self-insured employer medical plans and fully insured medical plans beginning in 2014 and continuing through 2016 as a means to help stabilize premiums for coverage in the individual market (inside and outside the exchanges). Consistent with the 2014 valuation, the TRF will be accounted for outside of the plan, and therefore, the projected postretirement benefit obligations have not been adjusted to reflect the expected cost of the TRF.
- Administrative expenses of the qualified pension plans were assumed to remain level with 2014 during the projection period and are allocated based on actual administrative expenses in 2013. Postretirement Benefit Plan administrative expenses were kept consistent with 2013 actual expenses during the projection period.

#### Actuarial certification

In preparing the calculations contained in this letter, Towers Watson has used information and data provided to us by LKE and other persons or organizations designated by LKE. We have relied on all the

## Attachment to Response to KU KIUC-1 Question No. 16 Page 5 of 17 Ms. Kelli Hiodon Arbough



Ms. Kelli Higdon May 30, 2014

data and information provided, including plan provisions and asset information, as being complete and accurate. We have reviewed this information for overall reasonableness and consistency but have neither audited nor independently verified this information.

As required by ASC 715, the actuarial assumptions and methods employed in the development of the pension and postretirement plan obligations have been selected by the plan sponsor. Towers Watson has concurred with these assumptions and methods. ASC 715 requires that each significant assumption "individually represent the best estimate of a particular future event."

The results documented in this letter are estimates based on data that may be imperfect and on assumptions about future events that cannot be predicted with any certainty. Certain plan provisions may be approximated or determined to be immaterial and therefore not valued. Assumptions may be made about participant data or other factors. We have made reasonable efforts to ensure that items that are material in the context of the actuarial liabilities or costs are treated appropriately, and not excluded or included inappropriately.

Actual future experience will differ from the assumptions used in our calculations. As these differences arise, contributions or the cost for accounting purposes will be adjusted in future valuations to take changes into account. If these adjustments become material, they may result in future adjustments to the valuation model.

The results shown in this letter have been developed based on actuarial assumptions that, to the extent evaluated or selected by Towers Watson, we consider to be reasonable. Other actuarial assumptions could also be considered to be reasonable. Thus, reasonable results differing from those presented in this report could have been developed by selecting different reasonable assumptions.

The numbers in this letter are not rounded, but this is for convenience only and should not imply precision, which is not a characteristic of actuarial calculations.

The calculations provided in this letter have been prepared solely for the benefit of LKE for budgeting purposes. This letter should not be used for other purposes, and we accept no responsibility for any such use. It should not be relied upon by, or shared with, any third parties without Towers Watson's prior written consent.

This letter is provided subject to the terms set out herein and in our engagement letter dated March 28, 2013 and any accompanying or referenced terms and conditions.

This letter provides actuarial calculations. It does not constitute legal, accounting, tax or investment advice. We encourage you to consult with qualified advisors with respect to those matters.

The undersigned consulting actuaries are members of the Society of Actuaries and other professional actuarial organizations and meet the "Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States" relating to retirement plans. Our objectivity is not impaired by any relationship between the plan sponsor and our employer, Towers Watson.

\* \* \* \* \* \*



Ms. Kelli Higdon May 30, 2014

Please do not hesitate to call if you have any questions.

Sincerely,

Royce S. Kosoff, FSA, EA, CFA

William Lot

Senior Consulting Actuary Direct Dial: 215-246-6815

Kaya Koseff

Jennifer A. Della Pietra, ASA, EA

Jerrifu a. Della letto

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cc: David Crosby – LG&E and KU Energy LLC

Dan Arbough – LG&E and KU Energy LLC

George Sunder – PPL Corporation Karla Durn – PPL Corporation

Kristin May, FSA, EA, MAAA - Towers Watson

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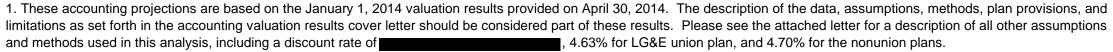
## LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Qualified Pension Plans 2015 Fiscal Year

	Regulatory	Regulatory	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
		LG&E and KU Retirement Plan							
	LG&E			WKE	Non-union				
	Non-union	KU	Servco	Non-union	Total	LG&E Union	<b>WKE Union</b>	US GAAP	Servco
Service cost	2,155,220	8,410,431	13,520,777			1,599,741	I		13,520,777
Interest cost	10,551,938	19,171,202	22,337,611			15,165,158			22,337,611
Expected return on assets	(13,641,272)	(24,458,474)	(24,752,753)			(18,956,655)	I		(24,752,753)
Amortizations:							_		
Transition	-	-	-	Ī	Ī	-	Ī	1	-
Prior service cost	1,815,457	691,706	-	Ī	_	3,325,004	Ī		2,498,015
(Gain)/loss	6,901,548	10,935,346	2,085,458			12,243,026	Ī		9,793,863
ASC 715 NPBC	7,782,891	14,750,211	13,191,094			13,376,274			23,397,513

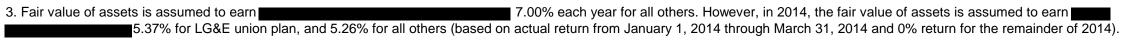
## LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Qualified Pension Plans 2016 Fiscal Year

	Regulatory	Regulatory	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
	LG&E and KU Retirement Plan								
	LG&E			WKE	Non-union				
	Non-union	KU	Servco	Non-union	Total	LG&E Union	<b>WKE Union</b>	US GAAP	Servco
Service cost	2,198,325	8,578,640	13,791,192	-		1,631,736	Ī		13,791,192
Interest cost	10,637,140	19,621,767	23,548,502			15,243,630			23,548,502
Expected return on assets	(14,261,169)	(25,741,568)	(26,572,160)			(20,026,033)	Ī		(26,572,160)
Amortizations:									
Transition	-	-	-	Ī	Ī	-	Ī	1	-
Prior service cost	1,287,626	26,068	-	Ī	_	3,325,004	Ī		2,390,646
(Gain)/loss	5,986,095	9,630,885	1,868,345			10,484,456	Ī		9,122,994
ASC 715 NPBC	5,848,016	12,115,792	12,635,880			10,658,793			22,281,175

#### **Notes**



2. Projections reflect the actual impact of the Terminated Vested (TV) lump sum windows phased between 2013 and 2014.



4. Service cost is assumed to grow by 2% annually.

5. RP-2014 mortality with MP-2014 projection has been reflected in each projection year (no collar adjustment for union plans and white collar for non-union plans).

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## LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Qualified Pension Plans 2017 Fiscal Year

	Regulatory	Regulatory	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
		LG&E and KU Retirement Plan							-
	LG&E			WKE	Non-union				
	Non-union	KU	Servco	Non-union	Total	LG&E Union	<b>WKE Union</b>	US GAAP	Servco
Service cost	2,242,291	8,750,213	14,067,016			1,664,371	ĺ		14,067,016
Interest cost	10,718,015	20,070,290	24,745,247			15,297,267			24,745,247
Expected return on assets	(14,784,541)	(26,903,275)	(28,371,007)			(20,947,423)			(28,371,007)
Amortizations:									
Transition	-	-	-	Ī	Ī	-	ľ		-
Prior service cost	1,154,543	23,744	-	Ī	_	3,325,004	Ī		2,282,700
(Gain)/loss	5,497,877	9,230,455	1,626,773			8,916,672	Ī		8,427,667
ASC 715 NPBC	4,828,185	11,171,427	12,068,030			8,255,892			21,151,623

## LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Qualified Pension Plans 2018 Fiscal Year

	Regulatory	Regulatory	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
		LG&E a	nd KU Retiremer	nt Plan					
	LG&E			WKE	Non-union				
	Non-union	KU	Servco	Non-union	Total	LG&E Union	<b>WKE Union</b>	US GAAP	Servco
Service cost	2,287,137	8,925,217	14,348,356	Ī		1,697,658	I		14,348,356
Interest cost	10,790,593	20,510,646	25,921,046			15,858,595			25,921,046
Expected return on assets	(15,261,483)	(28,041,350)	(30,135,227)			(21,730,052)			(30,135,227)
Amortizations:									
Transition	-	-	-	I	I	-	I		-
Prior service cost	924,330	18,294	-	Ī		4,837,907	Ī		1,781,848
(Gain)/loss	5,292,482	8,800,029	1,363,907			8,074,468	Ī		7,711,044
ASC 715 NPBC	4,033,059	10,212,836	11,498,082			8,738,576			19,627,067

#### **Notes**

- 1. These accounting projections are based on the January 1, 2014 valuation results provided on April 30, 2014. The description of the data, assumptions, methods, plan provisions, and limitations as set forth in the accounting valuation results cover letter should be considered part of these results. Please see the attached letter for a description of all other assumptions and methods used in this analysis, including a discount rate of 4.42% for the WKE union plan, 4.63% for LG&E union plan, and 4.70% for the nonunion plans.
- 2. Projections reflect the actual impact of the Terminated Vested (TV) lump sum windows phased between 2013 and 2014.
- 3. Fair value of assets is assumed to earn 0% each year for the WKE union plan and 7.00% each year for all others. However, in 2014, the fair value of assets is assumed to earn 0% for the WKE union plan, 5.37% for LG&E union plan, and 5.26% for all others (based on actual return from January 1, 2014 through March 31, 2014 and 0% return for the remainder of 2014).
- 4. Service cost is assumed to grow by 2% annually.
- 5. RP-2014 mortality with MP-2014 projection has been reflected in each projection year (no collar adjustment for union plans and white collar for non-union plans).

## LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Qualified Pension Plans 2019 Fiscal Year

	Regulatory	Regulatory	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
		LG&E a	nd KU Retiremer	nt Plan					
	LG&E			WKE	Non-union				
	Non-union	KU	Servco	Non-union	Total	LG&E Union	<b>WKE Union</b>	US GAAP	Servco
Service cost	2,332,880	9,103,721	14,635,323			1,731,611			14,635,323
Interest cost	10,851,525	20,943,964	27,054,810			15,881,545			27,054,810
Expected return on assets	(15,698,596)	(29,152,709)	(31,830,055)			(22,562,274)	Ī		(31,830,055)
Amortizations:									
Transition	-	-	-			-	I		-
Prior service cost	5	3	-	Ī	_ ■	4,674,242	Ī		4
(Gain)/loss	5,074,844	8,343,445	1,085,946			7,708,180	Ī		6,979,327
ASC 715 NPBC	2,560,657	9,238,425	10,946,024			7,433,305			16,839,410

#### **Notes**

- 1. These accounting projections are based on the January 1, 2014 valuation results provided on April 30, 2014. The description of the data, assumptions, methods, plan provisions, and limitations as set forth in the accounting valuation results cover letter should be considered part of these results. Please see the attached letter for a description of all other assumptions and methods used in this analysis, including a discount rate of 4.63% for LG&E union plan, and 4.70% for the nonunion plans.
- 2. Projections reflect the actual impact of the Terminated Vested (TV) lump sum windows phased between 2013 and 2014.
- 3. Fair value of assets is assumed to earn 5.37% for LG&E union plan, and 5.26% for all others (based on actual return from January 1, 2014 through March 31, 2014 and 0% return for the remainder of 2014).
- 4. Service cost is assumed to grow by 2% annually.
- 5. RP-2014 mortality with MP-2014 projection has been reflected in each projection year (no collar adjustment for union plans and white collar for non-union plans).

### LG&E & KU Energy LLC Estimated Cash Contributions for Plan Years 2014-2019 (\$ millions)

		LG&E a	and KU Retireme					
	LG&E							
	Nonunion	KU	Servco	WKE Nonunion	Nonunion Total	LG&E Union	WKE Union	Grand Total
1/14/2014 actual	8,200,000	2,200,000	24,700,000			•		
12/31/2015	7,782,891	14,750,211	13,191,094			13,376,274		
12/31/2016	5,848,016	12,115,792	12,635,880			10,658,793		
12/31/2017	4,828,185	11,171,427	12,068,030			8,255,892		
12/31/2018	4,033,059	10,212,836	11,498,082			8,738,576		
12/31/2019	2,560,657	9,238,425	10,946,024			7,433,305		

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## LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Non-qualified Pension Plans Financial Accounting Basis 2015 Fiscal Year

	Officers SERP	Restoration Plan	SERP	Non-qualifed Total
Service cost				
Interest cost				
Expected return on assets				
Amortizations:				
Transition				
Prior service cost				
(Gain)/loss				
ASC 715 NPBC				

# LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Non-qualified Pension Plans Financial Accounting Basis 2016 Fiscal Year

	Officers SERP	Restoration Plan	SERP	Non-qualifed Total
Service cost				
Interest cost				
Expected return on assets				
Amortizations:				
Transition				
Prior service cost				
(Gain)/loss				
ASC 715 NPBC				

Notes		



# LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Non-qualified Pension Plans Financial Accounting Basis 2017 Fiscal Year

	Officers SERP	Restoration Plan	SERP	Non-qualifed Total
Service cost				
Interest cost				
Expected return on assets				
Amortizations:				
Transition				
Prior service cost				
(Gain)/loss				
ASC 715 NPBC				

# LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Non-qualified Pension Plans Financial Accounting Basis 2018 Fiscal Year

	Officers SERP	Restoration Plan	SERP	Non-qualifed Total
Service cost				
Interest cost				
Expected return on assets				
Amortizations:				
Transition				
Prior service cost				
(Gain)/loss				
ASC 715 NPBC	1	ı		1

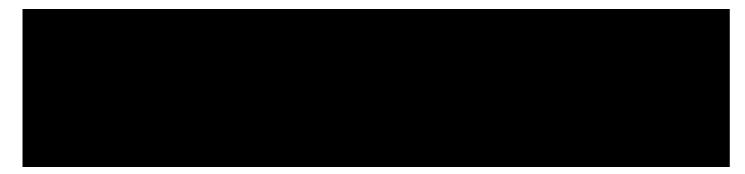
Notes		

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# LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Non-qualified Pension Plans Financial Accounting Basis 2019 Fiscal Year

	Officers SERP	Restoration Plan	SERP	Non-qualifed Total
Service cost				
Interest cost				
Expected return on assets				
Amortizations:				
Transition				
Prior service cost				
(Gain)/loss				
ASC 715 NPBC				



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## LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Benefit Cost ("NPBC") For Postretirement Benefit Plan 2015 Fiscal Year

	Regulatory	Regulatory	Financial	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
			Non-l	Jnion						
	LG&E	KU	ServCo	WKE	International	Total	LG&E Union	WKE Union	US GAAP	ServCo
Service cost	537,410	1,806,997	2,193,217				524,683			2,193,217
Interest cost	1,482,491	3,537,211	1,943,715				2,465,236			1,943,715
Expected return on assets	(584,205)	(2,200,366)	(2,465,664)				-			(2,465,664)
Amortizations:								_		
Transition	-	-	-	Ī		Ī	-		1	-
Prior service cost	283,863	586,092	512,905				1,064,718	Ī		512,905
(Gain)/loss	-	-	-	<u> </u>	<u> </u>		-	_		-
ASC 715 NPBC	1,719,560	3,729,934	2,184,173				4,054,637			2,184,173

## LG&E & KU Energy LLC Estimated ASC 715 Expense For Postretirement Benefit Plans 2016 Fiscal Year

	Regulatory	Regulatory	Financial	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
			Non-U	Jnion						
	LG&E	KU	ServCo	WKE	International	Total	LG&E Union	WKE Union	US GAAP	ServCo
Service cost	561,110	1,886,686	2,289,938				547,822			2,289,938
Interest cost	1,452,466	3,546,221	2,041,955				2,434,631			2,041,955
Expected return on assets	(690,389)	(2,564,982)	(2,910,574)				-			(2,910,574)
Amortizations:				<u> </u>				_		·
Transition	-	-	-	Ī	1 1	Ī	-	Ī	I I	-
Prior service cost	283,861	586,089	512,905				665,070	Ī		512,905
(Gain)/loss	-	-	-	<u> </u>			-	_		-
ASC 715 NPBC	1,607,048	3,454,014	1,934,224				3,647,522			1,934,224

#### Notes

- 1. These accounting projections are based on the January 1, 2014 valuation results provided on May 16, 2014. The description of the data, assumptions, methods, plan provisions, and limitations as set forth in the accounting valuation results cover letter should be considered part of these results. Please see the attached letter for a description of all other assumptions and methods used in this analysis, including a discount rate of 4.41%.
- 2. Non-union and Union VEBA amounts are assumed to remain level over the projection period (i.e., contributions equal disbursements and a 0.00% actual return on assets). 401(h) amounts are assumed to earn 7.00% each year, and contributions to the 401(h) account are assumed to be equal to the maximum deductible amount, starting in 2014 and are expected to be contributed at year-end. However, in 2014, the fair value of 401(h) assets is assumed to earn 5.23% (based on actual return from January 1, 2014 through March 31, 2014 and 0% return for the remainder of 2014).
- 3. We have assumed service cost growth equal to the discount rate (4.41% per year).
- 4. As instructed by LKE, historical allocation methodology has been followed (specifically, the calculation of the loss/(gain) amortization).
- 5. RP-2014 mortality with MP-2014 projection has been reflected in each projection year (white collar).

Attachment to Response to KU KIUC-1 Question No. 16



## LG&E & KU Energy LLC Estimated ASC 715 Expense For Postretirement Benefit Plans 2017 Fiscal Year

	Regulatory	Regulatory	Financial	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
	Non-Union									
	LG&E	KU	ServCo	WKE	International	Total	LG&E Union	WKE Union	US GAAP	ServCo
Service cost	585,855	1,969,889	2,390,924				571,981			2,390,924
Interest cost	1,425,610	3,550,969	2,135,829				2,401,000			2,135,829
Expected return on assets	(822,724)	(3,005,922)	(3,454,578)				-			(3,454,578)
Amortizations:				<u> </u>				_		
Transition	-	-	-	I		Ī	-	I	I I	-
Prior service cost	-	-	1		Ī	_	375,701	Ī		1
(Gain)/loss	-	-	-	I	Ī		-			-
ASC 715 NPBC	1,188,741	2,514,936	1,072,176				3,348,682			1,072,176

## LG&E & KU Energy LLC Estimated ASC 715 Expense For Postretirement Benefit Plans 2018 Fiscal Year

	Regulatory	Regulatory	Financial	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
	Non-Union									
	LG&E	KU	ServCo	WKE	International	Total	LG&E Union	<b>WKE Union</b>	US GAAP	ServCo
Service cost	611,691	2,056,761	2,496,364	Ī			597,205			2,496,364
Interest cost	1,401,936	3,551,831	2,226,928				2,363,243			2,226,928
Expected return on assets	(917,584)	(3,331,269)	(3,853,454)				-			(3,853,454)
Amortizations:				•						
Transition	-	-	-				-	I	I I	-
Prior service cost	-	-	-				375,701	Ī		-
(Gain)/loss	-	-	-				-			-
ASC 715 NPBC	1,096,043	2,277,322	869,838				3,336,149	_		869,838

#### **Notes**

- 1. These accounting projections are based on the January 1, 2014 valuation results provided on May 16, 2014. The description of the data, assumptions, methods, plan provisions, and limitations as set forth in the accounting valuation results cover letter should be considered part of these results. Please see the attached letter for a description of all other assumptions and methods used in this analysis, including a discount rate of 4.41%.
- 2. Non-union and Union VEBA amounts are assumed to remain level over the projection period (i.e., contributions equal disbursements and a 0.00% actual return on assets). 401(h) amounts are assumed to earn 7.00% each year, and contributions to the 401(h) account are assumed to be equal to the maximum deductible amount, starting in 2014 and are expected to be contributed at year-end. However, in 2014, the fair value of 401(h) assets is assumed to earn 5.23% (based on actual return from January 1, 2014 through March 31, 2014 and 0% return for the remainder of 2014).
- 3. We have assumed service cost growth equal to the discount rate (4.41% per year).
- 4. As instructed by LKE, historical allocation methodology has been followed (specifically, the calculation of the loss/(gain) amortization).
- 5. RP-2014 mortality with MP-2014 projection has been reflected in each projection year (white collar).

Attachment to Response to KU KIUC-1 Question No. 16
Page 14 of 17
Arbough



# LG&E & KU Energy LLC Estimated ASC 715 Expense For Postretirement Benefit Plans 2019 Fiscal Year

	Regulatory	Regulatory	Financial	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
			Non-l	Jnion						
	LG&E	KU	ServCo	WKE	International	Total	LG&E Union	WKE Union	US GAAP	ServCo
Service cost	638,667	2,147,464	2,606,454				623,542			2,606,454
Interest cost	1,379,251	3,552,117	2,313,805				2,318,606			2,313,805
Expected return on assets	(976,211)	(3,537,094)	(4,103,588)				-			(4,103,588)
Amortizations:								_		
Transition	-	-	-	Ī		I	-	Ī	1	-
Prior service cost	-	-	-	Ī	Ī	Ī	375,701	Ī		-
(Gain)/loss	-	-	-	Ī	i	Ī	-	_		-
ASC 715 NPBC	1,041,707	2,162,488	816,670				3,317,849	_		816,670

### **Notes**

- 1. These accounting projections are based on the January 1, 2014 valuation results provided on May 16, 2014. The description of the data, assumptions, methods, plan provisions, and limitations as set forth in the accounting valuation results cover letter should be considered part of these results. Please see the attached letter for a description of all other assumptions and methods used in this analysis, including a discount rate of 4.41%.
- 2. Non-union and Union VEBA amounts are assumed to remain level over the projection period (i.e., contributions equal disbursements and a 0.00% actual return on assets). 401(h) amounts are assumed to earn 7.00% each year, and contributions to the 401(h) account are assumed to be equal to the maximum deductible amount, starting in 2014 and are expected to be contributed at year-end. However, in 2014, the fair value of 401(h) assets is assumed to earn 5.23% (based on actual return from January 1, 2014 through March 31, 2014 and 0% return for the remainder of 2014).
- 3. We have assumed service cost growth equal to the discount rate (4.41% per year).
- 4. As instructed by LKE, historical allocation methodology has been followed (specifically, the calculation of the loss/(gain) amortization).
- 5. RP-2014 mortality with MP-2014 projection has been reflected in each projection year (white collar).

## PLAN PROVISION CHANGES FOR POSTRETIREMENT BENEFIT PLAN USED IN 2015-2019 PROJECTIONS

Effective Date for Projection	
Purposes	Non-Union and LG&E Union Plans
January 1, 2015	no change
January 1, 2016	no change
January 1, 2017	no change
January 1, 2018	no change
January 1, 2019	no change

## LG&E & KU Energy LLC Estimated Benefit Payments For Postretirement Benefit Plans

	Non-Union								
Fiscal Year	LG&E	KU	ServCo	WKE	International	Total	LG&E Union	<b>WKE Union</b>	<b>Grand Total</b>
2014	2,767,532	5,019,751	1,474,912				3,670,387		
2015	2,716,609	5,054,889	1,725,205				3,649,465		
2016	2,684,553	5,226,755	2,097,331				3,719,108		
2017	2,559,185	5,425,895	2,311,469				3,771,568		
2018	2,537,176	5,578,363	2,613,809				3,887,965		
2019	2,518,654	5,626,336	2,895,839				4,059,141		

### Estimated Year End Contributions to 401(h) Account

	401(h)
Fiscal Year	Account
2014	7,696,655
2015	8,594,692
2016	10,466,377
2017	5,183,709
2018	1
2019	

### **Notes**

- 1. These accounting projections are based on the January 1, 2014 valuation results provided on May 16, 2014. The description of the data, assumptions, methods, plan provisions, and limitations as set forth in the accounting valuation results cover letter should be considered part of these results. Please see the attached letter for a description of all other assumptions and methods used in this analysis, including a discount rate of 4.41%.
- 2. Non-union and Union VEBA amounts are assumed to remain level over the projection period (i.e., contributions equal disbursements and a 0.00% actual return on assets). 401(h) amounts are assumed to earn 7.00% each year, and contributions to the 401(h) account are assumed to be equal to the maximum deductible amount, starting in 2014 and are expected to be contributed at year-end. However, in 2014, the fair value of 401(h) assets is assumed to earn 5.23% (based on actual return from January 1, 2014 through March 31, 2014 and 0% return for the remainder of 2014).
- 3. We have assumed service cost growth equal to the discount rate (4.41% per year).
- 4. As instructed by LKE, historical allocation methodology has been followed (specifically, the calculation of the loss/(gain) amortization).
- 5. RP-2014 mortality with MP-2014 projection has been reflected in each projection year (white collar).
- 6. The 401(h) contribution is assumed to be made at the end of the calendar year. The expected 401(h) contribution amount for 2014 may change when the actual 2014 ERISA funding valuation for the LG&E and KU Retirement Plan is completed.

Attachment to Response to KU KIUC-1 Question No. 16
Page 16 of 17
Arbough

Qualified Pension Plans: Reconciliation of 2015 Budgets	Consolidated US GAAP Expense
2015 Budget provided September 12, 2013	35.7
Demographic gains: Reflection of updated data as of January 1, 2014	(3.7)
Mortality: Incremental increase from RP-2000 / Scale BB to RP-2014 / MP-2014*	13.9
Discount Rates: Approximately 30-40 basis point decrease	4.2
Plan changes: Reflection of anticipated Dollar Per Month increase in LG&E Bargaining Plan	1.7
Contributions: Actual 2014 funding higher than expected	(2.0)
Asset returns: Assumed January 1, 2015 values higher than previous projections	(0.7)
Updated 2015 Budget provided May 30, 2014	49.1

<sup>\*</sup>Note that the mortality assumption change is preliminary at this point, and will be reviewed with LKE and PPL in the coming months. Actual table and projection scale used at year-end 2014 may differ from the assumption used in these forecasts.

### 2. All Plans: Comparison of 2014 actual expense to updated 2015 budgets

- -Qualified plans: consolidated expense projection for 2015 is \$31.2 million higher than 2014 expense primarily due to the change in the mortality assumption (LKE did not move to the scale BB projection at year-end 2013, so unlike impact above, impact from 2014 to 2015 is not incremental). The 50 basis point decrease in assumed discount rate, as well as the plan change, also increased the 2015 expense projection.
- -Postretirement Benefit Plan: consolidated expense projection for 2015 is \$1.2 million higher than 2014 expense predominantly due to the change in the mortality assumption (where retiree medical losses are offset by life insurance gains) and the 50 basis point decrease in assumed discount rate.

### 3. Nonqualified Plan: Comparison of 2015 budgets

### 4. Postretirement Benefit Plan: Comparison of 2015 budgets

- The consolidated US GAAP expense for the Postretirement Benefit Plan 2015 budget increased from \$10.3 million in May 2013 to \$11.6 million primarily due to the reflection of updated per capita claim costs as of January 1, 2014 and the mortality change, offset by the 42 basis point increase in assumed discount rate.

### 5. Qualified Pension Plans: Comparison of 2016 budgets

-The 2016 budget increase for the qualified plans is \$6.8 million. The key drivers are consistent with the reconciliation above (i.e. mortality assumption change, discount rate decrease, and plan change).

### KENTUCKY UTILITIES COMPANY

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 17** 

Responding Witness: Daniel K. Arbough / Counsel

- Q.1-17. Please provide a copy of all studies, analyses, reports, and correspondence between the Company and its pension actuaries discussing and/or quantifying the change in the 2015, 2016, and/or 2017 pension cost proposed by the Company for the test year in this filing.
- A.1-17. The Company objected to this question on January 19, 2015, because it requires the Company to reveal the contents of communications with counsel and the mental impressions of counsel, which information is protected from disclosure by the attorney-client privilege and the work product doctrine. Without waiver of these objections, see the attached documents that have been identified within the time permitted for this response. Counsel for the Company is continuing to undertake a reasonable and diligent search for other such documents and will reasonably supplement this response through a rolling production of documents.

Page 1 of 101

From: Della Pietra, Jennifer (Philadelphia)(jennifer.dellapietra@towerswatson.com) Arbough

To: Arbough, Dan; Kugler, Jeanne; Higdon, Kelli; Wright, Jeanne; Mottley, Vaneeca; Cosby, David; Jessee, Martha; Blake,

Kent; Scott, Valerie; Meiman, Greg

CC: Kosoff, Royce (Philadelphia); Genung, Judy; May, Kristin (Philadelphia)

BCC:

Subject: LKE Experience Study Follow-ups Sent: 11/14/2014 03:52:17 PM -0500 (EST)

Attachments:

Hi All,

This email addresses the two open items from our experience study call on Thursday:

- \* LTD Plan forecast delivered in May 2014: the year-end 2014 projection of the postemployment obligation under ASC 712 reflected a change to the RP-2014 disabled mortality table including the MP-2014 generational mortality improvement projection (i.e. no need to update forecast for MP-2014)
- \* Union termination assumption:
- o Actual terminations during 3 year period = 3
- o Actual transfers during 3 year period = 20
- o Expected terminations over 3-year period under current assumption = 7
- o Expected terminations over 3-year period if harmonizing assumption with new non-union table (SOA Hourly Union Termination Table) = 10
- o LKE considerations:
- 1. Keep current assumption due to low actual termination experience, or
- 2. Harmonize the assumption with the non-union plan, if LKE expects terminations to increase in the future

On a somewhat related topic, please let us know when you have details regarding anticipated plan headcount reductions due to the Cane Run and Green River plant closures. We do not anticipate increasing the plan termination rates to reflect these closings, but rather, expect to recognize these as one-time events. As the 2015 closure of Cane Run and 2016 closure of Green River approach, we should plan on discussing the accounting treatment and whether a significant number of terminations will occur.

Please let us know if you have any questions regarding the information provided above.

Jennifer A. Della Pietra, ASA, EA
Senior Consulting Actuary
Towers Watson
1500 Market Street, Centre Square East | Philadelphia, PA 19102-4790
T +1 215 246 6861
C +1 215 251 6031

jennifer.dellapietra@towerswatson.com<mailto:jennifer.dellapietra@towerswatson.com>

towerswatson.com

F +1 215 246 6251

do:jad I er:rsk I tr:jad I cr:rsk I spr:N/A

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From: Arbough, Dan(/O=LGE/OU=LOUISVILLE/CN=RECIPIENTS/CN=ADMINISTRATIVE/CN=DANARB\(\O \) thiching h

To: 'Kosoff, Royce (Philadelphia)'; Mudd, Ken; Higdon, Kelli; Meiman, Greg

**CC:** Genung, Judy; Della Pietra, Jennifer (Philadelphia)

BCC:

**Subject:** RE: Louisville Meeting - March 10 & 11 **Sent:** 02/20/2014 05:11:07 PM -0500 (EST)

Attachments:

No changes from the Finance team.

### Dan

From: Kosoff, Royce (Philadelphia) [mailto:royce.kosoff@towerswatson.com]

Sent: Thursday, February 20, 2014 9:45 AM

To: Mudd, Ken; Arbough, Dan; Higdon, Kelli; Meiman, Greg Cc: Genung, Judy; Della Pietra, Jennifer (Philadelphia)

Subject: Louisville Meeting - March 10 & 11

We are looking forward to visiting you on March 10 & 11. Let us know if you have any additions or revisions to the proposed agenda, as well as which day should focus on each set of topics. Glad to schedule a brief call next week to help coordinate, if you'd like. Thanks.

### "Finance-oriented":

- Year-end 2013 recap / final assumptions benchmarking
- Review of 2014 budget estimates (to be sent tomorrow)
- 2014 valuation planning
- Forecasting / 2015 budgeting
- Channel demo with LKE forecasting group and Treasury (to see if automated system can meet high level needs and supplement manual forecast project each year)

### "HR-oriented":

- 2014 planning
- Nondiscrimination testing LKE plans and update on temporary IRS relief
- L2100 Union negotiation update (likely with Angie Gosman)
- 2014 experience study planning
- Government forms coordination

Time permitting, we also may want to cover a few other items:

- Legislative update
- PBGC update, including the latest on flat rate and variable premiums, and LKE lookback method
- Mortality update
- Risk management update (annuity marketplace; additional lump sum prevalence data, etc.)

#### Royce S. Kosoff, FSA, EA, CFA

Senior Consulting Actuary

### **Towers Watson**

Centre Square East | 1500 Market Street | Philadelphia, PA 19102

T 215 246 6815 M 215 880 3038 towerswatson.com

From: Genung, Judy [mailto:Judy.Genung@lge-ku.com]

Sent: Wednesday, February 05, 2014 11:46 AM

Arbough

To: Kosoff, Royce (Philadelphia)

Subject: RE: Possible Louisville Meeting

### Royce:

I've just re-sent the HOLD invitations for 3/10 PM and 3/11 AM. I have secured a conference room on our 12<sup>th</sup> floor. Due to the possible number of attendees, I want to ensure you have plenty of room.

Thanks.

Judy

Judy Genung LG&E and KU Services Company Human Resources

P: (502) 627-4769 F: (502) 217-4023

judy.genung@lge-ku.com

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Page 4 of 101

From: Arbough, Dan(/O=LGE/OU=LOUISVILLE/CN=RECIPIENTS/CN=ADMINISTRATIVE/CN=DANARE OR this has a second control of the control

To: 'Kosoff, Royce (Philadelphia)'; Durn, Karla A [PPL]; Clelland, Russell R [PPL]

CC: May, Kristin (Philadelphia); Della Pietra, Jennifer (Philadelphia); TW PPL All Valuation Teams; Hook, Peter B [PPL];

Mudd, Ken

BCC:

Subject: RE: Pension Funding Stabilization - Receipt LKE, Receipted as LKE, Unresponsive

Sent: 08/01/2014 12:39:23 PM -0400 (EDT)

Attachments:

I am on vacation Aug 11-13, but if you have a call I would be interested in a summary.

### Dan

From: Kosoff, Royce (Philadelphia) [mailto:royce.kosoff@towerswatson.com]

Sent: Friday, August 01, 2014 12:18 PM

To: Durn, Karla A [PPL]; Arbough, Dan; Clelland, Russell R [PPL]

Cc: May, Kristin (Philadelphia); Della Pietra, Jennifer (Philadelphia); TW PPL All Valuation Teams; Hook, Peter B [PPL]; Mudd, Ken

Subject: Pension Funding Stabilization - cted a LKE, Unresponsive

### Karla, Dan and Russ-

As we have noted over the past several days, pension funding stabilization legislation (i.e., additional pension funding relief) is nearing enactment. The Act passed yesterday by the Senate (and expected to be signed by the President soon) delays the widening of the interest rate corridor under MAP-21 based on the following schedule:

	MAP-21	Highway and Transportation Funding Act
	Corridor around 25-year	average of corporate bond interest
		rates
2012	90-110%	
2013	85-115%	
2014	80-120%	90-110%
2015	75-125%	
2016		
2017		
2018	70-130%	85-115%
2019		80-120%
2020		75-125%
After 2020		70-130%

This extension would increase the 2014 plan year segment rates by approximately 65-75 bps, with even larger increases projected over the next few years. This is expected to significantly reduce contribution requirements, will provide sponsors with additional funding flexibility, and will make it easier for sponsors to maintain funded levels above key thresholds (e.g., 80%).

We believe this legislation will have a significant impact on the Unresponsive LKE plans, as well as future ramifications for the Redacted as Unresponsive LKE plans, as well as future with this group to discuss this issue further. Please let us know if you would be interested, and if August 11 or 12 is available for a conference call.

In the meantime, please let us know if you have any questions.

Your Towers Watson Team

Royce S. Kosoff, FSA, EA, CFA Senior Consulting Actuary

#### Towers Watson

Centre Square East | 1500 Market Street | Philadelphia, PA 19102

T 215 246 6815 M 215 880 3038 towerswatson.com

# Attachment to Response to KIUC-1 Question No. 17 Page 5 of 101 Arbough

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Page 6 of 101

From: Arbough, Dan(/O=LGE/OU=LOUISVILLE/CN=RECIPIENTS/CN=ADMINISTRATIVE/CN=DANARE OUT OF THE PROPERTY OF THE P

To: 'Della Pietra, Jennifer (Philadelphia)'; Wright, Jeanne

CC: Mudd, Ken; Higdon, Kelli; Kugler, Jeanne; May, Kristin (Philadelphia); Sparks, Angela; Mottley, Vaneeca; Kosoff, Royce

(Philadelphia)

BCC:

Subject: RE: 2014 Experience Study and Demographic Assumptions Review - Summary of Proposed Services - Jeanne's

questions

**Sent:** 08/21/2014 02:30:27 PM -0400 (EDT)

Attachments:

### I am available the following times:

 1 - 2:30 PM
 Monday 9/8 - any time after 1:00

 10 AM - 11:30 AM
 Tuesday 9/9 - 10:30-12:00, 2:30-4:30

 10:30 - 12:30 PM and 2 - 4 PM
 Wednesday 9/10 - 10:30-12:30, 2:00-4:00

 8 AM - 12 PM
 Thursday 9/11 - any time except 11:00-12:00

From: Della Pietra, Jennifer (Philadelphia) [mailto:jennifer.dellapietra@towerswatson.com]

Sent: Thursday, August 21, 2014 12:49 PM

To: Wright, Jeanne

Cc: Mudd, Ken; Arbough, Dan; Higdon, Kelli; Kugler, Jeanne; May, Kristin (Philadelphia); Sparks, Angela; Mottley, Vaneeca; Kosoff,

Royce (Philadelphia)

Subject: RE: 2014 Experience Study and Demographic Assumptions Review - Summary of Proposed Services - Jeanne's questions

All -

Since a call today appears to be too last minute to get everyone together, I've included some times in September that we are available. Let me know if any of these timeframes work for getting everyone together for a call in September (we probably only need a half hour, but could schedule 1 hour just in case we run long):

Monday 9/8 – any time after 1:00 Tuesday 9/9 – 10:30-12:00, 2:30-4:30 Wednesday 9/10 – 10:30-12:30, 2:00-4:00 Thursday 9/11 – any time except 11:00-12:00

### Thanks!

From: Wright, Jeanne [mailto:Jeanne.Wright@lge-ku.com]

Sent: Wednesday, August 20, 2014 6:04 PM

To: Kosoff, Royce (Philadelphia)

Cc: Mudd, Ken; Arbough, Dan; Higdon, Kelli; Kugler, Jeanne; Della Pietra, Jennifer (Philadelphia); May, Kristin (Philadelphia); Sparks,

Angela; Mottley, Vaneeca

Subject: RE: 2014 Experience Study and Demographic Assumptions Review - Summary of Proposed Services - Jeanne's questions

I'm sorry Royce and Jennifer -- I didn't see Jennifer's 12:39 email yesterday about trying to schedule a call. I know the HR group is not open tomorrow (Thursday) afternoon. I'll let the Acccounting/Finance folks contact you directly regarding their availability.

### Jeanne

From: Kosoff, Royce (Philadelphia) [mailto:royce.kosoff@towerswatson.com]

Sent: Wednesday, August 20, 2014 5:58 PM

To: Wright, Jeanne

Cc: Mudd, Ken; Arbough, Dan; Higdon, Kelli; Kugler, Jeanne; Della Pietra, Jennifer (Philadelphia); May, Kristin (Philadelphia); Sparks,

Angela; Mottley, Vaneeca

Subject: RE: 2014 Experience Study and Demographic Assumptions Review - Summary of Proposed Services - Jeanne's questions

#### Jeanne-

Thanks for the note. We would like to address your questions (as well as any potential questions from your colleagues in Allentown) before we get started.

Arbough

I believe Jennifer reached out to schedule a call for tomorrow afternoon (maybe in the 3-5 pm window?) Though it would be ideal to have both Allentown and Louisville Finance on the call, if possible, so perhaps we look to September and put something on the calendar now for all?

#### Royce S. Kosoff, FSA, EA, CFA

Senior Consulting Actuary

### **Towers Watson**

Centre Square East | 1500 Market Street | Philadelphia, PA 19102

T 215 246 6815 M 215 880 3038 towerswatson.com

From: Wright, Jeanne [mailto:Jeanne.Wright@lge-ku.com]

Sent: Wednesday, August 20, 2014 5:09 PM

To: Kosoff, Royce (Philadelphia)

Cc: Mudd, Ken; Arbough, Dan; Higdon, Kelli; Kugler, Jeanne; Della Pietra, Jennifer (Philadelphia); May, Kristin (Philadelphia); Sparks,

Angela; Mottley, Vaneeca

Subject: RE: 2014 Experience Study and Demographic Assumptions Review - Summary of Proposed Services - Jeanne's questions

### Royce,

I saw where Pete sent an email stating that PPL was fine with the proposal.

However, please make sure that someone gets back to us about these questions. Especially #5 which could impact your SOW for the project. And #2, because LKE resources are committed to other projects and if Mercer Boston resources will be needed, we'll need to get costs for their work.

### Jeanne

From: Wright, Jeanne

Sent: Friday, August 15, 2014 8:33 AM To: 'Kosoff, Royce (Philadelphia)'

Cc: Mudd, Ken; Arbough, Dan; Higdon, Kelli; Kugler, Jeanne; Della Pietra, Jennifer (Philadelphia)

(jennifer.dellapietra@towerswatson.com); Ausiello, Kristin (Philadelphia) (kristin.ausiello@towerswatson.com)

Subject: RE: 2014 Experience Study and Demographic Assumptions Review - Summary of Proposed Services - Jeanne's questions

### Royce,

After a quick read of the proposal, I have a few questions:

- 1. The proposal states -- "We are currently working with LKE to obtain the January 1, 2011 active data file for each LKE plan, to complete the three-year data set.". Who have you been working with to get this data?
- The work is to be completed during 2014, before the year-end 2014 financial disclosures and 2015 vals.
   Please identify if any LKE resources will be needed for the study. Be sure to include any time needed to review, check and validate data in your current data base (2012 and 2013) and the 2011 data that you are getting.
- 3. The proposal states "The results will be reviewed alongside the previous experience studies for PPL and LKE (when available), to ensure consistency and accuracy." It might be good if you find out about previous LKE studies and include that in the proposal. And identify if you'll need to contact internal LKE resources and if we'll have Mercer consulting charges for questions about assumptions and methodology.
- 4. The 3-yr study is for 2011, 2012, and 2013. But how do you factor in possible increase in LKE retirements

due to 1) IBEW Local 2100 contract negotiations eff. Nov 2014 and 2) the closing of our coal-fired units at Cane Run in 2015 (when our new natural gas combined cycle unit goes live)?

Page 8 of 101

Arbough

5. Will our Accounting and/or Finance group need the study broken down by any categories – ex: by Company or by union? If so, should the breakdowns be identified in the proposal?

Jeanne

From: Kosoff, Royce (Philadelphia) [mailto:royce.kosoff@towerswatson.com]

Sent: Thursday, August 14, 2014 2:52 PM

To: Hook, Peter B [PPL]; Durn, Karla A [PPL]; Mudd, Ken; Arbough, Dan

Cc: Sunder, George R [PPL]; Lutte-Romig, Barbara J [PPL]; Wright, Jeanne; Kugler, Jeanne; Higdon, Kelli; Della Pietra, Jennifer

(Philadelphia); May, Kristin (Philadelphia)

Subject: 2014 Experience Study and Demographic Assumptions Review - Summary of Proposed Services

#### All.

Attached is our summary of proposed services for the 2014 experience study and demographic assumptions review for the PPL and LKE plans. As discussed, the objective is to complete this work during 2014, to be ready for year-end 2014 financial statement disclosures and the 2015 valuations.

Please let us know if you have any changes to these services, before we send a formal scope of work and commence this analysis.

#### Regards

Your Towers Watson Team

#### Royce S. Kosoff, FSA, EA, CFA

Senior Consulting Actuary

### **Towers Watson**

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From: Arbough, Dan(/O=LGE/OU=LOUISVILLE/CN=RECIPIENTS/CN=ADMINISTRATIVE/CN=DANARBANDIBORIDO IN PROPERTIES OF THE PROPERT

To: 'Della Pietra, Jennifer (Philadelphia)'

CC: BCC:

Subject: RE: Pension Funding Stabilization Sent: 08/19/2014 04:04:36 PM -0400 (EDT)

Attachments:

Jen,

Thanks for the reply. After weighing all of the factors, let's not run the numbers again at this point. If it turns out that it is mandatory to use the new rates for 2014, we will have you run them at that time.

### Dan

From: Della Pietra, Jennifer (Philadelphia) [mailto:jennifer.dellapietra@towerswatson.com]

Sent: Tuesday, August 19, 2014 2:15 PM

To: Arbough, Dan

Cc: Kosoff, Royce (Philadelphia); May, Kristin (Philadelphia)

Subject: Pension Funding Stabilization

Hi Dan,

Funding rules are quite complicated, so please call if anything below is unclear.

If a plan sponsor elects to apply funding balance to the minimum required contribution (MRC), and the amount applied exceeds the MRC, the plan sponsor may elect, no later than 12/31 of the plan year (for a calendar year plan) to revoke the use of the excess balance over the MRC. This would not be an issue for the non-union and union plans for the 2014 plan year, since no funding balance was needed to satisfy minimum funding requirements. However, funding balance has been used to satisfy the 2014 quarterly requirements of the WKE Bargaining Plan. If the 2014 funding results are revised to reflect the interest rate corridors included in the Highway bill and the 2014 MRC for the WKE Plan is less than the funding balance that has already been applied, any excess that was applied for the 2014 plan year can be revoked prior to 12/31/2014.

We are still awaiting regulatory guidance on a long list of implementation issues, including whether the funding stabilization will be optional for 2014. However, we would expect guidance well before the 12/31 deadline for revoking excess usage of funding balance.

None of the LKE qualified plans forfeited (i.e. "waived") funding balance as of 1/1/2014 to stay above a certain funded status threshold.

If LKE contributes to the qualified plans in January 2015, the contribution could either be considered (1) a receivable contribution for the 2014 plan year or (2) a contribution for the 2015 plan year, with the following implications:

- 1) If the January 2015 contribution is a receivable contribution for the 2014 plan year, the discounted value of receivable contribution would be added to 1/1/15 asset value. The contribution would be used to cover a portion or all of the 2014 minimum funding requirements. Any excess could be used to create funding balance, assuming no adverse funded status implications are triggered when funding balance is subtracted from the assets (particularly on a pre-funding stabilization basis). 2015 quarterly contributions requirements, if any, would be satisfied by using funding balance.
- 2) If the January 2015 contribution is applied to the 2015 plan year, the January 2015 contribution is not added to 1/1/15 asset value and is instead used to cover 2015 minimum funding requirements, if any. Funding balance would need to be used to cover remaining 2014 plan year minimum funding requirements.

Based on the preliminary funding results shown on page 3 of the August 12<sup>th</sup> funding stabilization deck, all three qualified plans have a 2014 minimum required contribution (that can be satisfied with funding balance) and 2015 quarterly contribution requirements. Revising the results to reflect the new funding stabilization would reduce the 2014 minimum required contributions and 2015 quarterly requirements, allowing for added contribution flexibility and keeping more funding balance for the future.

Please let us know if it would be easier to discuss this live.

Regards, Jen Jennifer A. Della Pietra, ASA, EA Senior Consulting Actuary Towers Watson

# Attachment to Response to KIUC-1 Question No. 17 Page 11 of 101

Arbough

1500 Market Street, Centre Square East | Philadelphia, PA 19102-4790

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F +1 215 246 6251 jennifer.dellapietra@towerswatson.com

towerswatson.com

do:jad | er:kam | tr:kam | cr:kam | spr:N/A

From: Arbough, Dan [mailto:Dan.Arbough@lge-ku.com]

Sent: Monday, August 18, 2014 6:19 PM To: Della Pietra, Jennifer (Philadelphia) Subject: Pension Funding Stabilization

Jen,

If we submit the numbers as you have currently prepared and it ultimately must be redone because it continues to be mandatory to use the new discount rates, would we be able to reclaim any forfeited use of funding balance? Also, if we make a contribution in January 2015 would we not avoid using the funding balance?

Dan

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From: Arbough, Dan(/O=LGE/OU=LOUISVILLE/CN=RECIPIENTS/CN=ADMINISTRATIVE/CN=DANARB ON the control of the control

To: 'Della Pietra, Jennifer (Philadelphia)'

CC: BCC:

Subject: RE: Pension Funding Stabilization Sent: 08/19/2014 03:01:29 PM -0400 (EDT)

Attachments:

I am on a conference call right now but would you have time to discuss later this afternoon?

From: Della Pietra, Jennifer (Philadelphia) [mailto:jennifer.dellapietra@towerswatson.com]

Sent: Tuesday, August 19, 2014 2:15 PM

To: Arbough, Dan

Cc: Kosoff, Royce (Philadelphia); May, Kristin (Philadelphia)

Subject: Pension Funding Stabilization

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Please let us know if it would be easier to discuss this live.

Regards,

Jen

Jennifer A. Della Pietra, ASA, EA

Senior Consulting Actuary

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# Attachment to Response to KIUC-1 Question No. 17 Page 13 of 101 Arbough

do:jad | er:kam | tr:kam | cr:kam | spr:N/A

From: Arbough, Dan [mailto:Dan.Arbough@lge-ku.com]

Sent: Monday, August 18, 2014 6:19 PM To: Della Pietra, Jennifer (Philadelphia) Subject: Pension Funding Stabilization

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Dan

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\RE\_\_LKE\_PBGC\_Variable\_Rate\_Premium\_-\_Action\_Required\_08-28-2014\_2.msg

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From: Arbough, Dan(/O=LGE/OU=LOUISVILLE/CN=RECIPIENTS/CN=ADMINISTRATIVE/CN=DANARBANDIBORIDO IN PROPERTIES OF THE PROPERT

**To:** 'Loth, Bill (Philadelphia)'; Della Pietra, Jennifer (Philadelphia)

CC: Kosoff, Royce (Philadelphia); Berthoud, Liz (Philadelphia); May, Kristin (Philadelphia); PPL Mailbox

BCC:

Subject: RE: LKE PBGC Variable Rate Premium - Action Required

**Sent:** 08/29/2014 01:56:27 PM -0400 (EDT)

Attachments:

Please just hold off for now.

dan

From: Loth, Bill (Philadelphia) [mailto:bill.loth@towerswatson.com]

Sent: Thursday, August 28, 2014 3:17 PM

To: Arbough, Dan; Della Pietra, Jennifer (Philadelphia)

Cc: Kosoff, Royce (Philadelphia); Berthoud, Liz (Philadelphia); May, Kristin (Philadelphia); PPL Mailbox

Subject: RE: LKE PBGC Variable Rate Premium - Action Required

#### Dan,

It is possible for us to project the difference between the Standard and Alternative Method PBGC premiums over the 5-year period. The Standard Method interest rates are more volatile due to the fact that they are based on a 1-month average of corporate bond yields (while the Alternative Method is based on a 24-month average). As such, we would like to have a conference call with you to discuss if there is a particular curve of interest rates that you would like us to model, as assuming interest rates stay flat over the 5-year period may not provide the most helpful data for you to make a decision.

We plan to project plan assets and contributions to the plans based on the 5-year accounting projections that Jen sent to Kelli Higdon on May 30. On our conference call, we can discuss if you would prefer us to make different assumptions of future assets and contributions.

It is our understanding that the WKE Union plan will be terminated soon, so we would not include the WKE Union plan in the projections.

We estimate that this projection under one interest rate scenario would cost between \$5,000-\$8,000, and additional interest rate scenarios would increase the cost of the projections. Please let us know whether you would like us to run these projections and if you are able to have a conference call to discuss the assumptions before we start the project.

With respect to item 2 below, from a PBGC perspective, you do not have to be consistent with Allentown. The Standard vs. Alternative Method decision is done on a plan-by-plan basis and does not need to be consistent across a controlled group. For instance, you could move to the Standard method for the LG&E Union and Non-union plans this year and remain using the Alternative method for the WKE Union plan. The only requirement by PBGC is that a change in method must be in place for 5 consecutive years before another change is made. This determination is also made on a plan-by-plan basis.

If you have any additional questions, please feel free to contact me.

Bill Loth, FSA, EA Consulting Actuary

**Towers Watson** 

1500 Market St. | Philadelphia, PA 19102 T +1 215 246 6647 F +1 215 246 6251

bill.loth@towerswatson.com towerswatson.com

do:wrl er:kam cr:kam tr:kam spr: n/a

From: Arbough, Dan [mailto:Dan.Arbough@lge-ku.com]

Sent: Thursday, August 28, 2014 8:47 AM To: Della Pietra, Jennifer (Philadelphia)

Cc: Kosoff, Royce (Philadelphia); Berthoud, Liz (Philadelphia); Loth, Bill (Philadelphia)

Subject: RE: LKE PBGC Variable Rate Premium - Action Required

Arbough

Bill,

I have discussed this issue with internal people and a few questions have come up.

- 1. Jen's message indicates that using the alternative method would result in a lower rate for 2016. Is there any way to use the forward curve to project out for the five year period to compare what we think the five year total premiums would be under the two methods?
- 2. Do we need to be consistent with the election made in Allentown for the PPL plans? What have they elected previously?

### Dan

From: Della Pietra, Jennifer (Philadelphia) [mailto:jennifer.dellapietra@towerswatson.com]

Sent: Thursday, August 21, 2014 4:38 PM

To: Arbough, Dan

Cc: Kosoff, Royce (Philadelphia); Berthoud, Liz (Philadelphia); Loth, Bill (Philadelphia)

Subject: LKE PBGC Variable Rate Premium - Action Required

Dan,

Per our conversation, the table below shows the 2014 PBGC Variable Rate Premium (VRP) under both the Standard and Alternative methods for the LKE pension plans.

	Alternative		
Nonunion	\$ -	\$ 260,414	
Union	\$ 301,266	\$ 547,722	
WKE	\$ 5,432	\$ 5,656	
Total	\$ 306,698	\$ 813,792	

- As a reminder, LKE elected to use the Alternative method for determining the VRP in 2008 and has the option to revoke that
  election and use the Standard method in 2014
  - o Standard: Obligation is calculated using pre-MAP-21 December one-month average segment rate (no smoothing)
  - Alternative: Obligation is calculated using pre-MAP-21 valuation interest rates (smoothed over 24 months using LKE's September look-back election)
- Implications of moving to the Standard method
  - Standard method is more volatile
  - o A change to the Standard method will prohibit a change in the method for 5 plan years
  - As of today, the Alternative method would be better than the Standard method for 2015, so a portion (if not all) of the 2014 savings achieved by moving to the Standard method would be offset by the a higher 2015 VRP

Let us know if you have any questions. Please respond regarding which method you would like to use for 2014 by September by September 5<sup>th</sup>.

#### Jennifer A. Della Pietra, ASA, EA

Senior Consulting Actuary

**Towers Watson** 

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From: Arbough, Dan(/O=LGE/OU=LOUISVILLE/CN=RECIPIENTS/CN=ADMINISTRATIVE/CN=DANARBANDIBORIDO IN PROPERTIES OF THE PROPERT

To: 'Della Pietra, Jennifer (Philadelphia)'

CC: Kosoff, Royce (Philadelphia); Berthoud, Liz (Philadelphia); Loth, Bill (Philadelphia)

BCC:

Subject: RE: LKE PBGC Variable Rate Premium - Action Required

**Sent:** 09/02/2014 01:02:38 PM -0400 (EDT)

Attachments:

We elect to stay with the Alternative method for 2014.

Please let me know if you need anything further.

### Dan Arbough

From: Della Pietra, Jennifer (Philadelphia) [mailto:jennifer.dellapietra@towerswatson.com]

Sent: Thursday, August 21, 2014 4:38 PM

To: Arbough, Dan

Cc: Kosoff, Royce (Philadelphia); Berthoud, Liz (Philadelphia); Loth, Bill (Philadelphia)

Subject: LKE PBGC Variable Rate Premium - Action Required

Dan,

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Total	\$ 306,698	\$ 813,792		

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  - o Standard method is more volatile
  - o A change to the Standard method will prohibit a change in the method for 5 plan years
  - As of today, the Alternative method would be better than the Standard method for 2015, so a portion (if not all) of the 2014 savings achieved by moving to the Standard method would be offset by the a higher 2015 VRP

Let us know if you have any questions. Please respond regarding which method you would like to use for 2014 by September by September 5<sup>th</sup>.

Jennifer A. Della Pietra, ASA, EA

Senior Consulting Actuary

**Towers Watson** 

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Page 19 of 101 Arbough

Page 20 of 101

Cosby, David(/O=LGE/OU=LOUISVILLE/CN=RECIPIENTS/CN=COSBYD) Arbough From: 'Kosoff, Royce (Philadelphia)'; Keemer, Gabriela; Della Pietra, Jennifer (Philadelphia); Loth, Bill (Philadelphia) To: CC:

Higdon, Kelli; Mottley, Vaneeca; Shultz, Cathy; Sparks, Angela; Mudd, Ken; Arbough, Dan; Scott, Valerie; Wright,

Jeanne

BCC:

Subject: RE: FAS 112 /ASC 712 information Sent: 06/13/2014 10:53:24 AM -0400 (EDT)

Attachments:

Royce, Bill and Jen,

As we discussed yesterday, we had a conference call with our PPL counterparts today and we will proceed on the LKE side with the pension estimates for 2015-2019 as they were presented. We will need to keep the communication flowing between Towers, PPL and LKE parties on any changing assumptions on the proposed mortality tables or discount rates used. We will let you know if we need to request a new run of the estimates and drivers of changing inputs.

Please continue to work with Jeanne and others on the follow up emails and questions discussed yesterday and we will be in touch with you soon.

Thank you and have a great day.

### David L. Cosby Jr.

**Financial Planning and Analysis** LG&E and KU Energy Services 502-627-2499

david.cosby@lge-ku.com

From: Kosoff, Royce (Philadelphia) [mailto:royce.kosoff@towerswatson.com]

Sent: Thursday, June 12, 2014 10:58 AM

To: Keemer, Gabriela; Della Pietra, Jennifer (Philadelphia); Loth, Bill (Philadelphia)

Cc: Higdon, Kelli; Mottley, Vaneeca; Shultz, Cathy; Cosby, David; Sparks, Angela; Mudd, Ken; Arbough, Dan; Scott, Valerie; Wright,

Subject: RE: FAS 112 /ASC 712 information

### Gabriela-

We agree that a group call would be best, to answer the various questions that are still outstanding. 4-5pm works for us.

#### Royce S. Kosoff, FSA, EA, CFA

Senior Consulting Actuary

#### **Towers Watson**

Centre Square East | 1500 Market Street | Philadelphia, PA 19102

T 215 246 6815 M 215 880 3038 towerswatson.com

From: Keemer, Gabriela [mailto:Gabriela.Keemer@lge-ku.com]

Sent: Thursday, June 12, 2014 9:05 AM

To: Della Pietra, Jennifer (Philadelphia); Loth, Bill (Philadelphia); Kosoff, Royce (Philadelphia)

Cc: Higdon, Kelli; Mottley, Vaneeca; Shultz, Cathy; Cosby, David; Sparks, Angela; Mudd, Ken; Arbough, Dan; Scott, Valerie; Wright,

Subject: RE: FAS 112 /ASC 712 information

Jennifer/Bill/Royce,

# Attachment to Response to KIUC-1 Question No. 17 Page 21 of 101

We have questions and concerns regarding the projections received for the 2015 and the 2014 forecast reduced with the projections received for the 2015 and the 2014 forecast reduced with the projections received for the 2015 and the 2014 forecast reduced with the projections received for the 2015 and the 2014 forecast reduced with the projections received for the 2015 and the 2014 forecast reduced with the 2015 and the 2015 a

We would like to have an LKE-Towers call this afternoon. Please let me know your availability at or after 3:30pm today and I will set up a conference call.

#### Gabriela Keemer

Manager, Forecast & Budgeting - Corporate LG&E and KU Energy 220 W. Main Street Louisville, KY 40202 Gabriela.Keemer@lge-ku.com

P: 502.627.3405 F: 502.217.2931

From: Wright, Jeanne

Sent: Wednesday, June 11, 2014 7:11 PM

To: Della Pietra, Jennifer (Philadelphia) (jennifer.dellapietra@towerswatson.com); bill.loth@towerswatson.com

Cc: Kosoff, Royce (Philadelphia) (royce.kosoff@towerswatson.com); Higdon, Kelli; Mottley, Vaneeca; Keemer, Gabriela; Shultz, Cathy;

Cosby, David; Sparks, Angela; Mudd, Ken Subject: FAS 112 /ASC 712 information

Jennifer and/or Bill,

I understand that you've given FAS 112/ASC 712 numbers to our accounting and budgeting group. And, I heard that the KU liability has dropped significantly. Can you help me understand why it dropped?

Since the data came from a different source this time, and because there were questions in April (4/21/14 email) about Company Code, I want to make sure that we understand the reason for the drop (and that it's not an issue with the data).

Also, please tell me the LTD counts by company for this year and compare them to the LTD counts from the previous FAS 112/ASC 712 report.

Jeanne

Jeanne Wright
Sr. Benefits Specialist
LG&E and KU Energy LLC Benefits Dept.

Phone: (502) 627-2130 Fax: (502) 217-2416

Email: Jeanne.Wright@lge-ku.com

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Arbough

**From:** Kosoff, Royce (Philadelphia)(royce.kosoff@towerswatson.com)

To: Arbough, Dan

**CC:** Mudd, Ken; Della Pietra, Jennifer (Philadelphia)

BCC:

Subject: RE: Possible Louisville Meeting
Sent: 02/04/2014 11:03:55 AM -0500 (EST)

Attachments:

Dan & Ken-

Possible agenda for our visit could include:

### "Finance-oriented":

- Year-end 2013 recap / final assumptions benchmarking
- Review of 2014 budget estimates (to be sent by Feb 21)
- 2014 valuation planning
- Forecasting / 2015 budgeting
- Channel demo with LKE forecasting group and Treasury (to see if automated system can meet high level needs and supplement manual forecast project each year)

### "HR-oriented":

- 2014 planning
- Nondiscrimination testing LKE plans and update on temporary IRS relief
- L2100 Union negotiation update (likely with Angie Gosman)
- 2014 experience study planning
- Government forms coordination

Time permitting, we also may want to cover a few other items:

- Legislative update
- PBGC update, including the latest on flat rate and variable premiums, and LKE lookback method
- Mortality update
- Risk management update (annuity marketplace; additional lump sum prevalence data, etc.)

Let us know your thoughts on agenda, and possible timing. Like our visit last February, we were originally considering February  $27^{th}$  (1-5pm) and  $28^{th}$  (8:30am – 1pm).

### Royce S. Kosoff, FSA, EA, CFA

Senior Consulting Actuary

### **Towers Watson**

Centre Square East |1500 Market Street | Philadelphia, PA 19102

T 215 246 6815 M 215 880 3038 towerswatson.com

From: Arbough, Dan [mailto:Dan.Arbough@lge-ku.com]

Sent: Monday, February 03, 2014 4:25 PM

To: Kosoff, Royce (Philadelphia) Subject: Possible Louisville Meeting

Royce,

I have had a few discussions with folks about a meeting in late Feb or early March. Can you give me an idea of what you think the agenda might look like?

Dan

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Arbough

From: Kosoff, Royce (Philadelphia)(royce.kosoff@towerswatson.com)

To: Sunder, George R [PPL]

CC: Leskowsky, Sharon Ann [PPL]; Castro-Munoz, Sandra Milena [PPL]; Durn, Karla A [PPL]; Sorgi, Vincent [PPL]; Hook,

Peter B [PPL]; Woods, Mark D [PPL]; Arbough, Dan; Kugler, Jeanne; Higdon, Kelli; May, Kristin (Philadelphia); Della

Pietra, Jennifer (Philadelphia); Loth, Bill (Philadelphia); DeGothseir, Will (Philadelphia)

BCC:

Subject: RE: Accounting News Flash/Statistical Yearbook

**Sent:** 04/08/2014 06:04:37 PM -0400 (EDT)

Attachments:

### George-

Thanks for the note.

My understanding is that Towers Watson will be commenting before the end of the period (May 31). I will share our comment letter with you when it is released.

As we discussed last year and into this January, we would recommend taking a closer look at the new RP-2014 tables and MP-2014 scale, and the PPL and LKE populations.

And while we presented a change to Scale BB (from Scale AA) as an option for PPL at year-end 2013 disclosure (before these new tables and scale were released), that is likely a less viable option now, post-release. As we anticipated at year-end 2013, RP-2014 with MP-2014 scale generally predicts longer life expectancies than RP-2000 with Scale BB.

Let us know if you would like to discuss further. I'd recommend setting up a call, where we can discuss the tables and scale in a bit more detail, and begin to assess the range of impact on year-end 2014 and fiscal 2015 P&L.

### Royce S. Kosoff, FSA, EA, CFA

Senior Consulting Actuary

### **Towers Watson**

Centre Square East | 1500 Market Street | Philadelphia, PA 19102

T 215 246 6815 M 215 880 3038 towerswatson.com

From: Sunder, George R [mailto:grsunder@pplweb.com]

Sent: Tuesday, April 08, 2014 1:07 PM

To: Kosoff, Royce (Philadelphia)

Cc: Leskowsky, Sharon Ann; Castro-Munoz, Sandra Milena; Durn, Karla A; Sorgi, Vincent; Hook, Peter B; Woods, Mark D; Arbough,

Daniel K; Kugler, Jeanne Michele; Higdon, Kelli

Subject: FW: Accounting News Flash/Statistical Yearbook

Royce,

See page 5 of the attached regarding the exposure of the new mortality tables. We wanted to verify:

If Towers is commenting?

Are there are any contentious issues, questions etc.?

Is the 5% to 10% projected impact isolated to the new base table alone?

# Attachment to Response to KIUC-1 Question No. 17 Page 26 of 101

Would moving to Scale BB create an incremental increase and would it still be recommended or warrante debough

Your comments on impact on PPL plans and adoption.

Thanks,

George R. Sunder Manager Benefits Accounting PPL Corporation 610-774-6207 grsunder@pplweb.com

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Page 27 of 101

Arbough

From: Kosoff, Royce (Philadelphia)(royce.kosoff@towerswatson.com)

**To:** Mudd, Ken; Arbough, Dan; Higdon, Kelli; Meiman, Greg **CC:** Genung, Judy; Della Pietra, Jennifer (Philadelphia)

BCC:

**Subject:** Louisville Meeting - March 10 & 11 **Sent:** 02/20/2014 09:45:15 AM -0500 (EST)

Attachments:

We are looking forward to visiting you on March 10 & 11. Let us know if you have any additions or revisions to the proposed agenda, as well as which day should focus on each set of topics. Glad to schedule a brief call next week to help coordinate, if you'd like. Thanks.

### "Finance-oriented":

- Year-end 2013 recap / final assumptions benchmarking
- Review of 2014 budget estimates (to be sent tomorrow)
- 2014 valuation planning
- Forecasting / 2015 budgeting
- Channel demo with LKE forecasting group and Treasury (to see if automated system can meet high level needs and supplement manual forecast project each year)

### "HR-oriented":

- 2014 planning
- Nondiscrimination testing LKE plans and update on temporary IRS relief
- L2100 Union negotiation update (likely with Angie Gosman)
- 2014 experience study planning
- Government forms coordination

Time permitting, we also may want to cover a few other items:

- Legislative update
- PBGC update, including the latest on flat rate and variable premiums, and LKE lookback method
- Mortality update
- Risk management update (annuity marketplace; additional lump sum prevalence data, etc.)

### Royce S. Kosoff, FSA, EA, CFA

Senior Consulting Actuary

#### **Towers Watson**

Centre Square East |1500 Market Street | Philadelphia, PA 19102

T 215 246 6815 M 215 880 3038 towerswatson.com

From: Genung, Judy [mailto:Judy.Genung@lge-ku.com] Sent: Wednesday, February 05, 2014 11:46 AM

To: Kosoff, Royce (Philadelphia)

Subject: RE: Possible Louisville Meeting

### Royce:

I've just re-sent the HOLD invitations for 3/10 PM and 3/11 AM. I have secured a conference room on our 12<sup>th</sup> floor. Due to the possible number of attendees, I want to ensure you have plenty of room.

Attachment to Response to KIUC-1 Question No. 17
Page 28 of 101
Arbough

Thanks.

Judy

Judy Genung
LG&E and KU Services Company

Human Resources P: (502) 627-4769 F: (502) 217-4023

judy.genung@lge-ku.com

-

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Page 29 of 101

Arbough

From: Della Pietra, Jennifer (Philadelphia)(jennifer.dellapietra@towerswatson.com)

To: Higdon, Kelli

CC: Arbough, Dan; Kugler, Jeanne; Sunder, George R [PPL]; Durn, Karla A [PPL]; Kosoff, Royce (Philadelphia); Loth, Bill

(Philadelphia)

BCC:

Subject: LKE 2014 Postretirement Benefit Plan Expense Results

**Sent:** 05/16/2014 03:15:52 PM -0400 (EDT)

Attachments: FASB ASC 715 Results - LKE Postretirement Benefit Plan.pdf; LGE & KU - 2014 Welfare Plan Expense.xls;

Kelli.

Attached please find the 2014 Net Periodic Benefit Cost/Income results for the Postretirement Benefit plan.

We will follow-up with full valuation reports later this year.

Please let us know if you have any questions or need anything further.

#### Jennifer A. Della Pietra, ASA, EA

Senior Consulting Actuary T +1 215 246 6861 | F +1 215 246 6251 jennifer.dellapietra@towerswatson.com

### Royce S. Kosoff, FSA, EA, CFA

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#### Bill Loth, FSA, EA

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### **Towers Watson**

1500 Market Street | Philadelphia, PA 19102-4790 towerswatson.com

do:egb | er:jad | tr:wrl/jad | cr:jad/wrl | spr:rsk

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# Attachment to Response to KIUC-1 Question No. 17 Page 30 of 101



Centre **Aua 5 5115 h** 1500 Market Street Philadelphia, PA 19102-4790

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towerswatson.com

May 16, 2014

Ms. Kelli Higdon Senior Accounting Analyst LG&E and KU Energy LLC 220 West Main Street Louisville, KY 40202

Dear Kelli:

### 2014 ASC 715 ACOUNTING RESULTS FOR THE POSTRETIREMENT BENEFIT PLAN

LG&E and KU Energy LLC ("LKE" or "the Company") engaged Towers Watson Delaware, Inc. ("Towers Watson") to determine the Net Periodic Benefit Cost/Income ("Expense") for the LG&E and KU Energy Postretirement Benefit Plan, in accordance with FASB Accounting Standards Codification Topic 715 ("ASC 715") for the fiscal year beginning January 1, 2014. The exhibits that follow provide results for the plan, with allocations as requested by LKE.

Please note the following regarding these results:

1. As of January 1, 2014, LG&E and KU Energy LLC has selected the following economic assumptions:

### Discount rate:

The discount rate of 4.91% is based on the results of the Towers Watson BOND:Link model. At December 31, 2013, cash flows by plan were provided by the prior actuary and used to develop individual discount rates. Further information regarding the BOND:Link model parameters chosen by LKE can be found in our e-mail correspondence from January 7, 2014.

### Rate of compensation increase:

The January 1, 2014 rate of compensation increase assumption for the plan is a flat 4% at all ages.

### Expected return on assets (EROA):

The January 1, 2014 EROA assumption for the plan is 7.00% for the 401(h) account and 0.00% for the Union and Non-union VEBAs.

### Health care cost trend:

	December 31, 2013
2014	7.6%
2015	7.2%
2016	6.8%
2017	6.4%
2018	6.0%
2019	5.5%
2020+	5.0%

# Attachment to Response to KIUC-1 Question No. 17 Page 31 of 101





### Per capita claims cost:

The per capita claims costs and employee contribution amounts for 2014 were provided by Mercer. We have reviewed the claims information for reasonableness and consistency, but have neither audited nor independently verified this information.

- 2. All demographic assumptions are the same as those selected by LKE at January 1, 2013 with the exception of the mortality assumption. The mortality assumption has been changed from the optional combined 2013 mortality table with static mortality improvement published by the IRS to separate 2014 IRS rates for non-annuitants (based on RP-2000 "Employees" table without collar or amount adjustments, projected 15 beyond the valuation) and annuitants (based on RP-2000 "Healthy Annuitants" table without collar or amount adjustments, projected 7 years beyond the valuation date). The optional combined table used for the 2013 valuation is a blended table with a single mortality assumption for non-annuitants and annuitants based on similar mortality tables and mortality improvement projections. A summary of all assumptions can be found in the Assumption Setting Presentation provided to LKE on January 7, 2014. Detailed descriptions of these assumptions will be included in the actuarial valuation reports for the fiscal year ending December 31, 2014 (to be published during the coming months).
- 3. All plan provisions are the same as those valued at January 1, 2013. Detailed descriptions of the plan provisions will be included in the actuarial valuation reports for the fiscal year ending December 31, 2014 (to be published during the coming months).
- 4. The expected contributions to the 401(h) sub-account are assumed to be contributed on December 31<sup>st</sup>, 2014 and, therefore, have no impact on the calculation of the expected return on assets. The expected contributions to the Union and Non-union VEBAs are assumed to be made monthly equal to the amounts paid out of the VEBA account each month.
- 5. Under PPACA, the Transitional Reinsurance Fee ("TRF") is scheduled to be collected from both self-insured employer medical plans and fully insured medical plans beginning in 2014 and continuing through 2016 as a means to help stabilize premiums for coverage in the individual market (inside and outside the exchanges). Consistent with the prior year, the TRF will be accounted for outside of the plan, and therefore, the 2014 postretirement benefit obligations have not been adjusted to reflect the expected cost of the TRF.



### Ms. Kelli**Aliphough** May 16, 2014

### Reconciliation to February 21, 2014 Budget Projections

The preliminary 2014 consolidated US GAAP expense for the postretirement benefit plan of \$10.4 million compares to the projected 2014 consolidated expense of \$10.7 million provided in our February 21, 2014 e-mail as follows:

	Consolidated US
	GAAP Expense (in
	\$millions)
2014 Projected Expense provided on February 21, 2014	\$10.7*
Demographic gains due to updated data	(0.1)
Inclusion of International non-union, WKE non-union and	(0.1)
WKE Union expense	(0.1)
Reflection of updated per capita claims data	0.6
5% load on service cost and interest cost included in	(0.7)
2014 budgets	(0.7)
2014 Preliminary Expense	\$10.4

<sup>\*</sup>Estimated expense provided on February 21, 2014 did not include the International, WKE non-union and WKE Union portions of the plan on a Financial basis.

### Retiree Drug Subsidy under the Medicare Modernization Act

2014 Net Periodic Benefit Cost (\$) (Regulatory Accounting Basis)	With Subsidy	Effect of Subsidy	Without Subsidy
Service cost	4,332,469	-	4,332,469
Interest cost	9,283,250	178,329	9,461,579
Expected return on assets	(5,016,620)	-	(5,016,620)
Amortization of:	-		
Transition obligation (asset)	-	-	-
Prior service cost (credit)	2,486,179	-	2,486,179
Actuarial (gain) loss	(731,851)	258,487	(473,364)
Net periodic benefit cost	\$ 10,353,427	\$ 436,816	\$ 10,790,243

The present value of the Medicare Retiree Drug Subsidy for the pre-2000 Kentucky Utilities retirees, measured as of January 1, 2014, using the assumptions outlined in this letter is \$3,804,507.

### **Actuarial Certification**

In preparing the results presented in this letter (including the attached exhibit), we have relied upon information regarding plan provisions, participants, assets and sponsor accounting policies and methods provided by LKE and other persons or organizations designated by LKE. We have relied on all the data and information provided as complete and accurate. We have reviewed this information for overall reasonableness and consistency, but have neither audited nor independently verified this information. Based on discussions with and concurrence by the plan sponsor, assumptions or estimates may have been made if data were not available. We are not aware of any errors or omissions in the data that would have a significant effect on the results of our calculations. The results presented in this report are directly dependent upon the accuracy and completeness of the underlying data and information. Any material inaccuracy in the data, assets, plan provisions or other information provided to us may have produced results that are not suitable for the purposes of this report and such inaccuracies, as corrected by LKE, may produce materially different results that could require that a revised report be issued.

#### Attachment to Response to KIUC-1 Question No. 17 Page 33 of 101



Ms. Kelli**Alipbough** 

The measurement date is January 1, 2014. The benefit obligations were measured as of January 1, 2014 and are based on participant data as of the census date, January 1, 2014.

Information about the fair value of plan assets was furnished to us by LKE. LKE also provided information about the general ledger account balances for the postretirement benefit plan cost at December 31, 2013, which reflect the expected funded status of the plans before adjustment to reflect the plans' funded status based on the year-end measurements, and differences between the expected Medicare Part D subsidies and amounts received during the year. Towers Watson used information supplied by LKE regarding postretirement benefit asset, postretirement liability and amounts recognized in accumulated other comprehensive income as of December 31, 2013. This data was reviewed for reasonableness and consistency, but no audit was performed.

Accumulated other comprehensive (income)/loss amounts shown in this letter are shown prior to adjustment for deferred taxes. Any deferred tax effects in AOCI should be determined in consultation with LKE's tax advisors and auditors.

As required by U.S. GAAP, the actuarial assumptions and the accounting policies and methods employed in the development of the postretirement benefit cost and financial reporting have been selected by LKE. Towers Watson has concurred with these assumptions and methods. ASC 715-30-35 requires that each significant assumption "individually represent the best estimate of a particular future event."

The results shown in this report have been developed based on actuarial assumptions that, to the extent evaluated by Towers Watson, we consider to be reasonable and within the "best-estimate range" as described by the Actuarial Standards of Practice. Other actuarial assumptions could also be considered to be reasonable and within the best-estimate range. Thus, reasonable results differing from those presented in this report could have been developed by selecting different points within the best-estimate range for various assumptions.

The results shown in this report are estimates based on data that may be imperfect and on assumptions about future events that cannot be predicted with any certainty. The effects of certain plan provisions may be approximated, or determined to be insignificant and therefore not valued. Reasonable efforts were made in preparing this valuation to confirm that items that are significant in the context of the actuarial liabilities or costs are treated appropriately, and are not excluded or included inappropriately. The numbers shown in this report are not rounded, but this is for convenience and should not imply precision, which is not a characteristic of actuarial calculations.

If overall future plan experience produces higher benefit payments or lower investment returns than assumed, the relative level of plan costs reported in this valuation will likely increase in future valuations (and vice versa). Future actuarial measurements may differ significantly from the current measurements presented in this report due to many factors, including: plan experience differing from that anticipated by the economic or demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for the measurements (such as the end of an amortization period), and changes in plan provisions or applicable law.

The information contained in this report was prepared for the benefit of LKE and its auditors in connection with our actuarial valuation of the postretirement benefit plan. This letter should not be used for other purposes, and Towers Watson accepts no responsibility for any such use. It should not be relied upon by any other person without Towers Watson's prior written consent.

The undersigned consulting actuaries are members of the Society of Actuaries and meet the "Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States" relating to other postretirement benefit plans. Our objectivity is not impaired by any relationship between the plan sponsor and our employer, Towers Watson Delaware Inc.

\* \* \* \* \* \*



Ms. Kelli**A**li**pdough**May 16, 2014

Please do not hesitate to call if you have any questions.

Sincerely,

Jennifer A. Della Pietra, ASA, EA

William Lot

Jerrefu a. Della lette

Senior Consulting Actuary Direct Dial: 215-246-6861 Royce S. Kosoff, FSA, EA, CFA

Senior Consulting Actuary Direct Dial: 215-246-6815

Roya Koseff

William R. Loth, FSA, EA

Consulting Actuary

Direct Dial: 215-246-6647

cc: George Sunder - PPL Corporation

Dan Arbough - LG&E and KU Energy LLC

Karla Durn - PPL Corporation

Kristin May, FSA, EA – Towers Watson

V:\PPL Corporation - 109625\14\RET\Kentucky\Qualified Pension Valuation\03 Deliver\Results\FASB ASC 715 Results - LKE Qualified Pension Plans.doc

#### LG&E and KU Energy LLC ("LKE") 2014 Net Periodic Benefit Cost Post Retirement Welfare Plans (Regulatory)

	Regulatory	Financial	Financial	Regulatory	Financial		Regulatory	Financial	Consolidated	Regulatory
	LG&E Non- union	ServCo	LPI	KU	WKE Non-union	Non-union Total	LG&E Union	WKE Union	Total PRW US GAAP	ServCo
Funded Status APBO Fair Value of Assets Funded Status	32,626,922 8,981,980 (23,644,942)	38,254,043 30,849,603 (7,404,440)	131,878 - (131,878)	70,611,930 31,115,600 (39,496,330)	1,207,321 2,552,221 1,344,900	142,832,094 73,499,404 (69,332,690)	52,652,997 807,256 (51,845,741)	143,914 - (143,914)	195,629,005 74,306,660 (121,322,345)	38,254,043 30,849,603 (7,404,440)
Amounts recognized in accumulated other comprehensive income consist of: Net actuarial loss/(gain) Prior service cost/(credit) Transition obligation/(asset) Total	11,140,595 851,587 - 11,992,182	623,646 1,538,715 - 2,162,361	(47,662) 2,819 - (44,843)	(29,920,615) 1,758,273 - (28,162,342)	(139,563) 16,247  (123,316)	(18,343,599) 4,167,641 - (14,175,958)	(9,887,860) 4,329,552 - (5,558,308)	(230,549) - - (230,549)	(28,462,008) 8,497,193 	5,347,850 1,538,716 - 6,886,566
	11,332,102	2,102,301	(44,040)	(20,102,042)	(123,310)	(14,173,930)	(5,550,500)	(230,343)	(13,304,013)	0,000,000
2014 Net Periodic Benefit Cost Service cost Interest cost Expected return on assets Amortization of: Transition obligation (asset)	455,921 1,534,039 (595,499)	1,878,366 1,842,064 (2,159,472)	- 6,180 -	1,545,624 3,343,811 (2,082,994)	56,130 (178,655)	3,879,911 6,782,224 (5,016,620)	452,558 2,495,154 -	- 5,872 -	4,332,469 9,283,250 (5,016,620)	1,878,366 1,842,064 (2,159,472)
Prior service cost (credit) Actuarial (gain) loss	283,863	512,905 (82,087)	940 (283)	586,092 (258,487)	5,415 (2,591)	1,389,215 (343,448)	1,096,964 (374,721)	- (13,682)	2,486,179 (731,851)	512,905 -
Net periodic benefit cost	1,678,324	1,991,776	6,837	3,134,046	(119,701)	6,691,282	3,669,955	(7,810)	10,353,427	2,073,863
Key assumptions:										
Discount Rate Expected return on 401(h) assets Rate of compensation increase	4.91% 7.00% 4.00%	4.91% 7.00% 4.00%	4.91% 7.00% 4.00%	4.91% 7.00% 4.00%	4.91% 7.00% 4.00%	4.91% 7.00% 4.00%	4.91% 7.00% 4.00%	4.91% 7.00% 4.00%	4.91% 7.00% 4.00%	4.91% 7.00% 4.00%
Mortality Health care cost trend rate		2014 IR	RS-prescribed RP-20	00 tables. Includes	projection for 7 year	s beyond valuation da	te for annuitants; 15	years for non-annuit	tants.	
Initial rate Ultimate rate Years to ultimate	7.60% 5.00% 6	7.60% 5.00% 6	7.60% 5.00% 6	7.60% 5.00% 6	7.60% 5.00% 6	7.60% 5.00% 6	7.60% 5.00% 6	7.60% 5.00% 6	7.60% 5.00% 6	7.60% 5.00% 6

The results contained in this document are based on the individual participant data provided by Mercer and LKE as of January 1, 2014. 2014 per capita claim cost assumptions were provided by Mercer Health and Welfare actuaries. All other assumptions, methods, and plan provisions are the same as those used for the year-end 2013 financial statement disclosures provided on January 22, 2014. The descriptions of the assumptions, methods, plan provisions, and limitations as set forth in the year-end 2013 financial statement disclosure letter should be considered part of these results.

#### Attachment to Response to KIUC-1 Question No. 17

Page 36 of 101

Arbough

From: Higdon, Kelli(/O=LGE/OU=LOUISVILLE/CN=RECIPIENTS/CN=N093298)

To: Arbough, Dan; Kugler, Jeanne; Cosby, David; Shultz, Cathy

CC: Della Pietra, Jennifer (Philadelphia) (jennifer.dellapietra@towerswatson.com)

BCC:

Subject: RE: LKE 2014 Qualified Pension Plan Expense Results

**Sent:** 05/21/2014 03:55:09 PM -0400 (EDT)

Attachments:

I just spoke to Jennifer on this and she said that the 5% load **was not** added to the 5-year projections that were given to us in the fall. Thanks!

#### Kelli Higdon

From: Higdon, Kelli

Sent: Monday, May 12, 2014 1:45 PM

To: Della Pietra, Jennifer (Philadelphia) (jennifer.dellapietra@towerswatson.com)

Cc: Arbough, Dan; Kugler, Jeanne; Cosby, David; Shultz, Cathy Subject: RE: LKE 2014 Qualified Pension Plan Expense Results

Jenn,

Can you answer David's email below?

Thanks!

#### Kelli Higdon

From: Cosby, David

Sent: Monday, May 12, 2014 1:27 PM To: Arbough, Dan; Higdon, Kelli

Subject: FW: LKE 2014 Qualified Pension Plan Expense Results

#### Kelli,

When you talked with Jennifer, did she mention anything about the "5% load" or similar adjustment also being in the 2015-2018 pension amounts we got from them last fall? I know we should get new 5 year amounts by May 31<sup>st</sup>, but I was curious if we can expect a similar noticeable drop because of that and then the other smaller changes.

I wasn't sure if she talked about the out years or not. Thanks.

#### David L. Cosby Jr.

Financial Planning and Analysis

LG&E and KU Energy Services

502-627-2499

david.cosby@lge-ku.com

From: Arbough, Dan

Sent: Thursday, May 01, 2014 2:09 PM To: Scott, Valerie; Garrett, Chris; Cosby, David

Subject: FW: LKE 2014 Qualified Pension Plan Expense Results

This is the detail behind the updated pension expense forecasts.

#### Dan

From: Della Pietra, Jennifer (Philadelphia) [mailto:jennifer.dellapietra@towerswatson.com]

Sent: Wednesday, April 30, 2014 3:55 PM

To: Higdon, Kelli

Cc: Arbough, Dan; Kugler, Jeanne; Sunder, George R [PPL]; Durn, Karla A [PPL]; Kosoff, Royce (Philadelphia); Loth, Bill (Philadelphia)

Subject: LKE 2014 Qualified Pension Plan Expense Results

Kelli,

Attached please find the 2014 Net Periodic Pension Cost/Income results for the qualified pension plans.

We will follow-up with full valuation reports once the funding results have been finalized later this year.

Please let us know if you have any questions or need anything further.

#### Jennifer A. Della Pietra, ASA, EA

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#### Royce S. Kosoff, FSA, EA, CFA

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#### Bill Loth, FSA, EA

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#### **Towers Watson**

1500 Market Street | Philadelphia, PA 19102-4790 towerswatson.com

do:mz/egb | er:jad | tr:wrl/jad | cr:jad/wrl | spr:rsk

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#### Attachment to Response to KIUC-1 Question No. 17

Page 38 of 101

From: Della Pietra, Jennifer (Philadelphia)(jennifer.dellapietra@towerswatson.com) Arbough

To: Higdon, Kelli

CC: Arbough, Dan; Kugler, Jeanne; Sunder, George R [PPL]; Durn, Karla A [PPL]; Kosoff, Royce (Philadelphia); Loth, Bill

(Philadelphia); Cosby, David

BCC:

Subject: LKE 5-Year ASC 715-30 Retirement and Postretirement Benefit Benefit Plan Projections and ASC 712 Postemployment

1-year projection

**Sent:** 05/30/2014 05:55:26 PM -0400 (EDT)

Attachments: FASB ASC 715 Projections 2015-2019.pdf; ASC 712 Postemployment Benefit Plan Projection.pdf; Pension Exhibit

(FINAL-standalone).xlsx; Nonqualified Exhibit (standalone).xlsx; Postretiment Benefit Exhibitv2 (standalone).xlsx;

#### Hi Kelli -

Enclosed please find the 5-year accounting projections for the LG&E and KU Energy, LLC qualified pension plans, non-qualified pension plans, and postretirement benefit plan. Please see the letter and exhibits for information regarding the data, assumptions, methods, and plan provisions used in these calculations. Please note that the last page of the projection letter also includes a reconciliation of these results to prior projections/expense results.

Also enclosed please find the 1-year postemployment plan projection.

Please let us know if you have any questions or would like to review these results together in greater detail.

Regards, Jen, Royce, and Bill

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#### **Towers Watson**

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do:egb/jg | er:jad | tr:wrl/jad | cr:jad/wrl | spr:rsk

Towers Watson is not authorized to provide accounting, tax or legal opinions. Any accounting, tax or legal views shared are based on our experience working with other clients and should be independently verified.

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### Attachment to Response to KIUC-1 Question No. 17 Page 39 of 101



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May 30, 2014

Ms. Kelli Higdon Senior Accounting Analyst LG&E and KU Energy LLC 220 West Main Street Louisville, KY 40202

Dear Kelli:

### 2015-2019 FINANCIAL PROJECTIONS OF PENSION AND POSTRETIREMENT WELFARE PLANS

Towers Watson Delaware, Inc. ("Towers Watson") was engaged by LG&E and KU Energy LLC ("LKE" or "the Company") to provide 5-year projections of the Financial Accounting Standards Codification ("ASC") Topic 715 accounting cost for the following pension and postretirement welfare plans with allocations as requested by LKE:

- LG&E and KU Retirement Plan
- Louisville Gas and Electric Company Bargaining Employees' Retirement Plan



■ LG&E and KU Postretirement Benefit Plan

The exhibits for the years 2015-2019 are as follows:

- Estimated ASC 715 accounting cost
- Estimated cash contributions to the pension plan trusts for the LG&E and KU Retirement Plan, the Louisville Gas and Electric Company Bargaining Employees' Retirement Plan, and the Western Kentucky Energy Corp. Bargaining Employees' Retirement Plan
- Expected cash flows for the LG&E and KU Postretirement Benefit Plan
- Expected employer contributions to the 401(h) account of the LG&E and KU Postretirement Benefit Plan

The projections are based on the 2014 actuarial valuation results provided to you on April 30 (qualified pension plans), May 16 (LG&E and KU Postretirement Benefit Plan), and May 23 (nonqualified pension plans). Except where otherwise noted, the assumptions, methods, data, and plan provisions used to develop these projections are the same as those used to develop the 2014 actuarial valuation results



Ms. Kelli**A**li**rdough** May 30, 2014

1. These projections reflect the following key economic assumptions:

#### Discount rate:

	December 31, 2014	December 31, 2013
	and all subsequent	
	years	
LG&E and KU Retirement Plan	4.70%	5.20%
Louisville Gas and Electric Company Bargaining Employees' Retirement Plan	4.63%	5.13%
		_
		_
LG&E and KU Postretirement Benefit Plan	4.41%	4.91%

All discount rates are based on the results of the Towers Watson BOND:Link model as of April 30, 2014, which resulted in a 50 basis point reduction from the discount rates at December 31, 2013

Cash flows by plan are based on the results of the 2014 actuarial valuation results.

#### Rate of compensation increase:

The projected rates of compensation increase for all legacy LKE plans are flat at all ages.

	December 31, 2014 and all subsequent years	December 31, 2013
All legacy LKE plans	4.00%	4.00%

#### Expected return on assets (EROA):

	December 31, 2014 and all subsequent years	December 31, 2013
LG&E and KU Retirement Plan	7.00%	7.00%
Louisville Gas and Electric Company Bargaining Employees' Retirement Plan	7.00%	7.00%
LG&E Energy LLC Postretirement Benefit		
- Union VEBA* - Nonunion VEBA* - 401(h) sub-account	0.00% 0.00% 7.00%	0.00% 0.00% 7.00%

<sup>\*</sup> Historically used as a short-term payment vehicle, not long-term investment trust



Ms. Kelli**Alipbough** May 30, 2014

#### Service cost growth:

The service cost is expected to grow at varying rates, depending on whether the plan is open or closed as well as the type of benefits provided by the plan.

	All projection years
LG&E and KU Retirement Plan	2.00%
Louisville Gas and Electric Company Bargaining Employees' Retirement Plan	2.00%
LG&E and KU Postretirement Benefit Plan	4.41%

#### Actual return on assets:

The actual return on assets during 2014 is assumed to be equal to the actual return through March 31, 2014 and a 0% return for the remainder of 2014.

	2015 and all subsequent years	2014
LG&E and KU Retirement Plan	7.00%	5.26%
Louisville Gas and Electric Company Bargaining Employees' Retirement Plan	7.00%	5.37%
LG&E Energy LLC Postretirement Benefit Plan - Union VEBA* - Nonunion VEBA* - 401(h) sub-account	0.00% 0.00% 7.00%	0.00% 0.00% 5.23%

#### Health care cost trend:

	December 31, 2014 and	December 31, 2013
	all subsequent years	
2014	N/A	7.6%
2015	7.2%	7.2%
2016	6.8%	6.8%
2017	6.4%	6.4%
2018	6.0%	6.0%
2019	5.5%	5.5%
2020+	5.0%	5.0%

All demographic assumptions are the same as those selected by LKE at December 31, 2013 with the
exception of the mortality assumption. Projections include the estimated impact for the potential
mortality assumption change to the fully generational RP-2014 mortality table with MP-2014
projection scale with white collar adjustment (no collar adjustment for the Louisville Gas and Electric

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3.

Ms. Kelli**A**li**pough**May 30, 2014

Company Bargaining Employees' Retirement Plan
at fiscal year-end 2014. A summary of all other
assumptions can be found in the Assumption Setting Presentation provided to LKE on January 7, 2014. Detailed descriptions of these assumptions will be included in the actuarial valuation reports for the fiscal year ending December 31, 2014 (to be published during the coming months).
All plan provisions are the same as those valued at January 1, 2014 with the exception of the dollar

- per month multiplier for the Louisville Gas and Electric Company Bargaining Employees' Retirement Plan, which is assumed to increase 3% per year throughout the projection period.
  - Detailed descriptions of the plan provisions will be included in the actuarial valuation reports for the fiscal year ending December 31, 2014 (to be published during the coming months).
- 4. For the Louisville Gas and Electric Company Bargaining Employees' Retirement Plan, the increases in benefit multipliers are assumed to be collectively bargained and reflected every three years. The increase in Prior Service Cost for the increases in the benefit multipliers for 2015-2017 is assumed to be reflected at December 31, 2014, and the increase in Prior Service Cost for the increase in the benefit multipliers for 2018-2020 is assumed to be reflected at December 31, 2017.

5.	The expected future service to retirement age (expected future lifetime of the plan population for the
	the LG&E and KU
	Supplemental Executive Plan for each of which have no active plan participants) used in
	the development of the unrecognized (gain) / loss amortization is equal to the amount developed in
	the January 1, 2014 actuarial valuation results and is assumed to decrease 0.5 per year for most
	plans to reflect the aging of the closed populations. The LG&E and KU Non-Executive Pension
	Restoration Plan and the LG&E and KU Postretirement Benefit Plan are not closed, so they have no assumed decrease in the amortization period.
	assumed decrease in the amortization period.

- 6. The projections for the LG&E and KU Retirement Plan and the Louisville Gas and Electric Company Bargaining Employees' Retirement reflect the actual lump sum payments made to terminated vested participants during the first half of 2014.
- 7. All contributions are assumed to be made at the end of the year. The projections reflect no prefunding for the Non-union and Union VEBAS.
- 8. Under the Affordable Care Act, the Transitional Reinsurance Fee ("TRF") is scheduled to be collected from both self-insured employer medical plans and fully insured medical plans beginning in 2014 and continuing through 2016 as a means to help stabilize premiums for coverage in the individual market (inside and outside the exchanges). Consistent with the 2014 valuation, the TRF will be accounted for outside of the plan, and therefore, the projected postretirement benefit obligations have not been adjusted to reflect the expected cost of the TRF.
- 9. Administrative expenses of the qualified pension plans were assumed to remain level with 2014 during the projection period and are allocated based on actual administrative expenses in 2013. Postretirement Benefit Plan administrative expenses were kept consistent with 2013 actual expenses during the projection period.

#### **Actuarial certification**

In preparing the calculations contained in this letter, Towers Watson has used information and data provided to us by LKE and other persons or organizations designated by LKE. We have relied on all the

#### Attachment to Response to KIUC-1 Question No. 17 Page 43 of 101



Ms. Kelli**Alipgough** May 30, 2014

data and information provided, including plan provisions and asset information, as being complete and accurate. We have reviewed this information for overall reasonableness and consistency but have neither audited nor independently verified this information.

As required by ASC 715, the actuarial assumptions and methods employed in the development of the pension and postretirement plan obligations have been selected by the plan sponsor. Towers Watson has concurred with these assumptions and methods. ASC 715 requires that each significant assumption "individually represent the best estimate of a particular future event."

The results documented in this letter are estimates based on data that may be imperfect and on assumptions about future events that cannot be predicted with any certainty. Certain plan provisions may be approximated or determined to be immaterial and therefore not valued. Assumptions may be made about participant data or other factors. We have made reasonable efforts to ensure that items that are material in the context of the actuarial liabilities or costs are treated appropriately, and not excluded or included inappropriately.

Actual future experience will differ from the assumptions used in our calculations. As these differences arise, contributions or the cost for accounting purposes will be adjusted in future valuations to take changes into account. If these adjustments become material, they may result in future adjustments to the valuation model.

The results shown in this letter have been developed based on actuarial assumptions that, to the extent evaluated or selected by Towers Watson, we consider to be reasonable. Other actuarial assumptions could also be considered to be reasonable. Thus, reasonable results differing from those presented in this report could have been developed by selecting different reasonable assumptions.

The numbers in this letter are not rounded, but this is for convenience only and should not imply precision, which is not a characteristic of actuarial calculations.

The calculations provided in this letter have been prepared solely for the benefit of LKE for budgeting purposes. This letter should not be used for other purposes, and we accept no responsibility for any such use. It should not be relied upon by, or shared with, any third parties without Towers Watson's prior written consent.

This letter is provided subject to the terms set out herein and in our engagement letter dated March 28, 2013 and any accompanying or referenced terms and conditions.

This letter provides actuarial calculations. It does not constitute legal, accounting, tax or investment advice. We encourage you to consult with qualified advisors with respect to those matters.

The undersigned consulting actuaries are members of the Society of Actuaries and other professional actuarial organizations and meet the "Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States" relating to retirement plans. Our objectivity is not impaired by any relationship between the plan sponsor and our employer, Towers Watson.

\* \* \* \* \* \*





Please do not hesitate to call if you have any questions.

Sincerely,

Kaya Koseff

Royce S. Kosoff, FSA, EA, CFA

William Lot

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Jerrefu a Della letto

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cc: David Crosby - LG&E and KU Energy LLC

Dan Arbough - LG&E and KU Energy LLC

George Sunder – PPL Corporation Karla Durn – PPL Corporation

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# LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Qualified Pension Plans 2015 Fiscal Year

	Regulatory	Regulatory	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
	LG&E and KU Retirement Plan								
	LG&E			WKE	Non-union				
	Non-union	KU	Servco	Non-union	Total	LG&E Union	WKE Union	US GAAP	Servco
Service cost	2,155,220	8,410,431	13,520,777			1,599,741			13,520,777
Interest cost	10,551,938	19,171,202	22,337,611			15,165,158			22,337,611
Expected return on assets	(13,641,272)	(24,458,474)	(24,752,753)			(18,956,655)	Ī		(24,752,753)
Amortizations:									
Transition	-	-	-	Ī	Ī	-	Ī		-
Prior service cost	1,815,457	691,706	-	Ī		3,325,004	Ī		2,498,015
(Gain)/loss	6,901,548	10,935,346	2,085,458			12,243,026	Ĩ		9,793,863
ASC 715 NPBC	7,782,891	14,750,211	13,191,094			13,376,274			23,397,513

# LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Qualified Pension Plans 2016 Fiscal Year

	Regulatory	Regulatory	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
	LG&E and KU Retirement Plan								
	LG&E			WKE	Non-union				
	Non-union	KU	Servco	Non-union	Total	LG&E Union	<b>WKE Union</b>	US GAAP	Servco
Service cost	2,198,325	8,578,640	13,791,192	-		1,631,736	Ī		13,791,192
Interest cost	10,637,140	19,621,767	23,548,502			15,243,630			23,548,502
Expected return on assets	(14,261,169)	(25,741,568)	(26,572,160)			(20,026,033)	Ī		(26,572,160)
Amortizations:									
Transition	-	-	-		Ī	-	Ī	1	-
Prior service cost	1,287,626	26,068	-	Ī	_	3,325,004	Ī		2,390,646
(Gain)/loss	5,986,095	9,630,885	1,868,345			10,484,456	Ī		9,122,994
ASC 715 NPBC	5,848,016	12,115,792	12,635,880			10,658,793			22,281,175

- 1. These accounting projections are based on the January 1, 2014 valuation results provided on April 30, 2014. The description of the data, assumptions, methods, plan provisions, and limitations as set forth in the accounting valuation results cover letter should be considered part of these results. Please see the attached letter for a description of all other assumptions and methods used in this analysis, including a discount rate of 4.63% for LG&E union plan, and 4.70% for the nonunion plans.
- 2. Projections reflect the actual impact of the Terminated Vested (TV) lump sum windows phased between 2013 and 2014.
- 3. Fair value of assets is assumed to earn 5.37% for LG&E union plan, and 5.26% for all others (based on actual return from January 1, 2014 through March 31, 2014 and 0% return for the remainder of 2014).
- 4. Service cost is assumed to grow by 2% annually.
- 5. RP-2014 mortality with MP-2014 projection has been reflected in each projection year (no collar adjustment for union plans and white collar for non-union plans).

# LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Qualified Pension Plans 2017 Fiscal Year

	Regulatory	Regulatory	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
	LG&E and KU Retirement Plan								
	LG&E			WKE	Non-union				
	Non-union	KU	Servco	Non-union	Total	LG&E Union	<b>WKE Union</b>	US GAAP	Servco
Service cost	2,242,291	8,750,213	14,067,016			1,664,371			14,067,016
Interest cost	10,718,015	20,070,290	24,745,247			15,297,267			24,745,247
Expected return on assets	(14,784,541)	(26,903,275)	(28,371,007)			(20,947,423)	I		(28,371,007)
Amortizations:									
Transition	-	-	-		I	-	I		-
Prior service cost	1,154,543	23,744	-	Ī		3,325,004	Ī		2,282,700
(Gain)/loss	5,497,877	9,230,455	1,626,773			8,916,672	Ī		8,427,667
ASC 715 NPBC	4,828,185	11,171,427	12,068,030			8,255,892			21,151,623

# LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Qualified Pension Plans 2018 Fiscal Year

	Regulatory	Regulatory	Financial	Financial		Regulatory Financial		Consolidated	Regulatory
		LG&E a	and KU Retiremer	nt Plan					_
	LG&E			WKE	Non-union				
	Non-union	KU	Servco	Non-union	Total	LG&E Union	<b>WKE Union</b>	US GAAP	Servco
Service cost	2,287,137	8,925,217	14,348,356			1,697,658			14,348,356
Interest cost	10,790,593	20,510,646	25,921,046			15,858,595			25,921,046
Expected return on assets	(15,261,483)	(28,041,350)	(30,135,227)			(21,730,052)			(30,135,227)
Amortizations:									
Transition	-	-	-	I	I	-	I		-
Prior service cost	924,330	18,294	-	Ī		4,837,907	Ī		1,781,848
(Gain)/loss	5,292,482	8,800,029	1,363,907			8,074,468	Ī		7,711,044
ASC 715 NPBC	4,033,059	10,212,836	11,498,082			8,738,576			19,627,067

- 1. These accounting projections are based on the January 1, 2014 valuation results provided on April 30, 2014. The description of the data, assumptions, methods, plan provisions, and limitations as set forth in the accounting valuation results cover letter should be considered part of these results. Please see the attached letter for a description of all other assumptions and methods used in this analysis, including a discount rate of 4.42% for the WKE union plan, 4.63% for LG&E union plan, and 4.70% for the nonunion plans.
- 2. Projections reflect the actual impact of the Terminated Vested (TV) lump sum windows phased between 2013 and 2014.
- 3. Fair value of assets is assumed to earn 0% each year for the WKE union plan and 7.00% each year for all others. However, in 2014, the fair value of assets is assumed to earn 0% for the WKE union plan, 5.37% for LG&E union plan, and 5.26% for all others (based on actual return from January 1, 2014 through March 31, 2014 and 0% return for the remainder of 2014).
- 4. Service cost is assumed to grow by 2% annually.
- 5. RP-2014 mortality with MP-2014 projection has been reflected in each projection year (no collar adjustment for union plans and white collar for non-union plans).

# LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Qualified Pension Plans 2019 Fiscal Year

	Regulatory	Regulatory	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
		LG&E a	LG&E and KU Retirement Plan						_
	LG&E			WKE	Non-union	1			
	Non-union	KU	Servco	Non-union	Total	LG&E Union	<b>WKE Union</b>	US GAAP	Servco
Service cost	2,332,880	9,103,721	14,635,323			1,731,611	I		14,635,323
Interest cost	10,851,525	20,943,964	27,054,810			15,881,545			27,054,810
Expected return on assets	(15,698,596)	(29,152,709)	(31,830,055)			(22,562,274)	I		(31,830,055)
Amortizations:									
Transition	-	-	-	Ī	Ī	-	Ī	I	-
Prior service cost	5	3	-	Ī	- ■	4,674,242	Ī	_	4
(Gain)/loss	5,074,844	8,343,445	1,085,946			7,708,180	Ĩ		6,979,327
ASC 715 NPBC	2,560,657	9,238,425	10,946,024			7,433,305			16,839,410

#### **Notes**

- 1. These accounting projections are based on the January 1, 2014 valuation results provided on April 30, 2014. The description of the data, assumptions, methods, plan provisions, and limitations as set forth in the accounting valuation results cover letter should be considered part of these results. Please see the attached letter for a description of all other assumptions and methods used in this analysis, including a discount rate of 4.63% for LG&E union plan, and 4.70% for the nonunion plans.
- 2. Projections reflect the actual impact of the Terminated Vested (TV) lump sum windows phased between 2013 and 2014.
- 3. Fair value of assets is assumed to earn 5.37% for LG&E union plan, and 5.26% for all others (based on actual return from January 1, 2014 through March 31, 2014 and 0% return for the remainder of 2014).
- 4. Service cost is assumed to grow by 2% annually.
- 5. RP-2014 mortality with MP-2014 projection has been reflected in each projection year (no collar adjustment for union plans and white collar for non-union plans).

### LG&E & KU Energy LLC Estimated Cash Contributions for Plan Years 2014-2019 (\$ millions)

		LG&E a	and KU Retireme					
	LG&E Nonunion	KU	Servco	WKE Nonunion	Nonunion Total	LG&E Union	WKE Union	Grand Total
1/14/2014 actual	8,200,000	2,200,000	24,700,000			-		
12/31/2015	7,782,891	14,750,211	13,191,094			13,376,274		
12/31/2016	5,848,016	12,115,792	12,635,880			10,658,793		
12/31/2017	4,828,185	11,171,427	12,068,030			8,255,892		
12/31/2018	4,033,059	10,212,836	11,498,082			8,738,576		
12/31/2019	2,560,657	9,238,425	10,946,024			7,433,305		

# LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Non-qualified Pension Plans Financial Accounting Basis 2015 Fiscal Year

	Officers SERP		storation Plan	SERP	Non-qualifed Total	
Service cost						
Interest cost						
Expected return on assets						
Amortizations:						
Transition						
Prior service cost						
(Gain)/loss						
ASC 715 NPBC						

# LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Non-qualified Pension Plans Financial Accounting Basis 2016 Fiscal Year

	Officers SERP	Restoration Plan	SERP	Non-qualifed Total
Service cost				
Interest cost				
Expected return on assets				
Amortizations:				
Transition				
Prior service cost				
(Gain)/loss				
ASC 715 NPBC				

<u>Notes</u>	

# LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Non-qualified Pension Plans Financial Accounting Basis 2017 Fiscal Year

	Officers SERP	Restoration Plan	SERP	Non-qualifed Total
Service cost				
Interest cost				
Expected return on assets				
Amortizations:				
Transition				
Prior service cost				
(Gain)/loss				
ASC 715 NPBC				

# LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Non-qualified Pension Plans Financial Accounting Basis 2018 Fiscal Year

_	Officers SERP	Restoration Plan	SERP	Non-qualifed Total
Service cost				
Interest cost				
Expected return on assets				
Amortizations:				
Transition				
Prior service cost				
(Gain)/loss				
ASC 715 NPBC	1	1	1	1

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# LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Non-qualified Pension Plans Financial Accounting Basis 2019 Fiscal Year

	Officers SERP	Restoration Plan	SERP	Non-qualifed Total
Service cost				
Interest cost				
Expected return on assets				
Amortizations:				
Transition				
Prior service cost				
(Gain)/loss				
ASC 715 NPBC				



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# LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Benefit Cost ("NPBC") For Postretirement Benefit Plan 2015 Fiscal Year

	Regulatory	Regulatory	Financial	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
			Non-U	Jnion						
	LG&E	KU	ServCo	WKE	International	Total	LG&E Union	WKE Union	US GAAP	ServCo
Service cost	537,410	1,806,997	2,193,217	Ī			524,683			2,193,217
Interest cost	1,482,491	3,537,211	1,943,715				2,465,236			1,943,715
Expected return on assets	(584,205)	(2,200,366)	(2,465,664)				-			(2,465,664)
Amortizations:								_		
Transition	-	-	-	I		Ī	-	Ī	I I	-
Prior service cost	283,863	586,092	512,905				1,064,718	Ī		512,905
(Gain)/loss	-	-	-	<u> </u>			-	_		-
ASC 715 NPBC	1,719,560	3,729,934	2,184,173				4,054,637	_		2,184,173

## LG&E & KU Energy LLC Estimated ASC 715 Expense For Postretirement Benefit Plans 2016 Fiscal Year

	Regulatory	Regulatory	Financial	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
			Non-U	Jnion						
	LG&E	KU	ServCo	WKE	International	Total	LG&E Union	WKE Union	US GAAP	ServCo
Service cost	561,110	1,886,686	2,289,938	Ī			547,822			2,289,938
Interest cost	1,452,466	3,546,221	2,041,955				2,434,631			2,041,955
Expected return on assets	(690,389)	(2,564,982)	(2,910,574)				-			(2,910,574)
Amortizations:								_		
Transition	-	-	-	I	1	I	-	Ī	I I	-
Prior service cost	283,861	586,089	512,905			_	665,070	Ī		512,905
(Gain)/loss	-	-	-	<u> </u>			-	_		-
ASC 715 NPBC	1,607,048	3,454,014	1,934,224				3,647,522	_		1,934,224

- 1. These accounting projections are based on the January 1, 2014 valuation results provided on May 16, 2014. The description of the data, assumptions, methods, plan provisions, and limitations as set forth in the accounting valuation results cover letter should be considered part of these results. Please see the attached letter for a description of all other assumptions and methods used in this analysis, including a discount rate of 4.41%.
- 2. Non-union and Union VEBA amounts are assumed to remain level over the projection period (i.e., contributions equal disbursements and a 0.00% actual return on assets). 401(h) amounts are assumed to earn 7.00% each year, and contributions to the 401(h) account are assumed to be equal to the maximum deductible amount, starting in 2014 and are expected to be contributed at year-end. However, in 2014, the fair value of 401(h) assets is assumed to earn 5.23% (based on actual return from January 1, 2014 through March 31, 2014 and 0% return for the remainder of 2014).
- 3. We have assumed service cost growth equal to the discount rate (4.41% per year).
- 4. As instructed by LKE, historical allocation methodology has been followed (specifically, the calculation of the loss/(gain) amortization).
- 5. RP-2014 mortality with MP-2014 projection has been reflected in each projection year (white collar).

# LG&E & KU Energy LLC Estimated ASC 715 Expense For Postretirement Benefit Plans 2017 Fiscal Year

	Regulatory	Regulatory	Financial	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
			Non-l	Jnion						
	LG&E	KU	ServCo	WKE	International	Total	LG&E Union	WKE Union	US GAAP	ServCo
Service cost	585,855	1,969,889	2,390,924				571,981			2,390,924
Interest cost	1,425,610	3,550,969	2,135,829				2,401,000			2,135,829
Expected return on assets	(822,724)	(3,005,922)	(3,454,578)				-	Ī		(3,454,578)
Amortizations:										
Transition	-	-	-	I		Ī	-	I	1	-
Prior service cost	-	-	1	_	i	_	375,701	Ī		1
(Gain)/loss	-	-	-	I -	i	I -	-			-
ASC 715 NPBC	1,188,741	2,514,936	1,072,176				3,348,682			1,072,176

# LG&E & KU Energy LLC Estimated ASC 715 Expense For Postretirement Benefit Plans 2018 Fiscal Year

	Regulatory	Regulatory	Financial	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
			Non-l	Jnion						
	LG&E	KU	ServCo	WKE	International	Total	LG&E Union	WKE Union	US GAAP	ServCo
Service cost	611,691	2,056,761	2,496,364				597,205			2,496,364
Interest cost	1,401,936	3,551,831	2,226,928				2,363,243			2,226,928
Expected return on assets	(917,584)	(3,331,269)	(3,853,454)				-			(3,853,454)
Amortizations:										
Transition	-	-	-				-	I	I I	-
Prior service cost	-	-	-				375,701	Ī		-
(Gain)/loss	-	-	-				-			-
ASC 715 NPBC	1,096,043	2,277,322	869,838				3,336,149	_		869,838

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- 2. Non-union and Union VEBA amounts are assumed to remain level over the projection period (i.e., contributions equal disbursements and a 0.00% actual return on assets). 401(h) amounts are assumed to earn 7.00% each year, and contributions to the 401(h) account are assumed to be equal to the maximum deductible amount, starting in 2014 and are expected to be contributed at year-end. However, in 2014, the fair value of 401(h) assets is assumed to earn 5.23% (based on actual return from January 1, 2014 through March 31, 2014 and 0% return for the remainder of 2014).
- 3. We have assumed service cost growth equal to the discount rate (4.41% per year).
- 4. As instructed by LKE, historical allocation methodology has been followed (specifically, the calculation of the loss/(gain) amortization).
- 5. RP-2014 mortality with MP-2014 projection has been reflected in each projection year (white collar).

# LG&E & KU Energy LLC Estimated ASC 715 Expense For Postretirement Benefit Plans 2019 Fiscal Year

	Regulatory	Regulatory	Financial	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
			Non-l	Jnion						
	LG&E	KU	ServCo	WKE	International	Total	LG&E Union	<b>WKE Union</b>	US GAAP	ServCo
Service cost	638,667	2,147,464	2,606,454				623,542			2,606,454
Interest cost	1,379,251	3,552,117	2,313,805				2,318,606			2,313,805
Expected return on assets	(976,211)	(3,537,094)	(4,103,588)				-	I		(4,103,588)
Amortizations:								_		
Transition	-	-	-				-	Ī		-
Prior service cost	-	-	-	Ī	i i	Ī	375,701	Ī		-
(Gain)/loss	-	-	-	Ī	i i	Ī	-			-
ASC 715 NPBC	1,041,707	2,162,488	816,670			_	3,317,849			816,670

#### **Notes**

- 1. These accounting projections are based on the January 1, 2014 valuation results provided on May 16, 2014. The description of the data, assumptions, methods, plan provisions, and limitations as set forth in the accounting valuation results cover letter should be considered part of these results. Please see the attached letter for a description of all other assumptions and methods used in this analysis, including a discount rate of 4.41%.
- 2. Non-union and Union VEBA amounts are assumed to remain level over the projection period (i.e., contributions equal disbursements and a 0.00% actual return on assets). 401(h) amounts are assumed to earn 7.00% each year, and contributions to the 401(h) account are assumed to be equal to the maximum deductible amount, starting in 2014 and are expected to be contributed at year-end. However, in 2014, the fair value of 401(h) assets is assumed to earn 5.23% (based on actual return from January 1, 2014 through March 31, 2014 and 0% return for the remainder of 2014).
- 3. We have assumed service cost growth equal to the discount rate (4.41% per year).
- 4. As instructed by LKE, historical allocation methodology has been followed (specifically, the calculation of the loss/(gain) amortization).
- 5. RP-2014 mortality with MP-2014 projection has been reflected in each projection year (white collar).

### PLAN PROVISION CHANGES FOR POSTRETIREMENT BENEFIT PLAN USED IN 2015-2019 PROJECTIONS

Effective Date for Projection	
Purposes	Non-Union and LG&E Union Plans
January 1, 2015	no change
January 1, 2016	no change
January 1, 2017	no change
January 1, 2018	no change
January 1, 2019	no change

### LG&E & KU Energy LLC Estimated Benefit Payments For Postretirement Benefit Plans

		Non-Union							
Fiscal Year	LG&E	KU	ServCo	WKE	International	Total	LG&E Union	WKE Union	Grand Total
2014	2,767,532	5,019,751	1,474,912				3,670,387		
2015	2,716,609	5,054,889	1,725,205				3,649,465		
2016	2,684,553	5,226,755	2,097,331				3,719,108		
2017	2,559,185	5,425,895	2,311,469				3,771,568		
2018	2,537,176	5,578,363	2,613,809				3,887,965		
2019	2,518,654	5,626,336	2,895,839				4,059,141		

#### Estimated Year End Contributions to 401(h) Account

	401(h)
Fiscal Year	Account
2014	7,696,655
2015	8,594,692
2016	10,466,377
2017	5,183,709
2018	ı
2019	ı

- 1. These accounting projections are based on the January 1, 2014 valuation results provided on May 16, 2014. The description of the data, assumptions, methods, plan provisions, and limitations as set forth in the accounting valuation results cover letter should be considered part of these results. Please see the attached letter for a description of all other assumptions and methods used in this analysis, including a discount rate of 4.41%.
- 2. Non-union and Union VEBA amounts are assumed to remain level over the projection period (i.e., contributions equal disbursements and a 0.00% actual return on assets). 401(h) amounts are assumed to earn 7.00% each year, and contributions to the 401(h) account are assumed to be equal to the maximum deductible amount, starting in 2014 and are expected to be contributed at year-end. However, in 2014, the fair value of 401(h) assets is assumed to earn 5.23% (based on actual return from January 1, 2014 through March 31, 2014 and 0% return for the remainder of 2014).
- 3. We have assumed service cost growth equal to the discount rate (4.41% per year).
- 4. As instructed by LKE, historical allocation methodology has been followed (specifically, the calculation of the loss/(gain) amortization).
- 5. RP-2014 mortality with MP-2014 projection has been reflected in each projection year (white collar).
- 6. The 401(h) contribution is assumed to be made at the end of the calendar year. The expected 401(h) contribution amount for 2014 may change when the actual 2014 ERISA funding valuation for the LG&E and KU Retirement Plan is completed.

LG&E and KU Energy Retirement and Postretirement Benefit Plans Reconciliation of 2015/2016 budget information (\$ in millions)

1. Qualified Pension Plans: Reconciliation of 2015 Budgets	Consolidated US GAAP Expense
2015 Budget provided September 12, 2013	35.7
Demographic gains: Reflection of updated data as of January 1, 2014	(3.7)
Mortality: Incremental increase from RP-2000 / Scale BB to RP-2014 / MP-2014*	13.9
Discount Rates: Approximately 30-40 basis point decrease	4.2
Plan changes: Reflection of anticipated Dollar Per Month increase in LG&E Bargaining Plan	1.7
Contributions: Actual 2014 funding higher than expected	(2.0)
Asset returns: Assumed January 1, 2015 values higher than previous projections	<u>(0.7)</u>
Updated 2015 Budget provided May 30, 2014	49.1

<sup>\*</sup>Note that the mortality assumption change is preliminary at this point, and will be reviewed with LKE and PPL in the coming months. Actual table and projection scale used at year-end 2014 may differ from the assumption used in these forecasts.

#### 2. All Plans: Comparison of 2014 actual expense to updated 2015 budgets

- -Qualified plans: consolidated expense projection for 2015 is \$31.2 million higher than 2014 expense primarily due to the change in the mortality assumption (LKE did not move to the scale BB projection at year-end 2013, so unlike impact above, impact from 2014 to 2015 is not incremental). The 50 basis point decrease in assumed discount rate, as well as the plan change, also increased the 2015 expense projection.
- -Postretirement Benefit Plan: consolidated expense projection for 2015 is \$1.2 million higher than 2014 expense predominantly due to the change in the mortality assumption (where retiree medical losses are offset by life insurance gains) and the 50 basis point decrease in assumed discount rate.

#### 3. Nonqualified Plan: Comparison of 2015 budgets

#### 4. Postretirement Benefit Plan: Comparison of 2015 budgets

- The consolidated US GAAP expense for the Postretirement Benefit Plan 2015 budget increased from \$10.3 million in May 2013 to \$11.6 million primarily due to the reflection of updated per capita claim costs as of January 1, 2014 and the mortality change, offset by the 42 basis point increase in assumed discount rate.

#### 5. Qualified Pension Plans: Comparison of 2016 budgets

-The 2016 budget increase for the qualified plans is \$6.8 million. The key drivers are consistent with the reconciliation above (i.e. mortality assumption change, discount rate decrease, and plan change).

# LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Non-qualified Pension Plans Financial Accounting Basis 2015 Fiscal Year

	Officers SERP	Restoration Plan	Non-qualifed Total
Service cost			
Interest cost			
Expected return on assets			
Amortizations:			
Transition			
Prior service cost			
(Gain)/loss			
ASC 715 NPBC			

# LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Non-qualified Pension Plans Financial Accounting Basis 2016 Fiscal Year

	Officers SERP	Restoration Plan	Non-qualifed Total
Service cost			
Interest cost			
Expected return on assets			
Amortizations:			
Transition			
Prior service cost			
(Gain)/loss			
ASC 715 NPBC			

#### <u>Notes</u>

1. These accounting projections are based on the January 1, 2014 valuation results provided on May 23, 2014. The description of the data, assumptions, methods, plan provisions, and limitations as set forth in the accounting valuation results cover letter should be considered part of these results. Please see the attached letter for a description of all other assumptions and methods used in this analysis, including a discount rate of

- 2. Service cost is assumed to grow by annually.
- 3. RP-2014 mortality with MP-2014 projection has been reflected in each projection year (white collar).

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# LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Non-qualified Pension Plans Financial Accounting Basis 2017 Fiscal Year

	Officers SERP	Restoration Plan	Non-qualifed Total
Service cost			
Interest cost			
Expected return on assets			
Amortizations:			
Transition			
Prior service cost			
(Gain)/loss			
ASC 715 NPBC			

# LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Non-qualified Pension Plans Financial Accounting Basis 2018 Fiscal Year

	Officers SERP	Restoration Plan	Non-qualifed Total
Service cost			
Interest cost			
Expected return on assets			
Amortizations:			
Transition			
Prior service cost			
(Gain)/loss			
ASC 715 NPBC			

#### notes

1. These accounting projections are based on the January 1, 2014 valuation results provided on May 23, 2014. The description of the data, assumptions, methods, plan provisions, and limitations as set forth in the accounting valuation results cover letter should be considered part of these results. Please see the attached letter for a description of all other assumptions and methods used in this analysis, including a discount rate of

- 2. Service cost is assumed to grow by annually.
- 3. RP-2014 mortality with MP-2014 projection has been reflected in each projection year (white collar).

# Attachment to Response to KIUC-1 PAGE 57 of 101 Arbough

# LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Non-qualified Pension Plans Financial Accounting Basis 2019 Fiscal Year

	Officers SERP	Restoration Plan	Non-qualifed Total
Service cost			
Interest cost			
Expected return on assets			
Amortizations:			
Transition			
Prior service cost			
(Gain)/loss			
ASC 715 NPBC			

#### **Notes**

1. These accounting projections are based on the January 1, 2014 valuation results provided on May 23, 2014. The description of the data, assumptions, methods, plan provisions, and limitations as set forth in the accounting valuation results cover letter should be considered part of these results. Please see the attached letter for a description of all other assumptions and methods used in this analysis, including a discount rate of

- 2. Service cost is assumed to grow by annually.
- 3. RP-2014 mortality with MP-2014 projection has been reflected in each projection year (white collar).

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### LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Qualified Pension Plans 2015 Fiscal Year

	Regulatory	Regulatory	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
		LG&E a	nd KU Retiremer	nt Plan					
	LG&E			WKE	Non-union	1			
	Non-union	KU	Servco	Non-union	Total	LG&E Union	WKE Union	US GAAP	Servco
Service cost	2,155,220	8,410,431	13,520,777			1,599,741			13,520,777
Interest cost	10,551,938	19,171,202	22,337,611			15,165,158			22,337,611
Expected return on assets	(13,641,272)	(24,458,474)	(24,752,753)			(18,956,655)			(24,752,753)
Amortizations:									
Transition	-	-	-			-			-
Prior service cost	1,815,457	691,706	-			3,325,004			2,498,015
(Gain)/loss	6,901,548	10,935,346	2,085,458			12,243,026			9,793,863
ASC 715 NPBC	7,782,891	14,750,211	13,191,094			13,376,274			23,397,513

### LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Qualified Pension Plans 2016 Fiscal Year

	Regulatory	Regulatory	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
		LG&E a	nd KU Retiremer	nt Plan					
	LG&E			WKE	Non-union	1			
	Non-union	KU	Servco	Non-union	Total	LG&E Union	WKE Union	US GAAP	Servco
Service cost	2,198,325	8,578,640	13,791,192			1,631,736			13,791,192
Interest cost	10,637,140	19,621,767	23,548,502			15,243,630			23,548,502
Expected return on assets	(14,261,169)	(25,741,568)	(26,572,160)			(20,026,033)			(26,572,160)
Amortizations:									
Transition	-	-	-			-			-
Prior service cost	1,287,626	26,068	-			3,325,004			2,390,646
(Gain)/loss	5,986,095	9,630,885	1,868,345			10,484,456			9,122,994
ASC 715 NPBC	5,848,016	12,115,792	12,635,880			10,658,793			22,281,175

#### <u>Notes</u>

- 1. These accounting projections are based on the January 1, 2014 valuation results provided on April 30, 2014. The description of the data, assumptions, methods, plan provisions, and limitations as set forth in the accounting valuation results cover letter should be considered part of these results. Please see the attached letter for a description of all other assumptions and methods used in this analysis, including a discount rate of the WKE union plan, 4.63% for LG&E union plan, and 4.70% for the nonunion plans.
- 2. Projections reflect the actual impact of the Terminated Vested (TV) lump sum windows phased between 2013 and 2014.
- 3. Fair value of assets is assumed to earn each year for the WKE union plan and 7.00% each year for all others. However, in 2014, the fair value of assets is assumed to earn the WKE union plan, 5.37% for LG&E union plan, and 5.26% for all others (based on actual return from January 1, 2014 through March 31, 2014 and 0% return for the remainder of 2014).
- 4. Service cost is assumed to grow by 2% annually.
- 5. RP-2014 mortality with MP-2014 projection has been reflected in each projection year (no collar adjustment for union plans and white collar for non-union plans).

### LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Qualified Pension Plans 2017 Fiscal Year

	Regulatory	Regulatory	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
		LG&E a	nd KU Retireme	nt Plan					
	LG&E			WKE	Non-union	1			
	Non-union	KU	Servco	Non-union	Total	LG&E Union	WKE Union	US GAAP	Servco
Service cost	2,242,291	8,750,213	14,067,016			1,664,371			14,067,016
Interest cost	10,718,015	20,070,290	24,745,247			15,297,267			24,745,247
Expected return on assets	(14,784,541)	(26,903,275)	(28,371,007)			(20,947,423)			(28,371,007)
Amortizations:									
Transition	-	-	-			-			-
Prior service cost	1,154,543	23,744	-			3,325,004			2,282,700
(Gain)/loss	5,497,877	9,230,455	1,626,773			8,916,672			8,427,667
ASC 715 NPBC	4,828,185	11,171,427	12,068,030			8,255,892			21,151,623

### LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Qualified Pension Plans 2018 Fiscal Year

	Regulatory	Regulatory	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
		LG&E a	nd KU Retireme	nt Plan					
	LG&E			WKE	Non-union				
	Non-union	KU	Servco	Non-union	Total	LG&E Union	WKE Union	US GAAP	Servco
Service cost	2,287,137	8,925,217	14,348,356			1,697,658			14,348,356
Interest cost	10,790,593	20,510,646	25,921,046			15,858,595			25,921,046
Expected return on assets	(15,261,483)	(28,041,350)	(30,135,227)			(21,730,052)			(30,135,227)
Amortizations:									
Transition	-	-	-			-			-
Prior service cost	924,330	18,294	-			4,837,907			1,781,848
(Gain)/loss	5,292,482	8,800,029	1,363,907			8,074,468			7,711,044
ASC 715 NPBC	4,033,059	10,212,836	11,498,082			8,738,576			19,627,067

#### <u>Notes</u>

- 1. These accounting projections are based on the January 1, 2014 valuation results provided on April 30, 2014. The description of the data, assumptions, methods, plan provisions, and limitations as set forth in the accounting valuation results cover letter should be considered part of these results. Please see the attached letter for a description of all other assumptions and methods used in this analysis, including a discount rate of the WKE union plan, 4.63% for LG&E union plan, and 4.70% for the nonunion plans.
- 2. Projections reflect the actual impact of the Terminated Vested (TV) lump sum windows phased between 2013 and 2014.
- 3. Fair value of assets is assumed to earn each year for the WKE union plan and 7.00% each year for all others. However, in 2014, the fair value of assets is assumed to earn the WKE union plan, 5.37% for LG&E union plan, and 5.26% for all others (based on actual return from January 1, 2014 through March 31, 2014 and 0% return for the remainder of 2014).
- 4. Service cost is assumed to grow by 2% annually.
- 5. RP-2014 mortality with MP-2014 projection has been reflected in each projection year (no collar adjustment for union plans and white collar for non-union plans).

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### LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Pension Cost ("NPPC") For Qualified Pension Plans 2019 Fiscal Year

	Regulatory	Regulatory	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
		LG&E a	nd KU Retireme	nt Plan					
	LG&E			WKE	Non-union				
	Non-union	KU	Servco	Non-union	Total	LG&E Union	WKE Union	US GAAP	Servco
Service cost	2,332,880	9,103,721	14,635,323			1,731,611			14,635,323
Interest cost	10,851,525	20,943,964	27,054,810			15,881,545			27,054,810
Expected return on assets	(15,698,596)	(29,152,709)	(31,830,055)			(22,562,274)			(31,830,055)
Amortizations:									
Transition	-	-	-			-			-
Prior service cost	5	3	-			4,674,242			4
(Gain)/loss	5,074,844	8,343,445	1,085,946			7,708,180			6,979,327
ASC 715 NPBC	2,560,657	9,238,425	10,946,024			7,433,305			16,839,410

#### Notes

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- 2. Projections reflect the actual impact of the Terminated Vested (TV) lump sum windows phased between 2013 and 2014.
- 3. Fair value of assets is assumed to earn each year for the WKE union plan and 7.00% each year for all others. However, in 2014, the fair value of assets is assumed to earn the WKE union plan, 5.37% for LG&E union plan, and 5.26% for all others (based on actual return from January 1, 2014 through March 31, 2014 and 0% return for the remainder of 2014).
- 4. Service cost is assumed to grow by 2% annually.
- 5. RP-2014 mortality with MP-2014 projection has been reflected in each projection year (no collar adjustment for union plans and white collar for non-union plans).

### LG&E & KU Energy LLC Estimated Cash Contributions for Plan Years 2014-2019 (\$ millions)

		LG&E a	nd KU Retireme					
	LG&E Nonunion	KU	Servco	WKE Nonunion	Nonunion Total	LG&E Union	WKE Union	Grand Total
1/14/2014 actual	8,200,000	2,200,000	24,700,000	WKE Nonumon	Nonumon Total	-	WILL OHIOH	Grand Total
12/31/2015	7,782,891	14,750,211	13,191,094			13,376,274		
12/31/2016	5,848,016	12,115,792	12,635,880			10,658,793		
12/31/2017	4,828,185	11,171,427	12,068,030			8,255,892		
12/31/2018	4,033,059	10,212,836	11,498,082			8,738,576		
12/31/2019	2,560,657	9,238,425	10,946,024			7,433,305		

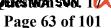
## LG&E & KU Energy LLC Estimated ASC 715 Net Periodic Benefit Cost ("NPBC") For Postretirement Benefit Plan 2015 Fiscal Year

	Regulatory	Regulatory	Financial	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
			Non-l	Jnion						
	LG&E	KU	ServCo	WKE	International	Total	LG&E Union	WKE Union	US GAAP	ServCo
Service cost	537,410	1,806,997	2,193,217				524,683			2,193,217
Interest cost	1,482,491	3,537,211	1,943,715				2,465,236			1,943,715
Expected return on assets	(584,205)	(2,200,366)	(2,465,664)				-			(2,465,664)
Amortizations:										
Transition	-	-	_				-			_
Prior service cost	283,863	586,092	512,905				1,064,718			512,905
(Gain)/loss	-	-	-				-			_
ASC 715 NPBC	1,719,560	3,729,934	2,184,173				4,054,637			2,184,173

## LG&E & KU Energy LLC Estimated ASC 715 Expense For Postretirement Benefit Plans 2016 Fiscal Year

	Regulatory	Regulatory	Financial	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
			Non-l	Jnion						
	LG&E	KU	ServCo	WKE	International	Total	LG&E Union	WKE Union	US GAAP	ServCo
Service cost	561,110	1,886,686	2,289,938				547,822			2,289,938
Interest cost	1,452,466	3,546,221	2,041,955				2,434,631			2,041,955
Expected return on assets	(690,389)	(2,564,982)	(2,910,574)				-			(2,910,574)
Amortizations:										
Transition	-	-	-				-			-
Prior service cost	283,861	586,089	512,905				665,070			512,905
(Gain)/loss	-	-	-				-			-
ASC 715 NPBC	1,607,048	3,454,014	1,934,224				3,647,522			1,934,224

- 1. These accounting projections are based on the January 1, 2014 valuation results provided on May 16, 2014. The description of the data, assumptions, methods, plan provisions, and limitations as set forth in the accounting valuation results cover letter should be considered part of these results. Please see the attached letter for a description of all other assumptions and methods used in this analysis, including a discount rate of 4.41%.
- 2. Non-union and Union VEBA amounts are assumed to remain level over the projection period (i.e., contributions equal disbursements and a 0.00% actual return on assets). 401(h) amounts are assumed to earn 7.00% each year, and contributions to the 401(h) account are assumed to be equal to the maximum deductible amount, starting in 2014 and are expected to be contributed at year-end. However, in 2014, the fair value of 401(h) assets is assumed to earn 5.23% (based on actual return from January 1, 2014 through March 31, 2014 and 0% return for the remainder of 2014).
- 3. We have assumed service cost growth equal to the discount rate (4.41% per year).
- 4. As instructed by LKE, historical allocation methodology has been followed (specifically, the calculation of the loss/(gain) amortization).
- 5. RP-2014 mortality with MP-2014 projection has been reflected in each projection year (white collar).



Arbough

## LG&E & KU Energy LLC Estimated ASC 715 Expense For Postretirement Benefit Plans 2017 Fiscal Year

	Regulatory	Regulatory	Financial	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
			Non-U	Jnion						
	LG&E	KU	ServCo	WKE	International	Total	LG&E Union	WKE Union	US GAAP	ServCo
Service cost	585,855	1,969,889	2,390,924				571,981			2,390,924
Interest cost	1,425,610	3,550,969	2,135,829				2,401,000			2,135,829
Expected return on assets	(822,724)	(3,005,922)	(3,454,578)				-			(3,454,578)
Amortizations:										
Transition	-	-	-				-			-
Prior service cost	-	-	1				375,701			1
(Gain)/loss	-	-	-				-			-
ASC 715 NPBC	1,188,741	2,514,936	1,072,176				3,348,682			1,072,176

## LG&E & KU Energy LLC Estimated ASC 715 Expense For Postretirement Benefit Plans 2018 Fiscal Year

	Regulatory	Regulatory	Financial	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
			Non-l	Union						
	LG&E	KU	ServCo	WKE	International	Total	LG&E Union	WKE Union	US GAAP	ServCo
Service cost	611,691	2,056,761	2,496,364				597,205			2,496,364
Interest cost	1,401,936	3,551,831	2,226,928				2,363,243			2,226,928
Expected return on assets	(917,584)	(3,331,269)	(3,853,454)				-			(3,853,454)
Amortizations:										
Transition	-	-	-				-			-
Prior service cost	-	-	-				375,701			-
(Gain)/loss	-	-	-				-			-
ASC 715 NPBC	1,096,043	2,277,322	869,838				3,336,149			869,838

- 1. These accounting projections are based on the January 1, 2014 valuation results provided on May 16, 2014. The description of the data, assumptions, methods, plan provisions, and limitations as set forth in the accounting valuation results cover letter should be considered part of these results. Please see the attached letter for a description of all other assumptions and methods used in this analysis, including a discount rate of 4.41%.
- 2. Non-union and Union VEBA amounts are assumed to remain level over the projection period (i.e., contributions equal disbursements and a 0.00% actual return on assets). 401(h) amounts are assumed to earn 7.00% each year, and contributions to the 401(h) account are assumed to be equal to the maximum deductible amount, starting in 2014 and are expected to be contributed at year-end. However, in 2014, the fair value of 401(h) assets is assumed to earn 5.23% (based on actual return from January 1, 2014 through March 31, 2014 and 0% return for the remainder of 2014).
- 3. We have assumed service cost growth equal to the discount rate (4.41% per year).
- 4. As instructed by LKE, historical allocation methodology has been followed (specifically, the calculation of the loss/(gain) amortization).
- 5. RP-2014 mortality with MP-2014 projection has been reflected in each projection year (white collar).

## LG&E & KU Energy LLC Estimated ASC 715 Expense For Postretirement Benefit Plans 2019 Fiscal Year

	Regulatory	Regulatory	Financial	Financial	Financial		Regulatory	Financial	Consolidated	Regulatory
			Non-l	Jnion						
	LG&E	KU	ServCo	WKE	International	Total	LG&E Union	<b>WKE Union</b>	US GAAP	ServCo
Service cost	638,667	2,147,464	2,606,454				623,542			2,606,454
Interest cost	1,379,251	3,552,117	2,313,805				2,318,606			2,313,805
Expected return on assets	(976,211)	(3,537,094)	(4,103,588)				-			(4,103,588)
Amortizations:										
Transition	-	-	_				-			_
Prior service cost	-	-	_				375,701			_
(Gain)/loss	-	-	-				-			-
ASC 715 NPBC	1,041,707	2,162,488	816,670				3,317,849			816,670

#### Notes

- 1. These accounting projections are based on the January 1, 2014 valuation results provided on May 16, 2014. The description of the data, assumptions, methods, plan provisions, and limitations as set forth in the accounting valuation results cover letter should be considered part of these results. Please see the attached letter for a description of all other assumptions and methods used in this analysis, including a discount rate of 4.41%.
- 2. Non-union and Union VEBA amounts are assumed to remain level over the projection period (i.e., contributions equal disbursements and a 0.00% actual return on assets). 401(h) amounts are assumed to earn 7.00% each year, and contributions to the 401(h) account are assumed to be equal to the maximum deductible amount, starting in 2014 and are expected to be contributed at year-end. However, in 2014, the fair value of 401(h) assets is assumed to earn 5.23% (based on actual return from January 1, 2014 through March 31, 2014 and 0% return for the remainder of 2014).
- 3. We have assumed service cost growth equal to the discount rate (4.41% per year).
- 4. As instructed by LKE, historical allocation methodology has been followed (specifically, the calculation of the loss/(gain) amortization).
- 5. RP-2014 mortality with MP-2014 projection has been reflected in each projection year (white collar).

### PLAN PROVISION CHANGES FOR POSTRETIREMENT BENEFIT PLAN USED IN 2015-2019 PROJECTIONS

<b>Effective Date for Projection</b>		
Purposes	Non-Union and LG&E Union Plans	
January 1, 2015	no change	
January 1, 2016	no change	
January 1, 2017	no change	
January 1, 2018	no change	
January 1, 2019	no change	

Page 65 of 101 Arbough

### LG&E & KU Energy LLC Estimated Benefit Payments For Postretirement Benefit Plans

	Non-Union								
Fiscal Year	LG&E	KU	ServCo	WKE	International	Total	LG&E Union	WKE Union	Grand Total
2014	2,767,532	5,019,751	1,474,912				3,670,387		
2015	2,716,609	5,054,889	1,725,205				3,649,465		
2016	2,684,553	5,226,755	2,097,331				3,719,108		
2017	2,559,185	5,425,895	2,311,469				3,771,568		
2018	2,537,176	5,578,363	2,613,809				3,887,965		
2019	2,518,654	5,626,336	2,895,839				4,059,141		

#### Estimated Year End Contributions to 401(h) Account

Fiscal Year	401(h) Account
2014	7,696,655
2015	8,594,692
2016	10,466,377
2017	5,183,709
2018	-
2019	-

- 1. These accounting projections are based on the January 1, 2014 valuation results provided on May 16, 2014. The description of the data, assumptions, methods, plan provisions, and limitations as set forth in the accounting valuation results cover letter should be considered part of these results. Please see the attached letter for a description of all other assumptions and methods used in this analysis, including a discount rate of 4.41%.
- 2. Non-union and Union VEBA amounts are assumed to remain level over the projection period (i.e., contributions equal disbursements and a 0.00% actual return on assets). 401(h) amounts are assumed to earn 7.00% each year, and contributions to the 401(h) account are assumed to be equal to the maximum deductible amount, starting in 2014 and are expected to be contributed at year-end. However, in 2014, the fair value of 401(h) assets is assumed to earn 5.23% (based on actual return from January 1, 2014 through March 31, 2014 and 0% return for the remainder of 2014).
- 3. We have assumed service cost growth equal to the discount rate (4.41% per year).
- 4. As instructed by LKE, historical allocation methodology has been followed (specifically, the calculation of the loss/(gain) amortization).
- 5. RP-2014 mortality with MP-2014 projection has been reflected in each projection year (white collar).
- 6. The 401(h) contribution is assumed to be made at the end of the calendar year. The expected 401(h) contribution amount for 2014 may change when the actual 2014 ERISA funding valuation for the LG&E and KU Retirement Plan is completed.

#### Attachment to Response to KIUC-1 Question No. 17

Page 66 of 101

From: Della Pietra, Jennifer (Philadelphia)(jennifer.dellapietra@towerswatson.com) Arbough

To: Arbough, Dan

CC: Kosoff, Royce (Philadelphia); Durn, Karla A [PPL]; Higdon, Kelli; Kugler, Jeanne; Cosby, David

BCC:

Subject: RE: LKE 5-Year ASC 715-30 Retirement and Postretirement Benefit Benefit Plan Projections and ASC 712

Postemployment 1-year projection

**Sent:** 06/03/2014 11:47:03 AM -0400 (EDT)

Attachments:

Dan.

The impact of changing the presumed actual return during 2014 from the 5.26% / 5.37% used, to 7.0%, would decrease 2015 estimated expense on a consolidated GAAP basis by approximately \$1 million, with the impact increasing incrementally above \$1 million over the 5-year period. Note that we have not changed the Expected Return on Asset assumption (remaining at 7%). Jennifer A. Della Pietra, ASA, EA

Senior Consulting Actuary

**Towers Watson** 

1500 Market Street, Centre Square East | Philadelphia, PA 19102-4790

T +1 215 246 6861 C +1 215 251 6031 F +1 215 246 6251

jennifer.dellapietra@towerswatson.com

towerswatson.com

do:jad | er:rsk | tr:rsk | cr:rsk | spr:N/A

From: Arbough, Dan [mailto:Dan.Arbough@lge-ku.com]

Sent: Monday, June 02, 2014 1:07 PM To: Della Pietra, Jennifer (Philadelphia)

Cc: Kosoff, Royce (Philadelphia); Durn, Karla A [PPL]; Higdon, Kelli; Kugler, Jeanne; Cosby, David

Subject: RE: LKE 5-Year ASC 715-30 Retirement and Postretirement Benefit Benefit Plan Projections and ASC 712 Postemployment 1-

year projection

Jen,

I note that you have assumed a rate of return for all of 2014 equal to the YTD actual return (ie assuming a 0% return for the remainder of the year). How significant is this assumption? Would it make a material difference if you assumed a 7% full year return?

#### Dan

From: Della Pietra, Jennifer (Philadelphia) [mailto:jennifer.dellapietra@towerswatson.com]

Sent: Friday, May 30, 2014 5:55 PM

To: Higdon, Kelli

Cc: Arbough, Dan; Kugler, Jeanne; Sunder, George R [PPL]; Durn, Karla A [PPL]; Kosoff, Royce (Philadelphia); Loth, Bill (Philadelphia);

Cosby, David

Subject: LKE 5-Year ASC 715-30 Retirement and Postretirement Benefit Benefit Plan Projections and ASC 712 Postemployment 1-year

projection

Hi Kelli -

Enclosed please find the 5-year accounting projections for the LG&E and KU Energy, LLC qualified pension plans, non-qualified pension plans, and postretirement benefit plan. Please see the letter and exhibits for information regarding the data, assumptions, methods, and plan provisions used in these calculations. Please note that the last page of the projection letter also includes a reconciliation of these results to prior projections/expense results.

Also enclosed please find the 1-year postemployment plan projection.

Please let us know if you have any questions or would like to review these results together in greater detail.

Regards,

Attachment to Response to KIUC-1 Question No. 17
Page 67 of 101
Arbough

Jen, Royce, and Bill

Jennifer A. Della Pietra, ASA, EA

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Royce S. Kosoff, FSA, EA, CFA

Senior Consulting Actuary T +1 215 246 6815 | F +1 215 246 6251 royce.kosoff@towerswatson.com

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1500 Market Street | Philadelphia, PA 19102-4790 towerswatson.com

do:egb/jg | er:jad | tr:wrl/jad | cr:jad/wrl | spr:rsk

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#### Attachment to Response to KIUC-1 Question No. 17

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Arbough

From: Kosoff, Royce (Philadelphia)(royce.kosoff@towerswatson.com)

To: Arbough, Dan

**CC:** Della Pietra, Jennifer (Philadelphia); May, Kristin (Philadelphia)

BCC:

Subject: RE: New Mortality Table

**Sent:** 06/23/2014 04:44:35 PM -0400 (EDT)

Attachments:

The Society of Actuaries' comment period has ended, and they are reviewing comment letters now (including ours). My understanding is that they will then decide whether changes will be made to the report, which could change the overall discussion. Unfortunately, we do not have a final date on any updated release, however, we might expect additional information in the third quarter.

Note that this does not preclude us from continuing the LKE (and PPL) specific mortality discussion, including a more thorough review of your options for year-end 2014. Let us know if you'd like to re-convene the group to focus on this topic.

#### Royce S. Kosoff, FSA, EA, CFA

Senior Consulting Actuary

#### **Towers Watson**

Centre Square East | 1500 Market Street | Philadelphia, PA 19102

T 215 246 6815 M 215 880 3038 towerswatson.com

From: Arbough, Dan [mailto:Dan.Arbough@lge-ku.com]

Sent: Monday, June 23, 2014 11:03 AM

To: Kosoff, Royce (Philadelphia) Subject: New Mortality Table

Royce,

When do you think the new mortality tables will be finalized? What is the process from here to get them finalized?

Dan

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Page 69 of 101 Arbough

From: Kosoff, Royce (Philadelphia)(royce.kosoff@towerswatson.com)
To: Durn, Karla A [PPL]; Arbough, Dan; Clelland, Russell R [PPL]

CC: May, Kristin (Philadelphia); Della Pietra, Jennifer (Philadelphia); TW PPL All Valuation Teams; Hook, Peter B [PPL];

Mudd, Ken

BCC:

Sent:

Subject: Pension Funding Stabilization - Redac LKE, Unresp

08/01/2014 12:17:36 PM -0400 (EDT)

Attachments:

Karla, Dan and Russ-

As we have noted over the past several days, pension funding stabilization legislation (i.e., additional pension funding relief) is nearing enactment. The Act passed yesterday by the Senate (and expected to be signed by the President soon) delays the widening of the interest rate corridor under MAP-21 based on the following schedule:

	MAP-21	Highway and Transportation Funding Act			
	Corridor around 25-year average of corporate bond interest				
	rates				
2012	90-110%				
2013	85-115%	90-110%			
2014	80-120%				
2015	75-125%				
2016					
2017					
2018	70-130%	85-115%			
2019		80-120%			
2020		75-125%			
After 2020		70-130%			

This extension would increase the 2014 plan year segment rates by approximately 65-75 bps, with even larger increases projected over the next few years. This is expected to significantly reduce contribution requirements, will provide sponsors with additional funding flexibility, and will make it easier for sponsors to maintain funded levels above key thresholds (e.g., 80%).

We believe this legislation will have a significant impact on the Unresponsive LKE plans, as well as future ramifications for the Redacted as Unresponsive We recommend a call with this group to discuss this issue further. Please let us know if you would be interested, and if August 11 or 12 is available for a conference call.

In the meantime, please let us know if you have any questions.

Your Towers Watson Team

Royce S. Kosoff, FSA, EA, CFA Senior Consulting Actuary

**Towers Watson** 

Centre Square East | 1500 Market Street | Philadelphia, PA 19102

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Arbough

Page 71 of 101

From: Kosoff, Royce (Philadelphia)(royce.kosoff@towerswatson.com) Arbough

To: Hook, Peter B [PPL]; Durn, Karla A [PPL]; Mudd, Ken; Arbough, Dan

CC: Sunder, George R [PPL]; Lutte-Romig, Barbara J [PPL]; Wright, Jeanne; Kugler, Jeanne; Higdon, Kelli; Della Pietra,

Jennifer (Philadelphia); May, Kristin (Philadelphia)

BCC:

Subject: 2014 Experience Study and Demographic Assumptions Review - Summary of Proposed Services

**Sent:** 08/14/2014 02:52:12 PM -0400 (EDT)

Attachments: PPL & LKE 2014 Experience Study - Summary of Services.pdf;

#### All-

Attached is our summary of proposed services for the 2014 experience study and demographic assumptions review for the PPL and LKE plans. As discussed, the objective is to complete this work during 2014, to be ready for year-end 2014 financial statement disclosures and the 2015 valuations.

Please let us know if you have any changes to these services, before we send a formal scope of work and commence this analysis.

# Regards,

Your Towers Watson Team

# Royce S. Kosoff, FSA, EA, CFA

Senior Consulting Actuary

#### **Towers Watson**

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# Attachment to Response to KIUC-1 Question No. 17 Page 72 of 101 Arbough



August 14, 2014

Mr. Peter Hook
PPL Services Corporation
Two North Ninth Street
Allentown, PA 18101-1179

Ms. Karla Durn PPL Services Corporation Two North Ninth Street Allentown, PA 18101-1179 Mr. Ken Mudd LG&E and KU Energy Services Company 220 West Main Street Louisville, KY 40202

Mr. Dan Arbough LG&E and KU Energy Services Company 220 West Main Street Louisville, KY 40202

# 2014 EXPERIENCE STUDY AND DEMOGRAPHIC ASSUMPTIONS REVIEW – SUMMARY OF PROPOSED SERVICES

A crucial component of the annual pension and postretirement welfare plans valuation process is the review of actuarial assumptions. PPL's historical policy has been to review the key economic assumptions annually, and to perform a demographic assumption review every three years. The last demographic experience study was completed in 2011. Based on the results of the 2011 study, PPL refined the demographic assumptions to better reflect historical experience and incorporate known future events. Where appropriate, the demographic assumptions were aligned between the PPL/LKE plans.

For 2014, a coordinated approach to demographic assumption setting between PPL and LKE (i.e., bringing LKE onto the three-year cycle of detailed demographic assumption reviews) will provide even further harmonization to the process.

The remainder of this document is intended to serve as a discussion guide from which a final Scope of Work will be developed. Upon review by PPL/LKE of the services, process and methodology outlined in this document, we will develop a formal Scope of Work which will include applicable contracting language and fees.

# Services

The Services will be divided into two "Phases". During Phase I we will analyze demographic experience against the current key demographic assumptions of retirement, termination, disability, compensation increases, form of payment election and retiree medical plan participation and recommend modifications to the assumptions where appropriate.

For the first time, we will also formally review PPL's mortality data, and compare this experience to the current tables as well as the sets of recent published Society of Actuaries tables. More details on this step are contained below.

# Attachment to Response to KIUC-1 Question No. 17 Page 73 of 101 Arbough



During Phase II we will develop the financial implications under ASC 715 and ERISA for any potential assumption changes. Key demographic assumptions will be analyzed for the following plans ("the Plans"):

# **PPL Plans**

- PPL Retirement Plan
- PPL Subsidiary Retirement Plan
- PPL Postretirement Welfare Plan

# **LKE Plans**

- LG&E and KU Retirement Plan
- LG&E Company Bargaining Employees' Retirement Plan
- LG&E and KU Energy Postretirement Benefit Plan

Study is not expected to include nonqualified executive plans, or the WKE plan.

# Description of Phase I

During Phase I we will review the plan experience and compare actual experience versus each significant assumption.

We will review the PPL and LKE experience individually by plan and on a combined basis. Where experience differs from the assumption, we will propose alternative demographic assumptions that might better align with the demographic experience of the plans. We will provide PPL and LKE with the analysis needed to support their demographic assumptions.

We will complete Phase I by completing the following steps:

- Step 1 Collect demographic experience
  - For the PPL plans, all relevant data is collected as part of the annual actuarial valuations. No additional data is required to be collected.
  - For the LKE plans, all relevant data is collected as part of the annual actuarial valuations. We are currently working with LKE to obtain the January 1, 2011 active data file for each LKE plan, to complete the three-year data set.
- Step 2 Inventory and list all demographic assumptions by Plan and decrement table.
  - We will provide a summary and high-level comparison of the assumptions.
- Step 3 Compute actual experience from the Plans to compare to assumptions.
  - We will explicitly calculate retirement, turnover, and compensation experience over a three-year period.
  - For the postretirement welfare plans, we will calculate participation (employee and spouse) experience

# Attachment to Response to KIUC-1 Question No. 17 Page 74 of 101 Arbough



- We will review the average retirement age of terminated vested participants as well as the type of annuity elections made by all participants at retirement.
- We do not believe that the participant count is sufficiently high to be credible for computing disability experience. However, we will provide qualitative information on this assumption.
- For the first time, we will review mortality experience over a three-year period for the LKE plans and over a ten-year period for the PPL plans. All mortality experience will be analyzed on a combined basis for the company and compared to current published mortality tables. Due to participant count, we understand that the mortality experience may not yield fully statistically significant results. However, we do anticipate that the results of this study will help inform PPL when setting the mortality assumption.

# ■ Step 4 - Analyze results

- The results (with the exception of mortality) will be analyzed separately for the PPL plans and the LKE plans. The mortality results will be reviewed on a combined basis, due to the limits on statistical credibility (noted above). The results will be reviewed alongside the previous experience studies for PPL and LKE (when available), to ensure consistency and accuracy. Additionally, the results will be analyzed on a combined basis to determine where harmonization would be appropriate.
- Step 5 Prepare preliminary discussion materials that will include the following:
  - Summaries for all key demographic assumptions
  - Comparison of experience study results to expectations based upon current demographic assumptions used for the Plans
  - Proposed alternative demographic assumptions (if appropriate)
  - For the first time, comparison of PPL mortality experience to recently published Society of Actuaries tables
  - Possible facts and circumstances supporting different demographic assumptions among the Plans

We anticipate discussing with you whether PPL will desire to utilize this material in a final "report" that may be shared with others (e.g., auditors).

Please note that we anticipate that the preliminary discussion guide will not contain valuation cost impacts. There may be a number of assumption combinations that you would like to review (or possibly no changes at all), so we would like to discuss these results with you before proceeding with plan cost calculations in Phase II.



# **Description of Phase II (Optional):**

During "Phase II", we will develop the estimated ASC 715 expense, balance sheet, and ERISA funding impact of any desired assumption changes for the Plans.

- Step 1 as desired by PPL and LKE, determine financial impact based upon the agreed-upon alternative demographic assumptions for the applicable plans.
- Step 2 Determine final demographic assumptions
- Step 3 Produce ERISA funding results for the PPL plans and accounting budgets for selected PPL and LKE plans based on updated assumptions for the Plans.

# **Timing**

We anticipate commencing Phase I of this project immediately and completing Phase I by mid-January (with interim conference calls and meetings with PPL and LKE), at which point we will decide on the appropriate timing for Phase II. Depending on the timing of these decisions, new assumptions may be reflected for 2015 accounting and funding valuation purposes.

\* \* \* \* \* \*

We look forward to your approval of this Summary of Services so we may draft a formal Scope of Work for your consideration. As always, please do not hesitate to call if you have any questions.

Sincerely,

Royce Kosoff, FSA, EA, CFA Senior Consulting Actuary Kristin A. May, FSA, EA Senior Consulting Actuary Jennifer Della Pietra, ASA, EA Senior Consulting Actuary

Jerrefu a Della letto

cc: Barbara Lutte-Romig – PPL Services Corporation
George Sunder – PPL Services Corporation
Jeanne Kugler – LG&E and KU Energy Services Company
Jeanne Wright – LG&E and KU Energy Services Company
Kelli Higdon – LG&E and KU Energy Services Company

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From: Wright, Jeanne(/O=LGE/OU=LOUISVILLE/CN=RECIPIENTS/CN=ADMINISTRATIVE/CN=JEANNAMBOOGT)

To: 'Kosoff, Royce (Philadelphia)'

CC: Mudd, Ken; Arbough, Dan; Higdon, Kelli; Kugler, Jeanne; Della Pietra, Jennifer (Philadelphia)

(jennifer.dellapietra@towerswatson.com); Ausiello, Kristin (Philadelphia) (kristin.ausiello@towerswatson.com)

BCC:

Subject: RE: 2014 Experience Study and Demographic Assumptions Review - Summary of Proposed Services - Jeanne's

questions

**Sent:** 08/15/2014 08:33:13 AM -0400 (EDT)

Attachments:

# Royce,

After a quick read of the proposal, I have a few questions:

- 1. The proposal states -- "We are currently working with LKE to obtain the January 1, 2011 active data file for each LKE plan, to complete the three-year data set.". Who have you been working with to get this data?
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- 5. Will our Accounting and/or Finance group need the study broken down by any categories ex: by Company or by union? If so, should the breakdowns be identified in the proposal?

Jeanne

From: Kosoff, Royce (Philadelphia) [mailto:royce.kosoff@towerswatson.com]

Sent: Thursday, August 14, 2014 2:52 PM

To: Hook, Peter B [PPL]; Durn, Karla A [PPL]; Mudd, Ken; Arbough, Dan

Cc: Sunder, George R [PPL]; Lutte-Romig, Barbara J [PPL]; Wright, Jeanne; Kugler, Jeanne; Higdon, Kelli; Della Pietra, Jennifer

(Philadelphia); May, Kristin (Philadelphia)

Subject: 2014 Experience Study and Demographic Assumptions Review - Summary of Proposed Services

#### ΛΠ

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# Regards,

Your Towers Watson Team

# Attachment to Response to KIUC-1 Question No. 17 Page 77 of 101

Arbough

Royce S. Kosoff, FSA, EA, CFA

Senior Consulting Actuary

**Towers Watson** 

Centre Square East |1500 Market Street | Philadelphia, PA 19102

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Page 78 of 101

From: Kosoff, Royce (Philadelphia)(royce.kosoff@towerswatson.com) Arbough

To: Wright, Jeanne

CC: Mudd, Ken; Arbough, Dan; Higdon, Kelli; Kugler, Jeanne; Della Pietra, Jennifer (Philadelphia); May, Kristin

(Philadelphia); Sparks, Angela; Mottley, Vaneeca

BCC:

Subject: RE: 2014 Experience Study and Demographic Assumptions Review - Summary of Proposed Services - Jeanne's

questions

**Sent:** 08/20/2014 05:57:38 PM -0400 (EDT)

Attachments:

#### Jeanne-

Thanks for the note. We would like to address your questions (as well as any potential questions from your colleagues in Allentown) before we get started.

I believe Jennifer reached out to schedule a call for tomorrow afternoon (maybe in the 3-5 pm window?) Though it would be ideal to have both Allentown and Louisville Finance on the call, if possible, so perhaps we look to September and put something on the calendar now for all?

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Senior Consulting Actuary

#### **Towers Watson**

Centre Square East |1500 Market Street | Philadelphia, PA 19102

T 215 246 6815 M 215 880 3038 towerswatson.com

From: Wright, Jeanne [mailto:Jeanne.Wright@lge-ku.com]

Sent: Wednesday, August 20, 2014 5:09 PM

To: Kosoff, Royce (Philadelphia)

Cc: Mudd, Ken; Arbough, Dan; Higdon, Kelli; Kugler, Jeanne; Della Pietra, Jennifer (Philadelphia); May, Kristin (Philadelphia); Sparks,

Angela; Mottley, Vaneeca

Subject: RE: 2014 Experience Study and Demographic Assumptions Review - Summary of Proposed Services - Jeanne's questions

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However, please make sure that someone gets back to us about these questions. Especially #5 which could impact your SOW for the project. And #2, because LKE resources are committed to other projects and if Mercer Boston resources will be needed, we'll need to get costs for their work.

### Jeanne

From: Wright, Jeanne

Sent: Friday, August 15, 2014 8:33 AM To: 'Kosoff, Royce (Philadelphia)'

Cc: Mudd, Ken; Arbough, Dan; Higdon, Kelli; Kugler, Jeanne; Della Pietra, Jennifer (Philadelphia)

(jennifer.dellapietra@towerswatson.com); Ausiello, Kristin (Philadelphia) (kristin.ausiello@towerswatson.com)

Subject: RE: 2014 Experience Study and Demographic Assumptions Review - Summary of Proposed Services - Jeanne's questions

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# Attachment to Response to KIUC-1 Question No. 17 Page 79 of 101

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Sent: Thursday, August 14, 2014 2:52 PM

To: Hook, Peter B [PPL]; Durn, Karla A [PPL]; Mudd, Ken; Arbough, Dan

Cc: Sunder, George R [PPL]; Lutte-Romig, Barbara J [PPL]; Wright, Jeanne; Kugler, Jeanne; Higdon, Kelli; Della Pietra, Jennifer

(Philadelphia); May, Kristin (Philadelphia)

Subject: 2014 Experience Study and Demographic Assumptions Review - Summary of Proposed Services

## All-

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# Regards,

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# Royce S. Kosoff, FSA, EA, CFA

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Page 81 of 101

From: Wright, Jeanne(/O=LGE/OU=LOUISVILLE/CN=RECIPIENTS/CN=ADMINISTRATIVE/CN=JEANNAMROUGT)

To: 'Kosoff, Royce (Philadelphia)'

**CC:** Mudd, Ken; Arbough, Dan; Higdon, Kelli; Kugler, Jeanne; 'Della Pietra, Jennifer (Philadelphia)

(jennifer.dellapietra@towerswatson.com)'; 'Ausiello, Kristin (Philadelphia) (kristin.ausiello@towerswatson.com)'; Sparks,

Angela; Mottley, Vaneeca

BCC:

Subject: RE: 2014 Experience Study and Demographic Assumptions Review - Summary of Proposed Services - Jeanne's

questions

**Sent:** 08/20/2014 05:08:48 PM -0400 (EDT)

Attachments:

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### Jeanne

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From: Kosoff, Royce (Philadelphia) [mailto:royce.kosoff@towerswatson.com]

# Attachment to Response to KIUC-1 Question No. 17 Page 82 of 101

Sent: Thursday, August 14, 2014 2:52 PM

To: Hook, Peter B [PPL]; Durn, Karla A [PPL]; Mudd, Ken; Arbough, Dan

Arbough

Cc: Sunder, George R [PPL]; Lutte-Romig, Barbara J [PPL]; Wright, Jeanne; Kugler, Jeanne; Higdon, Kelli; Della Pietra, Jennifer

(Philadelphia); May, Kristin (Philadelphia)

Subject: 2014 Experience Study and Demographic Assumptions Review - Summary of Proposed Services

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Page 83 of 101

From: Della Pietra, Jennifer (Philadelphia)(jennifer.dellapietra@towerswatson.com) Arbough

To: Wright, Jeanne

CC: Mudd, Ken; Arbough, Dan; Higdon, Kelli; Kugler, Jeanne; May, Kristin (Philadelphia); Sparks, Angela; Mottley,

Vaneeca; Kosoff, Royce (Philadelphia)

BCC:

Subject: RE: 2014 Experience Study and Demographic Assumptions Review - Summary of Proposed Services - Jeanne's

questions

**Sent:** 08/21/2014 12:48:38 PM -0400 (EDT)

Attachments:

All -

Since a call today appears to be too last minute to get everyone together, I've included some times in September that we are available. Let me know if any of these timeframes work for getting everyone together for a call in September (we probably only need a half hour, but could schedule 1 hour just in case we run long):

Monday 9/8 – any time after 1:00 Tuesday 9/9 – 10:30-12:00, 2:30-4:30 Wednesday 9/10 – 10:30-12:30, 2:00-4:00 Thursday 9/11 – any time except 11:00-12:00

## Thanks!

From: Wright, Jeanne [mailto:Jeanne.Wright@lge-ku.com]

Sent: Wednesday, August 20, 2014 6:04 PM

To: Kosoff, Royce (Philadelphia)

Cc: Mudd, Ken; Arbough, Dan; Higdon, Kelli; Kugler, Jeanne; Della Pietra, Jennifer (Philadelphia); May, Kristin (Philadelphia); Sparks,

Angela; Mottley, Vaneeca

Subject: RE: 2014 Experience Study and Demographic Assumptions Review - Summary of Proposed Services - Jeanne's questions

I'm sorry Royce and Jennifer -- I didn't see Jennifer's 12:39 email yesterday about trying to schedule a call. I know the HR group is not open tomorrow (Thursday) afternoon. I'll let the Acccounting/Finance folks contact you directly regarding their availability.

#### **Jeanne**

From: Kosoff, Royce (Philadelphia) [mailto:royce.kosoff@towerswatson.com]

Sent: Wednesday, August 20, 2014 5:58 PM

To: Wright, Jeanne

Cc: Mudd, Ken; Arbough, Dan; Higdon, Kelli; Kugler, Jeanne; Della Pietra, Jennifer (Philadelphia); May, Kristin (Philadelphia); Sparks,

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Sent: Wednesday, August 20, 2014 5:09 PM

To: Kosoff, Royce (Philadelphia)

Cc: Mudd, Ken; Arbough, Dan; Higdon, Kelli; Kugler, Jeanne; Della Pietra, Jennifer (Philadelphia); May, Kristin (Philadelphia); Sparks,

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Cc: Mudd, Ken; Arbough, Dan; Higdon, Kelli; Kugler, Jeanne; Della Pietra, Jennifer (Philadelphia)

(jennifer.dellapietra@towerswatson.com); Ausiello, Kristin (Philadelphia) (kristin.ausiello@towerswatson.com)

Subject: RE: 2014 Experience Study and Demographic Assumptions Review - Summary of Proposed Services - Jeanne's questions

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Sent: Thursday, August 14, 2014 2:52 PM

To: Hook, Peter B [PPL]; Durn, Karla A [PPL]; Mudd, Ken; Arbough, Dan

Cc: Sunder, George R [PPL]; Lutte-Romig, Barbara J [PPL]; Wright, Jeanne; Kugler, Jeanne; Higdon, Kelli; Della Pietra, Jennifer

(Philadelphia); May, Kristin (Philadelphia)

Page 85 of 101

Subject: 2014 Experience Study and Demographic Assumptions Review - Summary of Proposed Services Arbough

AII-

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Page 86 of 101

Arbough

Della Pietra, Jennifer (Philadelphia)(jennifer.dellapietra@towerswatson.com) From:

To: Arbough, Dan

CC: Kugler, Jeanne; Cosby, David; Higdon, Kelli

BCC:

Subject: RE: Timing of budget updates

Sent: 08/18/2014 03:50:07 PM -0400 (EDT)

Attachments:

Hi Dan,

Thanks for following-up! I'll plan to schedule an assumption discussion in late September/early October.

Jen

From: Arbough, Dan [mailto:Dan.Arbough@lge-ku.com]

Sent: Monday, August 18, 2014 1:59 PM To: Della Pietra, Jennifer (Philadelphia)

Cc: Kugler, Jeanne; Cosby, David; Higdon, Kelli

Subject: Timing of budget updates

Jen,

I spoke to David Cosby following our discussion this morning and we agreed that no update to the pension expense forecast will be needed in September given your statements about little having changed since the last update. We do think an update will be required in Oct/Nov for rate case and final budgeting purposes.

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Page 87 of 101

Arbough

From: Kosoff, Royce (Philadelphia)(royce.kosoff@towerswatson.com)

To: Arbough, Dan

CC: BCC:

Subject: Re: Mortality Update - Survey Results Sent: 09/04/2014 06:01:10 PM -0400 (EDT)

**Attachments:** 

For example, for the 53% of general industry who plan to move to RP2014, the bottom table describes when - 2014, 2015, 2016 or no reply. Again, all very preliminary.

Royce Kosoff FSA, CFA Towers Watson 215-246-6815

On Sep 4, 2014, at 5:40 PM, "Arbough, Dan" < Dan. Arbough@Ige-ku.com < mailto: Dan. Arbough@Ige-ku.com >> wrote:

Royce,

What is the difference between the Mortality Improvement and Timing for Adoption of New Assumption tables on page 2? Just not sure what is meant by the headings.

Dan

From: Mudd, Ken

Sent: Tuesday, September 02, 2014 5:28 PM

To: Wright, Jeanne; Mottley, Vaneeca; Sparks, Angela; Arbough, Dan; Meiman, Greg

Subject: Fwd: Mortality Update - Survey Results

Sent from my iPad

Begin forwarded message:

From: "Kosoff, Royce (Philadelphia)" <royce.kosoff@towerswatson.com<mailto:royce.kosoff@towerswatson.com>> Date: September 2, 2014 at 5:23:57 PM EDT

To: "Cosby, David" <David.Cosby@lge-ku.com<mailto:David.Cosby@lge-ku.com>>, "Higdon, Kelli (kelli.higdon@lge-ku.com<mailto:kelli.higdon@lge-ku.com>>, "Kugler, Jeanne Michele (jeanne.kugler@lge-ku.com<mailto:jeanne.kugler@lge-ku.com<mailto:jeanne.kugler@lge-ku.com<mailto:jeanne.kugler@lge-ku.com<mailto:jeanne.kugler@lge-ku.com>>, "George Sunder (grsunder@pplweb.com<mailto:grsunder@pplweb.com<mailto:grsunder@pplweb.com<mailto:grsunder@pplweb.com<mailto:grsunder@pplweb.com>>, "Karla Durn (KADurn@pplweb.com<mailto:KADurn@pplweb.com>>)" <KADurn@pplweb.com<mailto:KADurn@pplweb.com>>> (Cc: "Della Pietra, Jennifer (Philadelphia)" <jennifer.dellapietra@towerswatson.com<mailto:jennifer.dellapietra@towerswatson.com<mailto:jennifer.dellapietra@towerswatson.com>>, "May, Kristin (Philadelphia)" <kristin.may@towerswatson.com<mailto:bill.loth@towerswatson.com>>, "Keemer, Gabriela" <Gabriela.Keemer@lge-ku.com<mailto:Gabriela.Keemer@lge-ku.com>>, "Pienaar, Lesley" <Lesley.Pienaar@lge-ku.com<mailto:Lesley.Pienaar@lge-ku.com<mailto:Lesley.Pienaar@lge-ku.com<mailto:Lesley.Pienaar@lge-ku.com>>, "Kenn Mudd (ken.mudd@lge-ku.com<mailto:ken.mudd@lge-ku.com>>, "Moody, Carol A" <CAMoody@pplweb.com<mailto:CAMoody@pplweb.com<mailto:CAMoody@pplweb.com>>, "Moody, Carol A"

Subject: Mortality Update - Survey Results

AII-

Given the recent questions asked by PPL/LKE, we wanted to share this historical data and the results of a recent internal survey on sponsor mortality assumptions. We anticipate discussing this topic in greater detail in the coming weeks, especially in light of the upcoming 2014 experience study and demographic assumptions review.

In the meantime, please let us know if you would like to discuss further.

Royce S. Kosoff, FSA, EA, CFA Senior Consulting Actuary

**Towers Watson** 

Centre Square East |1500 Market Street | Philadelphia, PA 19102

# Attachment to Response to KIUC-1 Question No. 17 Page 88 of 101 Arbough

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<Mortality survey Aug 2014 - General vs Utility.pdf.secure> Notice of Confidentiality

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Arbough

From: Kosoff, Royce (Philadelphia)(royce.kosoff@towerswatson.com) Hook, Peter B [PPL]; Durn, Karla A [PPL]; Mudd, Ken; Arbough, Dan

CC: Sunder, George R [PPL]; Lutte-Romig, Barbara J [PPL]; Wright, Jeanne; Kugler, Jeanne; Higdon, Kelli; Della Pietra,

Jennifer (Philadelphia); May, Kristin (Philadelphia)

BCC:

To:

Subject: RE: 2014 Experience Study and Demographic Assumptions Review - Scope of Work

Sent: 09/18/2014 03:24:06 PM -0400 (EDT)

Attachments: PPL & LKE 2014 Experience Study - SOW.pdf;

## All-

Thank you for taking the time last week to discuss the experience study / demographic assumption review project. As promised, we have incorporated the discussion into the attached scope of work. Please let us know if you have any questions or would like to discuss further. We have placed two signature lines at the bottom of the document, for the appropriate representatives of PPL/LKE to approve.

# Regards,

Your Towers Watson Team

### Royce S. Kosoff, FSA, EA, CFA

Senior Consulting Actuary

# **Towers Watson**

Centre Square East |1500 Market Street | Philadelphia, PA 19102

T 215 246 6815 M 215 880 3038 towerswatson.com

From: Kosoff, Royce (Philadelphia)

Sent: Thursday, August 14, 2014 2:52 PM

To: Peter Hook; Karla Durn (KADurn@pplweb.com); Kenn Mudd (ken.mudd@lge-ku.com); Arbough, Daniel K (dan.arbough@lge-

ku.com)

Cc: George Sunder (grsunder@pplweb.com); Barb Lutte-romig (bjlutte-romig@pplweb.com); Jean Brickley Wright (jeanne.wright@lgeku.com); Kugler, Jeanne Michele (jeanne.kugler@lge-ku.com); Higdon, Kelli (kelli.higdon@lge-ku.com); Della Pietra, Jennifer (Philadelphia): May, Kristin (Philadelphia)

Subject: 2014 Experience Study and Demographic Assumptions Review - Summary of Proposed Services

### All-

Attached is our summary of proposed services for the 2014 experience study and demographic assumptions review for the PPL and LKE plans. As discussed, the objective is to complete this work during 2014, to be ready for year-end 2014 financial statement disclosures and the 2015 valuations.

Please let us know if you have any changes to these services, before we send a formal scope of work and commence this analysis.

#### Regards.

Your Towers Watson Team

#### Rovce S. Kosoff, FSA, EA, CFA

Senior Consulting Actuary

### Towers Watson

Centre Square East | 1500 Market Street | Philadelphia, PA 19102

T 215 246 6815 M 215 880 3038 towerswatson.com

# Attachment to Response to KIUC-1 Question No. 17 Page 90 of 101

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# Attachment to Response to KIUC-1 Question No. 17 Page 91 of 101 Arbough



September 18, 2014

Mr. Peter Hook
PPL Services Corporation
Two North Ninth Street
Allentown, PA 18101-1179

Ms. Karla Durn
PPL Services Corporation
Two North Ninth Street
Allentown, PA 18101-1179

Mr. Ken Mudd LG&E and KU Energy Services Company 220 West Main Street Louisville, KY 40202

Mr. Dan Arbough LG&E and KU Energy Services Company 220 West Main Street Louisville, KY 40202

# 2014 EXPERIENCE STUDY AND DEMOGRAPHIC ASSUMPTIONS REVIEW – SCOPE OF WORK

A crucial component of the annual pension and postretirement welfare plans valuation process is the review of actuarial assumptions. PPL's historical policy has been to review the key economic assumptions annually, and to perform a demographic assumption review every three years. The last demographic experience study was completed in 2011. Based on the results of the 2011 study, PPL refined the demographic assumptions to better reflect historical experience and incorporate known future events. Where appropriate, the demographic assumptions were aligned between the PPL/LKE plans.

For 2014, a coordinated approach to demographic assumption setting between PPL and LKE (i.e., bringing LKE onto the three-year cycle of detailed demographic assumption reviews) will provide even further harmonization to the process.

This document is intended to serve as a Scope of Work for this project.

# Services

The Services will be divided into two "Phases". During Phase I we will analyze demographic experience against the current key demographic assumptions of retirement, termination, disability, compensation increases, form of payment election and retiree medical plan participation and recommend modifications to the assumptions where appropriate.

For the first time, we will also formally review PPL's mortality data, and compare this experience to the current tables as well as the sets of recent published Society of Actuaries tables. More details on this step are contained below.

During Phase II we will develop the financial implications under ASC 715 and ERISA for any potential assumption changes. Key demographic assumptions will be analyzed for the following plans ("the Plans"):



# PPL Plans

- PPL Retirement Plan
- PPL Subsidiary Retirement Plan
- PPL Postretirement Welfare Plan

# LKE Plans

- LG&E and KU Retirement Plan
- LG&E Company Bargaining Employees' Retirement Plan
- LG&E and KU Energy Postretirement Benefit Plan

Study is not expected to include nonqualified executive plans, or the WKE plan.

# **Description of Phase I**

During Phase I we will review the plan experience and compare actual experience versus each significant assumption.

We will review the PPL and LKE experience individually by plan and on a combined basis. Where experience differs from the assumption, we will propose alternative demographic assumptions that might better align with the demographic experience of the plans. We will provide PPL and LKE with the analysis needed to support their demographic assumptions.

We will complete Phase I by completing the following steps:

- Step 1 Collect demographic experience
  - For the PPL plans, all relevant data is collected as part of the annual actuarial valuations. No additional data is required to be collected.
  - For the LKE plans, all relevant data is collected as part of the annual actuarial valuations. However, to complete the three-year data set, we have collected a January 1, 2011 valuation data file from Mercer.
- Step 2 Inventory and list all demographic assumptions by Plan and decrement table.
  - We will provide a summary and high-level comparison of the assumptions.
- Step 3 Compute actual experience from the Plans to compare to assumptions.
  - We will explicitly calculate retirement, turnover, and compensation experience over a three-year period.
  - For the postretirement welfare plans, we will calculate participation (employee and spouse) experience
  - We will review the average retirement age of terminated vested participants as well as the type of annuity elections made by all participants at retirement.



- We do not believe that the participant count is sufficiently high to be credible for computing disability experience. However, we will provide qualitative information on this assumption.
- For the first time, we will review mortality experience over a three-year period for the LKE plans and over a ten-year period for the PPL plans. All mortality experience will be analyzed on a combined basis for the company and compared to current published mortality tables. Due to participant count, we understand that the mortality experience may not yield fully statistically significant results, as illustrated in the following table:

	Number of Deaths Needed						
	Accuracy	5%	5%	5%	1%	1%	1%
	Probability	90%	95%	99%	90%	95%	99%
oility	25%	101	144	249	2,536	3,601	6,220
of Credibility	50%	406	576	995	10,146	14,405	24,881
	75%	913	1,296	2,239	22,828	32,412	55,982
Level	100%	1,623	2,305	3,981	40,583	57,622	99,523

Though full statistical credibility will not be attained, the results of this study will help inform PPL and LKE and will assist in setting the year-end 2014 assumption.

# Step 4 - Analyze results

- The results (with the exception of mortality) will be analyzed separately for the PPL plans and the LKE plans. The mortality results will be reviewed on a combined basis, due to the limits on statistical credibility (noted above). The results will be reviewed alongside the previous experience studies for PPL and LKE (when available), to ensure consistency and accuracy. Additionally, the results will be analyzed on a combined basis to determine where harmonization would be appropriate.
- Step 5 Prepare preliminary discussion materials that will include the following:
  - Summaries for all key demographic assumptions
  - Comparison of experience study results to expectations based upon current demographic assumptions used for the Plans
  - Proposed alternative demographic assumptions (if appropriate)
  - For the first time, comparison of PPL mortality experience to recently published Society of Actuaries tables
  - Possible facts and circumstances supporting different demographic assumptions among the Plans



We anticipate discussing with you whether PPL will desire to utilize this material in a final "report" that may be shared with others (e.g., auditors).

Please note that we anticipate that the preliminary discussion guide will not contain valuation cost impacts. There may be a number of assumption combinations that you would like to review (or possibly no changes at all), so we would like to discuss these results with you before proceeding with plan cost calculations in Phase II.

# **Description of Phase II (Optional):**

During "Phase II", we will develop the estimated ASC 715 expense, balance sheet, and ERISA funding impact of any desired assumption changes for the Plans.

- Step 1 as desired by PPL and LKE, determine financial impact based upon the agreed-upon alternative demographic assumptions for the applicable plans.
- Step 2 Determine final demographic assumptions
- Step 3 Produce ERISA funding results for the PPL plans and accounting budgets for selected PPL and LKE plans based on updated assumptions for the Plans.

# **Timing**

We anticipate commencing Phase I of this project immediately and completing Phase I by mid-November, at which point we will commence Phase II (if elected). Depending on the timing of the analysis and the decisions, new assumptions may be reflected for 2015 accounting and funding valuation purposes.

# **Fees**

Phase I of this project will be billed on a fixed fee basis in the amount of \$145,000, broken out as follows:

# Trust Payable: Review for funding valuation assumption setting (excluding mortality)

PPL Retirement Plan	\$27,500
PPL Subsidiary Retirement Plan	\$17,500
LG&E and KU Retirement Plan	\$22,500
LG&E Bargaining Retirement Plan	\$22,500



# Non-Trust Payable: Mortality Review and comparison to published tables (for accounting valuation)

PPL Corporation \$12,500 LG&E / KU Energy \$12,500

# Non-Trust Payable: Accounting valuation-related work for all plans (plus postretirement medical and life insurance plans)

PPL Corporation \$15,000 LG&E / KU Energy \$15,000

We recommend that PPL review this allocation with legal counsel.

The Fixed Fee does not include reimbursement, at cost, of direct expenses reasonably incurred by us in connection with the performance of our Services, such as travel and other vendor expenses nor do they include the amount of any tax or similar assessment based upon our charges.

The Fixed Fee for the Services will be billed in one installment in the month following the commencement of the work. At the end of each month, we will bill you for all other charges accrued for the month, including any travel and vendor expenses. If you have any questions about any of our invoices, you must notify us within 30 days from the date of the invoice.

Time and expense charges for optional Phase II, as well as any Out-of-Scope Services related to Phase I, will consist of

- Hourly time charges for personnel performing Services at our hourly rates in effect at the time:
- Indirect expenses fee equal to six and one-half per cent [6 ½%] of our hourly time charges and any data processing and intellectual capital charges, to offset non-itemized expenses related to our performance of the Services such as routine black and white copying/printing, telephone and facsimile costs;
- Data processing and intellectual capital charges of ten percent (10%) of our hourly time charges to offset non-itemized expenses related to the maintenance, updating and operation of our centrally supported technology systems;
- Reimbursement, at cost, of direct expenses reasonably incurred by us in connection with the performance of our Services, such as travel and other vendor expenses, and itemized extraordinary expenses, such as large-volume color printing, large-volume courier shipments and the like; and
- The amount of any tax or similar assessments based upon our charges.

At the end of each month during which we perform Services for you, we will bill you for all charges accrued for the month. If you have any questions about any of our invoices, you must notify us within 30 days from the date of the invoice.

Invoices are due upon receipt. Any charge or portion of a charge outstanding 60 days after the date of the invoice will be subject to a late charge, which you agree to pay, equal to the lesser of



1.0% or the maximum allowed by law for each month that payment remains outstanding, beginning on the date of the invoice.

# **Out-of-Scope Services**

If you would like us to perform the Services differently than contemplated in the Scope of Work, or to perform additional consulting services that are not contained within the Scope of Work, we would be happy to consider your request. Prior to commencing work, we will promptly notify you if we consider the requested services to be out-of-scope.

If the scope of the different or additional services can be clearly defined, such services will be performed on a fixed fee basis, in which case we will provide you with a fee quote and commence work on your approval. Otherwise, we will charge for the different or additional services on a time and expenses basis as described above.

# **Collection and Use of Personal Data**

The terms contained in Section 4 of the 2010 Scope of Work for Valuation Related Services regarding the need on the part of Towers Watson for certain elements of Personal Data apply to the Services provided under this Scope of Work.

\* \* \* \* \* \*

This Scope of Work is entered into under the current Master Consulting Services Agreement (the "Master Agreement") dated December 7, 2007 between PPL Corporation and Towers Watson Pennsylvania Inc. and is effective as of the date of your acceptance below. If any term in this Scope of Work document conflicts with a term of the Master Agreement, the term in this Scope of Work will supersede the term in the Master Agreement for the Services covered by this Scope of Work only.

We look forward to your approval so we may commence work on this assignment. Please indicate your acceptance of this Scope of Work by signing below and returning the signed copy.

Signed by and on behalf of:

TOWERS WATSON PENNSYLVANIA INC.

By:

Royce S. Kosoff, FSA, EA, CFA

Senior Retirement Consulting Actuary

September 18, 2014

# Attachment to Response to KIUC-1 Question No. 17 Page 97 of 101 Arbough



Accepted and agreed on behalf of:

By:	Ву:
Print Name:	Print Name:
Title:	Title:
Date:	Date:

cc: Jennifer Della Pietra, ASA, EA – Towers Watson/Philadelphia Kristin A. May, FSA, EA – Towers Watson/Philadelphia

Page 98 of 101

Arbough

From: Della Pietra, Jennifer (Philadelphia)(jennifer.dellapietra@towerswatson.com)

To: Arbough, Dan

**CC:** Kosoff, Royce (Philadelphia)

BCC:

**Subject:** Re: LKE Active Lump Sum Feasibility Study **Sent:** 09/26/2014 08:20:33 AM -0400 (EDT)

Attachments:

Dan,

The analysis only reflects a lump sum feature for current active participants (i.e. For terminations and retirement from active status on or after 1/1/2015).

Sent from my iPhone

On Sep 25, 2014, at 5:26 PM, "Arbough, Dan" <Dan.Arbough@lge-ku.com</pre><mailto:Dan.Arbough@lge-ku.com>> wrote:

Can you refresh my memory as to whether these analytics include only active employees or actives plus remaining TV's?

From: Della Pietra, Jennifer (Philadelphia) [mailto:jennifer.dellapietra@towerswatson.com]

Sent: Monday, September 15, 2014 10:32 AM

To: Arbough, Dan

Cc: Kosoff, Royce (Philadelphia); Loth, Bill (Philadelphia) Subject: RE: LKE Active Lump Sum Feasibility Study

Hi Dan,

Per your request, the ppt version is attached. Please let us know if you need any additional assistance as you prepare for your meeting with your CEO.

From: Arbough, Dan [mailto:Dan.Arbough@lge-ku.com]

Sent: Monday, September 15, 2014 8:57 AM To: Della Pietra, Jennifer (Philadelphia)

Subject: RE: LKE Active Lump Sum Feasibility Study

Jen,

I have been asked to prepare a presentation for our CEO to discuss this issue. Is it possible to get these slides in ppt format so that I can include some of the charts in the presentation I am preparing?

From: Della Pietra, Jennifer (Philadelphia) [mailto:jennifer.dellapietra@towerswatson.com]

Sent: Thursday, July 24, 2014 6:44 PM

To: Arbough, Dan

Cc: Kosoff, Royce (Philadelphia); Loth, Bill (Philadelphia)

Subject: LKE Active Lump Sum Feasibility Study

Hi Dan,

As discussed, attached is the presentation outlining the Financial and Human Resources implications of implementing a permanent lump sum feature in the LKE union and non-union qualified pension plans.

Please let us know when you, and others as appropriate, are available to discuss the analysis.

Regards,

Jen

Jennifer A. Della Pietra, ASA, EA
Senior Consulting Actuary
T +1 215 246 6861 | F +1 215 246 6251
jennifer.dellapietra@towerswatson.com<mailto:jennifer.dellapietra@towerswatson.com>

Attachment to Response to KIUC-1 Question No. 17 Page 99 of 101

Arbough

Royce S. Kosoff, FSA, EA, CFA Senior Consulting Actuary T +1 215 246 6815 | F +1 215 246 6251

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**Towers Watson** 

1500 Market Street | Philadelphia, PA 19102-4790 towerswatson.com<http://towerswatson.com> do:kr/jg I er:jad/rsk I tr:jad/wrl I cr:jad/rsk I spr:rsk

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Page 100 of 101

Arbough

From: Della Pietra, Jennifer (Philadelphia)(jennifer.dellapietra@towerswatson.com)

To: Meiman, Greg

CC: Arbough, Dan; Mudd, Ken; Kosoff, Royce (Philadelphia)

BCC:

Subject: SERP lump sum option and WKE actuarial equivalence

Sent: 09/19/2014 11:55:08 AM -0400 (EDT)

Attachments:

Hi Greg,

This email addresses the two open items from our last call:

1. Adding a lump sum form of payment to the SERP.

Our understanding is that a lump sum option could be added to the plan, subject to the stringent conditions under Treasury Reg. 1.409A-2(b)(1). Specifically, the plan could be amended to allow a subsequent election of timing and/or form of payment under Reg. 1.409A-2(b)(1), as long as the subsequent election meets the following conditions:

- Election cannot take effect until 12 months after the election is made
- Payment must be delayed at least 5 years from the original payment date chosen (i.e., for participants who chose a payment date of 6 months following termination, the new payment date cannot be earlier than 5 years and 6 months from date of termination)
- The new election cannot be made within 12 months of the original scheduled payment date (this item may exclude participants who are within a year of retirement from being eligible to elect a lump sum)

Due to the additional 5 year deferral under the 2<sup>nd</sup> condition above, the lump sum may or may not appeal to participants. However, the lump sum could be defined to include actuarial increases or an age 65 lump sum conversion factor and interest payments to offset the loss of benefits due to payment at a later age.

A mandatory cash out for lump sum amounts under the 402(g)-1(b) limit for the plan year could be added to the plan (the limit is \$17,500 for 2014). However, few if any participants may fall into this category.

2. 417(e) language in the WKE plan document.

We didn't see anything in the Actuarial Value definition that is "wrong". The section describing the actuarial basis seems to provide enough specificity in determining the interest rate for a calculation to be completed. In fact, we have seen another plan document with identical language that received a favorable determination letter in 2011.

Let us know if you would like to discuss either of the above compliance issues in more detail. We would be happy to include Gregg Levinson or one of our other compliance consultants in the discussion.

Towers Watson is not authorized to provide legal opinions. Any legal views shared are based on our experience working with other clients and should be independently verified.

Jennifer A. Della Pietra, ASA, EA

Senior Consulting Actuary

**Towers Watson** 

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jennifer.dellapietra@towerswatson.com

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do:jad | er:rsk | tr:rsk/tsm | cr:rsk | spr:N/A

From: Meiman, Grea [mailto:Grea,Meiman@lge-ku.com] Sent: Wednesday, September 17, 2014 1:28 PM

To: Della Pietra, Jennifer (Philadelphia); Kosoff, Royce (Philadelphia)

Cc: Arbough, Dan; Mudd, Ken Subject: As discussed

# Attachment to Response to KIUC-1 Question No. 17 Page 101 of 101 Arbough

Change in method of distribution:

Changes in elected method of distribution are generally limited under §409A.

Entitlement to a life annuity is treated as the entitlement to a single payment. Treas. Reg. §1.409A-2(b)(2)(ii)(A).

The term life annuity means: "...a series of substantially equal periodic payments, payable not less frequently than annually,

The Regulation further states:

"Accordingly, an election to delay payment of a life annuity, or to change the form of payment of a life annuity, must be made at least 12 months before the scheduled commencement of the life annuity, and must defer the payment for a period of not less than five years from the original scheduled commencement of the life annuity."

A change in the time and form of a payment before any annuity payment has been made under the plan, from one type of life annuity to another type of life annuity with the same scheduled start date for the first annuity payment, is not considered a change in the time and form of payment, provided that the annuities are actuarially equivalent applying reasonable actuarial methods and assumptions.

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# KENTUCKY UTILITIES COMPANY

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 18** 

Responding Witness: Daniel K. Arbough

- Q.1-18. Please provide a detailed narrative describing the Company's pension accounting and the amortization of unrealized gains and losses. Differentiate between the > 30% corridor, for which the Company uses an accelerated amortization period, and the > 10%, but less than 30% corridor, for which the Company uses the remaining expected lives of the plan participants. Please cite to the provisions of GAAP relied on by the Company to recognize and treat the two gain/loss corridors differently.
- A.1-18. KU uses an accelerated amortization method for the recognition of gains and losses for its defined benefit pension plans. This method is in compliance with ASC 715-30-35 paragraphs 24-26. Under the accelerated method, actuarial gains and losses in excess of 30% of the plan's projected benefit obligation are amortized on a straight-line basis over one-half of the expected average remaining service of active plan participants. Actuarial gains and losses in excess of 10% of the greater of the plan's projected benefit obligation or the market-related value of plan assets and less than 30% of the plan's projected benefit obligation are amortized on a straight-line basis over the expected average remaining service period of active plan participants. This method provides more current recognition of gains and losses, thereby lessening the accumulation of unrecognized gains and losses.

# KENTUCKY UTILITIES COMPANY

# CASE NO. 2014-00371

# Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

# **Question No. 19**

Responding Witness: Daniel K. Arbough / Valerie L. Scott

- Q.1-19. Refer to pages 174-175 of the Company's accounting policy #456 for pension and OPEB expense provided by the Company in response to PSC 1-8. On these pages, the Company notes that it changed the amortization period for unrealized gains and losses from the former single corridor to the two corridors described in the preceding question after it was acquired by PPL in 2010. Please provide all evidence that the Company informed the Commission that it had changed this component of its pension expense calculation in either the merger proceeding or in any subsequent rate case proceeding. If the Company did not inform the Commission of this change in the calculation of pension expense, please explain why it did not do so.
- A.1-19. In accordance with FERC Docket No. AI07-1-000, Commission Accounting and Reporting Guidance to Recognize the Funded Status of Defined Benefit Postretirement Plans, "Both SFAS No. 87 and SFAS No. 106 contain a delayed recognition feature. This means certain changes in postretirement benefit obligations and the value of assets set aside to meet the obligations are not recognized when they occur but are recognized systematically and gradually over subsequent periods." There is no requirement to use any particular amortization method. The method used by the Company gradually recognizes gains and losses over subsequent periods.

The Company was not required to inform the Commission that it had changed this component of its pension expense calculation. The Commission previously held that utilities under its jurisdiction do not require prior Commission approval of accounting changes. See, e.g., In the Matter of: The Joint Petition of Kentucky Power Company, Kentucky Utilities Company, Louisville Gas and Electric Company, and Union Light, Heat and Power Company for Certain Accounting and Ratemaking Authority Associated with the Implementation of Statement of Financial Accounting Standards No. 106, Case No. 92-043, Orders (June 8, 1992; Jan. 26, 1993).

# KENTUCKY UTILITIES COMPANY

# CASE NO. 2014-00371

# Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

# **Question No. 20**

Responding Witness: Daniel K. Arbough

- Q.1-20. Please provide the Company's pension cost calculations for each year 2008 through 2014, the base year, and the test year, showing for each of those years the vintage year gains and losses and the calculation of the amortization of the gains and losses associated with each of those vintage years.
- A.1-20. See attached schedule of the Company's pension cost for each year 2008 through 2014, the base year, and the test year.

	Kentucky Utilities' Pension Costs									
	2008	2009	2010	2011	2012	2013	2014	Base Year	Test Year	
Service cost	9,824,728	10,846,457	11,923,065	13,536,659	12,807,482	15,161,440	12,693,955	13,213,077	16,010,380	
Interest cost	24,376,281	25,078,862	26,933,197	28,077,257	26,828,995	26,697,750	28,532,418	29,001,705	32,023,655	
Expected return on assets	(26,591,898)	(19,387,235)	(23,058,517)	(27,060,946)	(29,578,243)	(36,389,398)	(37,479,393)	(37,549,333)	(39,223,867)	
Amortizations:										
Transition	-	-	-	-	-	-	-	-	-	
Prior service cost	2,098,821	2,054,315	2,114,733	2,011,865	1,995,945	2,033,254	2,049,822	2,049,390	1,704,173	
(Gain)/loss	373,365	11,125,390	9,055,256	12,475,354	9,379,726	17,029,468	4,890,168	6,821,354	15,488,751	
ASC 715 NPBC	10.081.297	29.717.790	26.967.734	29.040.188	21.433.905	24.532.514	10.686.969	13.536.192	26.003.091	

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Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 21** 

Responding Witness: Daniel K. Arbough

- Q.1-21. Refer to pages 29-30 of Mr. Blake's Direct Testimony wherein he addresses the Company's proposed "estimates for pension expense and required funding are based on an actuarial study, using the RP-2014 Mortality Improvement Scale MP-2014." Mr. Blake states further that "[t]he cost of the Companies' pension programs had previously been calculated using Interim Mortality Scale AA, which the Society of Actuaries ("SOA") issued in 1994."
  - a. Please confirm that the IRS determines the minimum pension funding requirements pursuant to ERISA, but does not determine the amount of pension expense pursuant to GAAP.
  - b. Please describe the status of any guidelines or requirements by the SOA or any other authoritative agency or industry association to use the RP-2014 Mortality Improvement Scale MP-2014.
  - c. Please confirm that Mr. Blake is not an actuary and does not have professional actuarial training or experience.
- A.1-21. a. KU retains Towers Watson for the purpose of determining minimum required pension contributions in accordance with ERISA and the Internal Revenue Code.

The cost of KU's pension plan is determined by Towers Watson in accordance with ASC 715.

- b. See the response to AG 1-15(c).
- c. Confirmed, but please note that Mr. Blake's testimony does not claim he is an actuary or has actuarial experience; rather, Mr. Blake's testimony cites a study by the Society of Actuaries that, as reported by the Wall Street Journal, indicates increasing life expectancies, which in turn can create

increased pension expenses.<sup>1</sup> Please note also Mr. Blake's statement that "The Companies are currently going through their annual process of reviewing pension assumptions with their actuary and expect to validate or update these assumptions during the course of this proceeding."<sup>2</sup>

<sup>&</sup>lt;sup>1</sup> K. Blake KU Testimony at 27-28. <sup>2</sup> K. Blake KU Testimony at 28 (emphasis added).

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Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 22** 

Responding Witness: Daniel K. Arbough

- Q.1-22. Please confirm that the Company does not recognize pension funding pursuant to ERISA as pension cost or expense for GAAP accounting purposes.
- A.1-22. See the response to Question No. 21(a).

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Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 23** 

Responding Witness: Christopher M. Garrett

Q.1-23. Refer to the Attachment to the Company's response to PSC 1-41(a) wherein it provided a schedule of the cost of each "fringe benefit" for the base year and the test year. Provide this information in the same format for each calendar year 2008 through 2014.

A.1-23. See attached.

# Kentucky Utilities Company Case No. 2014-00371 Listing of Fringe Benefits Calendar Years 2008 through 2014

	2008	2009	2010	2011	2012	2013	2014
Pension	\$ 9,510,944	\$ 29,992,412	\$ 27,513,488	\$ 29,226,040	\$ 21,646,282	\$ 24,654,595	\$ 10,765,239
Post Retirement - SFAS 106 (ASC 715)	7,156,434	7,575,212	7,406,483	6,875,221	6,105,603	4,709,105	4,355,750
Post Employment - SFAS 112 (ASC 712)	555,726	(132,538)	47,287	1,385,860	859,205	187,580	(1,292,855)
401(k)	4,243,827	4,471,592	4,825,916	4,983,686	5,152,862	5,352,818	5,886,859
Retirement Income	320,197	430,325	604,957	702,217	861,767	1,208,537	1,565,625
Medical Insurance	10,474,217	11,809,932	13,765,050	14,179,232	13,636,895	15,329,659	15,652,311
Dental Insurance	737,739	692,199	722,044	756,575	765,904	777,378	844,052
Workers Compensation	(3,430)	666,664	400,612	942,299	345,367	398,370	576,659
Group Life Insurance	626,227	450,982	484,268	511,118	524,339	551,639	577,412
Long Term Disability Insurance	634,707	416,033	524,666	510,840	530,882	686,565	713,665
Other Benefits	499,775	725,239	895,913	493,049	960,180	848,758	1,154,257
Team Incentive Award	9,541,836	8,896,267	12,883,949	10,973,861	12,096,119	15,130,652	15,435,400
Tuition Reimbursement	259,411	244,230	301,014	253,712	264,143	314,744	356,924
	\$ 44,557,610	\$ 66,238,549	\$ 70,375,647	\$ 71,793,710	\$ 63,749,548	\$ 70,150,400	\$ 56,591,298

Note: Amounts related to KU charging others is not reflected in the schedule above for purposes of this data response unlike the amounts shown in filing requirement 16(8)(g).

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Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 24** 

Responding Witness: Kent W. Blake

- Q.1-24. Please confirm that in December 2014, 50% bonus tax depreciation was "extended" to the entire 2014 tax year. If confirmed, please provide a narrative description of the property to which the extension applies. For example, does it apply to all property additions in 2014? Does it apply to any property additions in 2015, e.g., construction dollars incurred in 2014? Please provide a copy of sources relied upon for your response.
- A.1-24. In December 2014, the Tax Increase Prevention Act of 2014 was passed into law. Included was an extension for 50% bonus tax depreciation for qualified property placed in service before January 1, 2015. Qualified property is defined as new property that is depreciable under MACRS and has a recovery period of 20 years or less, computer software depreciable over three years, or qualified leasehold improvement property. The construction or acquisition of the property must have started after December 31, 2007 and before January 1, 2015.

The placed in service deadline is extended to January 1, 2016 for long production property that would otherwise qualify for bonus depreciation. However, only pre-January 1, 2015, progress expenditures are eligible for bonus tax depreciation if the extended placed in service deadline applies.

Code section 168 (k) describes the MACRS Bonus Depreciation as amended by the Tax Increase Prevention Act of 2014 (Public Law 113-295).

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Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 25** 

Responding Witness: Kent W. Blake

- Q.1-25. Please confirm that the Company's filing assumes that the 50% bonus depreciation was not extended to 2014 or later years in any manner. Please explain how this assumption affected the accumulated deferred income taxes reflected in the Company's filing. Also, please explain how this assumption affected the capitalization reflected in the Company's filing.
- A.1-25. The Company's filing assumed that the 50% bonus depreciation was not extended to 2014 or later years. The Company did not consider the revenue requirement impact of the Tax Increase Prevention Act of 2014. This law was passed in December 2014, after the Company's filing of this case. Accordingly, the deferred income taxes and capitalization in the Company's filing do not reflect the extension of the 50% bonus depreciation to 2014 or thereafter.

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Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 26** 

Responding Witness: Kent W. Blake

- Q.1-26. Please provide a quantification of the effects of the 50% bonus depreciation extension on the Company's accumulated deferred income taxes and capitalization reflected in the Company's filing. Please provide revised schedules and calculations in electronic spreadsheet format with all formulas intact.
- A.1-26. See the response to AG 1-27.

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Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 27** 

Responding Witness: Valerie L. Scott

- Q.1-27. Please describe how the Company removed the effects of purchase accounting from the capitalization, all rate base components, and all related expenses, such as depreciation expense and property tax expense, reflected in the filing. Provide a schedule in electronic spreadsheet format with all formulas intact showing all adjustments and providing an explanation of each such adjustment.
- A.1-27. The Company maintains a separate general ledger and a separate budget entity to record the impact of all purchase accounting adjustments and to ensure that the activity can be tracked for reporting and budgeting purposes. When calculating capitalization, all rate base components and all related expenses, the Company used only the general ledger and budget entity excluding purchase accounting. As a result, there was no adjustment needed to remove purchase accounting included in the capitalization, rate base components, or all related expenses, such as depreciation expense and property tax expense.

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# Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 28** 

Responding Witness: Valerie L. Scott

Q.1-28. Please provide a schedule showing all direct assignments and allocations of costs from LKS to the Company by FERC O&M, A&G, and each other account for 2009, 2010, 2011, 2012, 2013, 2014, the base year, and the test year. Provide an explanation for each increase from year to year of at least \$1 million or 5%, whichever is less.

#### A.1-28. See attached.

Direct assignment versus allocation of costs for 2009 and 2010 are not readily available, so requested information for these years is presented in total. Changes from year to year are explained for increases greater than \$1 million, since changes less than this amount would have been minor.

#### BILLED TO KENTUCKY UTILITIES COMPANY (KU) FROM THE SERVICE COMPANY (LKS)

	_	2009	2010	Variance 2010 to 2009	
	_				
FERC				Variance	
Account	FERC Account Description	Total	Total	Amount	Explanation
107	Construction Work In Progress	28,532,236	37,626,539	9,094,303	Increases due primarily to software upgrades/replacements/licenses, telecommunication/IT infrastructure improvements, and replacement of the turbine at Paddy's Run.
108	Accumulated Provision For Depreciation Of Utility Plant	265,011	245,130	(19,880)	
131	Cash	1,767,463	(2,228,365)	(3,995,828)	
143	Other Accounts Receivable	(11,069)	3,652	14,721	
145	Accounts Receivable From Associated Companies	(227,139)	(122,067)	105,072	
151	Fuel Stock	437,350,486	450,712,710	13,362,224	Primarily due to LKS purchasing reagent on behalf of KU starting in late 2009 and all of 2010. Also built Trimble County 2 coal stockpile in preparation for test burn and production, but offset by lower purchases at other stations.
163 165	Stores Expense Undistributed Prepayments	232,711 9,440,945	363,516 8,907,628	130,804 (533,317)	
182.3	Other Regulatory Assets	1,008,447	59,132	(949,315)	
183	Preliminary Survey And Investigation Charges	295,737	81,292	(214,445)	
184	Clearing Accounts	16,410,166	22,229,711	5,819,545	Due to the function of the clearing account, this increase is offset in other accounts.
186	Miscellaneous Deferred Debits	1,139,389	6,909,319	5,769,930	Bond financing costs and press notices to the public for rate case.
228.3	Accumulated Provision For Pensions And Benefits	5,410,435	5,259,370	(151,065)	
232	Accounts Payable	1,716,563	3,411,954	1,695,391	Offset by account 131 above
234	Accounts Payable to Associated Companies	-	(70,100)	(70,100)	
236	Taxes Accrued	(156,755)	(434,959)	(278,204)	
241	Tax collections payable	277 242	228.254	50.011	
242 253	Miscellaneous Current And Accrued Liabilities Other Deferred Credits	277,343	328,254 980,753	50,911	
408.1	Taxes Other Than Income Taxes, Utility Operating Income	819,557 2,635,326	3,219,509	161,196 584,183	
408.1	Taxes Other Than Income Taxes, Other Income and Deductions.	2,033,320	3,219,309	364,163	
409.1	Income taxes, utility operating income	_	17	17	
419	Interest And Dividend Income	-	-	_	
421	Miscellaneous Operating Income	-	-	-	
421.1	Gain on disposition of property	-	-	-	
426.1	Donations	80,550	588,975	508,425	
426.3	Penalties				
426.4	Expenditures For Certain Civic, Political And Related Activities	543,477	547,092	3,615	
426.5 431	Other Deductions Other interest expense	1,283,311 207,824	1,125,054 141,439	(158,257)	
454	Rent from electric property	207,824	141,439	(66,385)	
456	Other Electric Revenues	15,630	13,450	(2,180)	
500	Operation Supervision And Engineering	2,097,061	2,664,449	567,388	
501	Fuel	1,363,308	1,238,633	(124,675)	
502	Steam Expenses	333,642	677,773	344,132	
505	Electric Expenses	-	-	-	
506	Miscellaneous Steam Power Expenses	73,327	62,392	(10,935)	
510	Maintenance Supervision And Engineering	1,026,970	1,172,077	145,107	
511 512	Maintenance Of Structures Maintenance Of Boiler Plant	7,202 192,176	389 86,752	(6,813) (105,424)	
513	Maintenance Of Electric Plant	132,045	94,840	(37,204)	
514	Maintenance Of Miscellaneous Steam Plant	5,037	3,329	(1,709)	
539	Miscellaneous Hydraulic Power Generation Expenses	- ,	- ,	(-,, -/)	
541	Maintenance Supervision And Engineering	10,601	2,345	(8,255)	
542	Maintenance Of Structures	-	2,850	2,850	
543	Maintenance of Reservoirs, Dams, and Waterways	-	-	-	

	<u>.</u>	2009	2010		Variance 2010 to 2009
FERC Account	FERC Account Description	Total	Total	Variance Amount	Explanation
544	Maintenance of Electric Plant	-	-	-	•
545	Maintenance of Miscellaneous Hydraulic Plant	- 642	-	- (642)	
546 548	Operation Supervision And Engineering Generation Expenses	642 5,271	-	(642)	
549	Miscellaneous Other Power Generation Expenses	3,271	-	(5,271)	
551	Maintenance supervision and engineering	2,192	_	(2,192)	
552	Maintenance of structures	944	-	(944)	
553	Maintenance Of Generating And Electric Equipment	4	9,959	9,955	
554	Maintenance of miscellaneous other power generation plant	42,347	115,205	72,858	
556	System Control And Load Dispatching	1,772,138	1,933,390	161,251	
560 561.1	Operation Supervision And Engineering Load Dispatch-Reliability	925,183 1,612,127	1,173,526 2,200,565	248,342 588,438	
561.2	Load Dispatch—Monitor and Operate Transmission System	1,012,127	2,200,303	500,450	
561.3	Load dispatch—Transmission service and scheduling	-	-	-	
561.5	Reliability, Planning And Standards Development	-	-	-	
561.6	Transmission Service Studies	-	-	-	
562	Station Expenses	7,889	855	(7,034)	
563	Overhead Line Expenses Miscellaneous Transmission Expenses	96,688	98,840 1,710,126	2,152	
566	Miscellaneous Transmission Expenses	1,122,253	1,/10,120	587,872	
567	Rents	-	-	-	
570	Maintenance Of Station Equipment	314,336	262,717	(51,619)	
571	Maintenance Of Overhead Lines	77,981	185,451	107,470	
573	Maintenance Of Miscellaneous Transmission Plant	67,102	37,877	(29,225)	
580	Operation Supervision And Engineering	2,797,060	1.455.488	(1,341,572)	
581	Load Dispatching	743,223	793,163	49,940	
582	Station Expenses	196	344	148	
583	Overhead Line Expenses	16,375	12,028	(4,347)	
584	Underground Line Expenses	-	-	-	
586	Meter Expenses	833,274	205,555	(627,719)	
587	Customer Installations Expenses	-	-	-	
588	Miscellaneous Distribution Expenses	1,216,781	939,904	(276,877)	
590 592	Maintenance Supervision And Engineering Maintenance Of Station Equipment	8,004 10,163	8,538 5,354	534 (4,809)	
593	Maintenance Of Overhead Lines	124,124	233,562	109,437	
594	Maintenance of Underground lines	-	-	-	
595	Maintenance Of Line Transformers	16,145	-	(16,145)	
598	Maintenance Of Miscellaneous Distribution Plant	147,403	18,947	(128,457)	
901	Supervision	1,697,762	1,970,615	272,853	
902	Meter Reading Expenses	1,376,976	51,650	(1,325,326)	
903	Customer Records And Collection Expenses	7,911,909	7,938,604	26,696	
905	Miscellaneous Customer Accounts Expenses	376,535	509,612	133,076	
907	Supervision	171,575	204,584	33,009	
908	Customer Assistance Expenses	8,026,058	10,128,468	2,102,410	Primarily due to increase in expenses
					for DSM programs.
909	Informational And Instructional Advertising Expenses	149,986	174,458	24,472	
910	Miscellaneous Customer Service And Informational Expenses	2,585,732	312,601	(2,273,131)	
912	Demonstrating And Selling Expenses	7,959	- ,	(7,959)	
913	Advertising Expenses (Major Only)	52,319	42,130	(10,189)	
920	Administrative And General Salaries	18,273,771	20,426,503	2,152,732	Annual wage increase, increased headcount and changed allocations.
921	Office Supplies And Expenses	4,611,863	6,372,002	1,760,138	Primarily due to increase in IT services, equipment and facilities costs
			ļ		

#### BILLED TO KENTUCKY UTILITIES COMPANY (KU) FROM THE SERVICE COMPANY (LKS)

		2009	2010	Variance 2010 to 2009
FERC				Variance
Account	FERC Account Description	Total	Total	Amount Explanation
923	Outside Services Employed	6,527,434	6,407,172	(120,262)
924 925	Property Insurance Injuries And Damages	- 81,103	501,031 145,594	501,031 64,491
926	Employee Pensions And Benefits	15,487,040	15,839,617	352,577
928 930.1 930.2	Regulatory Commission Expenses General Advertising Expenses Miscellaneous General Expenses	509,799 803,974 1,797,957	52,275 630,488 2,227,593	(457,524) (173,486) 429,636
931	Rents	-	-	-
935	Maintenance Of General Plant	9,252,365	10,993,417	1,741,052 Primarily due to increase in IT equipment/facilities, labor and enhancements costs
Grand Total	al	605,940,976	642,234,641	36,293,666

	<u>-</u>		2011		Va	riance 2011 to 2010
			Indirect	T		
FERC		Direct	Allocations of		Variance	
Account	FERC Account Description	Assignments	Costs	Total	Amount	Explanation
107	Construction Work In Progress	30,081,409	-	30,081,409	(7,545,130)	1
108	Accumulated Provision For Depreciation Of Utility Plant	319,972	-	319,972	74,842	
131	Cash	(2,976,113)	-	(2,976,113)	(747,748)	
143 146 151	Other Accounts Receivable Accounts Receivable From Associated Companies Fuel Stock	(28,797) (235,018) 473,808,187		(28,797) (235,018) 473,808,187	(32,449) (112,952) 23,095,477	
163 165	Stores Expense Undistributed Prepayments	484,984 9,075,275	-	484,984 9,075,275	121,468 167,647	
182.3	Other Regulatory Assets	243,346	-	243,346	184,214	
183	Preliminary Survey And Investigation Charges	24,555	_	24,555	(56,737)	)
184	Clearing Accounts	24,108,046	-	24,108,046		Due to the function of the clearing account, this increase is offset in other accounts.
186	Miscellaneous Deferred Debits	374,825	-	374,825	(6,534,494)	1
228.3	Accumulated Provision For Pensions And Benefits	4,640,735	-	4,640,735	(618,635)	1
232	Accounts Payable	707,271	_	707,271	(2,704,683)	1
234	Accounts Payable to Associated Companies	(34,205)	-	(34,205)	35,895	
236	Taxes Accrued	(144,872)	-	(144,872)	290,087	
241	Tax collections payable	-	-	-	-	
242	Miscellaneous Current And Accrued Liabilities	337,095	-	337,095	8,841	
253	Other Deferred Credits	1,021,098	-	1,021,098	40,345	
408.1	Taxes Other Than Income Taxes, Utility Operating Income	3,307,282	-	3,307,282	87,772	
408.2	Taxes Other than Income Taxes, Other Income and Deductions.	-	-	-	- (17)	
409.1 419	Income taxes, utility operating income Interest And Dividend Income	(4)	-	(4)	(17)	
421	Miscellaneous Operating Income	(4)	-	(4)	(4)	•
421.1	Gain on disposition of property	27		27	27	
426.1	Donations	758,960	17,951	776,911	187,937	
426.3	Penalties	236	-	236	236	
426.4	Expenditures For Certain Civic, Political And Related Activities	6,422	1,027,342	1,033,764	486,672	
426.5	Other Deductions	548,453	167,452	715,905	(409,150)	)
431	Other interest expense	52,617	-	52,617	(88,822)	)
454	Rent from electric property	-	-	-	-	
456 500	Other Electric Revenues	922	2 504 249	922	(12,527)	
500 501	Operation Supervision And Engineering Fuel	165,811 615,742	2,504,348	2,670,159 1,314,186	5,710 75,553	
502	Steam Expenses	379,663	698,443 37,500	417,163	(260,611)	1
505 506	Electric Expenses Miscellaneous Steam Power Expenses	137,546		137,546	75,154	
510	Maintenance Supervision And Engineering	1,363,963	_	1,363,963	191,886	
511	Maintenance Of Structures	5,548	-	5,548	5,159	
512	Maintenance Of Boiler Plant	602	-	602	(86,151)	)
513	Maintenance Of Electric Plant	59,644	77,389	137,034	42,194	
514	Maintenance Of Miscellaneous Steam Plant	20,911	-	20,911	17,582	
539	Miscellaneous Hydraulic Power Generation Expenses	-	-	-	-	
541 542	Maintenance Supervision And Engineering	-	-	-	(2,345)	
542 543	Maintenance Of Structures Maintenance of Reservoirs, Dams, and Waterways	-	-	-	(2,850)	1
575		-	-	- 1	-	

			2011		Variance 2011 to 2010		
			Indirect				
FERC		Direct	Allocations of		Variance		
Account	FERC Account Description	Assignments	Costs	Total	Amount	Explanation	
544	Maintenance of Electric Plant	-	-	-	-		
545	Maintenance of Miscellaneous Hydraulic Plant	-	-	-	-		
546 548	Operation Supervision And Engineering	-	-	-	-		
548 549	Generation Expenses Miscellaneous Other Power Generation Expenses	233	-	233	233		
551	Maintenance supervision and engineering	1,800	_	1,800	1,800		
552	Maintenance of structures	-	-	-	-		
553	Maintenance Of Generating And Electric Equipment	-	-	-	(9,959)	1	
554	Maintenance of miscellaneous other power generation plant	5,342	-	5,342	(109,863)	1	
556	System Control And Load Dispatching	84,857	1,836,082	1,920,939	(12,451)		
560	Operation Supervision And Engineering	55,451	1,339,296	1,394,747	221,221		
561.1 561.2	Load Dispatch-Reliability  Load Dispatch—Monitor and Operate Transmission System	62,571	1,843,761	1,906,333	(294,233)		
561.3	Load dispatch—Transmission service and scheduling	-	_	_	_		
561.5	Reliability, Planning And Standards Development	-	757,616	757,616	757,616		
561.6	Transmission Service Studies	43,820	-	43,820	43,820		
562	Station Expenses	-	-	-	(855)	1	
563	Overhead Line Expenses	94,311	8,351	102,662	3,823		
566	Miscellaneous Transmission Expenses	3,226,540	1,219,062	4,445,602	2,735,476	Higher Independent	
567	Rents					Transmission Operator costs.	
570	Maintenance Of Station Equipment	303,977	-	303,977	41,260		
571	Maintenance Of Overhead Lines	157,738	_	157,738	(27,713)	•	
		,			( ,, ,,		
573	Maintenance Of Miscellaneous Transmission Plant	52,387	-	52,387	14,510		
580 581	Operation Supervision And Engineering	1,031,128	218,609	1,249,737	(205,752)		
582	Load Dispatching Station Expenses	-	696,917	696,917	(96,245) (344)		
583	Overhead Line Expenses	29,723	_	29,723	17,695		
	•	ŕ		,	,		
504	II I II'. F						
584 586	Underground Line Expenses Meter Expenses	465,154	1,297	466,451	260,896		
587	Customer Installations Expenses	405,154	1,297	400,431	200,890		
588	Miscellaneous Distribution Expenses	916,234	170,727	1,086,960	147,056		
590	Maintenance Supervision And Engineering	6,344	=	6,344	(2,194)	1	
592	Maintenance Of Station Equipment	1,304	-	1,304	(4,050)	1	
593	Maintenance Of Overhead Lines	282,283	-	282,283	48,722		
594	Maintenance of Underground lines	-	-	-	-		
595 598	Maintenance Of Line Transformers  Maintenance Of Miscellaneous Distribution Plant	12,036	-	12,036	- (6 011)		
901	Supervision	1,736,263	378,953	2,115,215	(6,911) 144,600		
902	Meter Reading Expenses	118,777	-	118,777	67,127		
903	Customer Records And Collection Expenses	3,831,383	4,843,720	8,675,103	736,499		
905	Miscellaneous Customer Accounts Expenses	740,261	_	740,261	230.649		
907	Supervision	35,873	168,743	204,616	32		
908	Customer Assistance Expenses	10,758,092	515,968	11,274,060	1,145,592	Primarily due to increase in	
						expenses for DSM programs.	
909	Informational And Instructional Advertising Expenses	153,186	-	153,186	(21,273)	)	
910 912	Miscellaneous Customer Service And Informational Expenses	22,553	299,992	322,545	9,943		
912	Demonstrating And Selling Expenses Advertising Expenses (Major Only)	33,461	-	33,461	(8,670)		
920	Administrative And General Salaries	2,720,097	19,020,889	21,740,987		Combination of annual wage	
		_,,,	,,		-,,	increase and increases in	
						headcount by information	
						technology as that organization	
						has shifted away from	
0.5.			0.00			contractors.	
921	Office Supplies And Expenses	2,596,500	3,827,129	6,423,629	51,627		
				1			

		2011			Variance 2011 to 2010		
FERC Account	FERC Account Description	Direct Assignments	Indirect Allocations of Costs	Total	Variance Amount	Explanation	
923	Outside Services Employed	3,826,944	4,194,946	8,021,891	1,614,719	Variance is due to higher outside counsel legal fees.	
924 925	Property Insurance Injuries And Damages	69,325 380,053	2,284	69,325 382,337	(431,706) 236,743		
926	Employee Pensions And Benefits	17,544,215	124,991	17,669,206	1,829,588	Increased pension and medical insurance costs.	
928 930.1 930.2	Regulatory Commission Expenses General Advertising Expenses Miscellaneous General Expenses	281,756 765,184 106,728	160,300 2,097,513	281,756 925,483 2,204,240	229,481 294,995 (23,353)		
931	Rents	-	-	-	-		
935	Maintenance Of General Plant	935,253	11,289,981	12,225,233	1,231,816	Primarily due to increase in IT services and outside services for building operations and maintenance.	
Grand Tota	al	602,721,269	59,547,551	662,268,820	20,034,179		

	_	2012			Variance 2012 to 2011		
			Indirect				
FERC		Direct	Allocations of		Variance		
Account	FERC Account Description	Assignments	Costs	Total	Amount	Explanation	
107	Construction Work In Progress	33,485,259	-	33,485,259	3,403,850	Increases due primarily to software upgrades/replacements/licenses, telecommunication/IT infrastructure improvements, and construction projects at Cane Run 7, Ghent Ash Pond and Brown 3.	
108	Accumulated Provision For Depreciation Of Utility Plant	344,579	-	344,579	24,607		
131	Cash	(3,171,487)	-	(3,171,487)	(195,374)		
143	Other Accounts Receivable	37,987		37,987	66,784		
146	Accounts Receivable From Associated Companies	(231,408)	-	(231,408)	3,610		
151	Fuel Stock	445,743,867	-	445,743,867	(28,064,319)		
163 165	Stores Expense Undistributed Prepayments	444,277 11,670,162	-	444,277 11,670,162	(40,707) 2.594.887	Primarily due to higher insurance	
182.3	Other Regulatory Assets	1,758,179		1,758,179		premiums and added environmental policy.  Increase in costs associated with	
102.3	One Regulatory Assets	1,730,179	-	1,736,179	1,514,655	2012 rate case.	
183	Preliminary Survey And Investigation Charges	481,347	-	481,347	456,792		
184	Clearing Accounts	22,400,836	-	22,400,836	(1,707,210)		
186	Miscellaneous Deferred Debits	86,037	-	86,037	(288,788)		
228.3	Accumulated Provision For Pensions And Benefits	6,568,813	-	6,568,813	1,928,078	Mainly due to increase in the accumulated provision for VEBA (Voluntary Employee Beneficiary	
232	Accounts Payable	508,187	-	508,187	(199,084)		
234 236	Accounts Payable to Associated Companies Taxes Accrued	(660,772)	-	(660,772)	34,205 (515,900)		
241	Tax collections payable	(000,772)	-	-	(515,500)		
242	Miscellaneous Current And Accrued Liabilities	384,013	-	384,013	46,918		
253	Other Deferred Credits	1,503,219	-	1,503,219	482,121		
408.1	Taxes Other Than Income Taxes, Utility Operating Income	3,954,298	-	3,954,298	647,016		
408.2 409.1	Taxes Other than Income Taxes, Other Income and Deductions. Income taxes, utility operating income	-	-	-	-		
419	Interest And Dividend Income	_	-	-	4		
421	Miscellaneous Operating Income	-	-	-	-		
421.1	Gain on disposition of property	-	-	-	(27)		
426.1	Donations	736,242	33,210	769,452	(7,460)		
426.3	Penalties	378	-	378	142		
426.4 426.5	Expenditures For Certain Civic, Political And Related Activities Other Deductions	548 497,077	919,388 191,141	919,936 688,219	(113,828)		
431	Other interest expense	497,077	191,141	000,219	(27,686) (52,617)		
454	Rent from electric property	0	-	0	0		
456	Other Electric Revenues	18,184	-	18,184	17,261		
500	Operation Supervision And Engineering	158,551	3,161,831	3,320,382	650,223		
501	Fuel	561,914	782,803	1,344,717	30,532		
502 505	Steam Expenses Electric Expenses	191,964	23,231	215,195	(201,967)		
506	Miscellaneous Steam Power Expenses	161,699	-	161,699	24,153		
510	Maintenance Supervision And Engineering	1,446,874	-	1,446,874	82,911		
511	Maintenance Of Structures	17,542	-	17,542	11,994		
512	Maintenance Of Boiler Plant	24,791		24,791	24,189		
513 514	Maintenance Of Electric Plant Maintenance Of Miscellaneous Steam Plant	128,943 14,653	57,763	186,706 14,653	49,672 (6.258)		
539	Miscellaneous Hydraulic Power Generation Expenses	1,556	-	1,556	(6,258) 1,556		
541	Maintenance Supervision And Engineering	-,200	-		-,230		
542	Maintenance Of Structures	-	-	-	-		
543	Maintenance of Reservoirs, Dams, and Waterways	-	-	-	-		

		2012			Variance 2012 to 2011		
			Indirect				
FERC		Direct	Allocations of		Variance		
Account 544	FERC Account Description  Maintenance of Electric Plant	Assignments	Costs	Total -	Amount	Explanation	
545	Maintenance of Miscellaneous Hydraulic Plant	-	-	-	-		
546	Operation Supervision And Engineering	2,041	-	2,041	2,041		
548	Generation Expenses	-	-	-	-		
549	Miscellaneous Other Power Generation Expenses	1,022	-	1,022	789		
551 552	Maintenance supervision and engineering Maintenance of structures	_	-	-	(1,800)		
553	Maintenance Of Generating And Electric Equipment	_	-	-	_		
554	Maintenance of miscellaneous other power generation plant	-	-	-	(5,342)		
556	System Control And Load Dispatching	72,726	1,707,991	1,780,717	(140,222)		
560	Operation Supervision And Engineering	36,963	1,414,817	1,451,780	57,033		
561.1 561.2	Load Dispatch-Reliability  Load Dispatch—Monitor and Operate Transmission System	(101)	2,302,086	2,301,985	395,652		
561.3	Load dispatch—Transmission service and scheduling	-	-	-	-		
561.5	Reliability, Planning And Standards Development	-	812,992	812,992	55,376		
561.6	Transmission Service Studies	3,733	-	3,733	(40,087)		
562	Station Expenses	15,846	-	15,846	15,846		
563 566	Overhead Line Expenses Miscellaneous Transmission Expenses	95,228 3,637,902	1,238,555	95,228 4,876,457	(7,435) 430,855		
300	Miscendicods Transmission Expenses	3,037,702	1,230,333	4,070,437	430,033		
567	Rents	-	-	-	-		
570	Maintenance Of Station Equipment	319,473	-	319,473	15,496		
571	Maintenance Of Overhead Lines	147,880	-	147,880	(9,858)		
573	Maintenance Of Miscellaneous Transmission Plant	97,483	-	97,483	45,096		
580	Operation Supervision And Engineering	1,047,769	177,816	1,225,585	(24,152)		
581	Load Dispatching	-	922,050	922,050	225,132		
582 583	Station Expenses Overhead Line Expenses	989 38,504	-	989 38,504	989 8,781		
363	Overhead Line Expenses	36,304	-	38,304	8,781		
584 586 587 588 590 592 593 594 595 598 901 902 903	Underground Line Expenses Meter Expenses Customer Installations Expenses Miscellaneous Distribution Expenses Maintenance Supervision And Engineering Maintenance Of Station Equipment Maintenance of Overhead Lines Maintenance of Underground lines Maintenance Of Line Transformers Maintenance Of Miscellaneous Distribution Plant Supervision Meter Reading Expenses Customer Records And Collection Expenses  Miscellaneous Customer Accounts Expenses Supervision Customer Assistance Expenses	2,328 562,611 7,085 2,277 201,396 - 334 9,981 1,648,294 161,397 4,812,161 617,444 34,898 10,268,286	40,398 203,700 - - - 350,681 279 5,546,771	2,328 603,009 - 1,036,119 7,085 2,277 201,396 - 334 9,981 1,998,975 161,676 10,358,932	2,328 136,558 (50,842) 742 973 (80,888) - 334 (2,055) (116,240) 42,899 1,683,828 (122,816) 20,231 (437,143)	Higher labor costs due to customer service reorg to LKS in mid-2011 and added customer service employees hired in 2012 for Morganfield office.	
909 910 912 913 920	Informational And Instructional Advertising Expenses Miscellaneous Customer Service And Informational Expenses Demonstrating And Selling Expenses Advertising Expenses (Major Only) Administrative And General Salaries	306,108 148,871 - 1,823 2,214,306	377,470 - 20,587,959	306,108 526,341 - 1,823 22,802,265	152,923 203,797 - (31,638) 1,061,279	More personnel began charging this account in 2012 as a result of reorganizations. There are offsets	
921	Office Supplies And Expenses	2,548,993	4,936,262	7,485,256	1,061,627	in other accounts.  Primarily due to higher IT consulting related to IT applications business integration and system upgrades.	

		2012			Variance 2012 to 2011		
FERC Account	FERC Account Description	Direct Assignments	Indirect Allocations of Costs	Total	Variance Amount	Explanation	
923	Outside Services Employed	3,840,398	2,918,880	6,759,278	(1,262,613)		
924 925 926	Property Insurance Injuries And Damages Employee Pensions And Benefits	122,553 1,622,581 15,646,649	3,462 160,191	122,553 1,626,043 15,806,840		Workers comp settlement paid in 2012.	
928 930.1	Regulatory Commission Expenses General Advertising Expenses	37,218 695,142	44,160	37,218 739,303	(244,538) (186,181)		
930.1	Miscellaneous General Expenses	190,688	960,453	1,151,141	(1,053,099)		
750.2	Wiscentificous General Expenses	170,000	700,433	1,131,141	(1,033,077)		
931	Rents	144,576	238,650	383,226	383,226		
935	Maintenance Of General Plant	1,150,669	12,030,447	13,181,117	955,883		
Grand Tota	al	582,617,252	62,904,018	645,521,270	(16,747,551)		

	2013				Variance 2013 to 2012		
FERC		Direct	Indirect Allocations of		Variance		
Account	FERC Account Description	Assignments	Costs	Total	Amount	Explanation	
107	Construction Work In Progress	37,807,651	-	37,807,651	4,322,392	Increases due primarily to software upgrades/replacements/licenses, telecommunication/IT infrastructure improvements, and construction projects at Cane Run 7 and Ghent Ash Pond.	
108	Accumulated Provision For Depreciation Of Utility Plant	562,661	-	562,661	218,081		
131	Cash	(678,603)	-	(678,603)	2,492,884	Decrease in payments received by LKS for KU, primarily a reimbursement from insurance in 2012.	
143	Other Accounts Receivable	-	-	-	(37,987)		
146	Accounts Receivable From Associated Companies			-	231,408		
151	Fuel Stock	473,517,370	-	473,517,370	27,773,503	Higher purchases due to higher consumption at Ghent and Brown.	
163 165	Stores Expense Undistributed Prepayments	406,840 9,378,739	- -	406,840 9,378,739	(37,436) (2,291,424)		
182.3	Other Regulatory Assets	122,116	-	122,116	(1,636,064)		
183	Preliminary Survey And Investigation Charges	230,890	_	230,890	(250,457)		
184	Clearing Accounts	23,596,281	-	23,596,281		Due to the function of the clearing account, this increase is offset in other accounts.	
186	Miscellaneous Deferred Debits	424,706	-	424,706	338,669		
228.3	Accumulated Provision For Pensions And Benefits	3,908,748	-	3,908,748	(2,660,065)		
232	Accounts Payable	233,665	_	233,665	(274,522)		
234	Accounts Payable to Associated Companies	-	-	-	-		
236	Taxes Accrued	(701,613)	-	(701,613)	(40,841)		
241	Tax collections payable	196 505	-	196 505	102.402		
242 253	Miscellaneous Current And Accrued Liabilities Other Deferred Credits	486,505 1,216,719	-	486,505 1,216,719	102,492 (286,500)		
408.1	Taxes Other Than Income Taxes, Utility Operating Income	4,279,493	_	4,279,493	325,196		
408.2	Taxes Other than Income Taxes, Other Income and Deductions.	-	-	-	-		
409.1	Income taxes, utility operating income	-	-	-	-		
419	Interest And Dividend Income	(2)	-	(2)	(2)		
421 421.1	Miscellaneous Operating Income	-	-	-	-		
421.1	Gain on disposition of property Donations	748,129	111,645	859,774	90,322		
426.3	Penalties	171,584	-	171,584	171,206		
426.4	Expenditures For Certain Civic, Political And Related Activities	919	1,147,711	1,148,629	228,694		
426.5	Other Deductions	630,330	267,359	897,689	209,471		
431	Other interest expense	-	-	-	-		
454 456	Rent from electric property Other Electric Revenues	12,164	-	12,164	(0) (6,020)		
500	Operation Supervision And Engineering	12,164	4,084,556	4,281,069	960,688		
501	Fuel	552,351	843,013	1,395,365	50,647		
502	Steam Expenses	152,391	18,690	171,081	(44,114)		
505	Electric Expenses	1,100	-	1,100	1,100		
506	Miscellaneous Steam Power Expenses  Maintenance Supervision And Engineering	184,173	205 628	184,173	22,474		
510 511	Maintenance Supervision And Engineering Maintenance Of Structures	508,136 7,866	205,628	713,765 7,866	(733,109) (9,676)		
512	Maintenance Of Boiler Plant	5,603	-	5,603	(19,188)		
513	Maintenance Of Electric Plant	37,042	65,215	102,257	(84,449)		
514	Maintenance Of Miscellaneous Steam Plant	10,118	-	10,118	(4,534)		
539	Miscellaneous Hydraulic Power Generation Expenses	-	-	-	(1,556)		
541 542	Maintenance Supervision And Engineering	-	-	-	-		
542 543	Maintenance Of Structures Maintenance of Reservoirs, Dams, and Waterways	-	-	-	-		
5.5				I			

			2013			Variance 2013 to 2012
			Indirect			
FERC			Allocations of		Variance	
Account		Assignments	Costs	Total	Amount	Explanation
544 545	Maintenance of Electric Plant  Maintenance of Miscellaneous Hydraulic Plant	-	-	-	-	
546	Operation Supervision And Engineering	-	-	_	(2,041)	
548	Generation Expenses	-	-	-	(=,0.17)	
549	Miscellaneous Other Power Generation Expenses	2,439	-	2,439	1,417	
551	Maintenance supervision and engineering	-	-	-	-	
552	Maintenance of structures	2 (22	-			
553 554	Maintenance Of Generating And Electric Equipment	3,622	-	3,622	3,622	
556	Maintenance of miscellaneous other power generation plant System Control And Load Dispatching	90,356	1,554,617	1,644,973	(135,744)	
560	Operation Supervision And Engineering	58,366	1,606,539	1,664,905	213,125	
561.1	Load Dispatch-Reliability	-	2,686,631	2,686,631	384,646	
561.2	Load Dispatch—Monitor and Operate Transmission System	-	-	-	-	
561.3	Load dispatch—Transmission service and scheduling	-	-		177.056	
561.5 561.6	Reliability, Planning And Standards Development Transmission Service Studies	11,658	990,247	990,247	177,256 7,925	
562	Station Expenses	5,599	-	11,658 5,599	(10,247)	
563	Overhead Line Expenses	87,297	_	87,297	(7,931)	
566	Miscellaneous Transmission Expenses	1,816,804	614,251	2,431,056	(2,445,401)	
567	Rents	-	-			
570	Maintenance Of Station Equipment	409,543	33,717	443,260	123,787	
571	Maintenance Of Overhead Lines	107,089	-	107,089	(40,791)	
573	Maintenance Of Miscellaneous Transmission Plant	54,212	10,487	64,699	(32,784)	
580	Operation Supervision And Engineering	749,340	448,162	1,197,502	(28,083)	
581	Load Dispatching	15.042	993,632	993,632	71,583	
582 583	Station Expenses Overhead Line Expenses	15,843 375,437	-	15,843 375,437	14,854 336,933	
202	Crement Zine Zinemies	373,137		373,137	330,733	
£9.4	Understand Line Frances	429		429	(1.001)	
584 586	Underground Line Expenses Meter Expenses	428 589,359	15,491	428 604,850	(1,901) 1,841	
587	Customer Installations Expenses	-	-	-	-	
588	Miscellaneous Distribution Expenses	710,883	438,382	1,149,265	113,147	
590	Maintenance Supervision And Engineering	4,713	1,828	6,541	(544)	
592	Maintenance Of Station Equipment	3,768	-	3,768	1,491	
593 594	Maintenance Of Overhead Lines  Maintenance of Underground lines	119,696 4,919	-	119,696 4,919	(81,699) 4,919	
595	Maintenance Of Line Transformers	4,919	-	4,919	(334)	
598	Maintenance Of Miscellaneous Distribution Plant	5,852	-	5,852	(4,129)	
901	Supervision	2,086,470	429,450	2,515,920	516,945	
902	Meter Reading Expenses	116,343	54,427	170,770	9,094	
903	Customer Records And Collection Expenses	4,973,868	5,730,975	10,704,843	345,911	
905	Miscellaneous Customer Accounts Expenses	465,261		465,261	(152,184)	
907	Supervision	22,176	261,967	284,143	59,296	Driversile due to see the of CEI light
908	Customer Assistance Expenses	12,392,671	569,127	12,961,799	2,124,881	Primarily due to purchase of CFL ligh bulbs for the residential DSM program in 2013.
						2013.
909	Informational And Instructional Advertising Expenses	404,974	-	404,974	98,866	
910	Miscellaneous Customer Service And Informational Expenses	156,086	212,025	368,112	(158,230)	
912	Demonstrating And Selling Expenses	41,970	-	41,970	41,970	
913	Advertising Expenses (Major Only)	1 924 050	- 26 274 222	20,000,202	(1,823)	
920	Administrative And General Salaries	1,824,050	26,274,333	28,098,383	5,296,117	Primarily due to a change in account number charged by information technology employees (offset in Account 935 below); and annual wage increases.

			2013			Variance 2013 to 2012
FERC Account	FERC Account Description	Direct Assignments	Indirect Allocations of Costs	Total	Variance Amount	Explanation
923	Outside Services Employed	3,206,847	11,896,488	15,103,335	8,344,057	Primarily due to a change in account number charged by information technology employees (offset in Account 935 below).
924	Property Insurance	218,386	22,063	240,449	117,896	
925	Injuries And Damages	219,461	35,928	255,389	(1,370,655)	
7-0		2.,,	22,520		(-,,,,,,,,,	
926	Employee Pensions And Benefits	17,940,979	184,625	18,125,605	2,318,765	Increased pension and medical insurance costs.
928	Regulatory Commission Expenses	610,943	_	610,943	573,725	
930.1	General Advertising Expenses	455,657	75,352	531,009	(208,293)	
	Miscellaneous General Expenses	344,027	1,351,758	1,695,786	544,645	
931	Rents	62,808	162,636	225,444	(157,782)	
935	Maintenance Of General Plant	1,065,255	4,341,909	5,407,165	(7,773,952)	
Grand Tota	ıl	611,744,434	72,523,446	684,267,880	38,746,610	

	<u>-</u>		2014			Variance 2014 to 2013
			Indirect			
FERC		Direct	Allocations of		Variance	
Account	FERC Account Description	Assignments	Costs	Total	Amount	Explanation
107	Construction Work In Progress	21,754,688	11,877,127	33,631,815	(4,175,836)	
108	Accumulated Provision For Depreciation Of Utility Plant	296,061	16,105	312,166	(250,494)	
131	Cash	(780,343)	-	(780,343)	(101,740)	
143	Other Accounts Receivable	2,596	(405)	2,192	2,192	
146	Accounts Receivable From Associated Companies	-	-			
151	Fuel Stock	486,355,554	-	486,355,554	12,838,184	Higher coal volumes purchased at slightly higher prices.
163 165	Stores Expense Undistributed Prepayments	82,202 12,922,860	201,243 61,475	283,444 12,984,335	(123,396) 3,605,596	Difference caused by timing issue of premium being paid in Jan-14 instea of Dec-13.
182.3	Other Regulatory Assets	579,141	-	579,141	457,025	of Dec-13.
183 184	Preliminary Survey And Investigation Charges Clearing Accounts	118,047 20,719,347	139 3,475,318	118,186 24,194,665	(112,703) 598,384	
186	Miscellaneous Deferred Debits	300,539	-	300,539	(124,167)	
228.3	Accumulated Provision For Pensions And Benefits	2,711,061	-	2,711,061	(1,197,686)	
232	Accounts Payable	(606,191)	_	(606,191)	(839,856)	
234	Accounts Payable to Associated Companies	(219,565)	_	(219,565)	(219,565)	
236	Taxes Accrued	(720,345)	-	(720,345)	(18,732)	
241	Tax collections payable	(4)	-	(4)	(4)	
242	Miscellaneous Current And Accrued Liabilities	623,710	-	623,710	137,205	
253	Other Deferred Credits	2,189,433	-	2,189,433	972,714	
408.1 408.2	Taxes Other Than Income Taxes, Utility Operating Income Taxes Other than Income Taxes, Other Income and Deductions.	4,501,581 719		4,501,581 719	222,087 719	
409.1	Income taxes, utility operating income	-	_	-	-	
419	Interest And Dividend Income	-	-	-	2	
421	Miscellaneous Operating Income	-	-	-	-	
421.1	Gain on disposition of property	1.070.102	20.104	1 100 206	240.522	
426.1 426.3	Donations Penalties	1,079,102 136,371	30,194	1,109,296 136,371	249,522 (35,213)	
426.4	Expenditures For Certain Civic, Political And Related Activities	393,568	657,310	1,050,878	(97,752)	
426.5	Other Deductions	737,414	217,095	954,508	56,819	
431	Other interest expense	-	-	-	-	
454	Rent from electric property	-	-	-	-	
456	Other Electric Revenues	12,911	2 294 711	12,911	747	III-han lahan anat
500 501	Operation Supervision And Engineering Fuel	1,939,646 707,704	3,384,711 728,186	5,324,357 1,435,890	40,525	Higher labor costs
502	Steam Expenses	254,716	13,400	268,116	97,035	
505	Electric Expenses	60,775	-	60,775	59,675	
506	Miscellaneous Steam Power Expenses	305,976	80	306,056	121,882	
510	Maintenance Supervision And Engineering	750,455	227,510	977,965	264,201	
511	Maintenance Of Structures	12,587	-	12,587	4,722	
512	Maintenance Of Boiler Plant	45,789	10.006	45,789	40,186	
513	Maintenance Of Electric Plant Maintenance Of Miscellaneous Steam Plant	171,706	18,086	189,792	87,535	
514 539	Maintenance Of Miscellaneous Steam Plant Miscellaneous Hydraulic Power Generation Expenses	12,584	21	12,605	2,487	
541	Maintenance Supervision And Engineering	-	-	-	-	
542	Maintenance Of Structures	-	-	-	-	
543	Maintenance of Reservoirs, Dams, and Waterways	-	-	-	-	

			2014			Variance 2014 to 2013
			Indirect			
FERC		Direct	Allocations of		Variance	
Account 544	FERC Account Description  Maintenance of Electric Plant	Assignments	Costs	Total	Amount	Explanation
545	Maintenance of Miscellaneous Hydraulic Plant	_	_	_	-	
546	Operation Supervision And Engineering	-	-	-	-	
548	Generation Expenses	-	-	-	-	
549	Miscellaneous Other Power Generation Expenses	3,383	-	3,383	944	
551	Maintenance supervision and engineering	-	-	-	-	
552 553	Maintenance of structures  Maintenance Of Generating And Electric Equipment	-	-	-	(3,622)	
554	Maintenance of miscellaneous other power generation plant	_	_	-	(3,022)	
556	System Control And Load Dispatching	501,411	1,162,296	1,663,707	18,734	
560	Operation Supervision And Engineering	547,859	1,099,626	1,647,485	(17,420)	
561.1	Load Dispatch-Reliability	745,803	1,232,702	1,978,505	(708,126)	
561.2	Load Dispatch—Monitor and Operate Transmission System	241,367	15,363	256,730	256,730	
561.3 561.5	Load dispatch—Transmission service and scheduling Reliability, Planning And Standards Development	149,238 328,170	553,470	149,238 881,640	149,238 (108,607)	
561.6	Transmission Service Studies	16,671	353,470	17,029	5,370	
562	Station Expenses	26,125	340	26,466	20,867	
563	Overhead Line Expenses	66,798	3,090	69,888	(17,408)	
566	Miscellaneous Transmission Expenses	2,083,848	264,459	2,348,307	(82,748)	
567	Rents					
570	Maintenance Of Station Equipment	593,344	125,679	719,023	275,763	
571	Maintenance Of Overhead Lines	91,819	7,606	99,426	(7,663)	
		. ,	.,	,	(-,,	
550	Mile OCAC II TO THE TOTAL TO THE TOTAL TOT	22.704	165.050	107.054	100 157	
573 580	Maintenance Of Miscellaneous Transmission Plant	32,784 424,792	165,073 695,035	197,856 1,119,827	133,157 (77,675)	
581	Operation Supervision And Engineering Load Dispatching	393,426	429,266	822,692	(170,940)	
582	Station Expenses	34,311	875	35,186	19,343	
583	Overhead Line Expenses	2,757,934	5,822	2,763,755	2,388,318	Variance due primarily to storm
						expenses.
584	Underground Line Expenses	-	-	-	(428)	
586	Meter Expenses	249,303	268,686	517,989	(86,861)	
587	Customer Installations Expenses	766 270	- 026 421	1 602 800	542.544	
588 590	Miscellaneous Distribution Expenses Maintenance Supervision And Engineering	766,379 10,633	926,431 6,500	1,692,809 17,133	543,544 10,592	
592	Maintenance Of Station Equipment	12,234	145	12,379	8,611	
593	Maintenance Of Overhead Lines	178,361	100,646	279,007	159,311	
594	Maintenance of Underground lines	5,891	0	5,891	972	
595	Maintenance Of Line Transformers	-	-	-	-	
598	Maintenance Of Miscellaneous Distribution Plant	61,957	36	61,992	56,140	
901 902	Supervision Meter Reading Evnences	998,072 55,946	1,801,821 91,709	2,799,893 147,655	283,973	
902	Meter Reading Expenses Customer Records And Collection Expenses	6,558,304	5,260,542	11,818,846	(23,115)	Wage increases and higher head
703	Customer Records And Conceasin Expenses	0,550,504	3,200,342	11,010,040	1,114,003	count.
905	Miscellaneous Customer Accounts Expenses	135,501	37,903	173,404	(291,857)	
907	Supervision	108,860	277,432	386,292	102,149	
908	Customer Assistance Expenses	11,989,361	181,966	12,171,328	(790,471)	
000	Informational And Instruction (I.A.)	202 150	7.550	400.710	(4.355	
909 910	Informational And Instructional Advertising Expenses Miscellaneous Customer Service And Informational Expenses	393,159 644,200	7,550 265	400,710 644,464	(4,264) 276,352	
910	Demonstrating And Selling Expenses	-	-	-	(41,970)	
913	Advertising Expenses (Major Only)	89,984	4,324	94,307	94,307	
920	Administrative And General Salaries	9,631,629	24,284,032	33,915,661	5,817,278	Primarily due to a change in account number charged by information technology employees (offset account 935 below); and annual wage increases.
921	Office Supplies And Expenses	3,048,579	4,526,776	7,575,355	894,383	

			2014			Variance 2014 to 2013
FERC Account	FERC Account Description	Direct Assignments	Indirect Allocations of Costs	Total	Variance Amount	Explanation
923	Outside Services Employed	9,059,121	8,525,002	17,584,122	2,480,788	Variance is primarily due to a change in the manner of charging expenses related to jointly used facilities' operations and maintenance. In 2014, these expenses were captured on LKS and then allocated to the utilities. Prior to 2013, these costs did not run through LKS.
924	Property Insurance	114,308	170,153	284,460	44,011	
925	Injuries And Damages	39,739	105,901	145,641	(109,748)	
926	Employee Pensions And Benefits	15,138,846	132,092	15,270,938	(2,854,667)	
928 930.1 930.2	Regulatory Commission Expenses General Advertising Expenses Miscellaneous General Expenses	990,977 923,663 1,487,640	1,599 377,415	990,977 925,262 1,865,055	380,033 394,252 169,269	
931	Rents	47,693	1,321,398	1,369,092	1,143,648	Change in methodology for handling facilities allocations. Prior to 2014, rent for the LG&E Center was charged to LG&E from the holding company. In 2014, the rent was charged from LKS.
935	Maintenance Of General Plant	1,822,998	455,307	2,278,305	(3,128,859)	· ·
Grand Tota	al	631,054,813	75,534,286	706,589,099	22,321,219	

	<u>-</u>		Base Year		Var	iance Base Year to 2014
			Indirect	Ţ		
FERC		Direct	Allocations of		Variance	
Account	FERC Account Description	Assignments	Costs	Total	Amount	Explanation
107	Construction Work In Progress	9,542,553	22,019,841	31,562,394	(2,069,421)	
108	Accumulated Provision For Depreciation Of Utility Plant	499,854	52,124	551,978	239,812	
131	Cash	(570,081)	-	(570,081)	210,262	
143	Other Accounts Receivable	-	-	-	(2,192)	
146	Accounts Receivable From Associated Companies	-	-	-	-	B: 3 1 . 1:1
151	Fuel Stock	509,814,012	-	509,814,012	23,458,457	Primarily due to higher coal purchases. Also, higher reagent purchases were in the forecast due to plants using lower volumes than expected.
163	Stores Expense Undistributed	15,681	350,270	365,951	82,506	
165	Prepayments	7,110,302	-	7,110,302	(5,874,033)	
182.3	Other Regulatory Assets	216,083	-	216,083	(363,058)	
183	Preliminary Survey And Investigation Charges	49,875	-	49,875	(68,311)	
184	Clearing Accounts	10,316,668	4,810,848	15,127,515	(9,067,149)	
186	Miscellaneous Deferred Debits	51,090	-	51,090	(249,449)	
228.3	Accumulated Provision For Pensions And Benefits	1,347,876	-	1,347,876	(1,363,185)	
232 234	Accounts Payable Accounts Payable to Associated Companies	(998,603)	-	(998,603)	(392,411) 219,565	
236	Taxes Accrued	(418,139)	-	(418,139)	302,207	
241	Tax collections payable	(110,135)	-	(110,135)	4	
242	Miscellaneous Current And Accrued Liabilities	588,953	-	588,953	(34,758)	
253	Other Deferred Credits	1,495,013	-	1,495,013	(694,420)	
408.1	Taxes Other Than Income Taxes, Utility Operating Income	2,582,417	2,717,661	5,300,078	798,498	
408.2 409.1	Taxes Other than Income Taxes, Other Income and Deductions.	719	(719)	-	(719)	
409.1	Income taxes, utility operating income Interest And Dividend Income	-	-		-	
421	Miscellaneous Operating Income	_	9,673	9,673	9,673	
421.1	Gain on disposition of property	-	-	-	-	
426.1	Donations	657,621	1,302,975	1,960,596	851,300	
426.3	Penalties	-	-	-	(136,371)	
426.4	Expenditures For Certain Civic, Political And Related Activities	144,898	691,707	836,605	(214,272)	
426.5 431	Other Deductions Other interest expense	204,572	478,447	683,018	(271,490)	
454	Rent from electric property	_	_	_	_	
456	Other Electric Revenues	8,726	-	8,726	(4,185)	
500	Operation Supervision And Engineering	310,006	6,315,006	6,625,013		Higher labor costs
501	Fuel	254,815	1,134,550	1,389,365	(46,525)	
502 505	Steam Expenses Electric Expenses	174,132 60,775	107,012	281,144 60,775	13,028	
506	Miscellaneous Steam Power Expenses	208,929	2,013,867	2,222,796	1,916,740	Higher emission fees and contractor expenses
510	Maintenance Supervision And Engineering	204,180	1,857,041	2,061,221		Higher contractor expenses
511	Maintenance Of Structures	11,047	(81,428)	(70,381)	(82,969)	
512 513	Maintenance Of Boiler Plant Maintenance Of Electric Plant	45,182 45,421	(303,991) 461,212	(258,809) 506,633	(304,598) 316,841	
513	Maintenance Of Miscellaneous Steam Plant	10,129	(15,308)	(5,178)	(17,784)	
539	Miscellaneous Hydraulic Power Generation Expenses	- 5,127	(380)	(380)	(380)	
541	Maintenance Supervision And Engineering	-	-	- [	-	
542	Maintenance Of Structures	-	(4,896)	(4,896)	(4,896)	
543	Maintenance of Reservoirs, Dams, and Waterways	-	(340)	(340)	(340)	

			Base Year		Var	iance Base Year to 2014
FERC		Direct	Indirect Allocations of		Variance	
Account	FERC Account Description	Assignments	Costs	Total	Amount	Explanation
544	Maintenance of Electric Plant	-	(11,408)	(11,408)	(11,408)	
545	Maintenance of Miscellaneous Hydraulic Plant	-	(340)	(340)	(340)	
546 548	Operation Supervision And Engineering	-	-	-	-	
548 549	Generation Expenses Miscellaneous Other Power Generation Expenses	3,383	(7,426)	(4,043)	(7,426)	
551	Maintenance supervision and engineering	3,363	(7,420)	(4,043)	(7,420)	
552	Maintenance of structures	-	(25,723)	(25,723)	(25,723)	
553	Maintenance Of Generating And Electric Equipment	-	(80,363)	(80,363)	(80,363)	
554	Maintenance of miscellaneous other power generation plant	-	(12,919)	(12,919)	(12,919)	
556	System Control And Load Dispatching	42,083	1,488,732	1,530,815	(132,892)	
560	Operation Supervision And Engineering	102,457	1,522,160	1,624,617	(22,868)	
561.1	Load Dispatch-Reliability	269,044	2,209,165	2,478,208	499,704	
561.2 561.3	Load Dispatch—Monitor and Operate Transmission System Load dispatch—Transmission service and scheduling	-	-	-	(256,730) (149,238)	
561.5	Reliability, Planning And Standards Development	47,897	837,691	885,589	3,949	
561.6	Transmission Service Studies	5,561	(9,487)	(3,927)	(20,955)	
562	Station Expenses	21,552	15,613	37,165	10,699	
563	Overhead Line Expenses	43,324	1,060,754	1,104,077	1,034,189	Higher contractor expenses
566	Miscellaneous Transmission Expenses	895,675	2,418,896	3,314,571	966,264	
567	Rents	242.051	92,135	92,135	92,135	
570	Maintenance Of Station Equipment Maintenance Of Overhead Lines	243,874	1,076,739	1,320,613	601,590	II:-h
571	Maintenance Of Overnead Lines	49,250	6,047,605	6,096,855	3,997,430	Higher contractor expenses and material for maintenance of overhead lines
573	Maintenance Of Miscellaneous Transmission Plant	5,238	150,096	155,334	(42,522)	
580	Operation Supervision And Engineering	186,205	809,571	995,776	(124,052)	
581	Load Dispatching	141,872	798,771	940,643	117,951	
582	Station Expenses	20,311	(19,867)	444	(34,742)	
583	Overhead Line Expenses	2,195,659	(2,334,868)	(139,209)	(2,902,964)	
584 586 587 588 590 592 593 594 595 598 901 902 903	Underground Line Expenses Meter Expenses Customer Installations Expenses Miscellaneous Distribution Expenses Maintenance Supervision And Engineering Maintenance Of Station Equipment Maintenance Of Overhead Lines Maintenance of Underground lines Maintenance Of Line Transformers Maintenance Of Miscellaneous Distribution Plant Supervision Meter Reading Expenses Customer Records And Collection Expenses	97,485 -237,118 6,871 3,903 178,217 4,133 -59,266 169,716 11,733 2,394,800	374,453 (18,667) 868,154 (1,993) 3,984 75,689 (349) - (69,334) 2,775,966 17,776 9,451,410	471,938 (18,667) 1,105,272 4,878 7,887 253,907 3,784 - (10,069) 2,945,682 29,508 11,846,211	(46,050) (18,667) (587,538) (12,255) (4,492) (25,100) (2,107) - (72,061) 145,789 (118,147) 27,364	
905 907 908 909 910 912 913 920	Miscellaneous Customer Accounts Expenses Supervision Customer Assistance Expenses  Informational And Instructional Advertising Expenses Miscellaneous Customer Service And Informational Expenses Demonstrating And Selling Expenses Advertising Expenses (Major Only) Administrative And General Salaries	77,598 933 18,156,460 183,067 367,944 - 5,544 874,013	141,653 325,857 444,655 144,375 334,246 - 69,300 33,538,466	219,251 326,790 18,601,115 327,443 702,190 - 74,844 34,412,478	45,847 (59,502) 6,429,787 (73,267) 57,726 - (19,463) 496,817	Primarily due to base year including forecast adjustments offset in other accounts. Also due to increase in expenses for DSM program.
921	Office Supplies And Expenses	524,238	9,295,410	9,819,647	2,244,292	Base year included forecast adjustments offset in other accounts.

			Base Year		Var	iance Base Year to 2014
FERC Account	FERC Account Description	Direct Assignments	Indirect Allocations of Costs	Total	Variance Amount	Explanation
923	Outside Services Employed	2,379,192	19,115,951	21,495,143	3,911,020	Base year includes forecast adjustments offset in other accounts.
924 925	Property Insurance Injuries And Damages	- 21,914	(5,137) 215,535	(5,137) 237,449	(289,598) 91,809	
926	Employee Pensions And Benefits	8,043,810	14,183,686	22,227,495	6,956,558	Base year included forecast adjustments offset in other accounts. Also due to decreased pension expense in 2014 from change in discount rate.
928	Regulatory Commission Expenses	746,527	54,226	800,754	(190,223)	
930.1	General Advertising Expenses	431,235	282,994	714,229	(211,032)	
930.2	Miscellaneous General Expenses	(1,240,048)	3,113,264	1,873,216	8,161	
931	Rents	(4,408)	1,210,931	1,206,523	(162,569)	
935	Maintenance Of General Plant	838,209	292,749	1,130,959	(1,147,347)	
Grand Tota	al	582,827,558	156,175,949	739,003,507	32,414,408	

	_		Test Year		Vari	ance Test Year to Base Year
			Indirect			
FERC		Direct	Allocations of		Variance	
Account	FERC Account Description	Assignments	Costs	Total	Amount	Explanation
107	Construction Work In Progress	15,141,398	24,567,958	39,709,356	8,146,962	Increases due primarily to software upgrades/replacements, telecommunication/T infrastructure improvements, construction costs of service center and replacement of aging transmission lines.
108	Accumulated Provision For Depreciation Of Utility Plant	6,574,537	-	6,574,537	6,022,559	Ghent retirements related to environmental capital, retirement of Green River Unit 4, transmission line replacement.
131	Cash	-	-	-	570,081	
143	Other Accounts Receivable	-	-	-	-	
146	Accounts Receivable From Associated Companies	-	-	-	-	
151	Fuel Stock	450,113,439	-	450,113,439	(59,700,572)	
163	Stores Expense Undistributed		318,985	318,985	(46,966)	
165	Prepayments	-	-	510,905	(7,110,302)	
182.3	Other Regulatory Assets	-	-	-	(216,083)	
183	Preliminary Survey And Investigation Charges	-	- 0.056.767	0.405.014	(49,875)	
184	Clearing Accounts	429,047	9,056,767	9,485,814	(5,641,701)	
186	Miscellaneous Deferred Debits	-	-	-	(51,090)	
228.3	Accumulated Provision For Pensions And Benefits	-	-	-	(1,347,876)	
232	Accounts Payable	-	_	-	998,603	
234	Accounts Payable to Associated Companies	-	-	-	-	
236	Taxes Accrued Tax collections payable	-	-	-	418,139	
241 242	Tax collections payable Miscellaneous Current And Accrued Liabilities	-	-	-	(588,953)	
253	Other Deferred Credits	_	-	-	(1,495,013)	
408.1	Taxes Other Than Income Taxes, Utility Operating Income	89,060	5,264,860	5,353,920	53,842	
408.2	Taxes Other than Income Taxes, Other Income and Deductions.	-	-	-	-	
409.1	Income taxes, utility operating income	-	-	-	-	
419 421	Interest And Dividend Income Miscellaneous Operating Income	-	-	-	(9,673)	
421.1	Gain on disposition of property	-	-	-	(5,575)	
426.1	Donations	-	2,008,281	2,008,281	47,685	
426.3	Penalties	-	-	-	-	
426.4 426.5	Expenditures For Certain Civic, Political And Related Activities Other Deductions	-	546,955 805,176	546,955 805,176	(289,651) 122,157	
431	Other interest expense	_		603,170	122,137	
454	Rent from electric property	-	-	-	-	
456	Other Electric Revenues	-	-	-	(8,726)	
500	Operation Supervision And Engineering	-	7,380,721	7,380,721	755,708	
501	Fuel Stoom Evnonces	-	1,413,226	1,413,226	23,860	
502 505	Steam Expenses Electric Expenses	-	144,025	144,025	(137,119) (60,775)	
506	Miscellaneous Steam Power Expenses	-	2,519,673	2,519,673	296,878	
510	Maintenance Supervision And Engineering	-	1,484,862	1,484,862	(576,358)	
511 512	Maintenance Of Structures Maintenance Of Boiler Plant	-	-	-	70,381 258,809	
513	Maintenance Of Electric Plant	-	5,256	5,256	(501,377)	
514	Maintenance Of Miscellaneous Steam Plant	-	-		5,178	
539	Miscellaneous Hydraulic Power Generation Expenses	-	-	-	380	
541	Maintenance Supervision And Engineering	-	-	-		
542 543	Maintenance Of Structures Maintenance of Reservoirs, Dams, and Waterways	-	-	-	4,896 340	
543	maniferance of Reservoirs, Danis, and waterways	-	-	- 1	540	1

			Test Year		Vari	ance Test Year to Base Year
			Indirect			
FERC		Direct	Allocations of		Variance	
Account 544	FERC Account Description  Maintenance of Electric Plant	Assignments	Costs	Total	Amount 11,408	Explanation
545	Maintenance of Miscellaneous Hydraulic Plant	-	-	-	340	
546	Operation Supervision And Engineering	-	-	-	-	
548	Generation Expenses	-	-	-	-	
549	Miscellaneous Other Power Generation Expenses	-	-	-	4,043	
551	Maintenance supervision and engineering	-	-	-	25 722	
552 553	Maintenance of structures  Maintenance Of Generating And Electric Equipment	-	-	-	25,723 80,363	
554	Maintenance of miscellaneous other power generation plant	_	_	_	12,919	
556	System Control And Load Dispatching	-	1,661,411	1,661,411	130,596	
560	Operation Supervision And Engineering	-	1,748,003	1,748,003	123,386	
561.1	Load Dispatch-Reliability	-	2,936,224	2,936,224	458,015	
561.2	Load Dispatch—Monitor and Operate Transmission System	-	-	-	-	
561.3 561.5	Load dispatch—Transmission service and scheduling Reliability, Planning And Standards Development	-	889,339	889,339	3,750	
561.6	Transmission Service Studies	-	-	-	3,927	
562	Station Expenses	-	-	-	(37,165)	
563	Overhead Line Expenses	-	930,394	930,394	(173,683)	
566	Miscellaneous Transmission Expenses	-	2,630,149	2,630,149	(684,422)	
567	Dante				(02.125)	
567 570	Rents Maintenance Of Station Equipment	-	593,690	593,690	(92,135) (726,923)	
571	Maintenance Of Overhead Lines	-	4,274,317	4,274,317	(1,822,538)	
			, . ,-	, , , , , ,	( )-	
550	Miles Of Mark		100 : : :	100 1 11	(00.155)	
573 580	Maintenance Of Miscellaneous Transmission Plant Operation Supervision And Engineering	97,702	122,164 1,307,495	122,164 1,405,196	(33,170) 409,420	
581	Load Dispatching	97,702	1,109,544	1,109,544	168,901	
582	Station Expenses	-	-	-	(444)	
583	Overhead Line Expenses	-	883,871	883,871		Base year included forecast adjustments
						offset in other distribution accounts
						originating from non-LKS affiliates.
584	Underground Line Expenses	_		_	_	
586	Meter Expenses	_	584,149	584,149	112,211	
587	Customer Installations Expenses	-	(112,002)	(112,002)	(93,335)	
588	Miscellaneous Distribution Expenses	8,000	1,752,422	1,760,422	655,150	
590	Maintenance Supervision And Engineering	-	-	-	(4,878)	
592 593	Maintenance Of Station Equipment Maintenance Of Overhead Lines	108,580	242,876	351,457	(7,887) 97,550	
594	Maintenance of Underground lines	108,380	242,870	331,437	(3,784)	
595	Maintenance Of Line Transformers	-	-	-	-	
598	Maintenance Of Miscellaneous Distribution Plant	-	-	-	10,069	
901	Supervision	-	2,758,352	2,758,352	(187,330)	
902	Meter Reading Expenses	-	174,297	174,297	144,789	D
903	Customer Records And Collection Expenses	-	12,870,690	12,870,690	1,024,479	Base year included forecast adjustments offset in other accounts.
						oriset in other accounts.
905	Miscellaneous Customer Accounts Expenses	-	133,156	133,156	(86,095)	
907 908	Supervision Customer Assistance Expenses	18,480,201	328,579 596,348	328,579 19,076,549	1,789 475,434	
700	Customer Assistance Expenses	10,400,201	370,340	17,070,547	475,454	
909	Informational And Instructional Advertising Expenses	-	366,574	366,574	39,131	
910	Miscellaneous Customer Service And Informational Expenses	-	740,424	740,424	38,234	
912	Demonstrating And Selling Expenses	-	100.000	100 000	105 157	
913 920	Advertising Expenses (Major Only) Administrative And General Salaries	-	180,000 38,011,395	180,000 38,011,395	105,156 3 598 917	Budgeted wage increase plus additional
920	Administrative And General Salaries	-	36,011,393	36,011,393	3,396,917	head count in test year over base year.
						y 2 y
021	Office Supplies And Expenses	610 007	9 052 000	0.572.907	(246 751)	
921	Office Supplies And Expenses	618,897	8,953,999	9,572,896	(246,751)	
						-

			Test Year		Vari	ance Test Year to Base Year
FERC Account	FERC Account Description	Direct Assignments	Indirect Allocations of Costs	Total	Variance Amount	Explanation
923	Outside Services Employed	1,000	22,226,347	22,227,347	732,204	
924	Property Insurance	-	216,883	216,883	222,021	
925	Injuries And Damages	579	405,116	405,695	168,246	
926	Employee Pensions And Benefits	380,162	22,911,489	23,291,651	1,064,155	Higher pension cost due to change in mortality tables, offset by forecast adjustments in the base year, which are offset in other accounts.
928	Regulatory Commission Expenses	_	720,174	720,174	(80,580)	
930.1	General Advertising Expenses	_	521,996	521,996	(192,233)	
930.2	Miscellaneous General Expenses	-	3,774,214	3,774,214	1,900,998	Base year included forecast adjustments offset in other accounts.
931	Rents	-	1,731,055	1,731,055	524,533	
935	Maintenance Of General Plant	-	915,352	915,352	(215,606)	
Grand Tota	ıl	492,042,602	195,607,231	687,649,833	(51,353,674)	

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 29** 

Responding Witness: Christopher M. Garrett

Q.1-29. Please provide a schedule of the amortization expense associated with each regulatory asset for each year 2010 through 2014, the base year, and the test year. Provide the balance of each regulatory asset at the beginning and end of each of those years as well as the amortization period that was used in each of those years. In addition, please source the amortization period to the Case No. in which the Commission approved the recovery and the amortization period, if any.

A.1-29. See attached.

### Kentucky Utilities Company - 2010

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Account	Description	Amortization Period	Order No. / Docket No.	Beginning Balance	Annual Activity	Amortization	<b>Ending Balance</b>
			2009-00548				
182320/182345	WINTER STORM 2009 - ELECTRIC	Aug-10 to Jul-20	2009-00174	57,236,758	(476,973)	(1,907,892)	54,851,894
			2008-00251				
			PUE 2009-00029				
			EC06-4				
182321/182341	MISO EXIT FEE	Mar-09 to Dec-14	ER06-20	8,758,240	(2,492,896)	(1,144,488)	5,120,856
182322/182335	RATE CASE EXPENSES - ELECTRIC	Jan-13 to Dec-15	2012-00221	997,877	1,734,767	(460,559)	2,272,086
182324/182337	EKPC FERC TRANSMISSION COST - KY PORTION	Mar-09 to Feb-14	ER06-1458	1,394,571	-	(334,697)	1,059,874
182332/182348	CMRG FUNDING [CARBON MGT RESEARCH GROUP]	Aug-10 to Jul-20	2009-00548	216,500	(11,620)	(42,683)	162,197
182333/182349	KCCS FUNDING [KY CONSORTIUM FOR CARBON STORAGE]	Aug-10 to Jul-14	2009-00548	921,961	-	(96,038)	825,923
			2009-00548				
182334/182347	WIND STORM 2008	Aug-10 to Jul-20	2008-00457	2,195,516	(18,296)	(73,184)	2,104,037
182339	MOUNTAIN STORM - ELECTRIC	Nov-11 to Oct-16	PUE 2010-00141	-	-	-	-
182359	GENERAL MANAGEMENT AUDIT - ELECTRIC	Jan-13 to Dec-15	2012-00222	-	-	-	-
Regulatory Assets v	with specific amortization periods Total			71,721,423	(1,265,017)	(4,059,540)	66,396,866

Account	Description	Amortization Period Order No. / Docket No.	Beginning Balance	Annual Activity	Amortization	Ending Balance
182305/182315	SFAS 158 - PENSION AND POSTRETIREMENT		104,664,344	12,610,024		117,274,368
182328-182331	SFAS 109 - INCOME TAXES		12,478,514	1,116,822		13,595,336
182309/182368	VA FUEL COMPONENT		-	4,795,000		4,795,000
182311	FERC JURISDICTIONAL PENSION EXPENSES		3,823,143	967,794		4,790,937
182317-18/182325	ASSET RETIREMENT OBLIGATION		29,970,260	(28,419,411)		1,550,849
182307	ENVIRONMENTAL COST RECOVERY		28,377,088	(28,377,088)		-
182306	KY FUEL ADJUSTMENT CLAUSE		675,000	(675,000)		-
Other Regulatory A	ssets Total		179,988,349	(37,981,859)	-	142,006,490
KU Regulatory Asse	ets Total		251,709,772	(39,246,876)	(4,059,540)	208,403,356

### **Kentucky Utilities Company - 2011**

Regulatory Assets with specific amortization periods

Account	Description	Amortization Period	Order No. / Docket No.	Beginning Balance	Annual Activity	Amortization	Ending Balance
			2009-00548				
182320/182345	WINTER STORM 2009 - ELECTRIC	Aug-10 to Jul-20	2009-00174	54,851,894	-	(5,723,676)	49,128,218
			2008-00251				
			PUE 2009-00029				
			EC06-4				
182321/182341	MISO EXIT FEE	Mar-09 to Dec-14	ER06-20	5,120,856	(63,426)	(1,413,481)	3,643,950
182322/182335	RATE CASE EXPENSES - ELECTRIC	Jan-13 to Dec-15	2012-00221	2,272,086	-	(1,132,082)	1,140,004
182324/182337	EKPC FERC TRANSMISSION COST - KY PORTION	Mar-09 to Feb-14	ER06-1458	1,059,874	-	(334,697)	725,177
182332/182348	CMRG FUNDING [CARBON MGT RESEARCH GROUP]	Aug-10 to Jul-20	2009-00548	162,197	102,440	(102,440)	162,197
182333/182349	KCCS FUNDING [KY CONSORTIUM FOR CARBON STORAGE]	Aug-10 to Jul-14	2009-00548	825,923	-	(230,490)	595,433
			2009-00548				
182334/182347	WIND STORM 2008	Aug-10 to Jul-20	2008-00457	2,104,037	-	(219,552)	1,884,485
182339	MOUNTAIN STORM - ELECTRIC	Nov-11 to Oct-16	PUE 2010-00141	-	6,041,670	(201,389)	5,840,281
182359	GENERAL MANAGEMENT AUDIT - ELECTRIC	Jan-13 to Dec-15	2012-00222	-	140,906	-	140,906
Regulatory Assets v	Regulatory Assets with specific amortization periods Total				6,221,590	(9,357,806)	63,260,650

#### Other Regulatory Assets

Account	Description	Amortization Period	Order No. / Docket No.	Beginning Balance	Annual Activity	Amortization	Ending Balance
182305/182315	ASC 715 - PENSION AND POSTRETIREMENT			117,274,368	(4,010,222)		113,264,146
182328-182331	ASC 740 - INCOME TAXES			13,595,336	61,617,019		75,212,355
182317-18/182325	ASSET RETIREMENT OBLIGATION			1,550,849	5,870,443		7,421,292
182311	FERC JURISDICTIONAL PENSION EXPENSES			4,790,937	1,084,916		5,875,853
182309/182368	VA FUEL COMPONENT			4,795,000	(1,001,000)		3,794,000
Other Regulatory Assets Total				142,006,490	63,561,156	-	205,567,646
KU Regulatory Asse	ets Total			208,403,356	69,782,746	(9,357,806)	268,828,296

### **Kentucky Utilities Company - 2012**

Regulatory Assets with specific amortization periods

Account	Description	Amortization Period	Order No. / Docket No.	Beginning Balance	Annual Activity	Amortization	Ending Balance
			2009-00548				
182320/182345	WINTER STORM 2009 - ELECTRIC	Aug-10 to Jul-20	2009-00174	49,128,218	-	(5,723,676)	43,404,542
			2008-00251				
			PUE 2009-00029				
			EC06-4				
182321/182341	MISO EXIT FEE	Mar-09 to Dec-14	ER06-20	3,643,950	-	(1,345,267)	2,298,683
182322/182335	RATE CASE EXPENSES - ELECTRIC	Jan-13 to Dec-15	2012-00221	1,140,004	1,654,125	(748,283)	2,045,847
182324/182337	EKPC FERC TRANSMISSION COST - KY PORTION	Mar-09 to Feb-14	ER06-1458	725,177	-	(334,697)	390,480
182332/182348	CMRG FUNDING [CARBON MGT RESEARCH GROUP]	Aug-10 to Jul-20	2009-00548	162,197	102,440	(102,440)	162,197
182333/182349	KCCS FUNDING [KY CONSORTIUM FOR CARBON STORAGE]	Aug-10 to Jul-14	2009-00548	595,433	-	(230,490)	364,943
			2009-00548				
182334/182347	WIND STORM 2008	Aug-10 to Jul-20	2008-00457	1,884,485	-	(219,552)	1,664,933
182339	MOUNTAIN STORM - ELECTRIC	Nov-11 to Oct-16	PUE 2010-00141	5,840,281	-	(1,208,334)	4,631,947
182359	GENERAL MANAGEMENT AUDIT - ELECTRIC	Jan-13 to Dec-15	2012-00222	140,906	1,615	- '	142,521
Regulatory Assets	with specific amortization periods Total			63,260,650	1,758,179	(9,912,738)	55,106,092

Other :	Regula	tory	Assets
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Account	Description	Amortization Period Order No. / Docket No.	Beginning Balance	Annual Activity	Amortization	Ending Balance
182305/182315	ASC 715 - PENSION AND POSTRETIREMENT		113,264,146	22,778,591		136,042,737
182328-182331	ASC 740 - INCOME TAXES		75,212,355	(2,381,974)		72,830,381
182317-18/182325	ASSET RETIREMENT OBLIGATION		7,421,292	3,808,109		11,229,401
182311	FERC JURISDICTIONAL PENSION EXPENSES		5,875,853	790,908		6,666,761
182309/182368	VA FUEL COMPONENT		3,794,000	(151,000)		3,643,000
182363	DSM COST RECOVERY		-	401,912		401,912
Other Regulatory A	Assets Total		205,567,646	25,246,546	-	230,814,192
KU Regulatory Ass	ets Total		268,828,296	27,004,725	(9,912,738)	285,920,284

#### **Kentucky Utilities Company - 2013**

	Regulatory	Assets	with s	pecific	amortization	periods
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Account	Description	Amortization Period	Order No. / Docket No.	Beginning Balance A	nnual Activity	Amortization	Ending Balance
			2009-00548				
182320/182345	WINTER STORM 2009 - ELECTRIC	Aug-10 to Jul-20	2009-00174	43,404,542	-	(5,723,676)	37,680,866
			2008-00251				
			PUE 2009-00029				
			EC06-4				
182321/182341	MISO EXIT FEE	Mar-09 to Dec-14	ER06-20	2,298,683	(382,728)	(127,069)	1,788,886
182322/182335	RATE CASE EXPENSES - ELECTRIC	Jan-13 to Dec-15	2012-00221	2,045,847	116	(943,097)	1,102,866
182324/182337	EKPC FERC TRANSMISSION COST - KY PORTION	Mar-09 to Feb-14	ER06-1458	390,480	-	(334,697)	55,783
182332/182348	CMRG FUNDING [CARBON MGT RESEARCH GROUP]	Aug-10 to Jul-20	2009-00548	162,197	122,000	(102,440)	181,757
182333/182349	KCCS FUNDING [KY CONSORTIUM FOR CARBON STORAGE]	Aug-10 to Jul-14	2009-00548	364,943	-	(230,490)	134,453
			2009-00548				
182334/182347	WIND STORM 2008	Aug-10 to Jul-20	2008-00457	1,664,933	-	(219,552)	1,445,382
182339	MOUNTAIN STORM - ELECTRIC	Nov-11 to Oct-16	PUE 2010-00141	4,631,947	-	(1,208,334)	3,423,613
182359	GENERAL MANAGEMENT AUDIT - ELECTRIC	Jan-13 to Dec-15	2012-00222	142,521	-	(47,507)	95,014
Regulatory Assets	with specific amortization periods Total			55,106,092	(260,612)	(8,936,861)	45,908,619

#### Other Regulatory Assets

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Account	Description	Amortization Period Order No. / Docket No.	Beginning Balance	Annual Activity	Amortization	Ending Balance
182305/182315	ASC 715 - PENSION AND POSTRETIREMENT		136,042,737	(48,189,079)		87,853,658
182328-182331	ASC 740 - INCOME TAXES		72,830,381	(1,554,062)		71,276,319
182317-18/182325	ASSET RETIREMENT OBLIGATION		11,229,401	11,328,676		22,558,077
182311	FERC JURISDICTIONAL PENSION EXPENSES		6,666,760	(6,666,760)		-
182309/182368	VA FUEL COMPONENT		3,643,000	(3,643,000)		-
182363	DSM COST RECOVERY - UNDER-RECOVERY		401,912	4,944,597		5,346,509
182307	ENVIRONMENTAL COST RECOVERY		-	4,635,326		4,635,326
Other Regulatory A	ssets Total		230,814,191	(39,144,302)	-	191,669,889
KU Regulatory Ass	ets Total		285,920,283	(39,404,914)	(8,936,861)	237,578,508

#### **Kentucky Utilities Company - 2014**

Regulatory Assets with specific amortization period
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Account	Description	Amortization Period	Order No. / Docket No.	Beginning Balance	Annual Activity	Amortization	Ending Balance
			2009-00548				
182320/182345	WINTER STORM 2009 - ELECTRIC	Aug-10 to Jul-20	2009-00174	37,680,866	-	(5,723,676)	31,957,190
			2008-00251				
			PUE 2009-00029				
			EC06-4				
182321/182341	MISO EXIT FEE	Mar-09 to Dec-14	ER06-20	1,788,886	(1,679,029)	(109,857)	(
182322/182335	RATE CASE EXPENSES - ELECTRIC	Jan-13 to Dec-15	2012-00221	1,102,866	1,357,905	(551,375)	1,909,396
182324/182337	EKPC FERC TRANSMISSION COST - KY PORTION	Mar-09 to Feb-14	ER06-1458	55,783	-	(55,783)	-
182332/182348	CMRG FUNDING [CARBON MGT RESEARCH GROUP]	Aug-10 to Jul-20	2009-00548	181,757	122,000	(141,560)	162,197
182333/182349	KCCS FUNDING [KY CONSORTIUM FOR CARBON STORAGE]	Aug-10 to Jul-14	2009-00548	134,453	-	(134,453)	-
			2009-00548				
182334/182347	WIND STORM 2008	Aug-10 to Jul-20	2008-00457	1,445,382	-	(219,552)	1,225,830
182339	MOUNTAIN STORM - ELECTRIC	Nov-11 to Oct-16	PUE 2010-00141	3,423,613	-	(1,208,334)	2,215,279
182359	GENERAL MANAGEMENT AUDIT - ELECTRIC	Jan-13 to Dec-15	2012-00222	95,014	-	(47,507)	47,507
182367	REG ASSET - MUNI MISO EXIT FEE			-	1,208,048	-	1,208,048
Regulatory Assets v	with specific amortization periods Total			45,908,619	1,008,924	(8,192,096)	38,725,447
Other Regulatory A	Assets						
Account	Description	Amortization Period	Order No. / Docket No.	Beginning Balance	Annual Activity	Amortization	Ending Balance
182305/182315	ASC 715 - PENSION AND POSTRETIREMENT			87,853,658	(6,983,399)		80,870,259
182328-182331	ASC 740 - INCOME TAXES			71,276,319	(811,290)		70,465,029
182317-18/182325	ASSET RETIREMENT OBLIGATION			22,558,077	28,197,621		50,755,698
182363	DSM COST RECOVERY - UNDER-RECOVERY			5,346,509	(5,346,509)		-
100007	ENVIRONMENTAL COST RECOVERY			4,635,326	(3,832,326)		803,000
182307					2,464,000		2,464,000
182307 182306	FUEL ADJUSTMENT CLAUSE			-	2,404,000		2, 10 1,000
	FUEL ADJUSTMENT CLAUSE LONG TERM INTEREST RATE SWAP FORWARD STARTING			-	33,287,299		, , , , , , , , , , , , , , , , , , ,
182306	LONG TERM INTEREST RATE SWAP FORWARD STARTING			191,669,889	, ,	-	238,645,285

#### Kentucky Utilities Company (Base Period Actual/Forecast 3/14 - 2/15)

#### Regulatory Assets with specific amortization periods

Account	Description	Amortization Period	Order No. / Docket No.	Beginning Balance	Annual Activity	Amortization	Ending Balance
			2009-00548				
182320/182345	WINTER STORM 2009 - ELECTRIC	Aug-10 to Jul-20	2009-00174	36,727,000	-	(5,723,000)	31,004,000
			2008-00251				
			PUE 2009-00029				
			EC06-4				
182321/182341	MISO EXIT FEE	Mar-09 to Dec-14	ER06-20	1,732,000	(1,641,000)	(91,000)	-
182322/182335	RATE CASE EXPENSES - ELECTRIC	Jan-13 to Dec-15	2012-00221	1,017,000	1,313,000	(551,000)	1,779,000
182332/182348	CMRG FUNDING [CARBON MGT RESEARCH GROUP]	Aug-10 to Jul-20	2009-00548	165,000	185,000	(102,000)	248,000
182333/182349	KCCS FUNDING [KY CONSORTIUM FOR CARBON STORAGE]	Aug-10 to Jul-14	2009-00548	96,000	-	(96,000)	-
			2009-00548				
182334/182347	WIND STORM 2008	Aug-10 to Jul-20	2008-00457	1,409,000	-	(220,000)	1,189,000
182339	MOUNTAIN STORM - ELECTRIC	Nov-11 to Oct-16	PUE 2010-00141	3,222,000	-	(1,208,000)	2,014,000
182359	GENERAL MANAGEMENT AUDIT - ELECTRIC	Jan-13 to Dec-15	2012-00222	87,000	-	(48,000)	39,000
182367	REG ASSET - MUNI MISO EXIT FEE			-	1,361,000	(234,000)	1,127,000
Regulatory Asse	ets with specific amortization periods Total			44,455,000	1,218,000	(8,273,000)	37,400,000
Other Regulator	ry Assets			100,415,772	19,652,228	-	120,068,000
KU Regulatory	Assets Total			144,870,772	20,870,228	(8,273,000)	157,468,000

#### Kentucky Utilities Company (Test Period Forecast 7/15 - 6/16)

#### Regulatory Assets with specific amortization periods

Account	Description	Amortization Period	Order No. / Docket No.	Beginning Balance	Annual Activity	Amortization	Ending Balance
			2009-00548				
182320/182345	WINTER STORM 2009 - ELECTRIC	Aug-10 to Jul-20	2009-00174	29,095,000	-	(5,723,000)	23,372,000
182322/182335	RATE CASE EXPENSES - ELECTRIC	Jan-13 to Dec-15	2012-00221	2,433,000	1,179,000	(960,000)	2,652,000
182332/182348	CMRG FUNDING [CARBON MGT RESEARCH GROUP]	Aug-10 to Jul-20	2009-00548	213,000	102,000	(102,000)	213,000
182333/182349	KCCS FUNDING [KY CONSORTIUM FOR CARBON STORAGE]	Aug-10 to Jul-14	2009-00548	-	-	-	-
		-	2009-00548				
182334/182347	WIND STORM 2008	Aug-10 to Jul-20	2008-00457	1,116,000	-	(220,000)	896,000
182339	MOUNTAIN STORM - ELECTRIC	Nov-11 to Oct-16	PUE 2010-00141	1,611,000	-	(1,208,000)	403,000
182359	GENERAL MANAGEMENT AUDIT - ELECTRIC	Jan-13 to Dec-15	2012-00222	208,000	-	(83,000)	125,000
182367	REG ASSET - MUNI MISO EXIT FEE			966,000	-	(484,000)	482,000
Regulatory Asse	ets with specific amortization periods Total			35,642,000	1,281,000	(8,780,000)	28,143,000
Other Regulator	ry Assets			119,066,000	22,058,000	-	141,124,000
KU Regulatory	Assets Total			154,708,000	23,339,000	(8,780,000)	169,267,000

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

#### Question No. 30

Responding Witness: Paul W. Thompson

- Q.1-30. Refer to pages 21-22 of Mr. Thompson's Direct Testimony wherein he addresses the Trimble County 2 design issues that had to be remedied during outages in 2014.
  - a. Please provide a detailed description of the design flaws that had to be remedied and the course of action taken to complete the project.
  - b. Please provide the total costs, both capital and O&M, incurred to correct the design flaws.
  - c. Please indicate who was primarily responsible for paying for the remediation work caused by the design flaws.
  - d. Please indicate the extent to which the remediation efforts were covered under vendor warranties that were exercised.
  - e. Please provide the accounting entries and related backup documentation used to book the costs of the remediation efforts. In addition, provide the dates when the entries were recorded.
  - f. Please provide copies of all reports, studies, memos, or emails describing any of the following: the scope of the problem, increased fuel expense due to the problem, increased purchase power expense due to the problem, reduced off-system sales due to the problem, remediation required due to the problem, costs incurred to correct the problem, or problem resolution.
  - g. Please provide the amount of depreciation expense taken by the Company in 2013, in the base year, and in the test year related to the remediation efforts.
  - h. Please provide the amount of accumulated depreciation and ADIT included in the base year and in the test year related to the remediation efforts.

A.1-30. Please note that Mr. Thompson's testimony states at page 22 concerning the issues addressed in this request and the measures the Companies took to resolve them:

TC2 has performed well since these outages. In October of 2014, the new burners and combustion system successfully completed testing on a variety of coals as specified in the original design criteria. The combustion system performance issues now appear to have been resolved, and the new burners are operating under a new warranty period. We continue to believe TC2 will provide good value to our customers in the future.

The Companies therefore have assumed in their financial forecasting and budgeting in this proceeding that the unit will be available to supply the Companies' customers with low-cost energy without interruption (excepting regularly scheduled maintenance outages and assumed forced outage rates), and the Companies' fuel costs, other consumables costs, capital costs, and operation and maintenance costs reflect this assumption. Also, the Companies' capital and rate base in this proceeding do not contain amounts related to the repairs and adjustments necessary to address the TC2 issues Mr. Thompson addressed in the cited portion of his testimony; the capital costs of those repairs and adjustments were covered under warranty.

See also the response to AG 1-37.

- a. The primary design flaw was the originally supplied burners and combustion air systems did not have the capability to adequately burn the range of coals the contract specification required without damaging the burners or infringing on the unit's ability to maintain compliance with the environmental permit conditions. The outage of 2014 was primarily to allow Bechtel to replace the burners and associated equipment with the newly designed burners provided by their supplier (Doosan).
- b. The capital cost, other than cost to administer the EPC agreement, was covered under the warranty provisions of the EPC agreement with Bechtel. Given this, we do not know the cost to Bechtel and/or Doosan to resolve the burner issues. There were other costs outside the warranty provision incurred by the company related to the design flaws that are included in the table below:

Description	2014 Outage Costs
Capital:	
TC2 Turbine Coupling Bolts	\$ 381,500

TC2 Pegging Steam Supply	\$ 202,667
TC2 WESP Improvements	\$ 385,620
TC2 Transition Tube Replacement	\$ 1,125,159
TC2 SCR Ash Sweepers	\$ 252,611
O&M:	
TC2 HRH CV-116A/B Desuperheater,	\$ 291,162
Expander Replacement	
TC2 Recycle Pump Inlet Valve Retaining	\$ 101,446
Flange Replacement	
Remove, clean and inspect 2A turbine lube oil	\$ 43,579
cooler due to turbine oil contamination	
I/E Support for Burner Replacement Project	\$ 22,007

\$ 2,805,751

- c. Bechtel, our EPC agreement contractor. Bechtel did not pay for the items in the table above. Some are still under negotiation. Others are improvements (flaws) that Bechtel is not necessarily required to correct.
- d. As noted in item b above, all costs except those outlined in the table were covered under the warranty provisions of the EPC agreement with Bechtel.
- e. Not applicable from the capital aspects of correcting the combustion system deficiencies.
- f. The Company objected to this question on January 19, 2015, because it requires the Company to reveal the contents of communications with counsel and the mental impressions of counsel, which information is protected from disclosure by the attorney-client privilege and the work product doctrine. Without waiver of these objections, see the attached documents, subject to the exception noted below, that have been identified within the time permitted for this response. Counsel for the Company is continuing to undertake a reasonable and diligent search for other such documents and will reasonably supplement this response through a rolling production of documents.

Please note that the Companies did not incur any unreasonable fuel expense, purchase power expense, or reduced off-system sales as a result of the TC2 issues Mr. Thompson addressed in the cited portion of his testimony. It is well established within the industry that the reasonable and prudent dispatch of generating units is not made solely on the basis of different units' fuel costs. Running a prudent economic dispatch ensures reliability and thus requires taking a number of reliability and operating factors into account. That notwithstanding, the Company has attempted

to produce non-privileged documents responsive to this request. Certain of the documents being produced contain confidential information and are being provided under seal pursuant to a petition for confidential protection.

There was essentially no incremental capital cost associated with the resolution of the combustion system design deficiencies as the resolution was fully covered under the warranty provisions of the EPC agreement with Bechtel. The coal test reports, engineering study reports, field investigation reports, design and construction drawings, laboratory R&D reports, trip reports and all other technical documentation and manuals to resolve the deficiencies in the combustion system designed and supplied by Doosan are voluminous and are not included in the production of documents unless otherwise specifically produced. These documents can be made available for review if requested. These reports include proprietary information on Doosan's design, research and development of the completely new burner design, their fabrication techniques and suppliers (and costs), and their capabilities in their R&D facility in Renfrow, Scotland. To the extent such documents are produced with this response and contain information that the vendor considers to be confidential and proprietary, the documents are provided pursuant a petition for confidential protection

g. No depreciation expense in 2013. The base year includes \$30,509 (\$23,933 KU and \$6,576 LG&E). The test year includes \$50,904 (\$39,932 KU and \$10,972 LG&E).

h.

	KU	LGE
Accumulated depreciation base year	\$23,933	\$6,576
Accumulated depreciation test year	\$76,094	\$20,909
ADIT base year	\$315,775	\$ 73,696
ADIT test year	\$324,458	\$ 74,917

# Attachment in Separate File

The attachment is being provided in a separate file.

# Attachment in Excel

The attachment(s) provided in separate file(s) in Excel format.

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 31** 

- Q.1-31. Please provide a schedule showing the actual amount of property taxes paid by the Company during 2013 to each taxing authority and in total.
- A.1-31. The Company paid \$31,592,728 in property tax in 2013. See attached.

		Assessment		
Payee Description	State	<u>Year</u>	Date	Amount
City of Campbellsburge	KY	2011	1/11/2013	567.54
City of Irvine	KY	2011	1/11/2013	3,519.44
Sheriff of Bath County	KY	2012	1/11/2013	43,101.64
Sheriff of Nicholas County	KY	2012	1/11/2013	23,050.01
Sheriff of Clay County	KY	2012	1/11/2013	32,134.50
Sheriff of Lyon County	KY	2012	1/11/2013	44,251.46
Sheriff of Breathitt County	KY	2012	1/11/2013	257.07
Sheriff of Garrard County	KY	2012	1/11/2013	206,060.29
City of Berea	KY	2012	1/11/2013	56.55
City of Calhoun	KY	2012	1/11/2013	685.48
Sheriff of McCreary County	KY	2012	1/11/2013	19,046.80
City of Beattyville	KY	2012	1/11/2013	2,661.81
Tax Collector Corbin	KY	2012	1/11/2013	1,379.46
Sheriff of Carlisle County	KY	2012	1/11/2013	6,259.48
City of Winchester	KY	2012	1/11/2013	11,497.17
Sheriff of Bell County	KY	2012	1/11/2013	238,786.14
City of Somerset	KY	2012	1/11/2013	46,067.16
Sheriff of Casey County	KY	2012	1/11/2013	14,332.91
City of Stanford	KY	2012	1/11/2013	1,399.84
Sheriff of Fulton County	KY	2012	1/11/2013	391.88
City of Morganfield	KY	2012	1/11/2013	39,792.37
City of Kevil	KY	2012	1/11/2013	702.25
Sheriff of Whitley County	KY	2012	1/11/2013	35,058.13
City of Corydon	KY	2012	1/11/2013	834.04
City of Pleasureville	KY	2012	1/11/2013	55.80
City of New Castle	KY	2012	1/11/2013	393.13
Sheriff of Hart County	KY	2012	1/11/2013	54,514.68
City of Eminence	KY	2012	1/11/2013	3,897.87
Sheriff of Spencer County	KY	2012	1/11/2013	26,752.09
City of Sturgis	KY	2012	1/11/2013	2,426.20
City of Russell Springs	KY	2012	1/11/2013	2,375.71
	KY	2012	1/11/2013	209.06
City of Berry Showless and Approximately County	KY	2012	1/11/2013	85,550.76
Sheriff of Montgomery County	KY	2012	1/11/2013	2,201.64
City of Harrodsburg Tax Collector Williamsburg Ind. School	KY	2012	1/11/2013	9,207.18
•	KY	2012	1/11/2013	18,555.53
City of Dawson Springs	KY	2012	1/11/2013	1,382.24
City of Island	KY	2012	1/11/2013	480,406.09
Sheriff of Mercer County	KY	2012	1/11/2013	444,282.38
Sheriff of Hardin County	KY	2012	1/11/2013	22,261.95
Sheriff of Adair County		2012	1/11/2013	45,240.90
Sheriff of Larue County	KY	2012	1/11/2013	13,859.91
City of Shelbyville	KY	2012	1/11/2013	4,259.86
City of Lebanon	KY	2012		9,314.19
Sheriff of Barren County	KY		1/11/2013	
Sheriff of Pendleton County	KY	2012	1/11/2013	25,514.24
Sheriff of Harrison County	KY	2012	1/11/2013	37,719.54
Sheriff of Fleming County	KY	2012	1/11/2013	19,182.41 11,755.44
Sheriff of Christian County	KY	2012 2012	1/11/2013	7,910.07
City of Simpsonville	KY	2012	1/11/2013	7,910.07

		Assessment		
Payee Description	<u>State</u>	<u>Year</u>	Date	Amount
Sheriff of Ballard County	KY	2012	1/11/2013	33,493.36
Sheriff of Owen County	KY	2012	1/11/2013	68,817.45
City of Livermore	KY	2012	1/11/2013	1,384.02
Sheriff of Lee County	KY	2012	1/11/2013	25,158.56
Sheriff of Grayson County	KY	2012	1/11/2013	62,037.48
Sheriff of Muhlenberg County	KY	2012	1/11/2013	234,696.98
Sheriff of Shelby County	KY	2012	1/11/2013	601,905.61
Sheriff of McLean County	KY	2012	1/18/2013	39,930.73
City of Elizabethtown	KY	2012	1/18/2013	14,707.48
City of Caneyville	KY	2012	1/18/2013	4,747.51
City of Bonnieville	KY	2012	1/18/2013	382.94
City of Burnside	KY	2012	1/18/2013	959.63
City of Central City	KY	2012	1/18/2013	8,220.78
City of Cynthiana	KY	2012	1/18/2013	3,292.97
City of Earlington	KY	2012	1/18/2013	8,279.91
City of Eddyville	KY	2012	1/18/2013	8,702.29
City of Falmouth	KY	2012	1/18/2013	531.01
City of Mortons Gap	KY	2012	1/18/2013	1,463.17
City of Nicholasville	KY	2012	1/18/2013	1,509.22
City of Paris	KY	2011	1/18/2013	4,028.42
City of Paris	KY	2012	1/18/2013	4,209.60
City of Salt Lick	KY	2012	1/18/2013	2,125.57
City of Versailles	KY	2012	1/18/2013	6,068.32
City of Uniontown	KY	2012	1/18/2013	1,726.25
Sheriff of Hickman County	KY	2012	1/18/2013	75,161.93
Sheriff of Lincoln County	KY	2012	1/18/2013	50,949.85
Sheriff of Mason County	KY	2012	1/18/2013	157,911.84
Sheiff of Woodford County	KY	2012	1/18/2013	160,051.98
City of Leitchfield	KY	2012	1/24/2013	1,526.91
City of Bardwell	KY	2012	1/24/2013	1,566.00
City of Carlisle	KY	2012	1/24/2013	4,258.50
City of Clinton	KY	2012	1/24/2013	1,649.21
City of London	KY	2012	1/24/2013	4,492.21
City of Midway	KY	2012	1/24/2013	1,304.70
City of Nortonville	KY	2012	1/24/2013	4,042.33
City of Wickliffe	KY	2012	1/24/2013	1,274.70
City of Richmond	KY	2012	1/24/2013	25,479.40
City of Radcliff	KY	2012	1/24/2013	5,559.82
City of Wilmore	KY	2012	1/24/2013	13,198.31
Sheriff of Anderson County	KY	2012	1/24/2013	53,289.92
Sheriff of Clark County	KY	2012	1/24/2013	121,626.74
Sheriff of Grant Conty	KY	2012	1/24/2013	1,950.01
Sheriff of Leslie County	KY	2012	1/24/2013	6,552.66
Sherif of Livingston County	KY	2012	1/24/2013	22,585.29
Sheriff of Marshall County	KY	2012	1/24/2013	6,139.23
Sheriff of Oldham County	KY	2012	1/24/2013	83,338.91
Sheriff of Russell County	KY	2012	1/24/2013	38,610.16
Sheriff of Rockcastle County	KY	2012	1/24/2013	25,888.19
Sheriff of Graves County	KY	2012	1/24/2013	1,879.49

		Assessment		
Payee Description	State	Year	Date	Amount
Sheriff of Edmonson County	KY	2012	1/24/2013	2,234.88
Sheriff of Union County	KY	2012	1/24/2013	124,929.13
City of Munfordville	KY	2012	1/24/2013	1,903.28
Sheriff of Bullitt County	KY	2012	1/24/2013	9,807.57
Harlan Ind. School	KY	2012	1/25/2013	11,050.19
Sheriff of Webster County	KY	2012	1/25/2013	51,043.49
Sheriff of Washington Coutny	KY	2012	1/25/2013	37,579.67
Sheriff of Scott County	KY	2012	1/25/2013	164,675.99
Sheriff of Marion County	KY	2012	1/25/2013	51,804.31
Sheriff of Estill County	KY	2012	1/25/2013	44,802.03
Sheriff of Butler County	KY	2012	1/25/2013	1,788.31
City of Springfield	KY	2012	1/25/2013	1,716.20
	KY	2012	1/25/2013	316.54
City of Providence	KY	2012	1/25/2013	1,177.20
City of Lynch	KY	2012	1/25/2013	1,634.09
City of Loyall		2012	1/25/2013	1,337.14
City of Leitchfield	KY			
City of Lagrange	KY	2012	1/25/2013	3,373.55
City of Flemingsburg	KY	2012	1/25/2013	1,216.33
City of Crofton	KY	2012	1/25/2013	1,627.15
Sheriff of Trimble County	KY	2012	1/25/2013	470,160.91
Sheriff of Jefferson County	KY	2012	1/25/2013	639,884.28
Cumberland Gap Recorder (Tennessee)	KY	2012	1/25/2013	135.00
City of Mentor	KY	2011	1/25/2013	199.78
City of Waverly	KY	2011	1/25/2013	500.40
City of Paris	KY	2011	1/28/2013	5,124.51
Board of Education Augusta	KY	2012	1/30/2013	18,716.33
City of Augusta	KY	2012	1/30/2013	10,803.26
City of Barlow	KY	2012	1/30/2013	3,364.53
City of Calvert	KY	2012	1/30/2013	322.02
City of Corinth	KY	2012	1/30/2013	300.01
City of Cumberland	KY	2012	1/30/2013	5,764.48
City of Dixon	KY	2012	1/30/2013	442.48
City of Greenville	KY	2012	1/30/2013	8,752.10
City of Harlan	KY	2012	1/30/2013	16,071.90
City of Hustonville	KY	2012	1/30/2013	620.53
City of Lawrenceburg	KY	2012	1/30/2013	7,938.80
City of Liberty	KY	2012	1/30/2013	2,174.91
City of Milton	KY	2012	1/30/2013	114.77
City of Morehead	KY	2012	1/30/2013	6,128.15
City of Mt. Olivet	KY	2012	1/30/2013	713.60
City of Owingsville	KY	2012	1/30/2013	1,839.25
City fo Pleasureville	KY	2012	1/30/2013	480.73
City of Science Hill	KY	2012	1/30/2013	1,390.35
City of Sebree	KY	2012	1/30/2013	2,255.86
City of Upton	KY	2012	1/30/2013	558.51
City of Williamsburg	KY	2012	1/30/2013	6,483.65
Sheriff of Bracken County	KY	2012	1/30/2013	54,295.79
Sheriff of Henderson County	KY	2012	1/30/2013	43,070.78
Sheriff of Gallatin County	KY	2012	1/30/2013	25,780.55
Shorter of Gallacin County	17.1	2012	1,00,2010	,,

		Assessment		
Payee Description	State	Year	Date	Amount
Sheriff of Green County	KY	2012	1/30/2013	17,477.82
Sheriff of Henry County	KY	2012	1/30/2013	74,284.41
City of Frankfort	KY	2012	1/31/2013	1,595.22
City of Manchester	KY	2012	1/31/2013	2,278.17
City of Powderly	KY	2012	1/31/2013	1,466.37
Board of Education Burgin Indpt.	KY	2012	1/31/2013	56,969.23
City of Mt. Vernon	KY	2012	1/31/2013	2,038.81
City of Sadieville	KY	2012	1/31/2013	478.29
Board of Education Paris Indpt.	KY	2012	1/31/2013	5,435.95
Sheriff of Breckinridge County	KY	2012	1/31/2013	9,517.44
Sheriff of Madison County	KY	2012	1/31/2013	277,342.91
Sheriff of Daviess County	KY	2012	1/31/2013	26,773.05
Sheriff of Carroll County	KY	2012	1/31/2013	503,600.11
Sheriff of Rowan County	KY	2012	2/4/2013	42,667.95
Sheriff of Franklin County	KY	2012	2/4/2013	62,899.69
Sheriff of Knox County	KY	2012	2/4/2013	64,395.42
Sheriff of Crittenden County	KY	2012	2/4/2013	42,352.31
Sheriff of Pulaski county	KY	2012	2/4/2013	74,700.92
City of White Plains	KY	2012	2/4/2013	9.47
City of Jamestown	KY	2012	2/4/2013	1,634.05
City of Henderson	KY	2012	2/4/2013	6,720.12
City of Nehderson City of Salem	KY	2012	2/4/2013	784.00
City of Maysville	KY	2012	2/4/2013	8,309.51
City of Maysvine City of Brodhead	KY	2012	2/4/2013	1,011.93
· ·	KY	2012	2/4/2013	3,012.60
City of Stamping Ground	KY	2012	2/4/2013	603.34
City of Sharpsburg	KY	2012	2/4/2013	10,582.43
City of Clarese	KY	2012	2/4/2013	214.90
City of Glencoe	KY	2012	2/4/2013	1,633.43
City of La Center	KY	2012	2/4/2013	489.70
City of Sacramento	KY	2012	2/4/2013	1,047.50
City of Ravenna		2012	2/4/2013	584.74
City of Campbellsburg	KY	2012	2/4/2013	2,278.17
City of Manchester	KY	2012		517.19
City of Waverly	KY	2012	2/5/2013	395,819.03
Sheriff of Hopkins County	KY		2/5/2013	450.53
City of Rockport	KY	2012	2/5/2013	11,344.42
Bardstown Independent School	KY	2012	2/5/2013	
City of Brooksville	KY	2012	2/5/2013	2,486.54
City of Marion	KY	2012	2/5/2013	5,452.48
City of Junction City	KY	2012	2/5/2013	920.18
City of Bloomfield	KY	2012	2/5/2013	1,402.03
City of Horse Cave	KY	2012	2/5/2013	4,116.24
Board of Education Danville Indept.	KY	2012	2/5/2013	76,674.03
City of New Haven	KY	2012	2/5/2013	1,291.62
City of Centertown	KY	2012	2/5/2013	1,271.33
City of Evarts	KY	2012	2/5/2013	2,256.76
City of Eubanks	KY	2012	2/5/2013	286.38
City of Madisonville	KY	2012	2/5/2013	2,557.63
City of Hartford	KY	2012	2/5/2013	12,952.01

		Assessment		
Payee Description	State	Year	Date	Amount
Sheriff of Ohio County	KY	2012	2/5/2013	76,438.88
Trustee of Clairborne County (Tennessee)	KY	2012	2/8/2013	3,072.00
Sheriff of Owsley County - 2010	KY	2010	2/8/2013	4,835.03
Sheriff of Owsley County - 2009	KY	2009	2/8/2013	4,426.74
City of Warsaw	KY	2012	2/8/2013	785.30
City of Lebanon Junction	KY	2011	2/8/2013	1,940.01
City of Irvine	KY	2012	2/8/2013	3,693.45
City of Clay	KY	2011	2/8/2013	1,769.15
City of Columbia	KY	2011	2/8/2013	4,100.33
City of Manchester	KY	2012	2/11/2013	(2,278.17)
Fayette County Clerk, (vehicle)	KY	2013	2/12/2013	224,126.01
Sheriff of Letcher County	KY	2012	2/13/2013	2,496.51
Sheriff of Owsley County	KY	2012	2/13/2013	6,610.69
Sheriff of Taylor County	KY	2012	2/13/2013	26,110.31
City of Columbia	KY	2012	2/13/2013	4,163.39
City of Lebanon Junction	KY	2012	2/13/2013	1,952.99
City of Clay	KY	2012	2/13/2013	1,734.75
Campbellsville Indpd. School	KY	2012	2/13/2013	17,757.60
City of Perryville	KY	2012	2/13/2013	1,171.53
City of Mt. Sterling	KY	2012	2/13/2013	6,993.12
City of Georgetown	KY	2012	2/13/2013	16,174.68
City of Georgetown City of Campbellsville	KY	2012	2/13/2013	6,140.32
City of Campbensvine City of Loretto	KY	2012	2/13/2013	380.55
City of Sonora	KY	2012	2/13/2013	621.82
Sheriff of Robertson County	KY	2012	2/13/2013	6,827.51
	KY	2012		
Sheriff of Campbell County	KY	2012	2/13/2013 2/13/2013	9,578.17
Sheriff of Boyle County	KY	2012		183,262.62
Sheriff of Perry County	KY	2012	2/13/2013 2/13/2013	5,225.26
Sheriff of Laurel County	KY KY			143,866.96
Sheriff of Nelson County		2012	2/13/2013	39,356.46
City of Gladena	KY	2012	2/13/2013	4,815.91
City of Clarkson	KY	2012	2/22/2013	304.57
City of Bardstown	KY	2012	2/22/2013	1,151.13
Sheriff of McCracken County	KY	2012	2/22/2013	4,309.54
Sheriff of McCracken County	KY	2012	2/22/2013	50,360.07
Sheriff of Harlan County	KY	2012	2/22/2013	237,797.56
Sheriff of Owsley County	KY	2011	2/22/2013	6,256.75
Fayette County Clerk	KY	2013	3/7/2013	735.38
City of Hanson	KY	2012	3/15/2013	122.81
Sheriff of Jessamine County	KY	2012	3/15/2013	160,621.92
City of Cave City	KY	2012	3/15/2013	1,191.63
Harlan Independent School	KY	2011	3/15/2013	10,963.62
Sheriff of Owsley County	KY	2010	3/15/2013	10.00
Kentucky State Treasurer (transportation-prop. Taxes)	KY	2013	3/18/2013	535.98
City of Butler	KY	2012	3/22/2013	1,497.16
Sheriff of Fayette County	KY	2012	3/25/2013	1,386,075.08
Fayette County Clerk	KY	2013	4/15/2013	217.15
City of Greensburg	KY	2012	4/18/2013	1,824.82
Sheriff of Hancock	KY	2012	4/18/2013	5,271.90

		Assessment		
Payee Description	State	<u>Year</u>	<u>Date</u>	Amount
City of Pineville	KY	2012	4/18/2013	12,382.47
City of Middlesboro	KY	2012	4/18/2013	11,555.59
Fayette County Clerk (vehicle property tax renewals)	KY	2013	5/1/2013	364.02
Fayette County Clerk (vehicle)	KY	2013	5/23/2013	1,070.70
Fayette County Clerk (vehicle)	KY	2013	6/20/2013	1,230.96
Sheriff of Bourbon County	KY	2011	7/16/2013	108,217.98
Sheriff of Bourbon County	KΥ	2012	7/16/2013	116,321.73
City of Slaughters	KY	2012	7/16/2013	112.18
Fayette County Clerk (vehicle)	KY	2012	8/7/2013	44,737.65
Middlesboro Indep. Schools	KY	2012	8/13/2013	25,659.66
City of Harlan	KY	2011	8/13/2013	15,227.43
City of Vine Grove	KY	2012	8/30/2013	5,510.21
Sheriff of Garrard County	KY	2011	9/17/2013	154,566.70
City of Nicholasville	KY	2008	9/17/2013	4,386.38
City of Pineville	KY	2011	10/10/2013	8,108.66
City of Bedford	KY	2011	10/10/2013	354.73
City of Middlesboro	KY	2011	10/10/2013	11,274.34
Spencer County	KY	2011	10/22/2013	25,799.61
Middlesboro Independent Schools	KY	2011	10/22/2013	25,052.00
Sheriff of Ohio County (Paid and Assessed Locally)	KY	2012	10/22/2013	29.08
State of Kentucky	KY	2012	10/22/2013	9,833,764.96
*	KY	2013	11/4/2013	811.22
City of Livingston	KY	2011		14,817.28
Sheriff of Jefferson County			11/15/2013	
KY-SHERIFF OF SHELBY COUNTY	KY	2013	11/18/2013	601,910.27
KY-SHERIFF OF TRIMBLE COUNTY	KY	2013	11/18/2013	438,011.74
KY-SHERIFF OF GARRARD COUNTY	KY	2013	11/18/2013	204,737.19
KY-SHERIFF OF CRITTENDEN COUNTY	KY	2013	11/18/2013	42,981.20
KY-SHERIFF OF HARRISON COUNTY	KY	2013	11/18/2013	42,780.86
KY-SHERIFF OF MCLEAN COUNTY	KY	2013	11/18/2013	40,587.05
KY-SHERIFF OF BALLARD COUNTY	KY	2013	11/18/2013	38,008.57
KY-SHERIFF OF CLAY COUNTY	KY	2013	11/18/2013	33,257.94
KY-SHERIFF OF ROCKCASTLE COUNTY	KY	2013	11/18/2013	30,937.27
KY-SHERIFF OF NICHOLAS COUNTY	KY	2013	11/18/2013	23,952.66
KY-SHERIFF OF HANCOCK COUNTY	KY	2013	11/18/2013	21,127.34
KY-TAX COLLECTOR HARLAN IND SCHOOL	KY	2013	11/18/2013	16,524.58
KY-SHERIFF OF BARREN COUNTY	KY	2013	11/18/2013	12,385.31
KY-CITY OF RADCLIFF	KY	2013	11/18/2013	6,601.19
KY-CITY OF LEBANON	KY	2013	11/18/2013	4,723.56
KY-SHERIFF OF BUTLER COUNTY	KY	2013	11/18/2013	3,217.62
KY-CITY OF HODGENVILLE	KY	2013	11/18/2013	1,254.28
KY-TAX COLLECTOR LYNCH	KY	2013	11/18/2013	1,221.82
KY-CITY OF CALHOUN	KY	2013	11/18/2013	671.13
KY-TAX COLLECTOR HARLAN	KY	2013	11/20/2013	15,045.17
KY-CITY OF MANCHESTER	KY	2013	11/20/2013	3,227.57
KY-TAX COLLECTOR WICKLIFFE	KY	2013	11/20/2013	1,729.30
KY-CITY OF BEREA	KY	2013	11/20/2013	146.21
KY-OFFICE OF THE FAYETTE COUNTY SHE	KY	2013	11/22/2013	1,802,138.80
KY-SHERIFF OF CARROLL COUNTY	KY	2013	11/22/2013	533,750.95
KY-SHERIFF OF HARDIN COUNTY	KY	2013	11/22/2013	292,695.85

		Assessment		
Payee Description	State	Year	Date	Amount
KY-SHERIFF OF MADISON COUNTY	KY	2013	11/22/2013	269,866.33
KY-SHERIFF OF SCOTT COUNTY	KY	2013	11/22/2013	185,459.62
KY-SHERIFF OF LAUREL COUNTY	KY	2013	11/22/2013	159,118.22
KY-SHERIFF OF MASON COUNTY	KY	2013	11/22/2013	142,535.93
KY-SHERIFF OF CLARK COUNTY	KY	2013	11/22/2013	133,674.60
KY-SHERIFF OF UNION COUNTY	KY	2013	11/22/2013	125,035.94
KY-SHERIFF OF MONTGOMERY COUNTY	KY	2013	11/22/2013	96,824.82
KY-SHERIFF OF MARION COUNTY	KY	2013	11/22/2013	91,846.59
KY-SHERIFF OF GRAYSON COUNTY	KY	2013	11/22/2013	90,577.24
KY-SHERIFF OF HENRY COUNTY	KY	2013	11/22/2013	90,376.73
KY-SHERIFF OF OWEN COUNTY	KY	2013	11/22/2013	74,043.77
KY-SHERIFF OF OHIO COUNTY	KY	2013	11/22/2013	72,271.76
KY-SHERIFF OF LARUE COUNTY	KY	2013	11/22/2013	68,785.42
KY-SHERIFF OF HICKMAN COUNTY	KY	2013	11/22/2013	55,990.25
KY-SHERIFF OF RUSSELL COUNTY	KY	2013	11/22/2013	45,472.86
KY-SHERIFF OF ROWAN COUNTY	KY	2013	11/22/2013	44,287.35
KY-SHERIFF OF WHITLEY COUNTY	KY	2013	11/22/2013	44,075.44
KY-SHERIFF OF HENDERSON COUNTY	KY	2013	11/22/2013	42,908.79
KY-SHERIFF OF SPENCER COUNTY	KY	2013	11/22/2013	33,973.28
KY-SHERIFF OF ADAIR COUNTY	KY	2013	11/22/2013	28,346.51
KY-SHERIFF OF PENDLETON COUNTY	KY	2013	11/22/2013	27,737.06
KY-SHERIFF OF LEE COUNTY	KY	2013	11/22/2013	22,782.80
KY-CITY OF CANEYVILLE	KY	2013	11/22/2013	17,321.66
KY-CITY OF CANETY VILLE  KY-CITY OF SHELBYVILLE	KY	2013	11/22/2013	15,715.31
KY-CITY OF SHEED I VILLE  KY-CITY OF ELIZABETHTOWN	KY	2013	11/22/2013	15,149.91
KY-CITY OF ELIZABETHTOWN KY-CITY OF GEORGETOWN	KY	2013	11/22/2013	14,675.11
KY-CITY OF WINCHESTER	KY	2013	11/22/2013	12,323.99
KY-SHERIFF OF CHRISTIAN COUNTY	KY	2013	11/22/2013	11,653.04
	KY	2013	11/22/2013	10,504.74
KY-CITY OF CARROLLTON	KY	2013	11/22/2013	9,231.68
KY-TAX COLLECTOR WILLIAMSBURG IND S	KY	2013	11/22/2013	8,784.90
KY-CITY OF MT STERLING KY-CITY OF SIMPSONVILLE	KY	2013	11/22/2013	8,544.34
	KY	2013	11/22/2013	8,048.69
KY-CITY OF CENTRAL CITY	KY	2013	11/22/2013	7,921.72
KY-CITY OF GREENVILLE		2013	11/22/2013	6,499.90
KY-CITY OF WILLIAMSBURG	KY		11/22/2013	6,394.25
KY-CITY OF MOREHEAD	KY	2013		6,349.97
KY-SHERIFF OF CARLISLE COUNTY	KY	2013	11/22/2013	,
KY-SHERIFF OF MARSHALL COUNTY	KY	2013	11/22/2013	6,139.54
KY-CITY OF LONDON	KY	2013	11/22/2013	4,880.61
KY-CITY OF BEAVER DAM	KY	2013	11/22/2013	4,529.04
KY-SHERIFF OF GRANT COUNTY	KY	2013	11/22/2013	3,766.37
KY-CITY OF EMINENCE-KU	KY	2013	11/22/2013	3,559.42
KY-CITY OF FRANKFORT	KY	2013	11/22/2013	2,962.77
KY-CITY OF CARLISLE	KY	2013	11/22/2013	2,888.77
KY-CITY OF RUSSELL SPRINGS	KY	2013	11/22/2013	2,859.62
KY-CITY OF MIDWAY	KY	2013	11/22/2013	2,358.61
KY-CITY OF BEATTYVILLE	KY	2013	11/22/2013	2,344.95
KY-CITY OF LOYALL	KY	2013	11/22/2013	2,064.04
KY-CITY OF GREENSBURG	KY	2013	11/22/2013	2,020.75

		Assessment		
Payee Description	State	<u>Year</u>	Date	Amount
KY-CITY OF SPRINGFIELD	KY	2013	11/22/2013	2,009.28
KY-CITY OF CLINTON	KY	2013	11/22/2013	2,000.19
KY-CITY OF MT VERNON	KY	2013	11/22/2013	1,522.35
KY-CITY OF BRODHEAD	KY	2013	11/22/2013	1,175.18
KY-TAX COLLECTOR OWENTON	KY	2013	11/22/2013	1,168.09
KY-CITY OF CAVE CITY	KY	2013	11/22/2013	1,151.89
KY-CITY OF LIVERMORE	KY	2013	11/22/2013	1,010.62
KY-CITY OF STAMPING GROUND	KY	2013	11/22/2013	718.50
KY-CITY OF SACRAMENTO	KY	2013	11/22/2013	507.28
KY-SHERIFF OF FULTON COUNTY	KY	2013	11/22/2013	430.21
KY-CITY OF NEW CASTLE	KY	2013	11/22/2013	389.15
KY-SHERIFF OF BREATHITT COUNTY	KY	2013	11/22/2013	176.43
KY-CITY OF MILTON	KY	2013	11/22/2013	129.40
KY-SHERIFF OF JEFFERSON COUNTY	KY	2013	12/3/2013	651,988.97
KY-SHERIFF OF MUHLENBERG COUNTY	KY	2013	12/3/2013	234,287.92
KY-SHERIFF OF WOODFORD COUNTY	KY	2013	12/3/2013	186,854.76
KY-SHERIFF OF FRANKLIN COUNTY	KY	2013	12/3/2013	86,324.71
KY-SHERIFF OF WASHINGTON COUNTY	KY	2013	12/3/2013	56,504.77
KY-CITY OF SOMERSET	KY	2013	12/3/2013	45,559.14
KY-CITY OF MORGANFIELD	KY	2013	12/3/2013	42,485.38
KY-SHERIFF OF BULLITT COUNTY	KY	2013	12/3/2013	10,588.57
KY-CITY OF MARION	KY	2013	12/3/2013	5,003.25
KY-CITY OF IRVINE	KY	2013	12/3/2013	4,620.96
KY-SHERIFF OF EDMONSON COUNTY	KY	2013	12/3/2013	3,204.55
KY-CITY OF EVARTS	KY	2013	12/3/2013	2,287.92
KY-CITY OF JAMESTOWN	KY	2013	12/3/2013	1,984.63
KY-CITY OF FALMOUTH	KY	2013	12/3/2013	757.87
KY-CITY OF CORYDON	KY	2013	12/3/2013	719.39
KY-CITY OF SADIEVILLE	KY	2013	12/3/2013	646.25
KY-CITY OF CAMPBELLSBURG	KY	2013	12/3/2013	607.35
KY-SHERIFF OF DAVIESS COUNTY	KY	2013	12/4/2013	56,383.96
KY-BOARD OF EDUCATION BURGIN INDPT	KY	2013	12/4/2013	51,940.31
KY-SHERIFF OF ESTILL COUNTY	KY	2013	12/4/2013	49,521.70
KY-SHERIFF OF NELSON COUNTY	KY	2013	12/4/2013	47,881.61
KY-SHERIFF OF BATH COUNTY	KY	2013	12/4/2013	43,988.50
KY-SHERIFF OF GALLATIN COUNTY	KY	2013	12/4/2013	25,894.88
KY-SHERIFF OF LIVINGSTON COUNTY	KY	2013	12/4/2013	20,743.85
KY-CITY OF HARTFORD	KY	2013	12/4/2013	9,635.85
KY-CITY OF BARLOW	KY	2013	12/4/2013	3,548.11
KY-CITY OF LA CENTER	KY	2013	12/4/2013	2,168.51
KY-CITY OF BLOOMFIELD	KY	2013	12/4/2013	2,081.61
KY-CITY OF BARDWELL	KY	2013	12/4/2013	1,543.42
KY-CITY OF NEW HAVEN	KY	2013	12/4/2013	1,410.22
KY-CITY OF BURNSIDE	KY	2013	12/4/2013	1,218.39
KY-CITY OF BARDSTOWN KY	KY	2013	12/4/2013	954.94
KY-CITY OF WARSAW	KY	2013	12/4/2013	672.25
KY-CITY OF CORINTH	KY	2013	12/4/2013	353.92
KY-CITY OF BERRY	KY	2013	12/4/2013	234.56
KY-SHERIFF OF MERCER COUNTY	KY	2013	12/13/2013	539,687.87

		Assessment		
Payee Description	State	Year	Date	Amount_
KY-SHERIFF OF HARLAN COUNTY	KY	2013	12/13/2013	264,653.71
KY-SHERIFF OF JESSAMINE COUNTY	KY	2013	12/13/2013	149,189.18
KY-SHERIFF OF BRECKINRIDGE COUNTY	KY	2013	12/13/2013	58,315.57
KY-SHERIFF OF GREEN COUNTY	KY	2013	12/13/2013	17,413.00
KY-CITY OF LAWRENCEBURG	KY	2013	12/13/2013	9,533.37
KY-BARDSTOWN INDEPENDENT SCHOOL DIS	KY	2013	12/13/2013	8,319.37
KY-SHERIFF OF LESLIE COUNTY	KY	2013	12/13/2013	6,334.02
KY-CITY OF VERSAILLES	KY	2013	12/13/2013	5,456.62
KY-CITY OF STURGIS	KY	2013	12/13/2013	2,295.25
KY-CITY OF OWINGSVILLE	KY	2013	12/13/2013	1,885.66
KY-CITY OF SALT LICK	KY	2013	12/13/2013	1,834.93
KY-SHERIFF OF GRAVES COUNTY	KY	2013	12/13/2013	1,617.50
KY-TAX COLLECTOR CORBIN	KY	2013	12/13/2013	1,308.32
KY-CITY OF CROFTON	KY	2013	12/13/2013	1,070.69
KY-CITY OF SALEM	KY	2013	12/13/2013	880.52
KU-SHERIFF OF ANDERSON COUNTY	KY	2013	12/18/2013	59,360.53
KY-SHERIFF OF HOPKINS COUNTY	KY	2013	12/19/2013	364,173.82
KY-SHERIFF OF OLDHAM COUNTY	KY	2013	12/19/2013	99,903.62
KY-SHERIFF OF PULASKI COUNTY	KY	2013	12/19/2013	95,653.13
KY-SHERIFF OF LINCOLN COUNTY	KY	2013	12/19/2013	63,702.61
KY-SHERIFF OF LYON COUNTY	KY	2013	12/19/2013	47,061.88
KY-SHERIFF OF ROBERTSON COUNTY	KY	2013	12/19/2013	8,897.48
KY-CITY OF EARLINGTON	KY	2013	12/19/2013	6,946.19
KY-SHERIFF OF LETCHER COUNTY	KY	2013	12/19/2013	2,405.96
KY-CITY OF NICHOLASVILLE	KY	2013	12/19/2013	2,353.06
KY-CITY OF STANFORD	KY	2013	12/19/2013	1,544.90
KY-CITY OF POWDERLY	KY	2013	12/19/2013	1,366.64
KY-CITY OF KEVIL	KY	2013	12/19/2013	877.29
KY-CITY OF MT OLIVET	KY	2013	12/19/2013	691.46
KY-CITY OF SHARPSBURG	KY	2013	12/19/2013	605.53
KY-CITY OF CALVERT CITY	KY	2013	12/19/2013	218.22
KY-SHERIFF OF BOYLE COUNTY	KY	2013	12/30/2013	183,965.60
KY-SHERIFF OF WEBSTER COUNTY	KY	2013	12/30/2013	47,727.76
KY-SHERIFF OF CASEY COUNTY	KY	2013	12/30/2013	17,115.30
KY-CITY OF DAWSON SPRINGS	KY	2013	12/30/2013	11,648.11
KY-CITY OF EDDYVILLE	KY	2013	12/30/2013	9,598.96
KY-CITY OF CUMBERLAND	KY	2013	12/30/2013	4,176.81
KY-CITY OF LAGRANGE	KY	2013	12/30/2013	3,364.09
KY-CITY OF SEBREE	KY	2013	12/30/2013	2,744.54
KY-CITY OF PROVIDENCE	KY	2013	12/30/2013	1,424.94
KY-CITY OF DIXON	KY	2013	12/30/2013	581.25
KY-CITY OF BEDFORD	KY	2013	12/30/2013	377.40
KY-CITY OF SMITHFIELD	KY	2013	12/30/2013	74.12
Treasurer of Russell County	VA	2012	6/14/2013	4,615.37
Treasurer of Russell County	VA	2012	6/14/2013	464.06
City of Norton (vehicle personal property)	VA VA	2012	10/8/2013	828.10
City of Norton (vehicle personal property)	VA	2013	10/8/2013	15,987.74
City of Norton (vehicle personal property)	VA	2013	10/8/2013	5,130.76
City of Norton (Real Estate)	VA	2013	10/14/2013	2,371.37
on, or notion (rout bound)		2015	20, 2 ,, 2010	_,0 / 1.0 /

		Assessment		
Payee Description	State	Year	Date	Amount
City of Norton (Personal Property)	VA	2013	10/14/2013	89,296.01
Town of St. Paul	VA	2013	10/15/2013	4,402.71
Treasurer of Dickenson County	VA	2013	10/15/2013	2,779.48
Wise Co. Treasurer	VA	2013	10/15/2013	272,867.67
Treasurer of Lee County	VA	2013	10/15/2013	325.50
Treasurer of Lee County	VA	2013	10/15/2013	118,677.39
Lee County (vehicle)	VA	2013	11/1/2013	9,589.30
Lee County (vehicle)	VA	2013	11/1/2013	1,526.96
Town of Appalachia	VA	2013	11/4/2013	6,257.65
Town of Big Stone Gap	VA	2013	11/4/2013	22,479.62
Town of Big Stone Gap	VA	2013	11/4/2013	1,052.63
Town of Jonesville	VA	2013	11/4/2013	1,396.75
Treasurer of Russell County	VA	2013	11/7/2013	6,720.81
Treasurer of Russell County	VA	2013	11/7/2013	703.28
Town of Coeburn	VA	2013	11/20/2013	2,571.87
Town of Wise	VA	2013	11/20/2013	8,429.75
Town of Penninngton Gap	VA	2013	11/20/2013	125.00
Town of Big Stone Gap - 2013 refund	VA	2013	12/1/2013	(6,212.53)
ROW - Pennington Gap	VA	2013	12/10/2013	3,946.38
				31,592,728.36

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 32** 

- Q.1-32. For each taxing authority to which aggregate property tax payments exceeding \$10,000 were made in 2013, please indicate the method of assessing asset value and whether the asset base includes or excludes CWIP in the determination of the assessed value used to determine the amount of taxes to be paid.
- A.1-32. The Company is "Centrally Assessed" by state taxing authorities. The asset base includes CWIP in the assessed value.

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 33** 

- Q.1-33. For each taxing authority to which aggregate property tax payments exceeding \$10,000 were made in 2013, please indicate the time of the year when value assessments were made and when payments were due. If there are any known changes related to base year and test year assessments and changes, please describe.
- A.1-33. The Company's 2013 Assessment was finalized in October 2013. Payments associated with the assessment were paid when the invoice was received from the State and Local taxing authorities. Normally payments are made in the first and fourth quarters of the year. There are no known changes related to the base year and the test year assessments from the filing.

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 34** 

- Q.1-34. For each taxing authority to which aggregate property tax payments exceeding \$10,000 were made in 2013, please provide a copy of one property tax return or other information return submitted to each tax assessor and the associated resulting invoice related to taxes paid in 2013.
- A.1-34. See attached.

# Attachment in Separate File

The attachment is being provided in a separate file.

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 35** 

- Q.1-35. For each taxing authority to which aggregate property tax payments exceeding \$10,000 were made in 2013, please indicate whether there is a period of temporary abatement of taxes during the construction phase of assets to be placed in service. If so, please describe in detail.
- A.1-35. There is no period of temporary abatement of taxes during the construction phase of assets to be placed in service. Items in CWIP have historically been subject to property tax.

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 36** 

- Q.1-36. Please provide a schedule showing how property taxes were computed for the base year and include copies of all workpapers used to determine the amount in electronic format with all formulas intact
- A.1-36. See attachment being provided in Excel format

# Attachment in Excel

The attachment(s) provided in separate file(s) in Excel format.

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 37** 

- Q.1-37. Please provide a schedule showing how property taxes were computed for the test year and include copies of all workpapers used to determine the amount in electronic format with all formulas intact.
- A.1-37. See the response to Question No. 36.

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 38** 

**Responding Witness: David S. Sinclair** 

- Q.1-38. Please provide all documents or studies which support the level of margins from off-system sales included in the base year and the future test year.
- A.1-38. Off-system sales margin is a function of market electricity prices and the quantity of generation that (a) is available for sale after native load energy requirements have been met and (b) can be sold into the market at a profit. The documents supporting the level of off-system sales margins in the Base and Forecast Periods were provided as item D and G in Tab 16 of the Application ("2015 Business Plan Generation & OSS Forecast"). See the response to PSC 2-23 for actual off-system sales for the months since August 2014.

#### CASE NO. 2014-00371

### Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 39** 

Responding Witness: David S. Sinclair

- Q.1-39. Please provide all forecasts of wholesale energy prices prepared by or for the Company over the last two years
- A.1-39. The attachment summarizes the following wholesale energy price forecasts through 2017 for PJM West Hub developed by the Companies in 2013 and 2014:
  - 2014 Business Plan including scenarios for natural gas prices
  - 2015 Business Plan including scenarios for natural gas prices
  - Combinations of scenarios for natural gas prices and CO<sub>2</sub> prices
  - Monthly forecast updates

**2014 Plan**PJM West Hub
Nominal \$/MWh

1 (οπιπαι φ/ 1/1 / / π	В	ase Natura	l Gas	I	Low Natural Gas			High Natural Gas			
	<b>Peak</b>	Off-Peak	Weekend	<b>Peak</b>	Off-Peak	Weekend	<b>Peak</b>	Off-Peak	Weekend		
Jan-15	46.55	34.64	38.49	41.63	27.62	37.60	54.65	39.20	48.01		
Feb-15	46.55	34.97	38.36	39.79	26.17	36.78	51.88	39.28	46.99		
Mar-15	43.50	30.90	36.06	35.26	21.60	30.75	44.38	37.05	40.56		
Apr-15	43.60	30.27	37.55	32.13	18.16	27.91	45.21	34.57	39.24		
May-15	44.70	24.62	36.26	33.75	18.42	28.98	47.04	34.22	40.15		
Jun-15	49.25	23.36	43.17	42.48	21.04	34.71	52.64	35.98	46.39		
Jul-15	59.25	26.54	46.54	55.84	24.22	41.55	64.58	37.90	51.80		
Aug-15	59.25	27.28	42.76	45.94	23.15	37.04	63.01	37.90	48.74		
Sep-15	45.20	26.07	38.02	36.41	20.03	31.07	47.31	35.31	42.06		
Oct-15	42.25	28.82	34.63	32.11	18.55	28.06	43.14	34.96	40.02		
Nov-15	42.25	30.60	33.98	34.01	20.28	29.79	44.61	36.16	41.12		
Dec-15	44.00	30.42	37.30	40.20	28.19	33.87	53.99	39.55	48.51		
Jan-16	47.95	34.83	38.49	44.01	29.19	36.42	57.18	41.44	51.14		
Feb-16	47.95	35.11	38.60	41.80	26.83	38.34	53.98	41.22	48.37		
Mar-16	44.87	31.23	36.86	36.68	22.44	32.37	45.81	38.67	41.42		
Apr-16	44.87	30.59	37.41	33.68	19.55	29.45	46.80	36.36	40.22		
May-16	45.65	25.54	38.32	35.66	19.61	30.58	48.60	35.94	41.28		
Jun-16	49.50	23.63	43.67	46.05	22.46	37.04	55.46	37.66	48.64		
Jul-16	61.55	26.46	42.81	59.21	25.50	40.66	69.03	39.43	54.36		
Aug-16	61.55	27.20	44.98	49.54	24.82	39.47	65.13	39.57	50.52		
Sep-16	47.03	27.18	39.64	38.75	21.44	34.09	48.94	37.18	44.35		
Oct-16	42.55	30.72	36.53	35.58	20.09	30.79	45.30	36.79	41.10		
Nov-16	42.55	31.61	35.33	37.03	22.05	33.23	46.89	38.10	43.42		
Dec-16	42.55	30.47	36.92	42.34	29.30	36.39	55.05	41.28	49.40		
Jan-17	51.30	37.63	41.93	44.33	32.25	40.46	58.57	42.54	51.73		
Feb-17	50.34	37.79	41.79	41.75	29.65	38.56	54.38	42.49	49.94		
Mar-17	45.00	34.15	38.96	36.93	24.73	32.41	46.77	40.03	43.08		
Apr-17	44.88	33.05	38.60	34.17	21.54	30.00	47.66	37.52	41.21		
May-17	45.41	29.53	39.56	36.99	22.16	31.98	47.81	37.38	42.60		
Jun-17	51.58	28.64	44.43	48.70	25.11	37.40	57.77	38.72	50.19		
Jul-17	67.59	30.98	49.72	63.50	28.34	45.96	74.31	40.65	55.97		
Aug-17	63.55	31.52	47.36	52.22	27.15	40.12	69.53	40.60	52.24		
Sep-17	47.45	31.02	41.78	38.51	23.40	33.90	49.50	38.19	44.60		
Oct-17	43.65	33.54	38.37	35.50	22.21	31.01	46.31	37.91	42.68		
Nov-17	44.01	34.53	37.76	37.52	24.29	33.32	48.14	39.32	44.35		
Dec-17	48.38	34.83	42.07	43.17	32.35	40.05	57.46	42.27	50.63		

**2015 Plan**PJM West Hub
Nominal \$/MWh

140111111a1 \$/141 W II	В	ase Natural	Gas	L	Low Natural Gas High N			igh Natural	Natural Gas		
	Peak	Off-Peak	Weekend	Peak	Off-Peak	Weekend		Off-Peak	Weekend		
Jan-15	73.25	48.59	55.37	69.17	44.71	51.30	74.90	50.76	59.84		
Feb-15	66.30	44.50	48.90	58.90	41.48	45.70	70.69	45.89	53.27		
Mar-15	52.40	35.23	41.12	47.70	31.51	36.88	58.84	36.92	45.39		
Apr-15	42.45	29.93	36.74	38.75	26.59	32.21	47.61	32.95	40.99		
May-15	43.90	23.93	34.81	41.25	22.09	31.01	49.35	26.57	39.58		
Jun-15	47.60	22.56	39.20	46.83	20.17	34.49	52.30	25.73	43.96		
Jul-15	67.55	26.02	45.06	66.27	23.47	39.49	69.38	28.37	48.44		
Aug-15	60.00	26.55	39.17	59.53	23.64	37.13	64.64	29.32	46.15		
Sep-15	41.45	23.37	33.46	39.08	20.68	29.98	46.76	26.74	37.90		
Oct-15	37.45	25.94	31.28	34.01	22.91	28.94	42.69	29.59	36.82		
Nov-15	38.25	28.35	30.86	35.96	26.02	28.81	43.32	32.20	35.62		
Dec-15	46.95	30.32	37.08	44.55	28.57	33.93	54.21	32.26	41.92		
Jan-16	66.25	46.08	52.15	65.74	45.14	51.08	70.89	47.76	57.49		
Feb-16	66.25	46.92	51.65	62.92	46.18	49.89	71.76	49.10	56.08		
Mar-16	48.15	32.74	38.64	46.03	31.20	37.15	54.06	35.00	43.96		
Apr-16	41.05	32.20	38.99	38.55	30.39	37.16	45.06	36.95	44.36		
May-16	42.40	24.65	36.51	40.74	23.47	34.73	47.13	28.46	40.29		
Jun-16	47.10	23.48	40.79	46.09	22.34	38.08	52.03	26.63	44.93		
Jul-16	61.90	25.02	40.03	60.87	24.00	39.22	65.26	27.31	45.27		
Aug-16	61.90	26.34	40.76	58.73	24.93	38.14	65.40	28.87	44.18		
Sep-16	39.60	24.91	35.68	38.65	23.71	33.33	43.88	28.85	40.20		
Oct-16	37.00	26.73	31.88	36.09	25.24	31.03	41.17	29.79	36.36		
Nov-16	38.10	27.77	30.39	37.16	26.65	28.66	41.70	30.77	34.70		
Dec-16	44.00	29.35	35.48	43.03	28.40	33.79	49.46	31.28	40.98		
Jan-17	69.35	48.17	54.88	64.05	46.99	52.53	75.41	50.26	60.88		
Feb-17	69.35	49.04	53.88	67.42	47.84	52.14	78.24	51.57	59.94		
Mar-17	46.00	34.20	40.38	43.73	32.44	37.74	51.67	37.05	46.10		
Apr-17	46.05	33.64	40.29	43.47	31.42	38.05	52.45	38.59	46.61		
May-17	43.05	23.51	35.59	41.14	21.83	32.61	47.62	27.08	39.51		
Jun-17	47.60	22.29	38.71	46.27	20.93	35.86	52.06	25.29	43.68		
Jul-17	62.25	25.94	41.51	61.06	24.75	40.30	68.10	28.14	46.69		
Aug-17	62.25	27.31	42.26	60.02	25.84	39.05	69.73	30.16	46.36		
Sep-17	40.40	25.00	35.12	38.55	23.38	33.32	44.55	29.18	41.31		
Oct-17	40.05	29.24	35.26	38.31	27.93	33.44	45.00	34.00	39.84		
Nov-17	40.05	30.38	33.24	38.55	28.64	31.40	44.48	34.06	37.31		
Dec-17	40.05	29.07	34.81	38.48	28.07	33.30	45.37	31.05	39.46		

# **Natural Gas and CO2 Scenarios**

PJM-West Hub Nominal \$/MWh

	Mic	l Gas / No (	CO2	Mid	Gas / with	CO2	Lov	Low Gas / No CO	
_		Off-Peak	Weekend	Peak	Off-Peak	Weekend	Peak	Off-Peak	Weekend
Jan-13	52.89	33.57	46.57	53.04	33.65	46.33	47.65	32.83	41.73
Feb-13	49.14	34.98	44.59	48.94	34.99	44.54	42.48	30.87	38.07
Mar-13	43.24	31.50	38.00	43.42	31.28	38.35	35.87	28.97	32.79
Apr-13	39.37	29.18	35.77	39.55	29.36	35.17	34.01	26.94	31.26
May-13	39.71	28.53	34.84	39.73	28.39	35.24	34.37	26.09	30.90
Jun-13	47.22	30.68	43.01	47.91	30.69	42.76	42.59	27.56	36.22
Jul-13	55.93	32.87	46.33	55.13	32.88	46.11	53.63	29.91	42.49
Aug-13	51.96	32.96	45.80	51.45	33.14	45.67	46.66	29.80	39.09
Sep-13	44.52	29.98	39.11	44.24	29.94	39.06	37.65	26.52	33.45
Oct-13	42.07	29.72	36.70	42.13	29.71	36.86	35.87	26.98	31.96
Nov-13	41.40	30.23	36.60	41.41	30.22	37.20	35.35	27.22	32.21
Dec-13 Jan-14	48.77 53.84	33.60 35.79	44.10 47.62	48.72 54.04	33.66 36.03	43.77 47.85	41.52 48.31	30.23 34.11	37.07 42.45
Feb-14	50.65	36.36	46.65	50.65	36.26	46.30	42.73	31.49	38.37
Mar-14	44.40	32.70	39.37	44.51	32.64	39.85	36.48	30.25	33.47
Apr-14	40.91	30.61	36.69	40.64	30.56	36.65	34.85	28.08	32.09
May-14	41.19	29.90	35.86	41.47	30.12	36.11	35.55	26.55	31.67
Jun-14	49.59	32.05	44.78	49.25	32.10	44.19	43.63	28.38	36.60
Jul-14	60.08	34.64	48.32	59.53	34.73	48.37	56.35	30.66	43.44
Aug-14	53.70	34.52	46.64	54.13	34.46	46.72	48.32	30.37	38.93
Sep-14	45.67	31.24	39.65	45.85	31.22	39.22	38.21	27.04	33.21
Oct-14	42.93	31.07	37.84	42.86	31.03	38.49	36.37	27.30	33.05
Nov-14	42.83	31.64	38.83	42.97	31.56	39.47	36.31	27.97	33.23
Dec-14	49.91	35.54	45.43	49.72	35.44	45.59	41.36	31.16	37.65
Jan-15	55.43	37.45	50.15	55.57	38.43	50.03	48.54	36.16	43.60
Feb-15	50.02	38.19	47.01	50.71	38.08	46.51	42.58	32.95	38.34
Mar-15	44.58	34.15	40.39	44.68	34.26	40.22	37.10	31.39	34.37
Apr-15	41.37	32.02	38.17	41.69	32.12	37.73	35.60	29.03	32.68
May-15	42.40	31.47	37.96	42.59	31.69	38.57	36.41	27.65	32.75
Jun-15	50.91	33.57	44.89	51.11	33.62	45.26	44.43	29.64	37.79
Jul-15	61.93	35.98	50.09	63.39	36.09	50.23	58.23	31.61	43.09
Aug-15	55.53	35.59	47.74	55.91	35.75	48.15	48.18	31.13	39.91
Sep-15	46.09	32.40	40.23	46.41	32.47	40.21	38.02	28.11	33.71
Oct-15 Nov-15	43.62 44.05	32.39 33.09	39.41 40.21	43.82 44.35	32.47 33.24	39.32 40.08	37.16 36.77	28.36 29.08	33.37 33.41
Dec-15	50.42	33.09 37.90	46.21 46.94	50.67	38.18	46.73	41.50	32.42	37.90
Jan-16	57.54	40.99	53.14	57.12	41.43	53.05	49.26	37.85	44.25
Feb-16	51.92	39.26	47.92	51.65	39.41	47.68	42.41	33.52	38.50
Mar-16	44.91	34.97	40.56	45.17	35.21	40.68	37.08	31.45	34.22
Apr-16	41.84	32.51	37.82	42.16	32.64	37.94	35.39	29.08	32.49
May-16	43.29	32.11	38.50	43.41	32.29	38.80	36.83	27.82	32.71
Jun-16	51.96	34.42	45.52	52.33	34.64	45.72	44.98	29.99	37.94
Jul-16	65.61	36.69	50.78	66.61	37.03	50.43	61.18	31.83	42.41
Aug-16	56.61	36.44	48.06	56.92	36.62	48.67	48.65	31.45	39.63
Sep-16	46.52	33.00	40.73	46.96	33.12	41.29	38.52	28.39	34.36
Oct-16	44.20	33.07	40.01	44.76	33.10	39.88	37.72	28.73	33.59
Nov-16	44.67	34.03	40.93	45.06	34.09	40.76	37.75	29.46	34.05
Dec-16	51.06	39.23	47.95	51.16	39.22	47.80	41.51	32.72	38.11
Jan-17	58.35	41.98	54.14	58.58	41.97	53.91	49.86	38.71	44.16
Feb-17	52.14	40.51	47.93	52.00	40.57	48.51	41.98	33.82	38.46
Mar-17	45.74	35.47	41.43	46.21	35.91	41.64	37.01	31.90	34.16
Apr-17	42.65	33.19	38.92	42.36	33.27	38.63	35.50	29.52	32.72
May-17	43.96	33.03	39.10	44.67 52.15	33.14	39.46	37.15	28.45	33.22
Jun-17	53.40	35.43	47.56	53.15	35.57	46.63	44.86	30.58	37.83
Jul-17	66.29 56.40	37.73 37.21	51.81	67.14 57.00	38.05 37.61	51.95	62.56 48.44	32.31	42.73
Aug-17	56.40 46.06	37.21 33.78	48.34 41.01	57.09 46.35	37.61 33.92	48.51 41.43	48.44 37.91	31.56 28.75	39.64 34.43
Sep-17 Oct-17	46.06	33.78	40.80	46.33 45.24	33.92 34.16	41.43	37.91 37.64	28.75 28.98	34.43
Nov-17	45.21	35.10	41.32	45.48	34.10	41.53	37.04	29.90	33.96
Dec-17	51.62	39.98	48.17	51.28	40.31	47.55	41.13	33.18	38.03
	51.02	57.70	10.17	21.20	10.51	17.55	11.13	55.10	50.05

# **Natural Gas and CO2 Scenarios** PJM-West Hub

Nominal \$/MWh

	Low	Gas / with	CO2	High	Gas / No C	C <b>O2</b>	High	High Gas / with C	
_	Peak		Weekend		Off-Peak	Weekend		Off-Peak	Weekend
Jan-13	47.27	32.73	42.06	53.72	33.82	47.27	53.75	33.89	47.53
Feb-13	42.42	30.80	38.12	49.83	35.67	44.53	49.83	35.53	45.43
Mar-13	36.31	29.08	32.91	44.27	31.55	38.82	44.35	31.78	39.35
Apr-13	34.16	27.03	31.33	40.17	29.31	36.33	40.50	29.39	36.33
May-13	34.72	26.13	30.87	40.90	28.46	35.63	40.71	28.81	35.48
Jun-13	42.61	27.63	36.45	48.23	31.14	43.37	48.33	31.21	43.51
Jul-13	52.36	29.88	42.20	56.12	33.64	46.87	57.02	33.51	47.22
Aug-13	46.79	29.67	39.05	52.48	33.59	46.72	52.32	33.57	46.72
Sep-13	37.30	26.66	33.51	45.47	30.51	40.24	45.45	30.53	39.88
Oct-13	35.58	26.80	32.22	43.07	30.17	37.88	42.99	30.19	37.71
Nov-13	34.96	27.17	31.83	42.42	30.83	37.79	42.32	30.78	38.05
Dec-13	41.75	30.33	37.40	49.47	33.92	44.90	49.43	33.94	45.00
Jan-14	48.36	34.25	42.51	55.57	36.45	48.95	55.67	36.66	49.05
Feb-14	42.56	31.52	38.44	52.00	37.58	47.88	52.20	37.60	47.92
Mar-14	36.02	30.05	33.09	46.60	33.45	41.45	46.47	33.31	41.56
Apr-14	34.47	27.88	32.01	42.76	31.05	37.82	42.21	31.10	38.04
May-14	35.26 43.80	26.59 28.38	31.71	42.74 51.34	30.49 33.13	37.61 45.70	43.71	30.55	37.24 45.97
Jun-14 Jul-14	56.84	28.38 30.74	36.45 43.94	61.58	35.13 35.90	45.79 49.92	51.00 61.72	33.13 35.99	43.97 49.96
	47.80	30.74	38.82	56.22	35.59	49.92	56.33	35.56	49.96 48.67
Aug-14 Sep-14	38.12	27.05	33.14	47.50	32.19	41.15	47.53	32.23	41.56
Oct-14	36.12	27.03	32.73	44.94	32.19	40.44	45.09	32.23	39.83
Nov-14	36.42	27.85	33.17	44.93	32.14	40.99	44.77	32.78	40.93
Dec-14	41.43	31.23	37.53	51.53	36.04	46.69	51.46	36.22	47.22
Jan-15	47.32	34.77	42.13	57.45	38.49	51.46	57.58	39.27	51.58
Feb-15	41.65	32.57	37.86	51.96	39.69	48.50	52.36	39.75	48.35
Mar-15	36.91	31.52	33.89	47.19	34.84	42.30	47.59	35.06	42.45
Apr-15	35.29	28.73	32.88	43.74	32.72	39.74	43.69	32.53	39.55
May-15	36.31	27.64	32.38	44.77	32.09	39.98	44.91	32.31	39.97
Jun-15	42.75	29.49	37.44	52.58	34.71	46.68	53.02	34.76	47.31
Jul-15	56.39	31.17	41.71	64.10	37.47	51.77	64.79	37.51	52.00
Aug-15	46.78	30.84	39.17	57.74	36.91	50.46	58.44	36.95	50.47
Sep-15	37.66	28.07	33.70	48.36	33.56	42.41	48.67	33.74	42.97
Oct-15	36.72	28.43	33.30	45.80	33.48	41.33	45.92	33.52	41.30
Nov-15	36.13	28.83	33.24	46.36	34.33	42.13	46.51	34.42	42.43
Dec-15	40.72	32.37	37.91	52.46	38.89	48.66	52.81	39.17	48.78
Jan-16	47.11	35.70	42.89	59.83	41.69	55.39	60.06	42.74	55.18
Feb-16	41.17	33.11	37.37	54.23	41.72	49.01	54.47	42.04	50.43
Mar-16	36.62	31.23	33.77	48.43	36.28	43.54	49.10	36.51	44.13
Apr-16	34.99	28.81	32.36	44.87	33.42	40.61	45.41	33.43	40.86
May-16	36.10	27.53	32.21	45.85	33.17	40.93	46.92	33.30	40.99
Jun-16	43.48	29.60	37.18	54.85	36.21	48.30	55.61	36.36	49.16
Jul-16	57.47	31.12	41.17	68.26	39.07	53.92	70.54	39.51	53.78
Aug-16	46.96	30.81	38.42	59.65	38.43	50.63	60.00	38.88	51.43
Sep-16	37.25	28.01	33.53	49.32	34.87	44.27	50.05	35.04	44.73
Oct-16	36.48	28.40	33.10	47.37	34.81	42.66	48.24	35.12	43.45
Nov-16	36.24	28.99	33.23	47.99 52.65	35.91	43.99	48.80	35.89	43.58
Dec-16	40.08	32.80	38.08	53.65	40.63	50.35	53.88	41.22	50.65
Jan-17	47.02	35.66	42.80	61.71	42.78	57.30	61.97	43.95	57.46
Feb-17 Mar-17	40.60	33.42	37.34	54.89	42.78	50.56	54.89	43.56	51.04
	36.29	31.58	33.66	49.33	37.16	45.23	50.42	37.53	45.10
Apr-17 May-17	35.02 36.37	28.79 27.85	31.90 33.08	46.19 47.70	34.22 34.62	41.76 42.79	46.52 48.79	34.34 34.82	42.16 43.18
May-17 Jun-17	36.37 42.97	27.83	33.08 37.25	56.33	34.62 37.86	42.79 49.58	48.79 57.42	34.82	43.18 49.96
Jul-17 Jul-17	56.38	31.29	40.83	70.50	40.55	55.84	73.72	41.13	55.91
Aug-17	36.38 45.84	30.78	40.83 37.99	60.14	40.33 39.86	55.84 51.69	61.93	40.28	52.83
Sep-17	36.56	27.79	32.76	49.40	35.90	45.33	50.47	36.24	45.92
Oct-17	35.83	28.47	32.70	48.69	35.96	43.75	49.64	36.22	43.52
Nov-17	36.02	29.27	33.37	49.02	37.05	44.90	50.11	37.53	45.70
Dec-17	39.93	33.00	37.39	54.58	41.97	51.12	55.22	42.40	51.21
7 <del></del>	27.70	22.00	27.07	2 1.20	/		23.22	.20	21,21

# Monthly Updates PJM-West Hub Nominal \$/MWh

 Update Month:
 Jan-2013
 Feb-2013
 Mar-2013

 Natural Gas Quote:
 12/31/2012
 1/31/2013
 2/28/2013

Jan-13	<u>Peak</u> 48.30	Off-Peak 35.91	<b>Weekend</b> 41.99	<b>Wrap</b> 37.98	<u>Peak</u>	Off-Peak	Weekend	Wrap	<u>Peak</u>	Off-Peak	Weekend	<u>Wrap</u>
Feb-13	44.22	33.96		35.98	44.07	34.05	39.26	35.95				
Mar-13	38.46	32.10	35.37	33.38	38.74	32.25	35.56		39.43	32.34	35.80	33.69
Apr-13	36.84	30.44	34.26	31.77	37.04	30.61	34.86		37.52	30.99	34.85	32.33
May-13	37.82	29.61	34.43	31.25	37.99	29.86	34.49		38.10	30.12	34.59	31.64
Jun-13	46.07	31.29	39.93	34.75	46.32	31.58	40.48	35.14	46.80	31.76	41.00	35.46
Jul-13	55.36	33.79		37.90	55.16	33.96	45.53	37.90	55.74	34.23	46.12	38.28
Aug-13	53.49	33.32	43.42	37.03	53.72	33.44	43.65	37.19	53.96	33.68	44.29	37.58
Sep-13	42.37	30.43	37.90		42.59	30.51	37.94		43.07	30.72	38.27	33.55
Oct-13	39.54	30.46	35.53		40.25	30.96	36.18		40.57	31.15		32.77
Nov-13	38.92	31.46		33.14	40.25	32.09	37.00		40.66	32.14	37.14	34.02
Dec-13	46.52	34.88	41.93	37.47	46.57	34.88	42.03	37.51	46.37	34.91	42.14	
Jan-14	54.86	41.18	48.99	43.84	54.81	41.52	49.22	44.14	55.10	41.41	49.59	44.19
Feb-14	50.42	38.24	45.27	40.79	50.40	37.98	44.92		50.43	37.88	45.37	40.60
Mar-14	43.29	35.68	39.51	37.18	42.91	35.64	39.12		42.95	35.77	39.38	37.18
Apr-14	41.01	33.91	38.22	35.41	41.04	34.04	38.59	35.63	41.05	34.03	38.43	35.56
May-14	41.90	32.95	38.32	34.92	41.90	33.13	38.29	35.02	41.89	33.29	38.36	35.15
Jun-14	50.97	34.61	43.91	38.10	51.32	34.81	44.43	38.41	51.48	34.87	44.52	38.49
Jul-14	62.86	37.12	50.15	41.55	62.13	37.17	50.20	41.61	63.52	37.22	50.23	41.65
Aug-14	57.81	36.44	47.15	40.64	57.80	36.46	47.76	40.90	58.24	36.50	47.31	40.74
Sep-14	46.04	33.51	41.20	36.19	46.34	33.65	41.59	36.41	46.37	33.75	41.47	36.43
Oct-14	42.96	33.64	38.80	35.40	43.34	33.90	39.07	35.66	43.27	33.96	39.08	35.70
Nov-14	42.49	34.55	39.48	36.52	43.58	35.14	40.29	37.20	43.83	35.11	40.25	37.17
Dec-14	49.75	37.85	44.67	40.17	50.02	37.85	45.00	40.28	49.78	37.82	45.13	40.31
Jan-15	55.58	43.79	51.58	46.66	55.46	43.74	51.26	46.50	55.64	43.66	51.50	46.54
Feb-15	51.10	39.39	45.88	41.75	50.35	39.46	45.88	41.80	50.36	39.35	45.43	41.56
Mar-15	43.99	36.80	40.34	38.10	42.90	36.44	39.70	37.64	43.18	36.30	39.48	37.47
Apr-15	41.59	34.98	38.33	36.15	41.51	35.07	38.85	36.39	41.73	35.20	39.08	36.55
May-15	42.17	34.03	38.96	35.96	42.12	34.26	38.93	36.09	42.54	34.20	39.26	36.19
Jun-15	50.93	35.66	44.40	38.70	51.40	35.77	44.77	38.90	51.52	35.73	44.79	38.88
Jul-15	63.35	37.26	49.71	41.50	63.45	37.44	50.18	41.77	63.24	37.40	50.19	41.75
Aug-15	57.07	36.68	47.29	40.84	57.35	36.81	47.77	41.10	57.10	36.89	47.95	41.23
Sep-15	45.71	34.33	41.00	36.65	46.03	34.56	41.19	36.87	46.16	34.54	41.37	36.92
Oct-15	43.08	34.46	38.96	36.11	43.41	34.86	39.76	36.66	43.63	34.97	39.70	36.70
Nov-15	42.73	35.37	39.83	37.04	44.07	36.02	40.85		44.12	35.93	40.97	37.82
Dec-15	49.08	38.83	45.09	40.97	49.19	38.87	44.70	40.85	49.20	38.92	45.09	41.02
Jan-16												
Feb-16												
Mar-16												
Apr-16												
May-16												
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Dec-16												
Jan-17												
Feb-17												
Mar-17 Apr-17												
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May-17 Jun-17												
Jun-17 Jul-17												
Aug-17	<b></b>	<b></b>			<b></b>	<b></b>	<b></b>		<b></b>	<b></b>		
Sep-17												
Oct-17		<b></b>										
Nov-17												
Dec-17												
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 Update Month:
 Apr-2013
 May-2013
 Jun-2013

 Natural Gas Quote:
 3/28/2013
 4/30/2013
 5/31/2013

	<b>Peak</b>	Off-Peak	Weekend	Wrap	<u>Peak</u>	Off-Peak	Weekend	Wrap	<b>Peak</b>	Off-Peak	Weekend	<u>Wrap</u>
Jan-13												
Feb-13												
Mar-13												
Apr-13	39.89	31.89	36.32	33.43								
May-13	40.35	31.27	36.18	32.94	41.10	31.63	36.53	33.30				
Jun-13	49.26	32.91	43.40	37.10	50.85	33.80	45.15	38.34	49.61	33.08	44.14	37.50
Jul-13	57.80	35.98	48.36	40.19	59.54	36.88	49.84	41.29	56.39	35.48	47.68	39.64
Aug-13	55.95	35.33	47.37	39.75	57.60	36.51	49.32	41.22	55.57	34.88	46.40	39.11
Sep-13	45.89	32.09	40.52		47.88	33.02	42.26	36.49	45.06	31.57	39.73	34.63
Oct-13	42.48	31.81	37.37	33.70	44.16	32.80	38.95	34.89	41.83	31.52	36.68	33.28
Nov-13	41.59	32.75	38.28	34.83	43.91	33.47	39.69	35.80	40.94	32.40	37.70	34.39
Dec-13	49.15	36.56	44.84	39.60	50.69	37.65	46.63	40.95	48.60	36.21	43.81	39.00
Jan-14	56.55	42.47	51.18	45.43	57.85	43.08	52.79	46.39	55.83	42.21	50.87	45.16
Feb-14	53.05	39.61	48.26		54.93	41.23	49.44		52.18	39.24	47.14	
Mar-14	45.54	36.24	41.07	38.14	47.44	37.03	42.15	39.04	44.80	36.27	40.50	37.93
Apr-14	41.65	34.68	38.65	36.06	42.32	34.69	39.53	36.37	41.76	34.45	38.68	35.92
May-14	42.18	33.51	38.89	35.49	42.75	34.08	39.35	36.01	42.35	33.43	38.81	35.41
Jun-14	51.74	35.14	45.01	38.84	52.84	35.46	46.11	39.45	51.84	35.01	44.83	38.70
Jul-14	64.41	37.71	50.94	42.21	63.87	38.22	51.99	42.90	64.29	37.61	51.04	
Aug-14	57.63	36.91	48.34	41.39	59.63	37.54		41.98	59.31	37.04	48.39	41.49
Sep-14	46.88	33.98	41.43	36.57	47.83	34.37	42.37	37.16	46.92	33.93	41.79	36.66
Oct-14	43.42	34.07	39.16	35.80	44.06	34.57	39.59	36.28	43.48	34.03	39.22	35.80
Nov-14	43.24	34.94	39.99	36.96	44.10	35.30	40.83	37.51	43.37	34.89	39.98	
Dec-14	50.64	38.34	45.65	40.83	51.35	39.09	46.36		50.63	38.32	45.72	40.84
Jan-15	55.72	43.58	51.87	46.63	56.82	44.09		47.26	55.86	43.95	51.93	46.88
Feb-15	51.67	40.02	46.59	42.41	52.45	40.74	47.37	43.15	51.56	40.30	46.67	42.61
Mar-15	44.66	37.09	40.91	38.49	45.14	37.17	41.27	38.68	44.94	37.02	40.83	38.42
Apr-15	41.54	35.13	39.06	36.50	41.75	35.29	39.19	36.65	42.06	35.23	39.46	
May-15	42.21	34.21	39.03	36.10	42.37	34.40	39.47	36.39	42.82	34.41	39.15	36.27
Jun-15	50.88	35.74	44.49	38.78	51.58	35.96	44.78	39.03	51.69	35.95	45.18	
Jul-15	63.24	37.31	50.31		63.73	37.60		41.97	64.02	37.63	50.37	
Aug-15	57.29	36.92	47.92	41.23	57.50	37.08	48.10		57.81	37.21	48.17	41.51
Sep-15	46.06	34.53		36.89	46.34	34.59		37.00	46.43	34.65		36.98
Oct-15	43.19	34.70	39.40		43.34	34.80	39.57		43.42	34.70	39.48	36.46
Nov-15	43.04	35.48	39.68		43.32	35.55	40.15		43.20	35.66	40.19	37.36
Dec-15	49.48	38.97	45.54		49.50	39.08	45.27		50.09	39.37	45.74	
Jan-16	57.75	46.45	53.94	49.39	57.91	46.47	53.92		58.56	46.65	54.20	
Feb-16	52.88	41.59	47.68		52.88	41.68		43.92	53.52	42.25	48.27	
Mar-16	45.02	37.69	40.91		45.34	37.77	41.23	38.95	45.80	38.09	41.71	
Apr-16	41.69	35.72	38.81		41.71	35.94		37.11	42.47	36.18		37.48
May-16	42.61	34.84	39.13		42.93	34.92	39.29		43.90	35.30		37.05
Jun-16	53.00	36.68	44.93		52.88	36.54	44.75		53.47	37.08	45.91	
Jul-16	67.62	38.11		43.12	67.88	38.09		43.07	67.91	38.69		43.82
Aug-16	58.67	37.67	48.53	41.37	58.55	37.45	48.27	41.14	59.29	38.13		42.05
Sep-16	46.43	35.24	41.67		46.20	35.18		37.39	47.20	35.62	42.31	
Oct-16	43.79	35.40		37.25	43.68	35.36		37.13	44.39	35.74		37.66
Nov-16	43.81	36.62	41.08		43.57	36.46	40.47		44.30	36.99	41.64	
Dec-16	50.98	40.44	46.39	42.63	50.85	40.07		42.23	52.08	41.07	47.16	43.31
Jan-17												
Feb-17												
Mar-17												
Apr-17												
May-17 Jun-17												
Jul-17												
Aug-17												
Sep-17												<b></b>
Oct-17												
Nov-17												<b></b>
Dec-17	<b></b>	<b></b>			<b></b>	<b></b>				<b></b>	<b></b>	
D00-17												

 Update Month:
 Jul-2013
 Aug-2013
 Sep-2013

 Natural Gas Quote:
 6/28/2013
 7/31/2013
 8/30/2013

	<b>Peak</b>	Off-Peak	Weekend	Wrap	<b>Peak</b>	Off-Peak	Weekend	<u>Wrap</u>	<b>Peak</b>	Off-Peak	Weekend	Wrap
Jan-13												
Feb-13												
Mar-13												
Apr-13												
May-13												
Jun-13												
Jul-13	56.39	35.48	47.68	39.64								
Aug-13	55.57	34.88	46.40	39.11	54.23	32.88	42.79	36.52				
Sep-13	45.06	31.57	39.73	34.63	41.27	30.14	37.20	32.79	41.27	30.14	37.20	32.79
Oct-13	41.83	31.52	36.68	33.28	38.83	30.06	35.04	31.76	38.83	30.06	35.04	31.76
Nov-13	40.94	32.40	37.70	34.39	38.13	30.85	35.13	32.45	38.13	30.85	35.13	32.45
Dec-13	48.60	36.21	43.81		45.12	33.97	40.62	36.41	45.12	33.97	40.62	36.41
Jan-14	55.83	42.21	50.87	45.16	53.93	40.43	47.60	42.87	53.93	40.43	47.60	42.87
Feb-14	52.18	39.24	47.14		48.98	37.52	44.27	39.97	48.98	37.52	44.27	39.97
Mar-14	44.80	36.27		37.93	42.37	35.23	38.72		42.37	35.23	38.72	36.60
Apr-14	41.76	34.45	38.68		40.18	33.18	37.91		40.18	33.18	37.91	34.82
May-14	42.35	33.43	38.81		41.40	32.45	37.75	34.40	41.40	32.45	37.75	34.40
Jun-14	51.84	35.01	44.83		50.30	34.21	43.25	37.60	50.30	34.21	43.25	
Jul-14	64.29	37.61	51.04	42.19	62.34	36.53	49.44		62.34	36.53	49.44	40.93
Aug-14	59.31	37.04	48.39	41.49	57.84	35.94	46.24	39.98	57.84	35.94	46.24	39.98
Sep-14	46.92	33.93	41.79	36.66	45.14	33.17	40.45	35.70	45.14	33.17	40.45	35.70
Oct-14	43.48	34.03	39.22		42.17	33.26	37.93	34.85	42.17	33.26	37.93	34.85
Nov-14	43.37	34.89	39.98		41.81	33.77		35.80	41.81	33.77	38.85	35.80
Dec-14	50.63	38.32	45.72		48.42	37.24			48.42	37.24	43.85	39.49
Jan-15	55.86	43.95	51.93	46.88	54.49	42.77	50.07	45.45	54.49	42.77	50.07	
Feb-15	51.56	40.30	46.67		49.46	38.81	44.56		49.46	38.81	44.56	
Mar-15	44.94	37.02	40.83	38.42	43.25	36.49	39.79	37.70	43.25	36.49	39.79	37.70
Apr-15	42.06	35.23		36.70	40.92	34.56		35.81	40.92	34.56		35.81
May-15	42.82	34.41	39.15		41.88	33.49		35.50	41.88	33.49		35.50
Jun-15	51.69	35.95	45.18		50.54	35.07		38.14	50.54	35.07	43.89	
Jul-15	64.02	37.63	50.37		63.19	36.94		41.03	63.19	36.94		41.03
Aug-15	57.81	37.21	48.17	41.51	56.15	36.26	46.76		56.15	36.26	46.76	
Sep-15	46.43	34.65		36.98	45.08	34.04		36.30	45.08	34.04		36.30
Oct-15	43.42	34.70		36.46	42.48	34.01		35.81	42.48	34.01		35.81
Nov-15	43.20	35.66	40.19		42.20	34.74		36.32	42.20	34.74		36.32
Dec-15	50.09	39.37	45.74		47.85	37.95		39.94	47.85	37.95		39.94
Jan-16	58.56	46.65	54.20		57.17	45.41	52.51		57.17	45.41	52.51	48.19
Feb-16	53.52	42.25	48.27		51.46	40.68		42.57	51.46	40.68		42.57
Mar-16	45.80	38.09	41.71		44.29	37.28	40.33	38.32	44.29	37.28	40.33	38.32
Apr-16	42.47	36.18		37.48	41.24	35.36		36.70	41.24	35.36		36.70
May-16	43.90	35.30		37.05	42.56	34.52		36.15	42.56	34.52		36.15
Jun-16	53.47	37.08	45.91		52.19	36.20		38.97	52.19	36.20		38.97
Jul-16	67.91	38.69		43.82	66.50	37.76		42.62	66.50	37.76		42.62
Aug-16	59.29	38.13		42.05	57.78	37.06		40.63	57.78	37.06		40.63
Sep-16	47.20	35.62	42.31		45.53	34.81		37.03	45.53	34.81		37.03
Oct-16	44.39	35.74		37.66	43.19	35.07		36.79	43.19	35.07		36.79
Nov-16	44.30	36.99	41.64		43.32	35.98		37.34	43.32	35.98		37.34
Dec-16	52.08	41.07	47.16	43.31	50.06	39.64		41.67	50.06	39.64	45.16	41.67
Jan-17												
Feb-17												
Mar-17												
Apr-17												
May-17												
Jun-17												
Jul-17												
Aug-17												
Sep-17 Oct-17												
Nov-17												
Dec-17												
DCC-1 /												

 Update Month:
 Oct-2013
 Nov-2013
 Dec-2013

 Natural Gas Quote:
 9/27/2013
 10/31/2013
 11/27/2013

	<b>Peak</b>	Off-Peak	Weekend	Wrap	<u>Peak</u>	Off-Peak	Weekend	<u>Wrap</u>	<u>Peak</u>	Off-Peak	Weekend	Wrap
Jan-13												
Feb-13												
Mar-13												
Apr-13												
May-13												
Jun-13												
Jul-13												
Aug-13												
Sep-13												
Oct-13	38.36	29.67	34.58	31.34								
Nov-13	38.53	31.76	35.82		38.19	31.18	35.56	32.82				
Dec-13	43.41	36.00	39.61	37.33	42.46	35.78	39.25	37.05	43.82	36.08	39.66	37.40
Jan-14	46.30	37.50	41.80	38.97	44.92	37.06	40.91	38.37	46.41	37.52	41.73	38.96
Feb-14	45.84	37.21	41.14		44.82	36.65	40.57		46.12	37.13	41.22	38.62
Mar-14	40.65	34.11		35.30	39.89	33.44		34.66	40.70	34.21	37.17	
Apr-14	38.58	31.75	36.06		38.47	30.84	35.40		38.76	31.86	36.03	33.31
May-14	40.04	31.52		33.34	39.49	30.78		32.61	39.90	31.74	36.69	33.56
Jun-14	47.11	33.85		36.58	46.13	33.30		35.95	47.37	34.03	41.34	
Jul-14	59.81	36.51	46.97		58.43	36.16	46.58	39.71	59.01	36.62	47.42	40.30
Aug-14	53.21	35.93		39.34	52.86	35.56		38.64	53.57	36.04	44.74	
Sep-14	43.87	33.17		35.32	42.92	32.37	38.80		44.04	33.08	39.48	35.30
Oct-14	40.71	32.33		33.79	40.07	31.66	36.19		40.49	32.59		33.96
Nov-14	40.59	33.98		35.58	40.06	33.52		35.04	40.74	34.06	38.15	35.70
Dec-14	47.66	38.13	42.82		46.00	37.68	41.71	39.06	47.35	38.02	42.39	39.51
Jan-15	50.73	39.82		41.83	49.06	39.46	44.24		50.31	39.74	44.77	41.59
Feb-15	49.21	39.06		40.54	47.68	38.48	42.49		48.60	38.98	43.03	40.45
Mar-15	42.19	36.25	38.57		41.90	35.52	38.06		42.20	36.13	38.52	
Apr-15	40.15	33.26		34.66	39.77	32.64		34.14	40.11	33.19	37.27	34.61
May-15	41.68	33.34		35.24	41.20	32.65		34.65	41.56	33.17	38.04	
Jun-15	49.78	35.20		38.02	48.91	34.74		37.37	49.72	35.06		37.75
Jul-15	64.09	37.85		41.81	62.94	37.47	48.71		63.54	37.82		41.78
Aug-15	55.56	37.16	46.90		54.62	36.73	45.77	40.27	55.55	37.09	46.57	40.80
Sep-15	44.92	33.97		36.19	44.07	33.42	39.79		44.72	33.81	40.23	
Oct-15	41.48	33.48	37.72	35.04	41.01	32.89	36.97		41.28	33.22	37.45	
Nov-15	41.69	35.43	38.73		41.36	34.78	38.28		41.61	35.12		36.49
Dec-15	49.86	39.97	44.90		48.71	39.54		41.08	49.01	39.66	44.17	
Jan-16	53.34	42.22	47.78	44.40	52.16	41.65	46.69		52.47	41.80		43.86
Feb-16	51.03	40.45	44.42		49.53	40.03	43.75		49.96	40.14		41.41
Mar-16	43.38	37.44	39.83	38.25	42.90	36.86		37.67	43.03	36.91	39.51	
Apr-16	41.08	34.24		35.69	40.69	33.50	37.79		40.86	33.91		35.53
May-16	43.06	34.36	39.11		42.57	33.70		35.44	42.85	33.97		35.77
Jun-16	52.35	36.60	44.43		51.51	36.02	43.69		51.93	36.35		39.06
Jul-16	68.84	39.32		43.98	67.67	38.91	50.33		68.56	39.12		43.67
Aug-16	58.22	38.33	47.71		57.08	37.80	46.61		57.78	38.14		41.23
Sep-16	45.95	35.10		37.39	45.11	34.59	41.25		45.49	34.80		37.13
Oct-16 Nov-16	42.87 43.79	34.64 36.83		36.26 38.16	42.59 43.27	34.10 36.27	38.33 40.14	35.77 37.62	42.77	34.33 36.58		35.99 37.92
Dec-16							45.11		43.46			
Jan-17	50.84	41.26		42.95	49.67	40.84 42.14	47.23		49.53	40.83 42.06		42.30 43.91
Feb-17					52.74 49.92	40.79	44.33		52.64 49.68	40.75		43.91
Mar-17					43.52	37.59	39.97		43.58	37.44		38.29
					41.66	34.31	38.51		43.38	34.26	38.41	
Apr-17 May-17					44.12	34.83	39.79		43.97	34.26		36.45
Jun-17					53.32	34.83 36.88		39.65	53.37	34.78 36.80		39.59
Jul-17 Jul-17					74.19	39.70		39.63 44.45	73.67	39.67	51.79	
Aug-17					59.14	38.53		41.84	59.13	38.49		44.42
Sep-17					45.91	35.36	48.26	37.76	45.91	35.19		37.62
Oct-17		<b></b>			43.37	35.30		36.47	43.91	35.19		36.46
Nov-17		<b></b>			44.08	37.24		38.48	44.07	36.98	40.98	
Dec-17		<b></b>			51.75	41.88		43.48	50.90	41.61		43.16
D00-17					31./3	71.00	73.33	¬J. <b>+</b> 0	30.30	71.01	75.50	¬J.10

 Update Month:
 Jan-2014
 Feb-2014
 Mar-2014

 Natural Gas Quote:
 12/31/2013
 1/31/2014
 2/28/2014

	<b>Peak</b>	Off-Peak	Weekend	Wrap	<b>Peak</b>	Off-Peak	Weekend	Wrap	<u>Peak</u>	Off-Peak	Weekend Wrap	<u>)</u>
Jan-13												-
Feb-13												-
Mar-13												-
Apr-13												-
May-13												-
Jun-13												-
Jul-13												-
Aug-13												-
Sep-13												-
Oct-13												-
Nov-13												-
Dec-13												-
Jan-14	49.82	38.41	44.46	40.47			 50.25					-
Feb-14	48.48	38.16	42.74	39.83	56.71	43.14	50.35	45.76	45.10		41.22 20.05	- -
Mar-14	41.85	35.50	38.17	36.54	46.04	37.56	41.89	39.26	45.18	37.43	41.32 38.95	
Apr-14	39.69	33.14	36.94	34.46	41.07	34.71	38.43	36.01	41.82	34.91	39.25 36.42	
May-14	40.67	32.78	37.37	34.47	42.05	34.01	38.79	35.76	42.97	34.56	39.60 36.41	
Jun-14 Jul-14	48.57 60.82	34.74 37.17	42.67 48.89	37.71 41.16	50.19	35.67 38.07	44.11 50.06	38.84 42.16	51.56 62.67	36.33 38.63	45.12 39.62 51.31 42.95	
Aug-14	54.42	36.71	45.94	40.33	61.81 56.42	37.42	47.62		57.27	37.99	48.68 42.18	
Sep-14	45.32	33.95	40.44	36.21	47.02	34.90	41.43	37.17	48.19	35.54	42.16 37.84	
Oct-14	41.52	33.57	37.54	34.93	42.85	34.64	38.72		43.54	35.12	39.51 36.62	
Nov-14	41.44	34.94	38.99	36.56	42.82	35.72		37.55	43.58	36.10	40.79 37.97	
Dec-14	48.52	38.53	43.76	40.31	50.50	39.04	45.36		50.96	39.21	45.95 41.50	
Jan-15	51.89	40.10	46.13	42.32	53.86	40.83	47.73	43.36	54.63	41.24	48.04 43.74	
Feb-15	49.81	39.56	43.91	41.14	51.74	40.48	45.45	42.29	52.57	40.74	46.24 42.74	
Mar-15	42.59	36.73	39.14	37.61	43.97	37.41	40.40	38.51	44.22	37.63	40.63 38.73	
Apr-15	40.12	33.49	37.55	34.91	40.40	33.45	37.55	34.88	40.15	33.66	37.58 35.02	
May-15	41.76	33.31	38.45	35.33	41.70	33.30	38.43	35.31	41.59	33.31	38.46 35.33	3
Jun-15	50.01	35.28	43.11	38.00	49.60	35.24	42.79	37.87	49.83	35.25	43.00 37.95	5
Jul-15	64.16	37.96	49.74	41.97	64.04	37.84	49.49	41.80	64.41	37.89	49.53 41.85	5
Aug-15	55.62	37.22	46.82	40.99	55.48	37.07	46.62	40.82	55.54	37.07	46.74 40.86	5
Sep-15	44.92	33.96	40.50	36.24	44.75	33.88	40.22	36.09	44.70	33.85	40.28 36.09	)
Oct-15	41.45	33.49	37.47	34.95	41.46	33.33	37.47	34.85	41.40	33.34	37.37 34.82	
Nov-15	41.61	35.16	38.91	36.57	41.46	35.23		36.52	41.54	35.09	38.74 36.46	
Dec-15	49.29	39.75	44.40		49.33	39.70	44.61		49.48	39.83	44.67 41.48	
Jan-16	52.86	42.02	47.39	44.12	52.98	42.12	47.53	44.24	53.71	42.24	47.94 44.48	
Feb-16	50.28	40.28	43.92	41.57	50.36	40.32	44.12		50.86	40.49	44.30 41.84	
Mar-16	43.20	37.22	39.54	38.01	43.25	37.35	39.68	38.15	43.45	37.56	39.79 38.32	
Apr-16	40.97 42.77	33.91 34.03	38.31 38.93		40.79 42.89	33.83 33.94	37.88 38.77	35.35 35.71	40.69 42.57	33.48 33.77	37.99 35.17 38.43 35.48	
May-16 Jun-16	51.79	36.32	44.02	39.00	51.79	36.28	44.07	38.99	51.79	36.06	43.85 38.77	
Jul-16	68.90	39.03		43.60	67.75	39.03	50.65		67.65	38.95	50.38 43.43	
Aug-16	57.24	38.06	47.05	41.12	57.20	37.98	46.87	41.01	57.19	37.89	46.94 40.97	
Sep-16	45.51	34.80	41.34		45.43	34.73	41.38		45.26	34.64	41.23 36.93	
Oct-16	42.69	34.30	38.37	35.89	42.62	34.29		35.91	42.58	34.21	38.45 35.87	
Nov-16	43.36	36.34	40.24	37.70	43.41	36.26	40.37	37.69	43.28	36.28	40.18 37.64	
Dec-16	49.37	40.70	44.99	42.28	49.34	40.73	44.83	42.24	49.55	40.73	45.03 42.31	l
Jan-17	52.50	42.06	46.77	43.79	52.51	42.12	47.03	43.92	53.07	42.24	47.52 44.18	3
Feb-17	49.47	40.65	44.15	41.92	49.75	40.71	44.20	41.98	50.21	40.87	44.22 42.09	)
Mar-17	43.35	37.41	39.82	38.23	43.54	37.44	39.99	38.31	43.67	37.75	40.21 38.59	)
Apr-17	41.41	34.07	38.36		41.40	34.12	38.36		41.30	33.94	38.39 35.72	
May-17	43.72	34.64		36.33	43.91	34.69	39.63		43.56	34.49	39.45 36.18	
Jun-17	53.38	36.61	44.74		53.36	36.69		39.47	53.22	36.53	44.32 39.24	
Jul-17	73.14	39.55	51.56		74.10	39.60	51.71	44.35	73.56	39.47	51.49 44.19	
Aug-17	59.19	38.34		41.61	58.89	38.44	47.77	41.62	59.26	38.28	47.82 41.53	
Sep-17	45.69	35.07	41.56		45.70	35.11	41.49	37.51	45.50	34.92	41.32 37.32	
Oct-17	43.18	34.72		36.21	43.28	34.84	38.82		43.17	34.72	38.60 36.15	
Nov-17	43.92 50.83	36.88 41.54	40.69 45.55	38.20 43.11	43.96	36.96 41.63			43.82 50.81	36.84	40.83 38.23 45.76 43.25	
Dec-17	50.83	41.54	43.33	43.11	50.86	41.63	43.09	43.22	30.81	41.63	43.70 43.23	,

 Update Month:
 Apr-2014
 May-2014
 Jun-2014

 Natural Gas Quote:
 3/31/2014
 4/30/2014
 5/30/2014

	<b>Peak</b>	Off-Peak	Weekend	<u>Wrap</u>	<b>Peak</b>	Off-Peak	Weekend	<u>Wrap</u>	<b>Peak</b>	Off-Peak	Weekend	<u>Wrap</u>
Jan-13												
Feb-13												
Mar-13												
Apr-13												
May-13												
Jun-13												
Jul-13												
Aug-13												
Sep-13												
Oct-13												
Nov-13												
Dec-13												
Jan-14												
Feb-14												
Mar-14												
Apr-14	41.71	34.92	39.14	36.38								
May-14	41.89	34.08	38.67	35.77	44.69	35.22	40.39	37.12				
Jun-14	50.64	35.66	44.23	38.88	53.50	36.97	46.93	40.70	50.78	35.63	44.25	38.86
Jul-14	62.00	38.19	49.81	42.15	64.22	39.57	52.95	44.13	60.21	37.64	49.43	41.66
Aug-14	56.52	37.53	47.81	41.56	59.36	39.02	50.38	43.48	56.24	37.09	47.46	41.16
Sep-14	47.07	34.97	41.75	37.33	49.96	36.51	43.96	39.10	46.88	34.57	41.39	36.94
Oct-14	42.73	34.67	38.83	36.09	45.54	36.02	40.91	37.69	42.20	34.00	38.77	35.62
Nov-14	42.91	35.65	40.16	37.46	45.80	36.90	42.51	39.14	42.21	35.28	39.90	37.13
Dec-14	50.32	39.07	45.41	41.23	52.16	40.09	47.37	42.57	49.01	38.36	44.24	40.36
Jan-15	53.79	40.76	47.87	43.37	55.98	41.63	49.77	44.62	52.37	39.59	45.84	41.88
Feb-15	51.84	40.44	45.43	42.25	54.41	41.72	47.96	43.99	50.59	39.88	44.23	41.46
Mar-15	44.00	37.43	40.10	38.41	46.32	38.63	41.78	39.78	43.16	36.97	39.73	37.99
Apr-15	40.36	33.66	37.54	35.01	40.99	34.70	38.23	35.93	39.73	33.00	37.16	34.44
May-15	41.79	33.38	38.33	35.32	42.37	34.24	39.00	36.11	41.09	32.52	38.00	34.67
Jun-15	50.04	35.29	43.18	38.04	51.18	35.88	44.52	38.88	49.33	34.59	42.80	37.45
Jul-15	64.20	37.95	49.73	41.96	64.44	38.48	50.69	42.64	62.82	37.22	49.10	41.26
Aug-15	55.44	37.13	46.75	40.90	57.29	37.64	47.99	41.70	55.45	36.40	46.13	40.22
Sep-15	44.72	33.80	40.40	36.10	45.91	34.59	41.04	36.83	44.51	33.48	39.73	35.65
Oct-15	41.44	33.36	37.37	34.83	42.13	34.22		35.65	40.96	32.88	37.49	34.57
Nov-15	41.53	35.11	38.87		42.29	35.83		37.20	41.09	34.62		36.01
Dec-15	49.21	39.76		41.35	50.44	40.16		42.00	48.84	38.95		40.59
Jan-16	53.13	42.10	47.61	44.26	54.68	42.75	49.05	45.22	52.35	41.17	46.38	43.22
Feb-16	50.52	40.35	44.40		52.17	41.20		42.71	49.82	40.02	43.61	
Mar-16	43.47	37.34		38.14	43.99	38.13		38.89	42.70	36.74		37.66
Apr-16	41.00	34.06		35.58	41.61	34.80		36.34	40.22	32.89	37.65	
May-16	42.90	34.04		35.79	43.51	34.99		36.64	42.20	33.13		35.02
Jun-16	51.72	36.40		39.03	53.19	37.09		39.93	51.12	35.53		38.33
Jul-16	68.39	39.08		43.59	68.68	39.71		44.48	66.32	38.27		42.87
Aug-16	57.50	38.13		41.27	58.94	38.79		42.08	56.88	37.29	46.67	
Sep-16	45.46	34.79		37.09	46.54	35.63		37.94	45.14	34.10		36.42
Oct-16	42.72	34.34		35.92	43.31	35.26		36.85	41.99	33.58		35.37
Nov-16	43.41	36.49		37.81	44.32	37.27		38.56	42.82	35.95		37.26
Dec-16	49.84	40.95		42.45	51.29	41.44		43.16	49.56	40.20		41.77
Jan-17	53.42	42.37		44.40	54.76	42.89		45.12	53.00	41.67		43.53
Feb-17	50.65	41.00	44.21		51.86	41.75		42.98	49.95	41.01		42.08
Mar-17	43.86	37.89		38.69	44.33	38.55		39.34	43.25	37.49		38.35
Apr-17	41.78	34.57	38.67		42.30	35.45		37.03	41.09	33.80		35.68
May-17	44.24	35.13	39.96		44.91	35.99		37.55	43.62	34.38		36.18
Jun-17	53.75	37.02		39.84	54.84	37.72		40.67	53.05	36.38		39.30
Jul-17	74.20	39.78	52.27		75.06	40.42		45.45	71.44	39.11		44.00
Aug-17	59.98	38.67	48.47		61.06	39.32		42.84	58.89	38.13		41.53
Sep-17	46.11	35.45		37.87	47.23	36.25		38.66	46.08	34.99		37.36
Oct-17	43.53	35.18		36.59	44.04	36.11		37.42	42.68	34.72		36.26
Nov-17	44.15	37.35		38.68	45.09	38.04		39.29	43.81	36.90		38.28
Dec-17	51.56	41.82	45.84	43.39	52.79	42.35	47.20	44.25	51.29	41.16	45.55	42.88

 Update Month:
 Jul-2014
 Aug-2014
 Sep-2014

 Natural Gas Quote:
 6/30/2014
 7/31/2014
 8/29/2014

	<b>Peak</b>	Off-Peak	Weekend	<u>Wrap</u>	<b>Peak</b>	Off-Peak	Weekend	<u>Wrap</u>	<b>Peak</b>	Off-Peak	Weekend Wrap
Jan-13											
Feb-13											
Mar-13											
Apr-13											
May-13											
Jun-13											
Jul-13											
Aug-13											
Sep-13											
Oct-13											
Nov-13											
Dec-13											
Jan-14											
Feb-14											
Mar-14											
Apr-14											
May-14											
Jun-14											
Jul-14	70.33	32.41	42.87	36.21							
Aug-14	61.42	31.47	41.06	34.96	59.29	29.29	38.19	32.53			
Sep-14	40.12	25.79	37.16	29.93	37.15	23.83	34.94	27.87	38.34	26.43	33.00 28.71
Oct-14	35.57	24.87	34.79	28.48	33.51	23.01	32.13	26.33	34.36	25.51	32.35 27.84
Nov-14	38.61	27.38	35.19	30.22	35.36	26.58	34.17	29.34	36.00	28.58	35.16 31.21
Dec-14	53.96	38.12	42.39	39.67	50.76	36.89	41.05	38.40	49.86	37.85	41.98 39.25
Jan-15	54.82	38.37	45.85	41.09	51.00	37.21	42.62	39.17	51.14	38.75	43.84 40.62
Feb-15	54.24	39.18	44.60	41.15	51.20	37.97	42.51	39.62	51.94	39.20	42.87 40.53
Mar-15	43.03	35.70	42.94	38.33	41.05	33.81	38.93	35.67	42.34	35.76	39.55 37.15
Apr-15	40.71	31.70	41.05	35.10	39.05	30.15	38.73	33.27	40.13	32.33	39.38 34.78
May-15	39.89	31.07	40.41	34.47	38.84	30.05	38.02	32.95	38.66	30.65	38.09 33.57
Jun-15	44.29	28.57	39.48	32.54	43.07	27.24	37.56	30.99	42.96	29.37	36.83 31.97
Jul-15	70.48	32.51	42.49	36.14	68.68	31.09	40.53	34.52	64.66	33.16	39.94 35.46
Aug-15	51.88	31.58	39.94	34.62	52.40	30.22	38.24	33.14	54.34	32.15	38.57 34.67
Sep-15	39.19	27.25	37.25	30.89	38.12	26.15	35.46	29.54	38.23	28.01	35.07 30.46
Oct-15	37.43	27.91	36.75	31.12	36.24	26.52	34.28	29.34	37.17	28.52	34.74 30.81
Nov-15	39.61	30.80	38.94	33.76	38.08	29.84	37.85	32.75	37.62	31.02	37.24 33.35
Dec-15	44.26	35.86	42.74	38.36	43.71	35.06	41.18	37.29	43.88	36.47	41.57 38.20
Jan-16	54.56	39.00	45.72	41.44	53.30	38.54	44.75	40.79	53.24	40.10	45.00 42.02
Feb-16	53.63	39.93	44.81	41.71	52.66	39.53	44.05	41.18	51.91	40.49	44.45 41.90
Mar-16	40.93	35.34	41.85	37.70	39.73	34.47	40.28	36.58	40.86	35.53	40.34 37.16
Apr-16	41.25	29.51	37.66	32.47	39.78	28.39	36.43	31.32	39.96	31.02	38.26 33.74
May-16	40.28	29.53	40.05	33.36	39.11	28.42	38.79	32.19	38.48	29.61	37.23 32.41
Jun-16	46.39	30.03	40.36	33.79	45.81	29.10	38.94	32.68	45.60	31.07	38.46 33.64
Jul-16	65.31	33.64	44.74	37.68	65.56	32.75	43.43	36.64	66.30	34.70	41.46 37.35
Aug-16	53.58	33.05	41.67	36.18	51.39	31.77	40.58	34.98	54.66	33.57	39.91 35.73
Sep-16	40.54	28.53	38.69	32.23	39.96	27.61	37.63	31.25	40.72	29.63	36.67 32.08
Oct-16	40.58	32.16	39.81	34.95	39.98	30.83	38.74	33.71	40.97	32.49	37.90 34.61
Nov-16	43.64	33.39	40.88	36.12	42.35	32.43	39.94	35.16	41.06	32.97	39.32 35.17
Dec-16	44.12	36.48	44.49	39.39	43.51	35.88	42.76	38.38	44.57	37.32	43.13 39.46
Jan-17	56.30	40.09	47.47	42.77	54.86	39.67	46.37	42.11	53.13	40.89	45.86 42.72
Feb-17	53.41	40.90	46.25	42.85	51.68	40.42	45.31	42.20	51.79	41.33	45.45 42.83
Mar-17	42.01	35.94	41.51	37.96	40.99	35.11	40.26	36.98	41.92	36.39	40.48 37.78
Apr-17	40.86	30.05	36.92	32.55	39.92	29.10	35.49	31.42	38.80	30.94	36.59 33.20
May-17	41.43	29.89	39.50	33.39	40.44	29.04	38.56	32.50	38.95	29.79	37.62 32.46
Jun-17	47.06	30.74	40.56	34.31	46.40	29.97	39.79	33.54	46.38	31.69	39.31 34.34
Jul-17	65.21	34.34	45.63	38.45	65.67	33.57	44.38	37.50	65.67	35.43	42.15 38.07
Aug-17	52.69	33.63	42.40	36.82	51.72	32.86	41.43	35.98	54.53	34.20	40.70 36.42
Sep-17	41.85	29.11	39.92	33.04	40.77	28.39	39.04	32.26	41.24	30.57	38.64 33.60
Oct-17	41.35	30.97	42.51	35.17	40.61	30.11	40.82	34.00	40.64	31.51	38.64 34.13
Nov-17	41.68	32.91		35.82	41.12	32.08		34.90	40.29	33.08	39.85 35.43
Dec-17	44.85	37.46		40.75	44.50	37.18		39.71	45.24	38.48	43.85 40.58

 Update Month:
 Oct-2014
 Nov-2014
 Dec-2014

 Natural Gas Quote:
 9/30/2014
 10/31/2014
 11/28/2014

	<b>Peak</b>	Off-Peak	Weekend	<u>Wrap</u>	<u>Peak</u>	Off-Peak	Weekend	<u>Wrap</u>	<u>Peak</u>	Off-Peak	Weekend	Wrap
Jan-13												
Feb-13												
Mar-13												
Apr-13												
May-13												
Jun-13												
Jul-13												
Aug-13												
Sep-13												
Oct-13												
Nov-13												
Dec-13												
Jan-14												
Feb-14												
Mar-14												
Apr-14												
May-14												
Jun-14												
Jul-14												
Aug-14												
Sep-14												
Oct-14	34.07	25.32	31.86	27.54								
Nov-14	35.98	28.56	35.19	31.21	33.76	26.88	33.27	29.44				
Dec-14	49.81	37.87	41.95	39.26	47.99	37.11	40.84	38.38	44.12	35.90	41.70	37.87
Jan-15	50.86	38.69	43.83	40.58	49.70	37.98	42.78	39.74	50.47	38.30	44.03	40.40
Feb-15	51.73	39.14	42.84	40.49	49.82	38.44	41.92	39.70	50.72	38.42	42.02	39.73
Mar-15	42.23	35.66	39.58	37.10	41.07	34.28	38.10	35.69	40.77	32.63	37.23	34.32
Apr-15	40.01	32.21	39.25	34.66	38.98	31.07	37.82	33.42	37.58	28.50	35.67	30.99
May-15	38.49	30.50	37.94	33.41	37.51	29.47	36.68	32.30	36.79	26.99	34.62	29.98
Jun-15	42.96	29.21	36.64	31.80	42.01	28.32	35.78	30.92	41.50	26.53	34.90	29.44
Jul-15	64.61	33.00	39.82	35.32	64.83	32.04	38.75	34.33	64.85	30.68	38.12	33.21
Aug-15	53.81	32.02	38.37	34.51	54.02	31.08	37.55	33.61	54.55	29.49	36.80	32.36
Sep-15	38.14	27.86	34.88	30.30	37.40	26.89	34.15	29.41	36.78	25.03	33.13	27.85
Oct-15	37.05	28.36	34.39	30.58	36.13	27.32	33.39	29.55	35.22	25.10	31.90	27.60
Nov-15	37.41	30.89	37.21		36.84	30.03		32.34	36.35	28.96		
Dec-15	43.85	36.32	41.21		43.29	35.76		37.38	42.33	34.57	39.01	36.08
Jan-16	52.98	39.98	44.81		52.05	39.55		41.35	50.98	39.26	44.32	41.24
Feb-16	51.50	40.39		41.74	50.61	40.02		41.39	47.06	38.70	43.90	
Mar-16	40.75	35.39	40.13		40.19	34.60	38.90	36.06	39.88	32.11	37.48	33.94
Apr-16	39.71	30.79	38.11		38.94	30.22	37.47		37.19	28.02	33.64	
May-16	38.35	29.50		32.27	37.79	28.81		31.61	36.34	26.64		29.23
Jun-16	45.56	30.90	38.10		45.05	30.35	37.55		44.14	28.45	36.47	31.24
Jul-16	65.79	34.54		37.16	65.09	33.92		36.52	64.95	32.38	39.64	
Aug-16	54.69	33.38	39.79		54.31	32.80		35.02	53.58	30.99	38.20	33.45
Sep-16	40.53	29.46		31.96	39.92	28.86	36.13		38.45	27.03	35.01	29.80
Oct-16	40.83	32.32		34.46	40.35	31.52		33.74	39.55	29.50		31.89
Nov-16	40.88	32.82	39.17		40.29	32.09		34.30	39.49	31.16	37.50	
Dec-16	44.47	37.23		39.36	43.83	36.61		38.59	43.77	36.18	40.81	37.88
Jan-17	53.12	40.82		42.62	52.35	40.45	45.08		51.05	40.56	45.25	42.28
Feb-17	51.46	41.19		42.77	50.48	40.80	45.09	42.36	47.66	39.84	44.89	41.68
Mar-17	41.77	36.26		37.65	40.95	35.49		36.84	40.49	32.85	38.68	
Apr-17	38.73	30.89	36.52		38.15	30.12	35.37		37.66	29.53	34.63	31.57
May-17	38.86	29.69		32.36	38.17	28.94		31.60	37.69	28.22	35.83	30.81
Jun-17	46.38	31.62		34.26	45.65	30.98		33.55	45.35	30.34	37.89	
Jul-17	66.20	35.28		37.93	65.23	34.65		37.28	65.47	34.50	41.30	
Aug-17	54.52	34.09		36.28	53.53	33.54		35.75	53.54	32.94	39.67	
Sep-17	41.05	30.43	38.50		40.21	29.63	37.77	32.69	39.43	28.76	36.50	
Oct-17	40.45	31.34	38.53		39.80	30.66		33.24	39.20	29.48	34.92	31.48
Nov-17	40.18	32.96		35.32	39.71	32.17		34.41	39.49	31.78	38.76	
Dec-17	45.25	38.45	45./1	40.51	44.75	37.71	42.92	39.75	44.80	37.49	42.00	39.52

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 40** 

**Responding Witness: David S. Sinclair / Counsel** 

- Q.1-40. Please provide all internal emails in the possession of any of the witnesses in this case which discuss the expected level of off-system sales margins for the base year and the test year.
- A.1-40. The Company objected to this question on January 19, 2015, because it requires the Company to reveal the contents of communications with counsel and the mental impressions of counsel, which information is protected from disclosure by the attorney-client privilege and the work product doctrine. Without waiver of these objections, see the attached documents that have been identified within the time permitted for this response. Counsel for the Company is continuing to undertake a reasonable and diligent search for other such documents and will reasonably supplement this response through a rolling production of documents.

# Attachment in Separate File

The attachment is being provided in a separate file.

## Attachment in Excel

The attachment(s) provided in separate file(s) in Excel format.

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 41** 

Responding Witness: David S. Sinclair

- Q.1-41. Please provide a schedule showing the forecasted generation from each of the Company's units over the base year and the future test year compared to forecasted Kentucky retail sales, all-requirements wholesale sales, and offsystem sales.
- A.1-41. See attached. Only off-system sales (OSS) are available by unit. Therefore, the attachment lists generation for each of the Company's units compared to native load sales, intercompany sales, and OSS.

#### Distribution of KU Generation in the Base Period to Native Load, Intercompany Sales, and OSS (GWh)

	Total KU		Intercompany	
		Native Load Sales <sup>1</sup>	Sales	OSS <sup>1</sup>
<u>Coal</u>				
Brown 1	364	351	2	11
Brown 2	688	645	6	37
Brown 3	1,302	1,262	4	36
Cane Run 4	NA			
Cane Run 5	NA			
Cane Run 6	NA			
Ghent 1	3,304	3,277	7	20
Ghent 2	3,461	3,457	1	3
Ghent 3	3,086		53	79
Ghent 4	2,887	2,882	5	0
Green River 3	327		3	13
Green River 4	681	671	2	7
Mill Creek 1	NA			
Mill Creek 2	NA			
Mill Creek 3	NA			
Mill Creek 4	NA			_
OVEC	262	262	0	0
Trimble County 1	NA	2 200	•	
Trimble County 2	2,390	2,390	0	0
<u>SCCT</u>		2	•	
Brown 5	4		0	1
Brown 6	76	71	0	4
Brown 7	75 7	67	1	7
Brown 8	7		0	2
Brown 9 Brown 10	5 5	4	0	1
Brown 11	6	4 5	0	1
Cane Run 11	NA NA	Э	U	1
Haefling	0	0	0	0
LSPower PPA	NA NA	O	O	O
Paddys Run 11	NA NA			
Paddys Run 12	NA NA			
Paddys Run 13	50	46	2	3
Trimble County 5	160		4	6
Trimble County 6	138		2	8
Trimble County 7	99	91	1	6
Trimble County 8	20	17	0	2
Trimble County 9	95	89	1	5
Trimble County 10	27	26	0	1
Zorn	NA			
NGCC				
Cane Run 7	295	295	0	0
<u>Hydro</u>				
Dix Dam	76	76	0	0
Ohio Falls	NA			
Total Coal	18,752	18,463	83	206
Total SCCT	767	709	10	47
Total NGCC	295	295	0	0
Total Hydro	76	76	0	0
Grand Total	19,890	19,544	93	254
Replacement Sales Adjustment <sup>1</sup>	0	214	0	(214)
Adjusted Grand Total	19,890	19,758	93	40

#### Notes

<sup>&</sup>lt;sup>1</sup>Native load and OSS volumes in the forecasted portion of the Base Period do not reflect the impact of replacement sales from KU to LG&E (a forecast of replacement sales volumes is not available by unit). Instead, this impact is reflected in a single adjustment to total native load and OSS sales.

#### Distribution of KU Generation in the Forecasted Test Period to Native Load, Intercompany Sales, and OSS (GWh

	Total KU	Native Load	Intercompany	
	Generation	Sales <sup>1</sup>	Sales	OSS <sup>1</sup>
<u>Coal</u>				
Brown 1	216	209	3	4
Brown 2	487	425	36	27
Brown 3	920	918	2	0
Cane Run 4	NA			
Cane Run 5	NA			
Cane Run 6	NA			
Ghent 1	3,122	3,085	24	12
Ghent 2	2,631	2,622	6	2
Ghent 3	3,169	3,112	46	12
Ghent 4	3,103	3,098	5	0
Green River 3	192	182	6	4
Green River 4	474	467	2	4
Mill Creek 1	NA			
Mill Creek 2	NA			
Mill Creek 3	NA			
Mill Creek 4	NA			
OVEC	256	256	0	0
Trimble County 1	NA			
Trimble County 2	3,079	3,079	0	0
<u>SCCT</u>				
Brown 5	1	1	0	0
Brown 6	39	37	2	0
Brown 7	65	63	2	0
Brown 8	18	17	1	0
Brown 9	2	2	0	0
Brown 10	2	1	0	0
Brown 11	5	5	0	0
Cane Run 11	NA			
Haefling	0	0	0	0
LSPower PPA	NA			
Paddys Run 11	NA			
Paddys Run 12	NA			
Paddys Run 13	59	55	3	0
Trimble County 5	191	169	21	0
Trimble County 6	163	149	14	0
Trimble County 7	113	104	10	0
Trimble County 8	23	21	2	0
Trimble County 9	90	85	6	0
Trimble County 10	14	13	1	0
Zorn	NA			
NGCC				
Cane Run 7	3,150	2,741	177	233
<u>Hydro</u>				
Dix Dam	74	74	0	0
Ohio Falls	NA			
Total Coal	17,649	17,453	130	65
Total SCCT	785	723	62	0
Total NGCC	3,150	2,741	177	233
Total Hydro	74	74	0	0
Grand Total	21,658	20,991	369	298
Replacement Sales Adjustment <sup>1</sup>	0	212	0	(212)
Adjusted Grand Total	21,658	21,203	369	86

#### Notes

<sup>&</sup>lt;sup>1</sup>Native load and OSS volumes do not reflect the impact of replacement sales from KU to LG&E (a forecast of replacement sales volumes is not available by unit). Instead, this impact is reflected in a single adjustment to total native load and OSS sales.

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Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 42** 

- Q.1-42. Please provide electronic copies, in excel format with all formulas intact, of exhibits MJB-1 through MJB-13.
- A.1-42. See the response to PSC 2-60, which lists all files submitted in response to a request for Dr. Blake's exhibits, schedules, and supporting workpapers. The attachment to the response identifies all files responsive to this request.

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Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 43** 

- Q.1-43. For each of the exhibits requested in the previous question, please provide all supporting schedules and workpapers. To the extent that such schedules and workpapers are available in excel format, please provide in electronic format with all formulas intact.
- A.1-43. See the response to PSC 2-60, which lists all files submitted in response to a request for Dr. Blake's exhibits, schedules, and supporting workpapers. The attachment to the response identifies all files responsive to this request.

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#### Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

#### **Question No.44**

**Responding Witness: Robert M. Conroy** 

- Q.1-44. Please provide electronic copies, in excel format with all formulas intact, of Mr. Conroy's exhibits RMC-1 and RMC-2.
- A.1-44. See the response to PSC 2-60, which lists all files submitted in response to a request for Mr. Conroy's exhibits, schedules, and supporting workpapers. The attachment to the response identifies all files responsive to this request.

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Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 45** 

**Responding Witness: Robert M. Conroy** 

- Q.1-45. For each of the exhibits requested in the previous question, please provide all supporting schedules and workpapers. To the extent that such schedules and workpapers are available in excel format, please provide in electronic format with all formulas intact.
- A.1-45. See the response to PSC 2-60, which lists all files submitted in response to a request for Mr. Conroy's exhibits, schedules, and supporting workpapers. The attachment to the response identifies all files responsive to this request.

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#### Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

#### **Question No. 46**

Responding Witness: Robert M. Conroy / Dr. Martin J. Blake

- Q.1-46. Please provide an electronic excel version of Schedules M-1.1-E, 1.2-E, 1.3-E, 2.1-E, 2.2-E, 2.3 and Schedule N (Electric), with all formulas intact.
- A.1-46. See the response to PSC 2-60, which lists all files submitted in response to a request for Dr. Blake's and Mr. Conroy's exhibits, schedules, and supporting workpapers. The attachment to the response identifies all files responsive to this request.

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#### Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

#### **Question No. 47**

Responding Witness: Robert M. Conroy / Dr. Martin J. Blake

- Q.1-47. For each of the Schedules requested in the previous question, please provide all supporting schedules and workpapers. To the extent that such schedules and workpapers are available in excel format, please provide in electronic format with all formulas intact.
- A.1-47. See the response to Question No. 1-46.

#### CASE NO. 2014-00371

#### Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

#### **Question No. 48**

Responding Witness: David S. Sinclair

- Q.1-48. For the period 2012, 2013, 2014, and for the projected test year ending June 2016, please provide a load and capability schedule (in electronic excel format with formulas intact) for the combined KU/LGE system showing, at a minimum:
  - a. Projected monthly coincident firm peak demand (retail and wholesale requirements/native load customers).
  - b. Projected monthly interruptible/curtailable demand at the time of the system peak
  - c. Total installed generating capacity, separately stated for owned capacity, long-term purchases (greater than 1 year contracts), short-term purchases, other (if shown, please explain), requirements sales to third parties (off-system sales obligations pursuant to a contract.
  - d. Total capacity retirements and additions or other changes comprising the monthly capacity amounts in (3) above.
  - e. Project system monthly reserve margin.
- A.1-48. a-e. See attachment being provided in Excel format.

## Attachment in Excel

The attachment(s) provided in separate file(s) in Excel format.

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Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 49** 

- Q.1-49. To the extent not provided in response to the previous question, please provide, in electronic excel format with all formulas intact, the proof of revenues for each of the Company's Electric rate schedules, showing all billing determinants, present rates, proposed rates, and the increase for each rate element (e.g, kWh charges, kVa charges, customer charges, etc.).
- A.1-49. See the response to PSC 2-60, which lists all files submitted in response to a request for Dr. Blake's exhibits, schedules, and supporting workpapers. The attachment to the response identifies all files responsive to this request.

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Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 50** 

- Q.1-50. Please provide all workpapers, in electronic excel spreadsheets with formulas intact, supporting the development of all demand and energy allocation factors used in the class cost-of-service study. This includes, but is not limited to, all loss factors for each rate class at each voltage level, hourly or monthly kW or kVa demands by rate class, year-end customer adjustments, any other adjustments reflected in the analysis.
- A.1-50. See the response to PSC 2-60, which lists all files submitted in response to a request for Dr. Blake's exhibits, schedules, and supporting workpapers. The attachment to the response identifies all files responsive to this request.

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Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 51** 

- Q.1-51. Please provide the following information for each rate class/rate schedule included as a separate class in the class cost-of-service study for the 12 month test year ending June 2016:
  - a. Monthly coincident peak demand for the rate class/rate schedule at the time of the LGE/KU monthly system peak.
  - b. Monthly MWh energy at the generation voltage level for the rate class/rate schedule.
  - c. Energy and demand loss factors for each voltage level, by rate class/rate schedule, at which customers on the rate class/rate schedule take service.
  - d. Monthly MWh energy sales at the meter, separately stated for each voltage at which customers in each rate class/rate schedule take service, by rate class/rate schedule (for example, the metered MWh for Rate PS secondary and Rate PS primary by month).
- A.1-51. a. The Company does not forecast the requested information by rate class. Hourly loads by rate class were developed by spreading forecasted annual metered energy by rate class based on historic load data. See attachments provided in response to PSC 2-60, which lists all files submitted in response to a request for Dr. Blake's exhibits, schedules, and supporting workpapers. The attachment to the response identifies all files responsive to this request.
  - b. The Company does not forecast the requested information by rate class. The requested information can be obtained by applying loss factors to the monthly metered load forecast by rate schedule. See attachments provided in response to PSC 2-60, which lists all files submitted in response to a request for Dr. Blake's exhibits, schedules, and supporting workpapers. The attachment to the response identifies all files responsive to this request.

- c. See attachments provided in response to PSC 2-60, which lists all files submitted in response to a request for Dr. Blake's exhibits, schedules, and supporting workpapers. The attachment to the response identifies all files responsive to this request.
- d. See attachments provided in response to PSC 2-60, which lists all files submitted in response to a request for Dr. Blake's exhibits, schedules, and supporting workpapers. The attachment to the response identifies all files responsive to this request.

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Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 52** 

Responding Witness: Edwin R. "Ed" Staton

- Q.1-52. Please provide a copy of the most recent IRP for the Company.
- A.1-52. The most recent IRP is publicly available and on file with the Commission in Case No. 2014-00131, In the Matter of *The 2014 Joint Integrated Resource Plan of Louisville Gas and Electric Company and Kentucky Utilities Company.*

#### CASE NO. 2014-00371

#### Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

#### **Question No. 53**

Responding Witness: David S. Sinclair / Robert M. Conroy

- Q.1-53. With respect to the Curtailable Service Rider ("CSR"), please provide the kW amount of load and number of customers, by month, for 2012, 2013, 2014, and for the projected test year ending June 2016 on each of the CSR options, by rate schedule and by Company.
- A.1-53. The Company does not forecast load for all customers on the CSR riders. See Attachment 1 for the requested load data for 2012-2014 for all CSR customers, and Attachment 2 for the forecast load data for one CSR customer. Note that the load data is in kVA rather than in kW.

# Attachment 1 to Response to KIUC Question No. 1-53 Page 1 of 4 Conroy

Rate Tariff	Company	Billing Period	Total Billable kVA	Total Billable kW	No. Customers
CSR10 - Primary	KU	2009/04	0	5,650	1
CSR10 - Primary	KU	2009/05	0	5,504	1
CSR10 - Primary	KU	2009/06	0	4,646	1
CSR10 - Primary	KU	2009/07	0	4,446	1
CSR10 - Primary	KU	2009/08	0	4,738	1
CSR10 - Primary	KU	2009/09	0	4,688	1
CSR10 - Primary	KU	2009/10	0	4,668	1
CSR10 - Primary	KU	2009/11	0	4,724	1
CSR10 - Primary	KU	2009/12	0	4,758	1
CSR10 - Primary	KU	2010/01	0	4,652	1
CSR10 - Primary	KU	2010/02	0	4,738	1
CSR10 - Primary	KU	2010/03	0	4,778	1
CSR10 - Primary	KU	2010/04	0	4,832	1
CSR10 - Primary	KU	2010/05	0	5,264	1
CSR10 - Primary	KU	2010/06	0	4,718	1
CSR10 - Primary	KU	2010/07	0	4,776	1
CSR10 - Primary	KU	2010/08	0	4,680	1
CSR10 - Primary	KU	2010/09	0	4,148	1
CSR10 - Primary	KU	2010/10	0	4,720	1
CSR10 - Primary	KU	2010/11	0	4,596	1
CSR10 - Primary	KU	2010/12	0	4,348	1
CSR10 - Primary	KU	2011/01	0	4,574	1
CSR10 - Primary	KU	2011/02	0	4,514	1
CSR10 - Primary	KU	2011/03	0	4,652	1
CSR10 - Primary	KU	2011/04	0	4,364	1
CSR10 - Primary	KU	2011/05	29,308	4,412	2
CSR10 - Primary	KU	2011/06	29,465	4,438	2
CSR10 - Primary	KU	2011/07	29,399	4,496	2
CSR10 - Primary	KU	2011/08	29,426	4,444	2
CSR10 - Primary	KU	2011/09	29,364	4,570	2
CSR10 - Primary	KU	2011/10	29,451	4,832	2
CSR10 - Primary	KU	2011/11	29,147	4,982	2
CSR10 - Primary	KU	2011/12	29,340	4,614	2
CSR10 - Primary	KU	2012/01	29,508	4,988	2
CSR10 - Primary	KU	2012/02	29,296	5,046	2
CSR10 - Primary	KU	2012/03	29,399	4,942	2
CSR10 - Primary	KU	2012/04	29,474	4,574	2
CSR10 - Primary	KU	2012/05	29,473	4,640	2
CSR10 - Primary	KU	2012/06	29,331	4,654	2
CSR10 - Primary	KU	2012/07	28,390	4,498	2
CSR10 - Primary	KU	2012/08	28,509	4,148	2

Rate Tariff	Company	Billing Period	Total Billable kVA	Total Billable kW	No. Customers
CSR10 - Primary	KU	2012/09	28,308	4,090	2
CSR10 - Primary	KU	2012/10	28,974	4,378	2
CSR10 - Primary	KU	2012/11	28,992	4,522	2
CSR10 - Primary	KU	2012/12	26,738	4,610	2
CSR10 - Primary	KU	2013/01	28,630	4,248	2
CSR10 - Primary	KU	2013/02	28,027	92	2
CSR10 - Primary	KU	2013/03	26,741	0	1
CSR10 - Primary	KU	2013/04	27,530	0	1
CSR10 - Primary	KU	2013/05	29,064	0	1
CSR10 - Primary	KU	2013/06	28,835	0	1
CSR10 - Primary	KU	2013/07	26,190	0	1
CSR10 - Primary	KU	2013/08	26,502	0	1
CSR10 - Primary	KU	2013/09	26,385	0	1
CSR10 - Primary	KU	2013/10	29,085	0	1
CSR10 - Primary	KU	2013/11	27,464	0	1
CSR10 - Primary	KU	2013/12	26,982	0	1
CSR10 - Primary	KU	2014/01	26,682	0	1
CSR10 - Primary	KU	2014/02	28,453	0	1
CSR10 - Primary	KU	2014/03	28,294	0	1
CSR10 - Primary	KU	2014/04	26,652	0	1
CSR10 - Primary	KU	2014/05	26,687	0	1
CSR10 - Primary	KU	2014/06	28,409	0	1
CSR10 - Primary	KU	2014/07	28,773	0	1
CSR10 - Transmission	KU	2010/10	388,177	0	1
CSR10 - Transmission	KU	2010/11	376,791	0	1
CSR10 - Transmission	KU	2010/12	370,757	0	1
CSR10 - Transmission	KU	2011/01	410,873	0	1
CSR10 - Transmission	KU	2011/02	450,133	0	1
CSR10 - Transmission	KU	2011/03	442,352	0	1
CSR10 - Transmission	KU	2011/04	448,221	0	1
CSR10 - Transmission	KU	2011/05	447,929	0	1
CSR10 - Transmission	KU	2011/06	539,331	0	1
CSR10 - Transmission	KU	2011/07	492,825	0	1
CSR10 - Transmission	KU	2011/08	395,992	0	1
CSR10 - Transmission	KU	2011/09	454,939	0	1
CSR10 - Transmission	KU	2011/10	887,644	0	1
CSR10 - Transmission	KU	2011/11	438,076	0	1
CSR10 - Transmission	KU	2011/12	438,765	0	1
CSR10 - Transmission	KU	2012/01	444,490	0	1
CSR10 - Transmission	KU	2012/02	448,655	0	1
CSR10 - Transmission	KU	2012/03	441,924	0	1

Rate Tariff	Company	Billing Period	Total Billable kVA	Total Billable kW	No. Customers
CSR10 - Transmission	KU	2012/04	451,165	0	1
CSR10 - Transmission	KU	2012/05	449,504	0	1
CSR10 - Transmission	KU	2012/06	447,748	0	1
CSR10 - Transmission	KU	2012/07	444,789	0	1
CSR10 - Transmission	KU	2012/08	441,009	0	1
CSR10 - Transmission	KU	2012/09	452,967	0	1
CSR10 - Transmission	KU	2012/10	436,245	0	1
CSR10 - Transmission	KU	2012/11	441,224	0	1
CSR10 - Transmission	KU	2012/12	443,044	0	1
CSR10 - Transmission	KU	2013/01	441,403	0	1
CSR10 - Transmission	KU	2013/02	459,914	0	1
CSR10 - Transmission	KU	2013/03	463,343	0	1
CSR10 - Transmission	KU	2013/04	448,811	0	1
CSR10 - Transmission	KU	2013/05	444,285	0	1
CSR10 - Transmission	KU	2013/06	448,494	0	1
CSR10 - Transmission	KU	2013/07	444,027	0	1
CSR10 - Transmission	KU	2013/08	472,698	0	1
CSR10 - Transmission	KU	2013/09	472,654	0	1
CSR10 - Transmission	KU	2013/10	461,012	0	1
CSR10 - Transmission	KU	2013/11	454,657	0	1
CSR10 - Transmission	KU	2013/12	448,077	0	1
CSR10 - Transmission	KU	2014/01	452,248	0	1
CSR10 - Transmission	KU	2014/02	445,739	0	1
CSR10 - Transmission	KU	2014/03	451,215	0	1
CSR10 - Transmission	KU	2014/04	490,455	0	1
CSR10 - Transmission	KU	2014/05	518,857	0	1
CSR10 - Transmission	KU	2014/06	532,264	0	1
CSR10 - Transmission	KU	2014/07	507,549	0	1
CSR10 - Transmission	KU	2014/08	521,904	0	1
CSR10 - Transmission	KU	2014/09	516,337	0	1
CSR10 - Transmission	KU	2014/10	510,536	0	1
CSR10 - Transmission	KU	2014/11	511,762	0	1
CSR10 - Transmission	KU	2014/12	514,045	0	1
CSR30 - Primary	KU	2013/02	24,651	0	1
CSR30 - Primary	KU	2013/03	24,455	0	1
CSR30 - Primary	KU	2013/04	21,784	0	1
CSR30 - Primary	KU	2013/05	19,357	0	1
CSR30 - Primary	KU	2013/06	20,284	0	1
CSR30 - Primary	KU	2013/07	19,291	0	1
CSR30 - Primary	KU	2013/08	20,484	0	1
CSR30 - Primary	KU	2013/09	19,332	0	1

# Attachment 1 to Response to KIUC Question No. 1-53 Page 4 of 4 Conroy

Rate Tariff	Company	Billing Period	Total Billable kVA	Total Billable kW	No. Customers
CSR30 - Primary	KU	2013/10	19,345	0	1
CSR30 - Primary	KU	2013/11	18,506	0	1
CSR30 - Primary	KU	2013/12	17,908	0	1
CSR30 - Primary	KU	2014/01	18,028	0	1
CSR30 - Primary	KU	2014/02	46,997	0	2
CSR30 - Primary	KU	2014/03	46,325	0	2
CSR30 - Primary	KU	2014/04	45,588	0	2
CSR30 - Primary	KU	2014/05	45,567	0	2
CSR30 - Primary	KU	2014/06	47,659	0	2
CSR30 - Primary	KU	2014/07	49,878	0	2
CSR30 - Primary	KU	2014/08	79,296	0	3
CSR30 - Primary	KU	2014/09	78,192	0	3
CSR30 - Primary	KU	2014/10	77,404	0	3
CSR30 - Primary	KU	2014/11	77,410	0	3
CSR30 - Primary	KU	2014/12	76,548	0	3
CSR30 - Transmission	KU	2009/03	0	237,212	1
CSR30 - Transmission	KU	2009/04	256,713	0	1
CSR30 - Transmission	KU	2009/05	257,281	0	1
CSR30 - Transmission	KU	2009/06	260,719	0	1
CSR30 - Transmission	KU	2009/07	236,985	0	1
CSR30 - Transmission	KU	2009/08	240,149	0	1
CSR30 - Transmission	KU	2009/09	240,517	0	1
CSR30 - Transmission	KU	2009/10	239,285	0	1
CSR30 - Transmission	KU	2009/11	235,599	0	1
CSR30 - Transmission	KU	2009/12	237,762	0	1
CSR30 - Transmission	KU	2010/01	233,182	0	1
CSR30 - Transmission	KU	2010/02	235,604	0	1
CSR30 - Transmission	KU	2010/03	243,877	0	1
CSR30 - Transmission	KU	2010/04	240,765	0	1
CSR30 - Transmission	KU	2010/05	232,601	0	1
CSR30 - Transmission	KU	2010/06	235,544	0	1
CSR30 - Transmission	KU	2010/07	232,244	0	1
CSR30 - Transmission	KU	2010/08	233,212	0	1
CSR30 - Transmission	KU	2010/09	394,701	0	1
CSR30 - Transmission	KU	2014/06	38,262	0	1
CSR30 - Transmission	KU	2014/07	37,801	0	1
CSR30 - Transmission	KU	2014/08	35,549	0	1
CSR30 - Transmission	KU	2014/09	35,766	0	1
CSR30 - Transmission	KU	2014/10	36,819	0	1
CSR30 - Transmission	KU	2014/11	36,498	0	1
CSR30 - Transmission	KU	2014/12	35,737	0	1

## Attachment 2 to Response to KIUC Question No. 1-53 Page 1 of 1 Sinclair

#### Forecast kVA by Billing Period

	<b>Base</b>	<u>Intermediate</u>	<u>Peak</u>	<b>Rate</b>	<b>Customers</b>
7/1/2015	185,158	185,158	101,388	FLS	1
8/1/2015	185,158	185,158	101,388	FLS	1
9/1/2015	185,158	185,158	101,388	FLS	1
10/1/2015	185,158	185,158	101,388	FLS	1
11/1/2015	185,158	185,158	101,388	FLS	1
12/1/2015	185,158	185,158	101,388	FLS	1
1/1/2016	185,158	185,158	101,388	FLS	1
2/1/2016	185,158	185,158	101,388	FLS	1
3/1/2016	185,158	185,158	101,388	FLS	1
4/1/2016	185,158	185,158	101,388	FLS	1
5/1/2016	185,158	185,158	101,388	FLS	1
6/1/2016	185,158	185,158	101,388	FLS	1

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 54** 

Responding Witness: David S. Sinclair

- Q.1-54. With respect to Mr. Sinclair's testimony on page 27, lines 5 through 11, please identify the cost savings to: KU and LGE that are not otherwise passed through to the CSR customers associated with the Companies' proposal to "simplify" the CSR tariff by eliminating "buy-throughs." Please provide a detailed explanation and quantification of each such source of savings.
- A.1-54. There is no net system fuel savings because total load is unchanged. The net effect would be that CSR customers will have slightly lower fuel costs and non-CSR customers will have slightly higher fuel costs.

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 55** 

Responding Witness: David S. Sinclair

- Q.1-55. With regard to Mr. Sinclair's testimony on page 27 wherein he discusses the proposed change in the CSR limitation on physical curtailment criterion (i.e., "none" vs. "only during system reliability events"), please identify the criterion that the Companies intend to use to determine if it should interrupt CSR load.
- A.1-55. The Companies will attempt to optimize the utilization of the 100 hours to address system conditions and reduce system fuel and purchase power costs.

#### CASE NO. 2014-00371

#### Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

#### **Question No. 56**

Responding Witness: David S. Sinclair / Robert M. Conroy / Counsel

- Q.1-56. Please provide all emails in the possession of any of the witnesses in this case that address or discuss the decision of LGE/KU to modify its CSR tariff to change the curtailment limitation criterion from "only during system reliability events" to "none."
- A.1-56. The Company objected to this question on January 19, 2015, because it requires the Company to reveal the contents of communications with counsel and the mental impressions of counsel, which information is protected from disclosure by the attorney-client privilege and the work product doctrine. Without waiver of these objections, see the attached documents that have been identified within the time permitted for this response. Counsel for the Company is continuing to undertake a reasonable and diligent search for other such documents and will reasonably supplement this response through a rolling production of documents.

### Attachment to Response to KIUC-1 Question No. 56 Page 1 of 3

Sinclair/Conroy

From: Oelker, Linn(/O=LGE/OU=LOUISVILLE/CN=RECIPIENTS/CN=E009358)

To: Conroy, Robert

CC: Brunner, Bob; Freibert, Charlie; Martin, Charlie

BCC:

**Subject:** CSR edits proposed by Power Supply **Sent:** 07/14/2014 02:16:23 PM -0400 (EDT)

Attachments: CSR10andCSR30\_PowerSupply\_proposededits\_2014\_07\_14.docx;

#### Robert:

Attached are proposed edits to the CSR10 and CSR 30 tariff riders for discussion. These changes, if implemented, are intended to allow Power Supply to curtail the respective customer at any time for any reason for 100 hours in each calendar year. We propose eliminating the Buy-Through Option.

Note we only red-lined the KU versions but other company's riders should be changed.

Please let us know if you have any questions or would like to discuss.

Respectfully,

Linn C. Oelker, P.E.

Manager - Market Compliance
LG&E and KU
Office (502) 627-3245
linn.oelker@lge-ku.com

# Attachment to Response to KIUC-1 Question No. 56 Page 2 of 3

Sinclair/Conroy

From: Oelker, Linn(/O=LGE/OU=LOUISVILLE/CN=RECIPIENTS/CN=E009358)

To: Brunner, Bob

CC: BCC:

**Subject:** FW: CSR edits proposed by Power Supply **Sent:** 08/25/2014 11:14:55 AM -0400 (EDT)

Attachments: CSR10andCSR30\_PowerSupply\_proposededits\_2014\_07\_14.docx;

From: Oelker, Linn

Sent: Monday, July 14, 2014 2:16 PM

To: Conroy, Robert

Cc: Brunner, Bob; Freibert, Charlie; Martin, Charlie Subject: CSR edits proposed by Power Supply

#### Robert:

Attached are proposed edits to the CSR10 and CSR 30 tariff riders for discussion. These changes, if implemented, are intended to allow Power Supply to curtail the respective customer at any time for any reason for 100 hours in each calendar year. We propose eliminating the Buy-Through Option.

Note we only red-lined the KU versions but other company's riders should be changed.

Please let us know if you have any questions or would like to discuss.

Respectfully,

Linn C. Oelker, P.E.

Manager - Market Compliance
LG&E and KU
Office (502) 627-3245
linn.oelker@lge-ku.com

# Attachment to Response to KIUC-1 Question No. 56 Page 3 of 3

Sinclair/Conroy

From: Conroy, Robert(/O=LGE/OU=LOUISVILLE/CN=RECIPIENTS/CN=CONROYR)

To: Schroeder, Andrea; Woodworth, Steve

CC: BCC:

Subject: Fwd: CSR edits proposed by Power Supply Sent: 07/15/2014 07:03:00 AM -0400 (EDT)

Attachments: CSR10andCSR30\_PowerSupply\_proposededits\_2014\_07\_14.docx; ATT00001.htm;

Sent from my iPhone

#### Begin forwarded message:

From: "Oelker, Linn" < Linn.Oelker@lge-ku.com >

Date: July 14, 2014 at 2:16:23 PM EDT

To: "Conroy, Robert" < Robert. Conroy@lge-ku.com>

Cc: "Brunner, Bob" <Bob.Brunner@lge-ku.com>, "Freibert, Charlie" <Charlie.Freibert@lge-ku.com>, "Martin, Charlie"

<Charlie.Martin@lge-ku.com>

Subject: CSR edits proposed by Power Supply

# Robert:

Attached are proposed edits to the CSR10 and CSR 30 tariff riders for discussion. These changes, if implemented, are intended to allow Power Supply to curtail the respective customer at any time for any reason for 100 hours in each calendar year. We propose eliminating the Buy-Through Option.

Note we only red-lined the KU versions but other company's riders should be changed.

Please let us know if you have any questions or would like to discuss.

Respectfully,

Linn C. Oelker, P.E.

Manager - Market Compliance
LG&E and KU
Office (502) 627-3245
linn.oelker@lge-ku.com

# CASE NO. 2014-00371

# Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

# **Question No. 57**

Responding Witness: David S. Sinclair / Robert M. Conroy

- Q.1-57. Did the Companies perform any analyses, surveys or other studies that address the willingness of customers to continue to take service pursuant to a CSR in the event that the curtailment limitation criterion is changed from "only during system reliability events" to "none?"
- A.1-57. No analyses or surveys were performed. It is the Companies' judgment that customers have been willing to accept 100 hours of interruption and this will not change.

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 58** 

Responding Witness: David S. Sinclair

- Q.1-58. Please provide an explanation of the methodology used by the Companies to reflect curtailable/interruptible load in resource planning studies and analyses.
- A.1-58. The Companies' practice of modeling the Direct Load Control ("DLC") program is to use it to reduce load at the peak summer hour. The Companies' practice of modeling CSR is to use it as a resource to meet load obligations.

# CASE NO. 2014-00371

# Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

# Question No. 59

**Responding Witness: Robert M. Conroy** 

- Q.1-59. With regard to CSR buy-through transactions during 2013 and 2014, please provide the following:
  - a. The date and hour durations of each buy-through for each CSR customer electing to buy-through.
  - b. The MWh for each buy-through identified in (a) above.
  - c. The price (in \$/MWh) charged to the CSR customer for each buy-through identified in (a) above.
- A.1-59. a. There were no CSR buy-through transactions during 2013 and 2014.
  - b. See the response to part a.
  - c. See the response to part a.

CASE NO. 2014-00371

# Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 60** 

**Responding Witness: Robert M. Conroy** 

- Q.1-60. Please provide a detailed explanation of a "system reliability event" as defined in the current CSR 10 and 30.
- A.1-60. The explanation of a "system reliability event" is defined in the current tariffs.

"For the purposes of this rider, a system reliability event is any condition or occurrence: 1) that impairs KU and LG&E's ability to maintain service to contractually committed system load; 2) where KU and LG&E ability to meet their compliance obligations with NERC reliability standards cannot otherwise be achieved; or 3) that KU and LG&E reasonably anticipate will last more than six hours and could require KU and LG&E to call upon automatic reserve sharing ("ARS") at some point during the event."

# CASE NO. 2014-00371

# Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

# **Question No. 61**

**Responding Witness: David S. Sinclair** 

- Q.1-61. Please provide a detailed description, along with copies of agreements with other utilities or outside parties (including TVA and East Kentucky), of the Companies "automatic reserve sharing."
- A.1-61. The Companies are members of a contingency reserve sharing group ("CRSG") with the Tennessee Valley Authority ("TVA"). When the CRSG first formed on January 1, 2010, East Kentucky Power Cooperative, Inc. ("EKPC") was also a member, but EKPC terminated its membership in the group on June 1, 2013, as a result of EKPC's becoming a member of PJM.

The purpose of the CRSG is to allow the Companies and TVA to share in providing real-time contingency reserves to cover the most severe single contingency of the group. Today, the Companies carry 258 MW of real-time contingency reserves to meet their reserve obligation under the CRSG Agreement. The real-time contingency reserves of each party change annually on January 31<sup>st</sup> of each year.

The CRSG Agreement, Protocol and Administration Agreement are confidential and are being provided under seal pursuant to a petition for confidential protection.

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 62** 

Responding Witness: David S. Sinclair

- Q.1-62. For each period during 2013 and 2014 when an actual CSR buy-through occurred for any CSR customer, please provide the actual average hourly market price of energy during such buy-through period occurring. Please provide a description of the basis that the Company used to determine the market energy price (e.g. MISO LMP at a point of interconnection between the Companies and MISO).
- A.1-62. There were no buy-through occurrences in 2013 and 2014.

As stated in the current CSR tariff, the Automatic Buy-Through Price per kWh shall be determined daily in accordance with the following formula:

Automatic Buy-Through Price = NGP x .012000 MMBtu/kWh

Where: NGP represents the mid-point price for natural gas (\$/MMBtu) posted for the day in Platts Gas Daily for Dominion—South Point and will be used for the electrical day from 12 midnight to midnight. Also the posted price for Monday or the day after a holiday is the posted price for Saturday, Sunday and the holiday.

# CASE NO. 2014-00371

# Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

# **Question No. 63**

Responding Witness: David S. Sinclair

- Q.1-63. Please provide the Company's current IRP planning assumption to construct and operate a simple cycle combustion turbine. Include the following information:
  - a. Installed capital cost, including AFUDC, in \$/kW.
  - b. The MW size of the unit.
  - c. The type of unit (e.g. General Electric Frame 7f).
  - d. The fixed O&M expense in \$/kW year.
  - e. Variable O&M expense per MWh.
  - f. Average full load heat rate in MBTU/MWh/
  - g. The expected book and tax lives assumed by the Company for planning purposes for the unit.
  - h. The Company's current levelized carrying charge rate, as used by the Company in planning analyses, applicable to a simple cycle combustion turbine, including the input factors used to develop such a carrying charge rate (i.e., cost of capital, taxes, depreciation, etc.). Please provide the spreadsheet used to derive the carrying charge rate electronically with all formulas included.
  - i. All emissions costs typically incurred in operating a simple cycle combustion turbine unit, such as NOX related costs (in \$/MWh).
- A.1-63. The following information is taken from the 2014 IRP. Certain information is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection. All costs are in 2013 dollars.

# CONFIDENTIAL INFORMATION REDACTED

- a. The overnight installed capital cost was assumed to be \$\times\_kW\$ for installing a standalone simple cycle combustion turbine ("SCCT") and \$\times\_kW\$ for installing three SCCTs (at the same site).
- b. The net summer capacity was assumed to be 201 MW for standalone SCCTs and 602 MW for three SCCTs.
- c. Both the standalone SCCT and the three SCCTs were assumed to be GE 7F-5 units.
- d. The fixed O&M expense was assumed to be \$\\_\\_\k\W\-yr\ for standalone SCCTs and \$\\_\k\W\-yr\ for three SCCTs. The firm gas transport expense was assumed to be \$\\_\k\W\-yr\ for both standalone SCCTs and three SCCTs.
- e. The variable O&M expense was assumed to be \$ /MWh for both standalone SCCTs and three SCCTs.
- f. Average full load heat rate was assumed to be mmBtu/MWh for both standalone SCCTs and three SCCTs.
- g. The book and tax lives for both standalone SCCTs and three SCCTs were assumed to be 30 years and 15 years, respectively.
- h. For some analyses, the Companies have assumed an 8.9% fixed charge rate for SCCTs. The table shows key financial inputs from the 2014 IRP.

Input	Value
Return on Equity	10.25%
Cost of Debt	3.51%
Capital Structure	
Debt	46.04%
Equity	53.96%
Tax Rate	38.9%
Revenue Requirement Discount Rate	6.52%

See attachment being provided in Excel format.

i. Expected emissions costs for SCCTs are provided in the table below.

	SO <sub>2</sub>	Annual NO <sub>X</sub>	Ozone NO <sub>X</sub>
SCCT Emission Rate (lb/mmBtu)	0.0051	0.0332	0.0332
IRP Emission Allowance Prices (\$/ton)	1.5	45	21.5
SCCT Emissions Costs (\$/MWh)	0.00004	0.007	0.004

# Attachment in Excel

The attachment(s) provided in separate file(s) in Excel format.

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 64** 

Responding Witness: David S. Sinclair

- Q.1-64. Please provide the Company's current planning reserve margin.
- A.1-64. KU and LG&E jointly plan their generating system. As presented in the 2014 IRP, the Companies' planning reserve margin range is 16% to 21%.

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 65** 

**Responding Witness: Edwin R. "Ed" Staton** 

- Q.1-65. Please provide an unredacted copy of the Application, including all attachments, for approval of the Capacity Purchase and Tolling Agreement with Bluegrass Generating Company in Case No. 2014-00321.
- A.1-65. A copy of the Companies' Application, including all attachments, in Case No. 2014-00321 is available on the Commission's website, <a href="http://www.psc.ky.gov/">http://www.psc.ky.gov/</a>.

An unredacted copy of Exhibit 5, Capacity Purchase and Tolling Agreement and Exhibit 6, Analysis of May 2014 RFP Responses to the Company's application in Case No 2014-00321 are provided pursuant to a petition for confidential protection.

# Attachment Confidential

The entire attachment is Confidential and provided separately under seal.

# CASE NO. 2014-00371

# Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

# **Question No. 66**

Responding Witness: Edwin R. "Ed" Staton

- Q.1-66. Please provide an unredacted copy of the Application, including all attachments, in Case No. 2014-00003 involving LG&E and KU's DSM programs.
- A.1-66. A copy of the Companies' Application, including all attachments, in Case No. 2014-00003 is available on the Commission's website, http://www.psc.ky.gov/. No portion of the Companies' Application or attachments were redacted or filed pursuant to a petition for confidential treatment.

# CASE NO. 2014-00371

# Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

# **Question No. 67**

Responding Witness: Dr. William E. Avera / Adrien M. McKenzie

- Q.1-67. Please provide all work papers and supporting documentation used by Avera/McKenzie in the preparation of their Direct Testimony and Exhibits. Please provide all spreadsheets with cell formulas intact. Please include all exhibits in native spreadsheets with cell formulas intact.
- A.1-67. See the responses to AG 1-187 and AG 1-188.

# CASE NO. 2014-00371

# Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

# **Question No. 68**

Responding Witness: Daniel K. Arbough

- Q.1-68. Please provide all credit rating and bond rating agency reports (i.e., Standard and Poor's, Moody's, Fitch) for LG&E and KU for the last two years. Please include the most recent reports for 2015, if any.
- A.1-68. See the response to AG 1-181.

# CASE NO. 2014-00371

# Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

# **Question No. 69**

Responding Witness: Dr. William E. Avera / Adrien M. McKenzie

- Q.1-69. Please provide copies of all articles and reports cited by Avera/McKenzie in their Direct Testimony.
- A.1-69. See the response to Question No. 67.

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 70** 

Responding Witness: Daniel K. Arbough

- Q.1-70. Please provide all credit rating and bond rating agency reports (i.e., Standard and Poor's, Moody's, Fitch) for PPL Corporation for the last two years. Please include the most recent reports for 2015, if any.
- A.1-70. See the response to AG 1-181.

CASE NO. 2014-00371

Response to First Set of Data Requests of Kentucky Industrial Utility Customers, Inc. Dated January 8, 2015

**Question No. 71** 

Responding Witness: Kent W. Blake

- Q.1-71. Please provide all work papers and supporting documentation used by Mr. Blake in the preparation of his Direct Testimony and Exhibits. Please provide all spreadsheets with cell formulas intact. Please include all exhibits in native spreadsheets with cell formulas intact.
- A.1-71. See the response to PSC 2-60, which lists all files submitted in response to a request for Mr. Blake's exhibits, schedules, and supporting workpapers. The attachment to the response identifies all files responsive to this request. Note that Mr. Blake's exhibits and schedules were filed in Excel format in response to PSC 1-59; supporting workpapers are submitted in response to PSC 2-60.