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Ms. Elizabeth O'Donnell
Executive Director
Kentucky Public Service Commission
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Frankfort, Kentucky 40602-0615

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PUBLIC SERVICE
COMMISSION

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August 7, 2006

RE: *In the Matter Of: The Application Of Louisville Gas and Electric
Company For Approval Of Its 2006 Compliance Plan For Recovery By
Environmental Surcharge - Case No. 2006-00208*

Dear Ms. O'Donnell:

Enclosed please find an original and five (5) copies of Louisville Gas and Electric Company's ("LG&E") Response to the First Data Request of Commission Staff dated July 24, 2006, in the above-referenced docket.

Should you have any questions concerning the enclosed, please do not hesitate to contact me.

Sincerely,

Kent Blake

cc: Hon. Elizabeth E. Blackford
Hon. Michael L. Kurtz

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

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AUG 07 2006

PUBLIC SERVICE
COMMISSION

In the Matter of:

THE APPLICATION OF LOUISVILLE GAS AND)
ELECTRIC COMPANY FOR APPROVAL OF ITS)
2006 COMPLIANCE PLAN FOR RECOVERY BY)
ENVIRONMENTAL SURCHARGE)

CASE NO.
2006-00208

RESPONSE OF
LOUISVILLE GAS AND ELECTRIC COMPANY
TO
FIRST DATA REQUEST OF
COMMISSION STAFF
DATED JULY 24, 2006

FILED: AUGUST 7, 2006

LOUISVILLE GAS AND ELECTRIC COMPANY

CASE NO. 2006-00208

**Response to First Data Request of Commission Staff
Dated July 24, 2006**

Question No. 1

Responding Witness: Sharon L. Dodson / John P. Malloy

- Q-1. Refer to the Direct Testimony of Sharon L. Dodson (“Dodson Testimony”), pages 5 through 8. Provide a schedule showing for each of LG&E’s generating units the following emissions data for sulfur dioxide (“SO₂”), nitrogen oxide (“NO_x”), and mercury, if available:
- a. The level of emissions for calendar year 2005.
 - b. The expected level of emissions for calendar year 2006.
 - c. The expected level of emissions permitted under the first phase of the Clean Air Interstate Rule (“CAIR”) or the Clean Air Mercury Rule (“CAMR”).
 - d. The expected level of emissions permitted under the second phase of the CAIR or CAMR.
- A-1.
- a. Please see the table included in the response to part b for 2005 historical emissions of SO₂, NO_x and mercury (“Hg”). Please note that the annual Hg emissions are estimated values, using the Electric Power Research Institute’s (“EPRI”) Lark-Tripp model, and have been reported to the United States Environmental Protection Agency (“USEPA”) in the Companies’ 2005 Toxic Release Inventory Report. The EPRI Lark-Tripp model is a computational software package that has been accepted by the USEPA for use in estimating emissions of toxic substances. While the Company presently is not required, under current regulations, to monitor mercury emissions, the USEPA’s adoption of CAMR requires the Company to install and certify continuous mercury emission monitors prior to January 1, 2009. This will require purchasing the monitoring equipment in 2008 as discussed on page 21 of Mr. Malloy’s testimony.
 - b. Historical 2005 emissions and 2006 projections for SO₂, NO_x (both annual and ozone season) and Hg are shown in the table below. Note that the 2005 annual Hg emissions are an estimate as described in Part a above.

Unit	Historical Emissions				Projected Emissions			
	2005				2006			
	SO ₂ (Tons)	Ozone NO _x (Tons)	Annual NO _x (Tons)	Estimated Hg (Pounds)	SO ₂ (Tons)	Ozone NO _x (Tons)	Annual NO _x (Tons)	Annual Hg (Pounds)
Cane Run 4	5,543	862	2,115	28	5,108	711	1,693	33
Cane Run 5	5,090	997	2,324	28	4,994	736	2,223	36
Cane Run 6	8,259	1,141	2,590	39	7,057	1,204	2,858	56
Mill Creek 1	4,152	1,280	3,201	79	4,178	1,272	3,174	69
Mill Creek 2	4,268	1,129	2,845	68	5,184	1,456	3,433	75
Mill Creek 3	7,703	261	3,280	105	9,565	295	3,348	64
Mill Creek 4	7,902	232	3,738	110	8,610	293	3,020	68
Trimble County 1	3,927	185	2,535	151	1,683	245	3,114	76
Peakers	3	83	106	1	0	43	53	0
	46,847	6,170	22,734	609	46,378	6,253	22,916	477

Note: Trimble County 1 emissions represents LGE's 75 % ownership.

- c. Please see response to Part d below.
- d. CAIR and CAMR have been promulgated as “cap-and-trade” programs. Therefore, emission caps have been placed on the respective pollutant emissions such that all emissions of that pollutant affected by the program do not exceed the applicable cap. CAIR and CAMR do not have “permitted” levels of emissions on a unit by unit basis. The regulations do however allocate emission allowances to the individual states affected by the regulation. The states then allocate their allowances to the individual affected sources within the state on a unit by unit basis. These allowance programs do not prohibit a unit from emitting at a level greater than its given allocation because the unit could obtain allowances from other sources that are emitting at a level less than their number of allocated allowances.

The State of Kentucky’s regulations incorporating CAIR and CAMR are expected to be completed in early 2007. Therefore, the exact number of allowances each affected unit will be allocated is unknown at this time. However, LG&E is providing a projection of the potential allowance allocation. Projected ozone season NO_x allowances, annual NO_x allowances, SO₂ allowances and Hg allowances by boiler or unit by year through 2023 are shown in the following tables. These values are the Company’s best estimate of the probable distribution of allowances, based on currently available information on how Kentucky is likely to structure its program.

LOUISVILLE GAS AND ELECTRIC COMPANY

CASE NO. 2006-00208

Response to First Data Request of Commission Staff

Dated July 24, 2006

Question No. 2

Responding Witness: Sharon L. Dodson

- Q-2. Refer to the Dodson Testimony, page 9.
- a. Are there currently federal, state, or local emission limits established for sulfur trioxide ("SO₃")?
 - b. If yes to part (a), provide the current emission limits.
 - c. For calendar year 2005, what were the actual SO₃ emissions for Trimble County Unit 1, Mill Creek Unit 3, and Mill Creek Unit 4?
 - d. If there are no established emission limits for SO₃, how can LG&E determine whether the actions it takes to limit these emissions are adequate?
- A-2.
- a. SO₃ emissions are subject to oversight and regulation, according to Kentucky Division of Air Quality's ("KDAQ") interpretation of its statutory authority, under the Clean Air Act even in the absence of a specific emissions limit. The Clean Air Act and its state counterparts have requirements that are not expressed in terms of specific emission limits. According to directives from the KDAQ, the "general duty" provisions of KRS Chapter 224 impose an obligation on a permittee to undertake appropriate action on a case by case basis to mitigate "air pollution" that could potentially impact human health or the environment. As indicated in Exhibit SLD-4, KDAQ has determined that "emissions of SO₃ that may subsequently be converted to a fine acidic mist certainly falls within the purview of [the general duty provisions]" and that "it is necessary and appropriate that such emission be controlled."
 - b. See Part a above.
 - c. LG&E does not have continuous emission monitors for monitoring SO₃ emissions that would report the actual 2005 SO₃ emissions for Mill Creek Units 3 and 4 and Trimble County Unit 1. However, LG&E can provide an estimate of the emissions from the 2005 Toxic Release Inventory ("TRI") Report submitted to the USEPA. Sulfuric acid emissions estimates are supplied in the annual submission. An estimate of the SO₃ emissions can be

obtained by applying a ratio of the molecular weights of the two substances. The following table provides the estimate of the 2005 SO₃ emission for Mill Creek Units 3 and 4 and Trimble County Unit 1.

	Mill Creek Unit 3	Mill Creek Unit 4	Trimble County Unit 1
2005 SO ₃ Emission (pounds) (estimated)	998,265	1,002,857	913,316 *

* Represents LG&E's 75% ownership

- d. As indicated in Exhibit SLD-4, KDAQ requirements regarding SO₃ emissions focus primarily on the potential for its conversion to sulfuric acid mist contributing to the formation of visible stack plumes that may descend to ground level under certain conditions. LG&E has performed testing of sorbent injection technology at the Trimble County Station to identify control measures sufficient to prevent SO₃/sulfuric acid conversion contributing to the formation of such visible stack plumes. The findings in the Sargent and Lundy SO₃ Mitigation Study, Exhibit JPM-3, established that a visible stack plume (discounting the portion consisting of water vapor) dissipates rapidly when stack gases are controlled to an SO₃ concentration level of approximately five (5) parts per million ("ppm"). Hence, based on this study, the Company has identified a value of 5 ppm SO₃ which can be used as a practical guideline for its compliance efforts. The Company can determine the adequacy of its SO₃ mitigation measures by using an EPA-certified observer to conduct visual emissions tests of the stack plume, in accordance with the objective protocols of EPA Method 9, to identify any ongoing SO₃-related plume problems. Based on this approach, LG&E believes its compliance plans and actions are adequate under and required by current environmental regulations.

LOUISVILLE GAS AND ELECTRIC COMPANY

CASE NO. 2006-00208

**Response to First Data Request of Commission Staff
Dated July 24, 2006**

Question No. 3

Responding Witness: John P. Malloy

- Q-3. Refer to the Direct Testimony of John P. Malloy (“Malloy Testimony”), Exhibit JPM-3, the Sargent & Lundy SO₃ Mitigation Study dated March 29, 2006 (“Sargent & Lundy Study”).
- a. On pages 24 through 28 of 42 of the Sargent & Lundy Study is a risk assessment of the various SO₃ mitigation technologies. The risk assessment notes that sorbent injection technologies have the risk of producing deposits in the ductwork, the air preheater, and on turning vanes and internal struts and bracing, as well as process scale-up risk. Explain in detail how these risks were quantified in the present value revenue requirements (“PVRR”) analysis of SO₃ mitigation technologies.
 - b. On page 38 of 42 of the Sargent & Lundy Study is the statement that LG&E has agreed to prepare a life cycle cost analysis based on data presented in the study. Provide copies of this life cycle cost analysis. If the analysis has not been prepared, explain in detail why not.
- A-3. a. On page 29 of 42 of the referenced report, S&L provides a summary table of the risk levels associated with all aspects of each technology. The overall risk assessment is identified in table 4-1 below.

Table 4-1: Risk Assessment Summary

Technology	Capital Cost	O&M Cost	Performance	Reliability	Overall
Alkaline Additives on Coal Belt	Low	Low	High	Low	High
Ammonia	Low	Low	High	Low	High
Humidification	Low	Low	High	Medium	High
Hydrated Lime	Low	Medium	Medium	Medium	Medium
Magnesium Hydroxide	Medium	Medium	Medium	Medium	Medium
Magnesium Oxide	Medium	Medium	High	Medium	High
Micronized Limestone	High	Medium	High	Medium	High
Sodium Bisulfite (SBS)	Low	Medium	Low	Medium	Low to Medium
Soda Ash	Low	Medium	Low	Medium	Low to Medium
Trona	Low	High	Low	Medium	Low to Medium
Vertical Wet ESP	High	Medium	Low	Medium	High
Horizontal Wet ESP	High	Medium	Low	Medium	High
Low Conversion Catalyst	Low	Low	Low	Low	Low

This risk assessment determined the feasibility of each technology's ability to obtain the SO₃ emission target of <5ppm. As a result of the full evaluation, only technologies with "low", "low to medium" or "medium" overall risk are recommended. To minimize scale-up risks and the risk of deposit buildup as a result of sorbent injection, the injection system will be designed using Computational Fluid Dynamics (CFD) analysis. (CFD is a sophisticated computationally-based design and analysis technique. CFD software has the capability to simulate flows of gases and liquids, heat and mass transfer, moving particles, multiphase physics, chemical reaction, fluid-structure interaction and acoustics through computer modeling, thereby producing a thorough analysis of likely operational parameters.)

The balance of deposits is typically controllable by soot blowers or acoustic horns and the cost of this equipment is within the contingency of the capital cost estimate developed by S&L. No additional quantification of these risks was included in the PVRR.

- b. An electronic copy of the spreadsheet used in determining the minimum PVRR associated with each of the SO₃ mitigation technologies is being provided on CD.

LOUISVILLE GAS AND ELECTRIC COMPANY

CASE NO. 2006-00208

Response to First Data Request of Commission Staff
Dated July 24, 2006

Question No. 4

Responding Witness: John P. Malloy

- Q-4. Refer to the Malloy Testimony, Exhibit JPM-4, the 2006 SO₃ Mitigation Strategy.
- a. On pages 26 and 27 of 42 in the Sargent & Lundy Study, the risk assessment has the following statements concerning hydrated lime and Trona:

Hydrated Lime: The data presented in the literature for this technology is old, and full scale results from any utility are not documented to serve as the basis for performance estimates. The dry sorbent storage and delivery system is subject to moisture, plugging and erosion problems. The effectiveness of the hydrated lime sorbent depends on high surface area, which varies between lime sources. Fly ash resistivity increases may result in ESP performance degradation.

Trona (Sodium sesquicarbonate): Trona is an expensive reagent with a long shipping distance from Green River, Wyoming and has been limited by transportation availability at Zimmer Station. Typically shipped by rail, the Trona would have to be transferred to trucks as a centrally located storage and transfer facility. In addition, there is currently only one source of supply. AEP has applied for a patent for this technology, so a licensing fee may apply.

The Executive Summary of the 2006 SO₃ Mitigation Strategy, page 3, recommends that LG&E proceed with testing of hydrated lime and Trona at Trimble County Unit 1. Given the risks identified in the Sargent & Lundy Study, explain in detail why this recommendation was considered to be reasonable.

- b. Why does the 2006 SO₃ Mitigation Strategy not contain a recommended course of action for Mill Creek Units 3 and 4?

- c. Has a course of action been decided for Mill Creek Units 3 and 4? If so, provide the decision. If not, explain why not.
- A-4.
- a. Technology for particle sizing and porosity sizing of dry chemicals is developing rapidly, and as a result new hydrated lime products are being introduced to the market that allow lower stoichiometric ratios (lower sorbent flow rates) for the same SO₃ reduction. To the extent that desired emission reduction can be achieved with less sorbent injection, variable O&M expenses will decrease. The Company tested the Trona and improved hydrated lime products successfully and confirmed the sorbent injection technology's ability to meet the desired SO₃ emission level of approximately 5 ppm. The sorbent injection system design will mitigate the material handling risks described by S&L. The sorbent was successfully injected in a dual point configuration before and after the ESP to minimize potential ESP performance degradation. Trona and improved hydrated lime are both dry sorbents and require the same injection equipment. The Company chose to test improved hydrated lime and Trona to confirm the effectiveness of both. By having two possible sorbent materials the Company will build in supplier flexibility, further mitigating exposure to material cost fluctuation.
 - b. As indicated in the 2006 SO₃ Mitigation Strategy Executive Summary (page 3), "As a result of the (S&L) study, sorbent injection was identified as a least cost option for units with cold-side ESP equipment. In order to select the most economic sorbent, it is recommended that KU and LG&E proceed with testing of hydrated lime and Trona injection at Ghent 1 and Trimble 1. Pending results of the testing the most economic sorbent will be selected as the technology of choice for all generating units with cold-side ESPs." To further clarify; Mill Creek 3 and 4 are generating units with cold-side ESPs, and the results from the Ghent 1 and Trimble 1 testing will be applicable to the Mill Creek units. The same sorbent material will be used at Ghent 1, Trimble 1, Mill Creek 3 and Mill Creek 4.
 - c. Please see response to Part b above.

LOUISVILLE GAS AND ELECTRIC COMPANY

CASE NO. 2006-00208

Response to First Data Request of Commission Staff
Dated July 24, 2006

Question No. 5

Responding Witness: John P. Malloy

- Q-5. Refer to the Malloy Testimony, Exhibit JPM-4. In both the executive summary and recommendation sections of the 2006 SO₃ Mitigation Strategy it is stated that LG&E should proceed with the “testing” of different types of sorbent injection options. The recommendation for testing could imply that a final course of action has not been selected.
- a. Why does the 2006 SO₃ Mitigation Strategy recommend further testing rather than proposing a final course of action?
 - b. Given the discussion contained in the 2006 SO₃ Mitigation Strategy, explain in detail how this report supports the statements on page 11 of the Malloy Testimony, lines 10 through 13, that the use of sorbent injection technology is the least cost alternative to mitigate SO₃ emissions.
- A-5. a. Further testing was required to: (1) determine the effectiveness of currently available hydrated lime products which claim improved performance and efficiency and reduced cost, (2) evaluate the impact of sorbent injection on ESP performance, and (3) evaluate the most effective sorbent injection location. Testing of the Trona material was required to confirm the viability of Trona as an alternative sorbent to allow system flexibility and hedge sorbent supply issues. The Companies have completed testing of dry sorbent injection at Ghent Unit 1 and Trimble Unit 1. Test results confirm through SO₃ emissions testing and comparison with visual observations using USEPA Method 9, that the sorbent injection technology will successfully meet the desired SO₃ emission level of approximately 5 ppm. These test results are applicable across the fleet for units with cold-side ESPs (Trimble 1, Ghent 1, Mill Creek 3 and 4). Dry sorbent injection is the Companies’ selected course forward as presented in the PVRP analysis and the table below.

Unit	Selected SO ₃ Removal Technology
Ghent 1	Dry Sorbent Injection
Ghent 3	Dry Sorbent Injection + Low Conversion Catalyst + Boiler Sorbent Injection
Ghent 4	Dry Sorbent Injection + Low Conversion Catalyst + Boiler Sorbent Injection
Mill Creek 3	Dry Sorbent Injection
Mill Creek 4	Dry Sorbent Injection
Trimble County 1	Dry Sorbent Injection

- b. If the SCRs are to stay in service in absence of wet electrostatic precipitators (wet ESP) then effective SO₃ control (defined on page 4 of 42 of the S&L study as achieving an SO₃ target of 5ppm) is necessary. Should the targeted levels of SO₃ control not be achieved and visible plume problems occur, then under certain operating conditions, either the SCR must be taken out of service or the generation unit removed from service. The operation of the SCRs is necessary for continued economic compliance with environmental regulations. Thus, the Companies' strategy is to control SO₃ and to allow continued operation of units with SCRs; and as Table III-LG&E on page 9 of Exhibit JPM-4 indicates, the least cost approach to SO₃ control includes sorbent injection and not construction of a wet ESP.

LOUISVILLE GAS AND ELECTRIC COMPANY

CASE NO. 2006-00208

**Response to First Data Request of Commission Staff
Dated July 24, 2006**

Question No. 6

Responding Witness: John P. Malloy

- Q-6. Refer to the Malloy Testimony, Exhibit JPM-4, page 7. Table II on this page lists the viability of combination technologies.
- a. Were the various combination technologies shown on this page evaluated using a PVRR analysis?
 - b. If yes to part (a), provide the results of the PVRR analysis for each combination technology evaluated.
 - c. If no to part (a), explain why a PVRR analysis was not performed and how the viability of the combination technologies was determined.
- A-6.
- a. Yes, all appropriate combinations were evaluated in the PVRR analysis.
 - b. The results of the PVRR analysis are shown on the attachment. Summarized results are provided in Table III-LG&E on page 9 of Exhibit JPM-4
 - c. Not applicable.

SO₂ Mitigation Cost for Technologies located at Mill Creek 3

	Hydrated Lime	Sodium BiSulfite	Trona	Soda Ash	Wet ESP (Vertical)	Magnesium Hydroxide + Hydrated Lime	Magnesium Hydroxide + Trona	Magnesium Hydroxide + Sodium BiSulfite	Magnesium Hydroxide + Soda Ash	LCC + Sodium BiSulfite	LCC + Hyd Lime	LCC + Trona	LCC + Soda Ash
2007	1.34	1.43	1.90	1.01	9.22	2.41	2.75	2.25	1.93	1.86	1.65	2.00	1.54
2008	1.61	1.82	2.20	1.32	12.80	3.09	3.46	3.04	2.64	2.50	2.17	2.53	2.10
2009	2.65	2.50	4.03	1.66	12.80	4.18	5.00	3.38	2.79	2.86	2.71	3.53	2.27
2010	2.67	2.49	4.09	1.64	12.37	4.16	5.00	3.30	2.71	2.80	2.68	3.52	2.21
2011	2.69	2.48	4.14	1.62	11.87	4.12	4.98	3.21	2.62	2.73	2.64	3.50	2.15
2012	2.72	2.47	4.21	1.60	11.44	4.10	4.98	3.13	2.55	2.67	2.61	3.49	2.09
2013	2.74	2.46	4.28	1.58	11.02	4.08	4.99	3.05	2.47	2.62	2.58	3.49	2.03
2014	2.77	2.45	4.35	1.57	10.59	4.06	4.99	2.98	2.39	2.56	2.55	3.48	1.98
2015	2.81	2.46	4.43	1.56	10.25	4.06	5.02	2.92	2.33	2.52	2.53	3.49	1.93
2016	2.84	2.45	4.51	1.54	9.82	4.05	5.03	2.85	2.26	2.47	2.50	3.49	1.88
2017	2.88	2.45	4.59	1.53	9.40	4.04	5.05	2.78	2.18	2.42	2.48	3.49	1.82
2018	2.91	2.45	4.67	1.51	8.98	4.03	5.07	2.71	2.11	2.37	2.45	3.49	1.77
2019	2.95	2.45	4.76	1.50	8.56	4.03	5.09	2.64	2.04	2.32	2.43	3.50	1.72
2020	3.00	2.46	4.86	1.49	8.22	4.04	5.13	2.59	1.98	2.28	2.42	3.51	1.67
2021	3.04	2.46	4.96	1.48	7.80	4.03	5.16	2.52	1.91	2.24	2.40	3.52	1.62
2022	3.09	2.47	5.06	1.47	7.38	4.04	5.19	2.45	1.83	2.19	2.38	3.53	1.57
2023	3.13	2.48	5.16	1.46	6.97	4.04	5.22	2.38	1.76	2.14	2.36	3.55	1.52
2024	3.18	2.48	5.27	1.45	6.55	4.05	5.26	2.32	1.69	2.10	2.35	3.56	1.47
2025	3.24	2.50	5.39	1.45	6.22	4.07	5.32	2.27	1.64	2.07	2.34	3.59	1.43
2026	3.30	2.51	5.50	1.45	5.81	4.08	5.37	2.21	1.57	2.02	2.33	3.62	1.38
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
PVRR (M\$)	27.85	24.82	43.55	15.91	109.21	41.13	50.41	30.49	24.57	26.19	25.88	35.18	20.26
Rank	7	4	11	1	13	10	12	8	3	6	5	9	2

SO₃ Mitigation Cost for Technologies located at Mill Creek 4

	Ammonia	Hydrated Lime	Sodium BiSulfite	Trona	Soda Ash	Wet ESP (Vertical)	Magnesium Hydroxide + Hydrated Lime	Magnesium Hydroxide + Trona	Magnesium Hydroxide + Sodium BiSulfite	Magnesium Hydroxide + Soda Ash	LCC + Sodium BiSulfite	LCC + Hyd Lime	LCC + Trona	LCC + Soda Ash
2007	Not Viable	1.41	1.50	1.88	1.05	9.20	2.52	2.74	2.32	1.98	1.95	1.76	2.03	1.59
2008	Not Viable	1.70	1.91	2.16	1.37	12.77	3.22	3.42	3.13	2.71	2.61	2.29	2.54	2.16
2009	Not Viable	2.79	2.64	4.08	1.74	12.78	4.37	5.02	3.47	2.87	3.04	2.93	3.71	2.37
2010	Not Viable	2.82	2.63	4.15	1.72	12.35	4.35	5.02	3.39	2.79	2.98	2.90	3.71	2.32
2011	Not Viable	2.83	2.62	4.22	1.70	11.85	4.31	5.01	3.29	2.70	2.92	2.86	3.70	2.25
2012	Not Viable	2.86	2.61	4.29	1.68	11.43	4.29	5.02	3.21	2.62	2.86	2.83	3.71	2.19
2013	Not Viable	2.89	2.60	4.37	1.67	11.00	4.28	5.03	3.14	2.54	2.81	2.80	3.71	2.14
2014	Not Viable	2.92	2.59	4.45	1.65	10.58	4.26	5.04	3.06	2.46	2.76	2.78	3.72	2.08
2015	Not Viable	2.96	2.60	4.54	1.64	10.23	4.26	5.07	3.00	2.40	2.72	2.76	3.74	2.04
2016	Not Viable	2.99	2.60	4.63	1.63	9.81	4.25	5.09	2.92	2.32	2.67	2.74	3.76	1.99
2017	Not Viable	3.03	2.59	4.72	1.61	9.39	4.24	5.11	2.85	2.25	2.62	2.72	3.77	1.93
2018	Not Viable	3.07	2.59	4.81	1.60	8.97	4.23	5.14	2.77	2.17	2.57	2.70	3.79	1.88
2019	Not Viable	3.11	2.60	4.91	1.59	8.55	4.23	5.17	2.70	2.10	2.52	2.68	3.81	1.83
2020	Not Viable	3.15	2.61	5.02	1.58	8.21	4.24	5.21	2.65	2.04	2.49	2.67	3.84	1.79
2021	Not Viable	3.20	2.61	5.12	1.57	7.79	4.24	5.25	2.57	1.96	2.45	2.66	3.87	1.74
2022	Not Viable	3.25	2.62	5.24	1.56	7.38	4.24	5.29	2.50	1.89	2.40	2.64	3.89	1.69
2023	Not Viable	3.30	2.63	5.35	1.55	6.97	4.25	5.33	2.43	1.81	2.36	2.63	3.92	1.64
2024	Not Viable	3.35	2.64	5.47	1.55	6.55	4.26	5.37	2.37	1.74	2.32	2.62	3.96	1.59
2025	Not Viable	3.41	2.66	5.60	1.54	6.22	4.28	5.44	2.32	1.69	2.29	2.62	4.00	1.55
2026	Not Viable	3.47	2.67	5.73	1.54	5.81	4.30	5.49	2.25	1.61	2.25	2.61	4.04	1.51
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
PVRR (M\$)		29.33	26.24	44.52	16.75	109.04	43.10	50.87	31.30	25.26	28.12	28.18	37.56	21.33
Rank		7	4	11	1	13	10	12	8	3	5	6	9	2

SO₃ Mitigation Cost for Technologies located at Trimble 1

	Ammonia	Hydrated Lime	Sodium BiSulfite	Trona	Soda Ash	Wet ESP (Vertical)	Magnesium Hydroxide + Hydrated Lime	Magnesium Hydroxide + Trona	Magnesium Hydroxide + Sodium BiSulfite	Magnesium Hydroxide + Soda Ash	LCC + Sodium BiSulfite	LCC + Hyd Lime	LCC + Trona	LCC + Soda Ash
2007	Not Viable	1.40	1.36	2.06	0.87	6.81	1.81	2.20	1.91	1.55	1.77	1.64	1.96	1.43
2008	Not Viable	1.62	1.67	2.28	1.10	9.43	2.33	2.72	2.53	2.09	2.35	2.12	2.43	1.94
2009	Not Viable	3.02	2.58	4.72	1.55	9.51	3.12	4.13	3.04	2.33	2.78	2.77	3.62	2.14
2010	Not Viable	3.07	2.59	4.83	1.55	9.20	3.10	4.14	2.99	2.27	2.73	2.75	3.63	2.09
2011	Not Viable	3.12	2.60	4.93	1.54	8.84	3.07	4.15	2.93	2.21	2.67	2.72	3.63	2.03
2012	Not Viable	3.17	2.61	5.04	1.54	8.53	3.05	4.17	2.89	2.16	2.63	2.70	3.64	1.98
2013	Not Viable	3.22	2.63	5.15	1.53	8.22	3.03	4.19	2.84	2.11	2.58	2.68	3.65	1.94
2014	Not Viable	3.28	2.65	5.27	1.53	7.92	3.02	4.21	2.80	2.06	2.54	2.66	3.66	1.89
2015	Not Viable	3.34	2.67	5.40	1.54	7.67	3.01	4.24	2.77	2.02	2.51	2.65	3.68	1.85
2016	Not Viable	3.41	2.69	5.52	1.54	7.36	3.00	4.27	2.73	1.97	2.47	2.64	3.70	1.80
2017	Not Viable	3.47	2.71	5.65	1.54	7.06	2.99	4.30	2.69	1.92	2.43	2.62	3.72	1.76
2018	Not Viable	3.54	2.74	5.79	1.54	6.75	2.98	4.33	2.65	1.87	2.39	2.61	3.74	1.71
2019	Not Viable	3.61	2.76	5.93	1.55	6.45	2.98	4.37	2.61	1.83	2.35	2.60	3.77	1.66
2020	Not Viable	3.69	2.79	6.08	1.55	6.20	2.98	4.42	2.58	1.79	2.32	2.60	3.81	1.63
2021	Not Viable	3.76	2.82	6.23	1.56	5.90	2.98	4.46	2.55	1.74	2.28	2.59	3.84	1.58
2022	Not Viable	3.84	2.85	6.38	1.57	5.60	2.97	4.50	2.51	1.70	2.25	2.58	3.87	1.54
2023	Not Viable	3.93	2.89	6.55	1.57	5.30	2.97	4.55	2.48	1.65	2.21	2.57	3.90	1.50
2024	Not Viable	4.01	2.92	6.71	1.58	5.01	2.98	4.60	2.45	1.61	2.18	2.57	3.94	1.45
2025	Not Viable	4.10	2.97	6.89	1.60	4.77	2.99	4.67	2.43	1.58	2.16	2.58	3.99	1.42
2026	Not Viable	4.20	3.01	7.06	1.61	4.47	3.00	4.73	2.40	1.53	2.12	2.58	4.04	1.38
PVRR (M\$)	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
Rank		9	5	12	1	13	8	11	7	3	4	6	10	2

LOUISVILLE GAS AND ELECTRIC COMPANY

CASE NO. 2006-00208

Response to First Data Request of Commission Staff
Dated July 24, 2006

Question No. 7

Responding Witness: John P. Malloy

- Q-7. Refer to the Malloy Testimony, Exhibit JPM-4, pages 9 and 10.
- Provide all workpapers, calculations, assumptions and other documentation supporting the PVRR values presented in the charts on page 9. In addition, explain why the PVRR analyses were not provided along with Exhibit JPM-4.
 - Explain in detail why a combination technology of hydrated lime and Trona was not included in the option ranking shown on page 9.
 - On pages 26 and 27 of 42 in the Sargent & Lundy Study, the risk assessment has the following statements concerning sodium bisulfite and soda ash:

Sodium Bisulfite: In addition to the proprietary technology, single source of supply, the yearly licensing fee, and the reagent (sodium bisulfite powder) delivered cost, the major drawback of this technology is O&M cost. The cost of the project installed at Gibson Station increased significantly from start to finish. While byproduct SBS is a less costly sorbent, Vectren may not continue to produce the material.

Soda Ash: In addition to the proprietary technology, this sorbent injection technology requires longer duct residence time due to the multiple reactions which need to take place and does not have the experience level of SBS. Injection of soda ash upstream of the air preheater is not feasible for the LG&E/KU plants due to residence time requirements.

Given these concerns, explain in detail how it was concluded in the 2006 SO₃ Mitigation Strategy, on page 10, that soda ash and sodium bisulfite are the top sorbent options.

- While both the Sargent & Lundy Study and the 2006 SO₃ Mitigation Strategy note that low conversion catalyst technology by itself cannot reach the target SO₃ levels, the technology appears to have benefits when combined with other

technologies. Does LG&E plan to include low conversion catalyst technology as part of its SO₃ mitigation strategy? Explain the response.

- A-7.
- a. Please see the response to Question No. 3b. The complete analysis should have been provided as an appendix to Exhibit JPM-4 but was inadvertently omitted.
 - b. The combination of hydrated lime and Trona injection was proposed to mitigate potential ESP degradation. Trimble County Unit 1 test results demonstrated the most effective sorbent injection configuration is a dual point injection of a single dry sorbent before and after the ESP. Thus, injection of two different sorbents is not necessary nor is it economically viable in relation to other post ESP single injection point systems for cold-side ESP units.
 - c. All of the SO₃ mitigation technologies come with some level of engineering and operational risk. The overall risk assessment for injection of soda ash or sodium bisulfite (“SBS”) is low to medium, while the overall risk assessment for injection of hydrated lime is medium. Please see Table 4-1: Risk Assessment Summary, from the S&L report, provided below. Soda ash has the same chemical reaction process as SBS, but requires more residence time (i.e. time for the flue gas and sorbent to mix and react) and therefore cannot be injected upstream of the air preheater due to the physical arrangement of the ductwork. However, soda ash can be injected downstream of the air preheater where longer ductwork allows for adequate residence time. These technologies demonstrated the lowest evaluated costs when using the S&L cost estimates. Improvements in hydrated lime quality will reduce the cost of this technology and it is therefore the technology of choice.

Table 4-1: Risk Assessment Summary

Technology	Capital Cost	O&M Cost	Performance	Reliability	Overall
Alkaline Additives on Coal Belt	Low	Low	High	Low	High
Ammonia	Low	Low	High	Low	High
Humidification	Low	Low	High	Medium	High
Hydrated Lime	Low	Medium	Medium	Medium	Medium
Magnesium Hydroxide	Medium	Medium	Medium	Medium	Medium
Magnesium Oxide	Medium	Medium	High	Medium	High
Micronized Limestone	High	Medium	High	Medium	High
Sodium Bisulfite (SBS)	Low	Medium	Low	Medium	Low to Medium
Soda Ash	Low	Medium	Low	Medium	Low to Medium
Trona	Low	High	Low	Medium	Low to Medium
Vertical Wet ESP	High	Medium	Low	Medium	High
Horizontal Wet ESP	High	Medium	Low	Medium	High
Low Conversion Catalyst	Low	Low	Low	Low	Low

- d. The Companies have developed a Catalyst Management Program (“CMP”) which provides a means for the evaluation of catalyst management strategies in support of the least system generating cost. The program includes guidelines for catalyst protection and monitoring catalyst condition throughout the Companies’ system. As part of the CMP a schedule of catalyst addition and replacement has been developed and is summarized in the table below. This schedule will fluctuate dependent on the measured degradation rate of installed catalyst. Consistent with the catalyst addition schedule, the Companies purchased two new layers of low conversion rate catalyst for Ghent 1 and Mill Creek 4 in 2005/2006. Furthermore, the Companies plan to purchase only low SO₂ to SO₃ conversion catalyst going forward. As the higher conversion catalyst is replaced over time, the required level of sorbent injection will be reduced.

		2005		2006		2007		2008		2009		2010	
		S	F	S	F	S	F	S	F	S	F	S	F
TRIMBLE	1										I		
MILL													
CREEK	3					I					I		
MILL													
CREEK	4			I								I	
GHENT	1			I								I	
GHENT	3								I				
GHENT	4										I		

Catalyst Budget Period

I = Installation Outage

LOUISVILLE GAS AND ELECTRIC COMPANY

CASE NO. 2006-00208

**Response to First Data Request of Commission Staff
Dated July 24, 2006**

Question No. 8

Responding Witness: John P. Malloy

- Q-8. Has LG&E made a final determination of exactly what SO₃ mitigation approach should be installed at Trimble County Unit 1, Mill Creek Unit 3, and Mill Creek Unit 4? Explain the response.
- A-8. LG&E plans to install dry sorbent injection systems at Trimble 1, Mill Creek 3 and Mill Creek 4, per the table below. Catalyst purchased in 2005/2006 is low conversion type, and all new catalyst purchased per the Companies' current Catalyst Management Plan will be low SO₂ to SO₃ conversion type catalyst.

Unit	Selected SO₃ Removal Technology
Ghent 1	Dry Sorbent Injection
Ghent 3	Dry Sorbent Injection + Low Conversion Catalyst + Boiler Sorbent Injection
Ghent 4	Dry Sorbent Injection + Low Conversion Catalyst + Boiler Sorbent Injection
Mill Creek 3	Dry Sorbent Injection
Mill Creek 4	Dry Sorbent Injection
Trimble County 1	Dry Sorbent Injection

LOUISVILLE GAS AND ELECTRIC COMPANY

CASE NO. 2006-00208

Response to First Data Request of Commission Staff
Dated July 24, 2006

Question No. 9

**Responding Witness: Kent W. Blake / Shannon L. Charnas / John P. Malloy /
Robert M. Conroy**

- Q-9. Refer to the Direct Testimony of Shannon L. Charnas (“Charnas Testimony”), page 3. Explain in detail why LG&E is not seeking to include operation and maintenance expenses associated with the pollution control equipment to be installed at Trimble County Unit 2 and the particulate monitor equipment to be installed at Mill Creek.
- A-9. Trimble County Unit 2: With regard to O&M expenses associated with the pollution control equipment to be installed at Trimble County Unit 2, the Company did not include estimates of such expenses in its application as such expenses would not be incurred until Trimble County Unit 2 is placed in service in 2010. The Company expected that such amounts would be considered in a future proceeding under KRS 278.183 or KRS 278.190.

However, the Company believes it would be appropriate to include O&M expenses associated with the Air Quality Control System (“AQCS”) at Trimble County Unit 2 as part of its 2006 Environmental Compliance Plan, provided that such inclusion does not impact the Commission’s ability to issue an Order in this case by December 22, 2006. The Companies’ environmental compliance with CAIR will be adversely impacted by any delay in the Commission’s issuance of an Order approving KU’s requested CCN.

Therefore, the Company respectfully requests that this Commission consider the O&M expenses associated with Project Number 18 in connection with its decision on the Company’s application in this proceeding. In the event the Commission decides not to consider these expenses in this proceeding, the Company reserves the right to seek recovery of these expenses in a subsequent filing under KRS 278.183 or KRS 278.190.

Based on the variable O&M expense estimates contained in the evaluation for Trimble County Unit 2 (Case No. 2004-00507) the Companies estimate that LG&E’s portion of the variable O&M expense associated with the Trimble County Unit 2 AQCS for the first full year of operation (2011) will be approximately \$1.1 million. The incremental bill impact on a residential

customer using 1,000-kilowatt hours per month for the first full year of operation for Trimble County Unit 2 in 2011 is \$0.08. The total monthly impact for the 2006 Plan, inclusive of O&M expenses for Project 18, is estimated to be \$0.86 in 2011 as detailed in Attachment 2 to Response to Question No. 13(a).

Attachment 1 to this response presents the estimated variable operations and maintenance expenses associated the AQCS on Trimble County Unit 2. Estimated O&M expenses were initially presented to the Commission in response to Staff Initial Data Request, Question No. 20 in Case No. 2004-00507, the Companies' Application for a Certificate of Public Convenience and Necessity and A Site Compatibility Certificate For the Expansion of the Trimble County Generating Station. Attachment 1 explains how the original estimate of O&M expenses was revised to reflect expected operating conditions.

LG&E will use the following accounts to report appropriate O&M expenses for Trimble County Unit 2 AQCS systems:

502006	Scrubber Operations
512005	Scrubber Maintenance
506001	Electrostatic precipitator operations expense
512011	Electrostatic precipitator maintenance expense
501251	Ash handling operations expense
512017	Ash handling maintenance expense
506104	NOx Operation – Consumables
506105	NOx Operation – Labor and Other
512101	NOx Maintenance
506109	Sorbent Injection Operation
512102	Sorbent Injection Maintenance
506110	Mercury Monitors Operation
512103	Mercury Monitors Maintenance

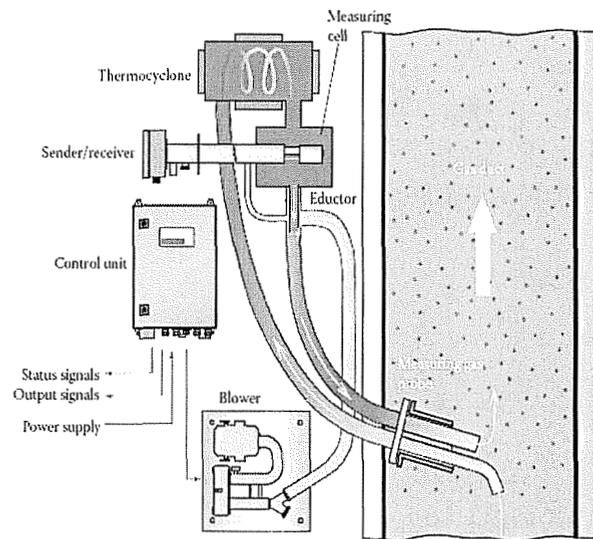
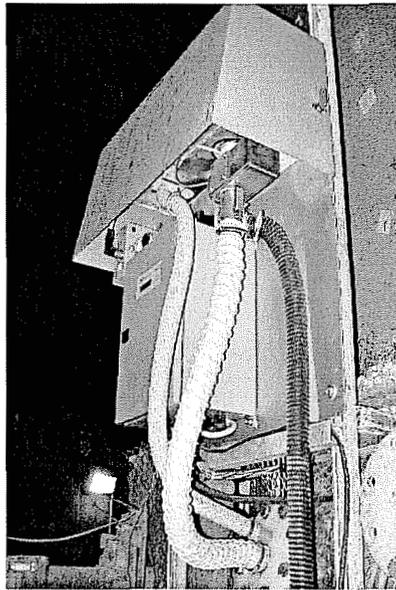
Attachment 2 to this response presents LG&E's revised ES Form 2.50 as well as the original ES Form 2.50 for comparison purposes, which will be used to report monthly O&M expenses for all approved projects in the 2006 Amended Compliance Plan as well as in earlier approved compliance plans. Individual unit expenses will be tracked by location code as discussed on page 3 of Ms. Charnas' testimony.

Particulate Monitors: The particulate monitor equipment systems for generating units at Mill Creek Station were installed and certified as indicated below.

	<u>Installed</u>	<u>Certified</u>	<u>LMAPCD Order Deadline</u>
Mill Creek 1	3/27/2006	4/20/2006	10/31/2006
Mill Creek 2	3/30/2006	4/13/2006	7/31/2006

Mill Creek 3	3/27/2006	3/30/2006	4/30/2006
Mill Creek 4	1/26/2005	4/14/2005	1/31/2006

All particulate monitors were installed and certified prior to the deadlines issued in the Agreed Board Order dated December 15, 2004 from the Louisville Air Pollution Control District (page 2, Section 2, last sentence) and contained in Ms. Dodson's original testimony as Exhibit SLD-5.



These monitors will be calibrated and maintained consistent with the balance of Continuous Emissions Monitoring equipment. Any incremental operational and maintenance expense associated with the particulate monitors is negligible.

**Louisville Gas and Electric Company
Kentucky Utilities Company
Trimble County 2**

Modification to Burns & McDonnell Fixed and Variable O&M

(All Input Costs are in 2002 Year \$)

		Units	
Net Output	(0)	(kW)	750,000
Original Fixed O&M Annual Cost	(1)	(\$)	2,685,000
Original Non-Fuel Variable O&M	(2)	(\$)	11,705,000
Other VO&M (Included in Original Non-Fuel VOM)	(3)	(\$)	6,625,000
New Total Non-Fuel Variable O&M	(4)=(2)-(3)	(\$)	5,080,000
SCR Ammonia & Replacements	(5)	(\$)	500,000
New Total Fixed O&M	(6)=(1)+(3)	(\$)	9,310,000
2004 New LG&E Total Fixed O&M	(7)=(6)*75%*1.02 ²	(\$)	7,264,593
2004 New LG&E Total Variable O&M	(8)=(4)*75%*1.02 ²	(\$)	3,963,924

Annual O&M esc = 2%

Modification to Burns & McConnell Fixed and Variable O&M

(All Input Costs are in 2002 Year \$)

		Units	
Net Output	(0)	(kW)	750,000
Original Fixed O&M Annual Cost	(1)	(\$)	2,685,000
Original Non-Fuel Variable O&M	(2)	(\$)	11,705,000
Other VO&M (Included in Original Non-Fuel VOM)	(3)	(\$)	6,625,000
New Total Non-Fuel Variable O&M	(4)=(2)-(3)	(\$)	5,080,000
SCR Ammonia & Replacements	(5)	(\$)	500,000
New Total Fixed O&M	(6)=(1)+(3)	(\$)	9,310,000
2004 New LG&E Total Fixed O&M	(7)=(6)*75%*1.02 ²	(\$)	7,264,593
2004 New LG&E Total Variable O&M	(8)=(4)*75%*1.02 ²	(\$)	3,963,924

Annual O&M esc = 2%

Net LG&E/KU Generation at an 80% Capacity Factor	(9)=(0)*75%*8760*80%/1000	MWh	3,942,000
2004 Annual LG&E Variable O&M without SCR O&M	(10)=(8)-(5)*75%*1.02 ²	(\$)	3,573,774
2004 Non-Ozone Season LG&E Variable O&M	(11)=(10)/(9)	\$/MWh	0.90
2004 Ozone Season LG&E Variable O&M Adder	(12)=[(5)*75%*1.02 ²]/[(9)*5/12]	\$/MWh	0.24

Model LG&E/KU Generation Output at 93% Availability			(a) Ozone	(b) Non-Ozone	(c) Total
2010	(13)	MWh	1,383,100	1,132,870	2,515,970
2011	(14)	MWh	1,712,900	2,568,110	4,281,010
2012	(15)	MWh	1,724,790	2,600,860	4,325,650

Model LG&E/KU Variable O&M in Nominal Year Dollars			(a) Ozone	(b) Non-Ozone	(c) Total
2010	Ozone: (16)=[(11)+(12)]*(13a)	(\$)	1,775,659	1,148,216	2,923,875
2011	Non-Ozone: (17)=(11)*(14b)	(\$)	2,243,045	2,654,956	4,898,001
2012		(\$)	2,303,788	2,742,590	5,046,377

LG&E/KU Variable O&M in Nominal Year Dollars with Annual SCR Operation			LG&E	KU	
2010	(18)=(13c)*[(11)+(12)]*1.02 ⁶	(\$)	3,230,066	613,712	2,616,353
2011	(19)=(14c)*[(11)+(12)]*1.02 ⁷	(\$)	5,605,990	1,065,138	4,540,852
2012	(20)=(15c)*[(11)+(12)]*1.02 ⁸	(\$)	5,777,735	1,097,770	4,679,965

Notes:

This is a modified version of the attachment to PSC-20 (Page 2 of 2) of the Response to Commission Staff's 1st Data Request dated 2/10/05 Volume 1 in Case No. 2004-00507 (TC2 CCN) Model generation and variable O&M are taken from TC2 CCN filing

CAIR was not finalized at the time the TC2 CCN analysis was being performed; therefore annual SCR operation was not modeled

The above costs are estimates and actual expenses recovered through the ECR mechanism may vary depending on unit run time and consumable costs

**LOUISVILLE GAS & ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT**

Pollution Control - Operations & Maintenance Expenses
For the Month Ended:

ES FORM 2.50
Original Proposed

O&M Expense Account	Cane Run	Mill Creek	Trimble County	Total
2001 Plan				
506104 - NOx Operation -- Consumables				
506105 - NOx Operation -- Labor and Other				
512101 - NOx Maintenance				
Total 2001 Plan O&M Expenses				
2005 Plan				
502006-Scrubber Operations				
512005-Scrubber Maintenance				
Ashpond Dredging Expense				
Total 2005 Plan O&M Expenses				
2006 Plan				
506109 - Sorbent Injection Operation				
512102 - Sorbent Injection Maintenance				
506110 - Mercury Monitors Operation				
512103 - Mercury Monitors Maintenance				
Total 2006 Plan O&M Expenses				
Current Month O&M Expense for All Plans				

LOUISVILLE GAS & ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Pollution Control - Operations & Maintenance Expenses
For the Month Ended:

O&M Expense Account					Cane Run	Mill Creek	Trimble County	Total
2001 Plan								
506104 - NOx Operation -- Consumables								
506105 - NOx Operation -- Labor and Other								
512101 - NOx Maintenance								
Total 2001 Plan O&M Expenses								
2005 Plan								
502006 - Scrubber Operations								
512005 - Scrubber Maintenance								
Ashpond Dredging Expense								
Total 2005 Plan O&M Expenses								
2006 Plan								
502006 - Scrubber Operations								
512005 - Scrubber Maintenance								
506104 - NOx Operation -- Consumables								
506105 - NOx Operation -- Labor and Other								
512101 - NOx Maintenance								
506001 - Precipitator Operation								
512011 - Precipitator Maintenance								
501251 - Ash Handling Operation								
512017 - Ash Handling Maintenance								
506109 - Sorbent Injection Operation								
512102 - Sorbent Injection Maintenance								
506110 - Mercury Monitors Operation								
512103 - Mercury Monitors Maintenance								
Total 2006 Plan O&M Expenses								
Current Month O&M Expense for All Plans								

LOUISVILLE GAS AND ELECTRIC COMPANY

CASE NO. 2006-00208

**Response to First Data Request of Commission Staff
Dated July 24, 2006**

Question No. 10

Responding Witness: Shannon L. Charnas

- Q-10. Refer to the Charnas Testimony, page 5, lines 21 and 22.
- a. Will the particulate monitors proposed to be installed at Mill Creek replace existing monitors?
 - b. If yes to part (a), were the existing monitors recorded on the books of LG&E as of September 30, 2003, the end of the test year in LG&E's last general rate case?
 - c. If yes to part (b), explain the basis for Ms. Charnas's statement on lines 21 and 22.

- A-10. a. The particulate monitors have been installed at Mill Creek Station as discussed in the response to Question No. 9.

Yes. The installation of the particulate monitors at Mill Creek replaced (1) existing stack opacity monitors that were originally installed in 1984 and returned to inventory for use at other facilities as the need arises; and (2) existing plenum opacity monitors that were originally installed in October 2004 and returned to inventory for use in the Companies' mobile CEMS testing unit.

- b. The existing stack opacity monitors were on the books of LG&E as of September 30, 2003. The existing plenum opacity monitors were not on the books of LG&E as of September 30, 2003. All opacity monitors were returned to inventory and remain available for use at other facilities as needed. No adjustment is necessary to the ECR rate base for these items.
- c. All monitors will remain in service as operational inventory or mobile test units.

LOUISVILLE GAS AND ELECTRIC COMPANY

CASE NO. 2006-00208

**Response to First Data Request of Commission Staff
Dated July 24, 2006**

Question No. 11

Responding Witness: Robert M. Conroy

- Q-11. Refer to the Direct Testimony of Robert M. Conroy (“Conroy Testimony”), pages 2 through 4. Provide ES Form 3.00 for the expense month of June 2006 and a version of ES Form 3.00 for the expense month of June 2006 reflecting LG&E’s proposed changes in determining R(m).
- A-11. Please see the attachments for the requested information.

As shown on the attached original and revised ES Form 3.00, the proposed change in the determination of R(m) results in a minor change in the jurisdictional allocation factor. Using the attached June 2006 data, LG&E’s jurisdictional allocation factor increases slightly, from 80.89% as filed using current procedures to 81.47% using LG&E’s proposed method. This increase of 58 basis points in the jurisdictional allocation factor increases Jurisdictional E(m) by \$16,355, or 0.7% for the expense month of June 2006.

Thus, because the proposed change to the determination of R(m) will classify Merger Surcredit and Value Delivery Surcredit revenues as “Reconciling Revenues” on Proposed ES Form 3.10, Kentucky Retail Revenues for Environmental Surcharge Purposes and Total Company Revenues for Environmental Surcharge Purposes will increase. The increase in these two revenue totals will result in a slight increase in the jurisdictional allocation factor. Additionally, the increase in Kentucky Retail Revenues for Environmental Surcharge Purposes will result in a decrease to the monthly Jurisdictional Environmental Surcharge Billing Factor. The change will more closely align the revenues used to determine the billing factor and the revenues to which the billing factor is applied, reduce the variability of the monthly true-up and not cause any unwarranted over-collection of surcharge revenues.

However, to reflect the results of the analysis provided in this response, my testimony at page 3 lines 18 through 21 should be revised to state as follows:

There will be a de minimus impact to customers by changing the determination of R(m). While the proposed change to the determination of R(m) does slightly change

the environmental costs that LG&E is authorized to collect through the ECR billing factor, this result is the function of eliminating the impacts of the MSR and VDT rate schedules which were approved after the establishment of the ECR rate schedule.

**LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT**

Monthly Average Revenue Computation of R (m)
For the Month Ended June 30, 2006

	Billed Retail Revenues					Wholesale Revenues	Total Company Revenues	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Month	Base Rate Revenues	Fuel Clause Revenues	Environmental Surcharge Revenues	Total (2)+(3)+(4)	Total Excluding Environmental Surcharge (5)-(4)	Total Including Off-System Sales (See Note 1)	Total (5)+(7)	Total Excluding Environmental Surcharge (8)-(4)
Jul-05	70,823,561	(88,787)	264,696	\$ 70,999,471	\$ 70,734,775	6,380,374	\$ 77,379,845	\$ 77,115,149
Aug-05	73,455,702	3,061,961	1,430,295	77,947,957	76,517,662	13,312,090	91,260,047	89,829,753
Sep-05	69,173,327	4,618,463	1,845,097	75,636,887	73,791,790	23,635,974	99,272,861	97,427,764
Oct-05	53,809,117	3,954,479	274,845	58,038,442	57,763,596	19,498,751	77,537,192	77,262,347
Nov-05	45,099,200	1,030,627	166,492	46,296,319	46,129,827	29,369,656	75,665,975	75,499,483
Dec-05	51,780,231	2,669,412	430,592	54,880,234	54,449,642	36,574,423	91,454,657	91,024,065
Jan-06	53,762,432	908,143	374,323	55,044,898	54,670,576	26,013,419	81,058,317	80,683,995
Feb-06	48,659,778	(928,571)	207,650	47,938,858	47,731,208	11,830,429	59,769,288	59,561,637
Mar-06	47,702,385	1,108,308	268,594	49,079,287	48,810,693	9,847,917	58,927,203	58,658,610
Apr-06	46,826,010	2,361,807	1,717,339	50,905,155	49,187,816	10,722,286	61,627,441	59,910,102
May-06	47,175,140	3,221,381	1,674,717	52,071,237	50,396,520	19,312,232	71,383,469	69,708,752
Jun-06	59,639,883	2,884,382	1,480,155	64,004,420	62,524,265	14,768,997	78,773,417	77,293,262
Average Monthly Retail Revenues, Excluding Environmental Surcharge, for 12 Months Ending Current Expense Month.					\$ 57,725,698			
Retail Allocation Percentage for Current Month (Environmental Surcharge Excluded from Calculations): Expense Month Kentucky Retail Revenues Divided by Expense Month Total Company Revenues: Column (6) / Column (9) =							80.89%	
						Note 1 - Excludes Brokered Sales, Total for Current Month =	\$ 211,303	

**LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT**

Monthly Average Revenue Computation of R (m)

For the Month Ended: June 30, 2006

Kentucky Jurisdictional Revenues								Non-Jurisdictional Revenues	Total Company Revenues	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Month	Base Rate Revenues	Fuel Clause Revenues	DSM Revenues	STOD Program Cost Recovery Factor Revenues	Environmental Surcharge Revenues	Total <small>(2)+(3)+(4)+(5)+(6)</small>	Total Excluding Environmental Surcharge <small>(7)-(6)</small>	Total Including Off-System Sales <small>(See Note 1)</small>	Total <small>(7)+(9)</small>	Total Excluding Environmental Surcharge <small>(10)-(6)</small>
Jul-05	73,154,527	(88,787)	441,758	2,558	264,696	\$ 73,774,752	\$ 73,510,056	6,380,374	\$ 80,155,126	\$ 79,890,430
Aug-05	75,952,775	3,061,961	468,849	2,583	1,430,295	80,916,462	79,486,168	13,312,090	94,228,552	92,798,258
Sep-05	71,745,248	4,618,463	422,115	2,607	1,845,097	78,633,530	76,788,433	23,635,974	102,269,504	100,424,407
Oct-05	55,696,658	3,954,469	308,058	2,295	274,845	60,236,325	59,961,480	19,498,751	79,735,076	79,460,231
Nov-05	46,607,701	1,030,627	227,313	130	166,492	48,032,262	47,865,770	29,369,656	77,401,918	77,235,426
Dec-05	53,543,600	2,669,412	309,860	4	430,592	56,953,468	56,522,876	36,574,423	93,527,891	93,097,299
Jan-06	55,661,226	908,143	321,399	0	374,323	57,265,090	56,890,768	26,013,419	83,278,509	82,904,187
Feb-06	50,166,123	(928,571)	273,972	-	207,650	49,719,175	49,511,524	11,830,429	61,549,604	61,341,953
Mar-06	49,220,428	1,108,308	260,197	35,156	268,594	50,892,682	50,624,088	9,847,917	60,740,599	60,472,005
Apr-06	48,452,349	2,361,807	249,628	35,933	1,717,339	52,817,056	51,099,717	10,722,286	63,539,342	61,822,003
May-06	48,830,817	3,221,381	245,712	38,840	1,674,717	54,011,466	52,336,749	19,312,232	73,323,698	71,648,981
Jun-06	61,688,715	2,884,382	326,423	42,800	1,480,155	66,422,475	64,942,320	14,768,997	81,191,472	79,711,317
Average Monthly Jurisdictional Revenues, Excluding Environmental Surcharge, for 12 Months Ending Current Expense Month.							\$ 59,961,662			
Jurisdictional Allocation Percentage for Current Month (Environmental Surcharge Excluded from Calculations): Expense Month Kentucky Jurisdictional Revenues Divided by Expense Month Total Company Revenues: Column (8) / Column (11) =									81.47%	
								Note 1 - Excludes Brokered Sales, Total for Current Month =	\$ 211,303	

LOUISVILLE GAS AND ELECTRIC COMPANY

CASE NO. 2006-00208

**Response to First Data Request of Commission Staff
Dated July 24, 2006**

Question No. 12

Responding Witness: Robert M. Conroy

- Q-12. Refer to the Conroy Testimony, page 5. Concerning the reporting of plant, construction work in progress, and depreciation expense, does LG&E agree that it would be reasonable to report the information for the four environmental compliance plans under one format reference number with net subtotals for each environmental compliance plan, even though this would probably become a multiple-page format, similar to the approach used for ES Form 2.50? Explain the response.
- A-12. LG&E agrees it would be reasonable to report the information proposed to be contained on ES Form 2.11 and ES Form 2.12 on a single, multi-page ES Form (i.e. ES Form 2.10, page x of y) with subtotals for each amended compliance plan. A sample of such a form is attached.

**LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Plant, CWIP & Depreciation Expense**

For the Month Ended:

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Eligible Plant In Service	Eligible Accumulated Depreciation	CWIP Amount Excluding AFUDC	Eligible Net Plant In Service	Deferred Tax Balance as of xx/dd/yyyy	Monthly Depreciation Expense	Monthly Property Tax Expense
				(2)-(3)+(4)			
2001 Plan:							
Project 6 - LGE NOx							
Subtotal							
Less Retirements and Replacement resulting from implementation of 2001 Plan							
Net Total - 2001 Plan:							
2003 Plan:							
Project 7 - Mill Creek FGD Scrubber Conversion							
Project 8 - Precipitator Upgrades - All Plants							
Project 9 - Clearwell Water System - Mill Creek							
Project 10 - SO ₂ Absorber Trays - Mill Creek 3 & 4							
Subtotal							
Less Retirements and Replacement resulting from implementation of 2003 Plan							
Net Total - 2003 Plan:							

**LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Plant, CWIP & Depreciation Expense**

For the Month Ended:

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Eligible Plant In Service	Eligible Accumulated Depreciation	CWIP Amount Excluding AFUDC	Eligible Net Plant In Service	Deferred Tax Balance as of xx/dd/yyyy	Monthly Depreciation Expense	Monthly Property Tax Expense
				(2)-(3)+(4)			
2005 Plan: Project 11 - Special Waste Landfill Expansion at Mill Creek Project 12 - Special Waste Landfill Expansion at Cane Run Station Project 13 - Scrubber Refurbishment at Trimble County Unit 1 Project 14 - Scrubber Refurbishment at Cane Run Unit 6 Project 15 - Scrubber Refurbishment at Cane Run Unit 5 Project 16 - Scrubber Improvements at Trimble County Unit 1							
Subtotal							
Less Retirements and Replacement resulting from implementation of 2005 Plan							
Net Total - 2005 Plan:							
2006 Plan: Project 18 - TC2 AQCS Equipment Project 19 - Sorbent Injection Project 20 - Mercury Monitors Project 21 - Mill Creek Opacity and Particulate Monitors							
Subtotal							
Less Retirements and Replacement resulting from implementation of 2006 Plan							
Net Total - 2006 Plan:							
Net Total - All Plans:							

LOUISVILLE GAS AND ELECTRIC COMPANY

CASE NO. 2006-00208

**Response to First Data Request of Commission Staff
Dated July 24, 2006**

Question No. 13

Responding Witness: Robert M. Conroy

Q-13. Refer to the Conroy Testimony, pages 8 and 9.

- a. Provide the calculations, workpapers, assumptions, and other documents used to determine the 2006 Plan estimated 1,000 kWh per month residential customer bill increase of \$0.41 in 2007 and \$0.81 in 2010.
- b. Provide the calculations, workpapers, assumptions, and other documents used to determine the 2005 Plan estimated 1,000 kWh per month residential customer bill increase of \$0.11 in 2007 and \$0.23 in 2010.

A-13. a. Please see Attachment 1 to Response to Question No. 13(a).

In preparing the attachment to this response, the Company determined that a full year of depreciation expense was included in 2010 for Project 18. Since the anticipated in-service date for Trimble County Unit 2 is mid-year 2010, the calculation of the estimated bill impact should actually use one-half of a year's depreciation expense

In addition, Attachment 2 to Response to Question No. 13(a) details the calculation of the bill impact with the inclusion of O&M expenses for Project 18 as discussed in the response to Question No. 9. The maximum bill impact for the 2006 Amended Plan is expected to occur in 2011. For a residential customer using 1,000 kWh per month, the maximum bill impact will be \$0.78 without the inclusion of O&M for Project 18 and \$0.86 with the inclusion of O&M for Project 18.

b. Please see the Attachment to Response to Question No. 13(b).

Revenue Requirements Summary 2006 Amended Plan - LG&E

	2006	2007	2008	2009	2010	2011	2012
Project 18 Trimble County 2							
Revenue Requirement							
Eligible Plant	2,746,000	15,775,000	35,298,000	42,028,000	43,462,000	43,462,000	43,462,000
Less: Retired Plant	-	-	-	-	-	-	-
Less: Accumulated Depreciation	-	-	-	-	(754,066)	(2,262,197)	(3,770,329)
Plus: Accumulated Depreciation on retired plant	-	-	-	-	-	-	-
Less: Deferred Tax Balance	-	-	-	-	(311,693)	(891,613)	(1,387,692)
Plus: Deferred Tax Balance on retired plant	-	-	-	-	-	-	-
Environmental Compliance Rate Base	2,746,000	15,775,000	35,298,000	42,028,000	42,396,241	40,308,190	38,303,979
Rate of return	11.04%	10.79%	10.79%	10.79%	10.64%	10.64%	10.64%
	<u>\$ 303,226</u>	<u>\$ 1,701,979</u>	<u>\$ 3,808,334</u>	<u>\$ 4,534,440</u>	<u>\$ 4,509,087</u>	<u>\$ 4,287,011</u>	<u>\$ 4,073,851</u>
Operating expenses	-	-	-	-	-	-	-
Annual Depreciation expense	-	-	-	-	754,066	1,508,131	1,508,131
Less depreciation on retired plant	-	-	-	-	-	-	-
Annual Property Tax expense	-	4,119	23,663	52,947	63,042	64,062	61,800
Total OE	<u>\$ -</u>	<u>\$ 4,119</u>	<u>\$ 23,663</u>	<u>\$ 52,947</u>	<u>\$ 817,108</u>	<u>\$ 1,572,193</u>	<u>\$ 1,569,931</u>
Total E(m)	303,226	1,706,098	3,831,997	4,587,387	5,326,195	5,859,204	5,643,782
Project 19 MC3, MC4, and TC1							
Revenue Requirement							
Eligible Plant	881,000	18,656,000	18,656,000	18,656,000	18,656,000	18,656,000	18,656,000
Less: Retired Plant	-	-	-	-	-	-	-
Less: Accumulated Depreciation	-	(516,659)	(1,033,317)	(1,549,976)	(2,066,634)	(2,583,293)	(3,099,952)
Plus: Accumulated Depreciation on retired plant	-	-	-	-	-	-	-
Less: Deferred Tax Balance	-	(67,136)	(371,774)	(639,304)	(865,565)	(1,061,017)	(1,228,051)
Plus: Deferred Tax Balance on retired plant	-	-	-	-	-	-	-
Environmental Compliance Rate Base	881,000	18,072,205	17,250,909	16,466,720	15,723,801	15,011,690	14,327,998
Rate of return	11.04%	10.79%	10.79%	10.79%	10.64%	10.64%	10.64%
	<u>\$ 97,284</u>	<u>\$ 1,949,827</u>	<u>\$ 1,861,217</u>	<u>\$ 1,776,610</u>	<u>\$ 1,672,318</u>	<u>\$ 1,596,581</u>	<u>\$ 1,523,866</u>
Operating expenses	-	850,078	875,580	2,164,434	2,229,367	2,296,248	2,365,136
Annual Depreciation expense	-	516,659	516,659	516,659	516,659	516,659	516,659
Less depreciation on retired plant	-	-	-	-	-	-	-
Annual Property Tax expense	-	1,322	27,209	26,434	25,659	24,884	24,109
Total OE	<u>\$ -</u>	<u>\$ 1,368,058</u>	<u>\$ 1,419,448</u>	<u>\$ 2,707,527</u>	<u>\$ 2,771,685</u>	<u>\$ 2,837,791</u>	<u>\$ 2,905,903</u>
Total E(m)	97,284	3,317,885	3,280,664	4,484,136	4,444,002	4,434,371	4,429,769

**Revenue Requirements Summary
2006 Amended Plan - LG&E**

	2006	2007	2008	2009	2010	2011	2012
Project 20 CEMS							
Revenue Requirement							
Eligible Plant	73,000	2,839,000	2,839,000	2,839,000	2,839,000	2,839,000	2,839,000
Less: Retired Plant	-	-	-	-	-	-	-
Less: Accumulated Depreciation	-	-	(74,275)	(148,551)	(222,826)	(297,101)	(371,377)
Plus: Accumulated Depreciation on retired plant	-	-	-	-	-	-	-
Less: Deferred Tax Balance	-	-	(11,812)	(59,766)	(100,797)	(136,776)	(168,067)
Plus: Deferred Tax Balance on retired plant	-	-	-	-	-	-	-
Environmental Compliance Rate Base	73,000	2,839,000	2,752,913	2,630,683	2,515,377	2,405,122	2,299,556
Rate of return	11.04%	10.79%	10.79%	10.79%	10.64%	10.64%	10.64%
	<u>\$ 8,061</u>	<u>\$ 306,302</u>	<u>\$ 297,014</u>	<u>\$ 283,827</u>	<u>\$ 267,525</u>	<u>\$ 255,799</u>	<u>\$ 244,571</u>
Operating expenses	-	-	612,250	612,250	612,250	612,250	612,250
Annual Depreciation expense	-	-	74,275	74,275	74,275	74,275	74,275
Less depreciation on retired plant	-	-	-	-	-	-	-
Annual Property Tax expense	-	110	4,259	4,147	4,036	3,924	3,813
Total OE	<u>\$ -</u>	<u>\$ 110</u>	<u>\$ 690,784</u>	<u>\$ 690,672</u>	<u>\$ 690,561</u>	<u>\$ 690,450</u>	<u>\$ 690,338</u>
Total E(m)	8,061	306,412	987,798	974,499	958,086	946,248	934,909
Project 21 Opacity Monitors							
Revenue Requirement							
Eligible Plant	835,310	835,310	835,310	835,310	835,310	835,310	835,310
Less: Retired Plant	-	-	-	-	-	-	-
Less: Accumulated Depreciation	(21,759)	(43,519)	(65,278)	(87,038)	(108,797)	(130,556)	(152,316)
Plus: Accumulated Depreciation on retired plant	-	-	-	-	-	-	-
Less: Deferred Tax Balance	(3,677)	(17,821)	(30,304)	(41,254)	(50,494)	(58,461)	(65,249)
Plus: Deferred Tax Balance on retired plant	-	-	-	-	-	-	-
Environmental Compliance Rate Base	809,874	773,970	739,728	707,019	676,019	646,292	617,745
Rate of return	11.04%	10.79%	10.79%	10.79%	10.64%	10.64%	10.64%
	<u>\$ 89,430</u>	<u>\$ 83,504</u>	<u>\$ 79,810</u>	<u>\$ 76,281</u>	<u>\$ 71,899</u>	<u>\$ 68,737</u>	<u>\$ 65,701</u>
Operating expenses	-	-	-	-	-	-	-
Annual Depreciation expense	21,759	21,759	21,759	21,759	21,759	21,759	21,759
Less depreciation on retired plant	-	-	-	-	-	-	-
Annual Property Tax expense	-	1,220	1,188	1,155	1,122	1,090	1,057
Total OE	<u>\$ 21,759</u>	<u>\$ 22,980</u>	<u>\$ 22,947</u>	<u>\$ 22,914</u>	<u>\$ 22,882</u>	<u>\$ 22,849</u>	<u>\$ 22,817</u>
Total E(m)	111,189	106,484	102,757	99,195	94,780	91,586	88,517
Total E(m) - All LG&E Projects	519,761	5,436,879	8,203,216	10,145,218	10,823,064	11,331,410	11,096,978

**Revenue Requirements Summary
2006 Amended Plan - LG&E**

	2006	2007	2008	2009	2010	2011	2012
Total Revenue Requirements							
Project 18	303,226	1,706,098	3,831,997	4,587,387	5,326,195	5,859,204	5,643,782
Project 19	97,284	3,317,885	3,280,664	4,484,136	4,444,002	4,434,371	4,429,769
Project 20	8,061	306,412	987,798	974,499	958,086	946,248	934,909
Project 21	111,189	106,484	102,757	99,195	94,780	91,586	88,517
Total	519,761	5,436,879	8,203,218	10,145,218	10,823,064	11,331,410	11,096,978
	-	-	-	-	-	-	-
12 Month Average Jurisdictional Ratio	75 15%	75 15%	75 15%	75 15%	75 15%	75 15%	75 15%
Jurisdictional Allocation	390,583	4,085,634	6,164,443	7,623,793	8,133,171	8,515,177	8,339,009
12 Month Retail Revenue @ 2.06% Growth	676,120,524	690,060,613	704,288,114	718,808,955	733,629,184	748,754,972	764,192,620
Billing Factor	0 06%	0 59%	0 88%	1 06%	1 11%	1 14%	1 09%
LGE Residential Bill Impact							
Customer Charge	\$5 00	\$5 00	\$5 00	\$5 00	\$5 00	\$5 00	\$5 00
Energy, 1,000 Kwh @\$0 05955	\$59 55	\$59 55	\$59 55	\$59 55	\$59 55	\$59 55	\$59 55
FAC billings (May-06 factor -\$0 00354/kwh)	3 54	3 54	3 54	3 54	3 54	3 54	3 54
DSM billings (May-06 factor - \$0 00072/kwh)	0 72	0 72	0 72	0 72	0 72	0 72	0 72
ECR billings (March-06 factor: 3 28%)	\$2 26	\$2 26	\$2 26	\$2 26	\$2 26	\$2 26	\$2 26
Additional ECR factor	\$0 04	\$0 41	\$0 60	\$0 73	\$0 76	\$0 78	\$0 75

Revenue Requirements Summary 2006 Amended Plan - LG&E

with O&M included for Project 18

	2006	2007	2008	2009	2010	2011	2012
Project 18 Trimble County 2							
Revenue Requirement							
Eligible Plant	2,746,000	15,775,000	35,298,000	42,028,000	43,462,000	43,462,000	43,462,000
Less: Retired Plant	-	-	-	-	-	-	-
Less: Accumulated Depreciation	-	-	-	-	(754,066)	(2,262,197)	(3,770,329)
Plus: Accumulated Depreciation on retired plant	-	-	-	-	-	-	-
Less: Deferred Tax Balance	-	-	-	-	(311,693)	(891,613)	(1,387,692)
Plus: Deferred Tax Balance on retired plant	-	-	-	-	-	-	-
Environmental Compliance Rate Base	2,746,000	15,775,000	35,298,000	42,028,000	42,396,241	40,308,190	38,303,979
Rate of return	11.04%	10.79%	10.79%	10.79%	10.64%	10.64%	10.64%
	<u>\$ 303,226</u>	<u>\$ 1,701,979</u>	<u>\$ 3,808,334</u>	<u>\$ 4,534,440</u>	<u>\$ 4,509,087</u>	<u>\$ 4,287,011</u>	<u>\$ 4,073,851</u>
Operating expenses	-	-	-	-	613,712	1,065,138	1,097,770
Annual Depreciation expense	-	-	-	-	754,066	1,508,131	1,508,131
Less depreciation on retired plant	-	-	-	-	-	-	-
Annual Property Tax expense	-	4,119	23,663	52,947	63,042	64,062	61,800
Total OE	<u>\$ -</u>	<u>\$ 4,119</u>	<u>\$ 23,663</u>	<u>\$ 52,947</u>	<u>\$ 1,430,820</u>	<u>\$ 2,637,331</u>	<u>\$ 2,667,701</u>
Total E(m)	303,226	1,706,098	3,831,997	4,587,387	5,939,907	6,924,342	6,741,552
Project 19 MC3, MC4, and TC1							
Revenue Requirement							
Eligible Plant	881,000	18,656,000	18,656,000	18,656,000	18,656,000	18,656,000	18,656,000
Less: Retired Plant	-	-	-	-	-	-	-
Less: Accumulated Depreciation	-	(516,659)	(1,033,317)	(1,549,976)	(2,066,634)	(2,583,293)	(3,099,952)
Plus: Accumulated Depreciation on retired plant	-	-	-	-	-	-	-
Less: Deferred Tax Balance	-	(67,136)	(371,774)	(639,304)	(865,565)	(1,061,017)	(1,228,051)
Plus: Deferred Tax Balance on retired plant	-	-	-	-	-	-	-
Environmental Compliance Rate Base	881,000	18,072,205	17,250,909	16,466,720	15,723,801	15,011,690	14,327,998
Rate of return	11.04%	10.79%	10.79%	10.79%	10.64%	10.64%	10.64%
	<u>\$ 97,284</u>	<u>\$ 1,949,827</u>	<u>\$ 1,861,217</u>	<u>\$ 1,776,610</u>	<u>\$ 1,672,318</u>	<u>\$ 1,596,581</u>	<u>\$ 1,523,866</u>
Operating expenses	-	850,078	875,580	2,164,434	2,229,367	2,296,248	2,365,136
Annual Depreciation expense	-	516,659	516,659	516,659	516,659	516,659	516,659
Less depreciation on retired plant	-	-	-	-	-	-	-
Annual Property Tax expense	-	1,322	27,209	26,434	25,659	24,884	24,109
Total OE	<u>\$ -</u>	<u>\$ 1,368,058</u>	<u>\$ 1,419,448</u>	<u>\$ 2,707,527</u>	<u>\$ 2,771,685</u>	<u>\$ 2,837,791</u>	<u>\$ 2,905,903</u>
Total E(m)	97,284	3,317,885	3,280,664	4,484,136	4,444,002	4,434,371	4,429,769

**Revenue Requirements Summary
2006 Amended Plan - LG&E**

with O&M included for Project 18

	2006	2007	2008	2009	2010	2011	2012
Project 20 CEMS							
Revenue Requirement							
Eligible Plant	73,000	2,839,000	2,839,000	2,839,000	2,839,000	2,839,000	2,839,000
Less: Retired Plant	-	-	-	-	-	-	-
Less: Accumulated Depreciation	-	-	(74,275)	(148,551)	(222,826)	(297,101)	(371,377)
Plus: Accumulated Depreciation on retired plant	-	-	-	-	-	-	-
Less: Deferred Tax Balance	-	-	(11,812)	(59,766)	(100,797)	(136,776)	(168,067)
Plus: Deferred Tax Balance on retired plant	-	-	-	-	-	-	-
Environmental Compliance Rate Base	73,000	2,839,000	2,752,913	2,630,683	2,515,377	2,405,122	2,299,556
Rate of return	11.04%	10.79%	10.79%	10.79%	10.64%	10.64%	10.64%
	<u>\$ 8,061</u>	<u>\$ 306,302</u>	<u>\$ 297,014</u>	<u>\$ 283,827</u>	<u>\$ 267,525</u>	<u>\$ 255,799</u>	<u>\$ 244,571</u>
Operating expenses	-	-	612,250	612,250	612,250	612,250	612,250
Annual Depreciation expense	-	-	74,275	74,275	74,275	74,275	74,275
Less depreciation on retired plant	-	-	-	-	-	-	-
Annual Property Tax expense	-	110	4,259	4,147	4,036	3,924	3,813
Total OE	<u>\$ -</u>	<u>\$ 110</u>	<u>\$ 690,784</u>	<u>\$ 690,672</u>	<u>\$ 690,561</u>	<u>\$ 690,450</u>	<u>\$ 690,338</u>
Total E(m)	8,061	306,412	987,798	974,499	958,086	946,248	934,909
Project 21 Opacity Monitors							
Revenue Requirement							
Eligible Plant	835,310	835,310	835,310	835,310	835,310	835,310	835,310
Less: Retired Plant	-	-	-	-	-	-	-
Less: Accumulated Depreciation	(21,759)	(43,519)	(65,278)	(87,038)	(108,797)	(130,556)	(152,316)
Plus: Accumulated Depreciation on retired plant	-	-	-	-	-	-	-
Less: Deferred Tax Balance	(3,677)	(17,821)	(30,304)	(41,254)	(50,494)	(58,461)	(65,249)
Plus: Deferred Tax Balance on retired plant	-	-	-	-	-	-	-
Environmental Compliance Rate Base	809,874	773,970	739,728	707,019	676,019	646,292	617,745
Rate of return	11.04%	10.79%	10.79%	10.79%	10.64%	10.64%	10.64%
	<u>\$ 89,430</u>	<u>\$ 83,504</u>	<u>\$ 79,810</u>	<u>\$ 76,281</u>	<u>\$ 71,899</u>	<u>\$ 68,737</u>	<u>\$ 65,701</u>
Operating expenses	-	-	-	-	-	-	-
Annual Depreciation expense	21,759	21,759	21,759	21,759	21,759	21,759	21,759
Less depreciation on retired plant	-	-	-	-	-	-	-
Annual Property Tax expense	-	1,220	1,188	1,155	1,122	1,090	1,057
Total OE	<u>\$ 21,759</u>	<u>\$ 22,980</u>	<u>\$ 22,947</u>	<u>\$ 22,914</u>	<u>\$ 22,882</u>	<u>\$ 22,849</u>	<u>\$ 22,817</u>
Total E(m)	111,189	106,484	102,757	99,195	94,780	91,586	88,517
Total E(m) - All LG&E Projects	519,761	5,436,879	8,203,216	10,145,218	11,436,776	12,396,548	12,194,748

Revenue Requirements Summary 2006 Amended Plan - LG&E

with O&M included for Project 18

	2006	2007	2008	2009	2010	2011	2012
Total Revenue Requirements							
Project 18	303,226	1,706,098	3,831,997	4,587,387	5,939,907	6,924,342	6,741,552
Project 19	97,284	3,317,885	3,280,664	4,484,136	4,444,002	4,434,371	4,429,769
Project 20	8,061	306,412	987,798	974,499	958,086	946,248	934,909
Project 21	111,189	106,484	102,757	99,195	94,780	91,586	88,517
Total	519,761	5,436,879	8,203,216	10,145,218	11,436,776	12,396,548	12,194,748
	-	-	-	-	-	-	-
12 Month Average Jurisdictional Ratio	75 15%	75 15%	75 15%	75 15%	75 15%	75 15%	75 15%
Jurisdictional Allocation	390,583	4,085,634	6,164,443	7,623,793	8,594,356	9,315,592	9,163,946
12 Month Retail Revenue @ 2.06% Growth	676,120,524	690,060,613	704,288,114	718,808,955	733,629,184	748,754,972	764,192,620
Billing Factor	0 06%	0 59%	0 88%	1 06%	1 17%	1 24%	1 20%
LGE Residential Bill Impact							
Customer Charge	\$5 00	\$5 00	\$5 00	\$5 00	\$5 00	\$5 00	\$5 00
Energy, 1,000 Kwh @\$0 05955	\$59 55	\$59 55	\$59 55	\$59 55	\$59 55	\$59 55	\$59 55
FAC billings (May-06 factor -\$0 00354/kwh)	3 54	3 54	3 54	3 54	3 54	3 54	3 54
DSM billings (May-06 factor - \$0 00072/kwh)	0 72	0 72	0 72	0 72	0 72	0 72	0 72
ECR billings (March-06 factor: 3 28%)	\$2 26	\$2 26	\$2 26	\$2 26	\$2 26	\$2 26	\$2 26
Additional ECR factor	\$0 04	\$0 41	\$0 60	\$0 73	\$0 81	\$0 86	\$0 83

Revenue Requirements Summary 2005 Amended Plan - LG&E

	2006	2007	2008	2009	2010	2011	2012
Project 11 Special Waste Landfill Expansion at Mill Creek							
Revenue Requirement							
Eligible Plant	1,128,303	5,887,303	10,890,303	11,978,303	11,978,303	11,978,303	11,978,303
Less: Retired Plant	(83,141)	(83,141)	(83,141)	(83,141)	(83,141)	(83,141)	(83,141)
Less: Accumulated Depreciation	-	-	(3,525)	(341,313)	(679,101)	(1,016,889)	(1,354,678)
Plus: Accumulated Depreciation on retired plant	13,046	13,046	13,046	13,046	13,046	13,046	13,046
Less: Deferred Tax Balance	-	-	(427)	(42,899)	(230,197)	(394,407)	(537,317)
Plus: Deferred Tax Balance on retired plant	2,729	2,729	2,729	2,729	2,729	2,729	2,729
Environmental Compliance Rate Base	1,060,937	5,819,937	10,818,985	11,526,725	11,001,639	10,499,641	10,018,943
Rate of return	11.04%	10.79%	10.79%	10.79%	10.64%	10.64%	10.64%
	<u>\$ 117,132</u>	<u>\$ 627,918</u>	<u>\$ 1,167,270</u>	<u>\$ 1,243,629</u>	<u>\$ 1,170,088</u>	<u>\$ 1,116,698</u>	<u>\$ 1,065,573</u>
Operating expenses	-	-	-	-	-	-	-
Annual Depreciation expense	-	-	3,525	337,788	337,788	337,788	337,788
Less depreciation on retired plant	-	-	-	-	-	-	-
Annual Property Tax expense	-	1,692	8,831	16,330	17,455	16,949	16,442
Total OE	<u>\$ -</u>	<u>\$ 1,692</u>	<u>\$ 12,356</u>	<u>\$ 354,118</u>	<u>\$ 355,244</u>	<u>\$ 354,737</u>	<u>\$ 354,230</u>
Total E(m)	117,132	629,611	1,179,626	1,597,747	1,525,332	1,471,435	1,419,803
Project 12 Special Waste Landfill Expansion at Cane Run							
Revenue Requirement							
Eligible Plant	2,414,135	2,964,135	3,814,135	4,364,135	5,214,135	5,214,135	5,214,135
Less: Retired Plant	-	-	-	-	-	-	-
Less: Accumulated Depreciation	(52,628)	(117,246)	(200,394)	(295,533)	(409,201)	(522,869)	(636,537)
Plus: Accumulated Depreciation on retired plant	-	-	-	-	-	-	-
Less: Deferred Tax Balance	(14,571)	(69,384)	(132,330)	(196,344)	(261,908)	(319,530)	(369,784)
Plus: Deferred Tax Balance on retired plant	-	-	-	-	-	-	-
Environmental Compliance Rate Base	2,346,936	2,777,504	3,481,411	3,872,259	4,543,026	4,371,736	4,207,814
Rate of return	11.04%	10.79%	10.79%	10.79%	10.64%	10.64%	10.64%
	<u>\$ 259,111</u>	<u>\$ 299,668</u>	<u>\$ 375,613</u>	<u>\$ 417,782</u>	<u>\$ 483,177</u>	<u>\$ 464,960</u>	<u>\$ 447,525</u>
Operating expenses	-	-	-	-	-	-	-
Annual Depreciation expense	52,628	64,618	83,148	95,138	113,668	113,668	113,668
Less depreciation on retired plant	-	-	-	-	-	-	-
Annual Property Tax expense	-	3,542	4,270	5,421	6,103	7,207	7,037
Total OE	<u>\$ 52,628</u>	<u>\$ 68,160</u>	<u>\$ 87,418</u>	<u>\$ 100,559</u>	<u>\$ 119,771</u>	<u>\$ 120,876</u>	<u>\$ 120,705</u>
Total E(m)	311,740	367,828	463,031	518,340	602,948	585,835	568,231

Revenue Requirements Summary 2005 Amended Plan - LG&E

	2006	2007	2008	2009	2010	2011	2012
Project 13 Scrubber Refurbishment at Trimble County Unit 1							
Revenue Requirement							
Eligible Plant	-	2,072,000	2,917,000	7,239,000	7,239,000	7,239,000	7,239,000
Less: Retired Plant	-	(2,613,759)	(2,756,629)	(3,294,943)	(3,294,943)	(3,294,943)	(3,294,943)
Less: Accumulated Depreciation	-	(49,935)	(120,235)	(294,695)	(469,155)	(643,615)	(818,075)
Plus: Accumulated Depreciation on retired plant	-	1,201,741	1,267,429	1,514,932	1,514,932	1,514,932	1,514,932
Less: Deferred Tax Balance	-	(10,189)	(50,911)	(163,542)	(262,931)	(350,195)	(426,267)
Plus: Deferred Tax Balance on retired plant	-	263,982	278,411	332,780	332,780	332,780	332,780
Environmental Compliance Rate Base	-	863,840	1,535,065	5,333,532	5,059,683	4,797,959	4,547,428
Rate of return	11.04%	10.79%	10.79%	10.79%	10.64%	10.64%	10.64%
	\$ -	\$ 93,200	\$ 165,620	\$ 575,440	\$ 538,127	\$ 510,291	\$ 483,645
Operating expenses	-	-	-	-	-	-	-
Annual Depreciation expense	-	49,935	70,300	174,460	174,460	174,460	174,460
Less depreciation on retired plant	-	(90,697)	(94,416)	(108,425)	(108,425)	(108,425)	(108,425)
Annual Property Tax expense	-	-	3,033	4,195	10,416	10,155	9,893
Total OE	\$ -	\$ (40,762)	\$ (21,083)	\$ 70,230	\$ 76,451	\$ 76,189	\$ 75,928
Total E(m)	-	52,438	144,537	645,670	614,578	586,480	559,573
Project 14 Scrubber Refurbishment at Cane Run Unit 6							
Revenue Requirement							
Eligible Plant	3,115,000	4,710,000	5,005,000	5,800,000	6,095,000	6,095,000	6,095,000
Less: Retired Plant	(199,499)	(620,910)	(620,910)	(3,440,956)	(3,440,956)	(3,440,956)	(3,440,956)
Less: Accumulated Depreciation	(67,907)	(170,585)	(279,694)	(406,134)	(539,005)	(671,876)	(804,747)
Plus: Accumulated Depreciation on retired plant	50,356	155,346	155,346	858,640	858,640	858,640	858,640
Less: Deferred Tax Balance	(18,801)	(89,350)	(174,534)	(257,542)	(339,009)	(410,823)	(473,698)
Plus: Deferred Tax Balance on retired plant	29,788	93,346	93,346	542,857	542,857	542,857	542,857
Environmental Compliance Rate Base	2,908,937	4,077,847	4,178,554	3,096,865	3,177,527	2,972,842	2,777,096
Rate of return	11.04%	10.79%	10.79%	10.79%	10.64%	10.64%	10.64%
	\$ 321,159	\$ 439,963	\$ 450,828	\$ 334,124	\$ 337,948	\$ 316,179	\$ 295,360
Operating expenses	-	-	-	-	-	-	-
Annual Depreciation expense	67,907	102,678	109,109	126,440	132,871	132,871	132,871
Less depreciation on retired plant	(4,349)	(13,536)	(13,536)	(75,013)	(75,013)	(75,013)	(75,013)
Annual Property Tax expense	-	4,571	6,809	7,088	8,091	8,334	8,135
Total OE	\$ 63,558	\$ 93,713	\$ 102,382	\$ 58,515	\$ 65,949	\$ 66,192	\$ 65,993
Total E(m)	384,717	533,676	553,210	392,639	403,897	382,371	361,353

**Revenue Requirements Summary
2005 Amended Plan - LG&E**

	2006	2007	2008	2009	2010	2011	2012
Project 15 Scrubber Refurbishment at Cane Run Unit 5							
Revenue Requirement							
Eligible Plant	-	750,000	2,200,000	2,700,000	2,700,000	2,700,000	2,700,000
Less: Retired Plant	-	(1,436,948)	(1,915,307)	(1,915,307)	(1,915,307)	(1,915,307)	(1,915,307)
Less: Accumulated Depreciation	-	(21,525)	(84,665)	(162,155)	(239,645)	(317,135)	(394,625)
Plus: Accumulated Depreciation on retired plant	-	384,485	566,393	566,393	566,393	566,393	566,393
Less: Deferred Tax Balance	-	(2,422)	(19,075)	(59,680)	(94,040)	(123,755)	(149,171)
Plus: Deferred Tax Balance on retired plant	-	153,576	217,239	217,239	217,239	217,239	217,239
Environmental Compliance Rate Base	-	(172,834)	964,585	1,346,489	1,234,640	1,127,435	1,024,529
Rate of return	11.04%	10.79%	10.79%	10.79%	10.64%	10.64%	10.64%
	\$ -	\$ (18,647)	\$ 104,070	\$ 145,274	\$ 131,311	\$ 119,909	\$ 108,965
Operating expenses	-	-	-	-	-	-	-
Annual Depreciation expense	-	21,525	63,140	77,490	77,490	77,490	77,490
Less depreciation on retired plant	(41,240)	(54,969)	(54,969)	(54,969)	(54,969)	(54,969)	(54,969)
Annual Property Tax expense	-	-	1,093	3,173	3,807	3,691	3,574
Total OE	\$ (41,240)	\$ (33,444)	\$ 9,263	\$ 25,694	\$ 26,327	\$ 26,211	\$ 26,095
Total E(m)	(41,240)	(52,092)	113,333	170,968	157,639	146,120	135,060

**Revenue Requirements Summary
2005 Amended Plan - LG&E**

	2006	2007	2008	2009	2010	2011	2012
Total E(m) - All LG&E Projects	772,348	1,531,461	2,453,738	3,325,364	3,304,394	3,172,242	3,044,020
Total Revenue Requirements							
Project 11	117,132	629,611	1,179,626	1,597,747	1,525,332	1,471,435	1,419,803
Project 12	311,740	367,828	463,031	518,340	602,948	585,835	568,231
Project 13	-	52,438	144,537	645,670	614,578	586,480	559,573
Project 14	384,717	533,676	553,210	392,639	403,897	382,371	361,353
Project 15	(41,240)	(52,092)	113,333	170,968	157,639	146,120	135,060
Total	772,348	1,531,461	2,453,738	3,325,364	3,304,394	3,172,242	3,044,020
	-	-	-	-	-	-	-
12 Month Average Jurisdictional Ratio	75 15%	75 15%	75 15%	75 15%	75 15%	75 15%	75 15%
Jurisdictional Allocation	580,393	1,150,842	1,843,902	2,498,900	2,483,142	2,383,834	2,287,479
12 Month Retail Revenue @ 2.06% Growth	676,120,524	690,060,613	704,288,114	718,808,955	733,629,184	748,754,972	764,192,620
Billing Factor	0 09%	0 17%	0 26%	0 35%	0 34%	0 32%	0 30%
LGE Residential Bill Impact							
Customer Charge	\$5 00	\$5 00	\$5 00	\$5 00	\$5 00	\$5 00	\$5 00
Energy, 1,000 Kwh @\$0 05955	\$59 55	\$59 55	\$59 55	\$59 55	\$59 55	\$59 55	\$59 55
FAC billings (May-06 factor -\$0 00354/kwh)	3 54	3 54	3 54	3 54	3 54	3 54	3 54
DSM billings (May-06 factor - \$0 00072/kwh)	0 72	0 72	0 72	0 72	0 72	0 72	0 72
ECR billings (May-06 factor: 3 28%)	\$2 26	\$2 26	\$2 26	\$2 26	\$2 26	\$2 26	\$2 26
Additional ECR factor	\$0 06	\$0 11	\$0 18	\$0 24	\$0 23	\$0 22	\$0 21

LOUISVILLE GAS AND ELECTRIC COMPANY

CASE NO. 2006-00208

**Response to First Data Request of Commission Staff
Dated July 24, 2006**

Question No. 14

Responding Witness: Robert M. Conroy

Q-14. Refer to the Conroy Testimony, Exhibit RMC-1.

- a. Under the section titled "Definitions" in the proposed tariff the following phrase is included for operating expenses, "adjusted for the Average Month Expense already included in existing rates." Does LG&E agree that this adjustment is no longer part of its environmental surcharge mechanism and should be deleted from the proposed tariff? Explain the response.
 - b. LG&E's current Environmental Cost Recovery Surcharge ("ECR") tariff shows it was effective "with service rendered on and after July 1, 2005." Explain in detail why LG&E's proposed ECR tariff is to be effective "with bills rendered" rather than "with service rendered."
- A-14. a. Yes, pending the Commission's Order in Case No. 2006-130¹, approving LG&E's proposal to eliminate the monthly exclusion of O&M expenses currently included in LG&E's monthly ECR filings.
- b. A change to the ECR monthly billing factor cannot be implemented on a "service-rendered" basis. LG&E's billing system applies additional billing factors only on a billing-cycle basis. If the Commission issues an Order approving recovery of LG&E's proposed 2006 Compliance Plan in December 2006, the impact of such an Order will be included on customer bills in February 2007, the second month following the month in which the Order is issued. The ECR monthly billing factor for February 2007 will only be assessed on services rendered subsequent to the date the Order is issued. This is consistent with the methodology used in every prior LG&E ECR proceeding.

As an explanatory note, although the current tariff states "with service rendered on and after July 1, 2005," the environmental costs approved for

¹ In the Matter of: *An Examination by the Public Service Commission of the Environmental Surcharge Mechanism of Louisville Gas and Electric Company for the Six-Month Billing Periods Ending October 31, 2003, April 30, 2004, October 31, 2004, October 31, 2005 and April 30, 2006 and for the Two Year Billing Period Ending April 30, 2005.*

recovery by this Commission in its June 20, 2005 Order in Case No. 2004-00421² were included in the ECR billing factor applied to customers' bills beginning with the billing month of August 2005. The ECR billing factor for August 2005 was only assessed on service rendered subsequent to the date the Order was issued.

² In the Matter of: *The Application of Louisville Gas and Electric Company For Approval Of Its 2004 Compliance Plan For Recovery By Environmental Surcharge.*