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Executive Director  
Kentucky Public Service Commission  
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RECEIVED  
MAR 30 2009  
PUBLIC SERVICE  
COMMISSION

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March 30, 2009

**RE: CONSIDERATION OF THE NEW FEDERAL STANDARDS OF  
THE ENERGY INDEPENDENCE AND SECURITY ACT OF 2007  
Adm Case 2008-00408**

Dear Mr. Derouen:

Enclosed please find an original and ten (10) copies of Kentucky Utilities Company ("KU") and Louisville Gas and Electric Company ("LG&E") Response to the Initial Data Request of Commission Staff dated March 16, 2009, in the above-referenced docket.

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

Sincerely,

Rick E. Lovekamp

cc: Parties of Record

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**RECEIVED**

MAR 30 2009

PUBLIC SERVICE  
COMMISSION

**In the Matter of:**

**CONSIDERATION OF THE NEW )  
FEDERAL STANDARDS OF THE )  
ENERGY INDEPENDENCE AND ) CASE NO. 2008-00408  
SECURITY ACT OF 2007 )**

**Response to Initial Data Request  
Of Commission Staff  
Dated March 16, 2009**

**FILED: March 30, 2009**

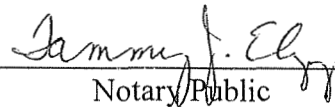
VERIFICATION

STATE OF KENTUCKY     )  
  ) SS:  
COUNTY OF JEFFERSON )

The undersigned, **Lonnie E. Bellar**, being duly sworn, deposes and says that he is the Vice President, State Regulation and Rates for Kentucky Utilities Company and Louisville Gas and Electric 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.

  
\_\_\_\_\_  
**LONNIE E. BELLAR**

Subscribed and sworn to before me, a Notary Public in and before said County and State,  
this 30<sup>th</sup> day of March, 2009.

 (SEAL)  
\_\_\_\_\_  
Notary Public

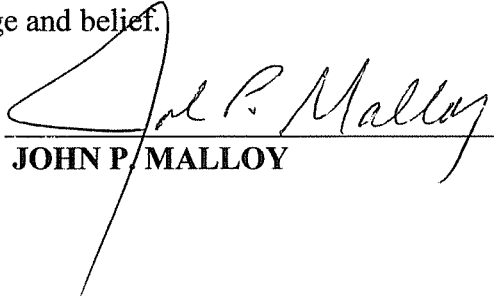
My Commission Expires:

November 9, 2010

VERIFICATION

STATE OF KENTUCKY    )  
  ) SS:  
COUNTY OF JEFFERSON )

The undersigned, **John P. Malloy**, being duly sworn, deposes and says that he is the Vice President, Energy Delivery-Retail Business for Kentucky Utilities Company and Louisville Gas and Electric 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.

  
\_\_\_\_\_  
**JOHN P. MALLOY**

Subscribed and sworn to before me, a Notary Public in and before said County and State,  
this 30<sup>th</sup> day of March, 2009.

  
\_\_\_\_\_  
Notary Public (SEAL)

My Commission Expires:

10-16-2012

**KENTUCKY UTILITIES COMPANY  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**ADMINISTRATIVE CASE NO. 2008-00408**

**Response to Initial Data Request of Commission Staff  
Dated March 16, 2009**

**Question No. 83**

**Responding Witness: Lonnie E. Bellar**

Q-83. State whether KU and LG&E believe that EISA 2007, Section 532(a)(16)(B), under which electric utilities shall adopt policies establishing cost-effective energy efficiency as a priority resource, is consistent with Kentucky's IRP regulation, 807 KAR 5:058. Explain why or why not.

A-83. The Companies believe that EISA 2007 § 532(a)(16)(B) is inconsistent with 807 KAR 5:058 § 8(1) and 807 KAR 5:058 § 8(4). Presumably, EISA 2007 § 532(a)(16)(B) uses "priority resource" in conjunction with "cost-effective" to convey that energy efficiency should be given priority over other more cost-effective demand-reduction or -satisfaction alternatives available to a utility. If that is correct, it contradicts 807 KAR 5:058 § 8(1): "The plan shall include the utility's resource assessment and acquisition plan for providing an adequate and reliable supply of electricity to meet forecasted electricity requirements at the lowest possible cost." Also, EISA 2007 § 532(a)(16)(B) contradicts 807 KAR 5:058 § 8(4), which requires that a utility's resource assessment and acquisition plan "consist of resource options which produce adequate and reliable means to meet annual and seasonal peak demands and total energy requirements identified in the base load forecast **at the lowest possible cost**" (emphases added).

Regardless of whether EISA 2007 § 532(a)(16)(B) is consistent with 807 KAR 5:058, the Companies do not believe it is necessary or advisable to adopt EISA 2007 § 532(a)(16)(B). 807 KAR 5:058 § 8(2) already requires electric utilities to "describe and discuss all options considered for inclusion in the plan including: ... (b) Conservation and load management or other demand-side programs not already in place[.]" There is no need for further regulations to encourage electric utilities to consider such programs.

**KENTUCKY UTILITIES COMPANY  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**ADMINISTRATIVE CASE NO. 2008-00408**

**Response to Initial Data Request of Commission Staff  
Dated March 16, 2009**

**Question No. 84**

**Responding Witness: John P. Malloy**

Q-84. Explain in detail how KU and LG&E treat energy efficiency as a priority resource. Include a description of any goals KU and LG&E have developed in terms of kWh (or KW or MW if more appropriate) that are displaced or saved.

A-84. The Companies recently demonstrated their strong commitment to treating cost-effective energy efficiency and Demand-Side Management (“DSM”) programs as priority resources in Case No. 2007-00319. In that case, the Companies proposed, and the Commission approved, the implementation of six new DSM/energy efficiency programs and enhancements to four existing programs, at an annual cost of \$26 million.

In addition to their considerable array of existing DSM and energy efficiency programs, the Companies are constantly evaluating ways to serve their customers in a reliable, least cost manner through the investigation and implementation of both supply-side and demand-side initiatives. As displayed in their most recent 2008 IRP (Case No. 2008-00148), a thorough analysis and increased focus was placed on energy efficiency programs. This analysis not only took into account the enhanced energy efficiency offerings approved in Case No. 2007-00319, but also considered numerous other such programs and recommended that the Companies implement twelve of them.

The following information outlines the annual energy and demand savings for the energy efficiency programs in the Companies’ existing DSM and the additional programs included in the 2008 IRP.

**Current Programs (Case No. 2007-00319)**

*Projected Annual Savings for all the Energy Efficiency Programs								
	2008	2009	2010	2011	2012	2013	2014	Total
MWh	125,621	248,466	368,816	484,966	598,093	707,193	813,058	3,346,213
MW	47	95	142	186	229	267	303	303
MCF	490	978	1,482	1,939	2,406	2,818	3,209	13,322

\* Energy impacts represent cumulative savings from initiatives beginning in 2008

**2008 IRP (Cases No. 2008-00148)**

*Projected Annual Savings for all the Energy Efficiency Programs									
	2008	2009	2010	2011	2012	2013	2014	2015	2016
MWh	0	0	21,806	51,046	84,065	116,709	148,635	180,088	211,301
MW	0	0	14	30	46	62	78	95	111

\* Energy impacts represent cumulative savings from initiatives beginning in 2008

**KENTUCKY UTILITIES COMPANY  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**ADMINISTRATIVE CASE NO. 2008-00408**

**Response to Initial Data Request of Commission Staff  
Dated March 16, 2009**

**Question No. 85**

**Responding Witness: Lonnie E. Bellar**

- Q-85. State whether KU and LG&E believe that EISA 2007, Section 532(a)(16)(B), under which electric utilities shall adopt policies establishing cost-effective energy efficiency as a priority resource, is consistent with Kentucky's certificate statute, KRS 278.020. Explain why or why not.
- A-85. The Companies do not perceive an explicit inconsistency or contradiction between any provision of KRS 278.020 and EISA 2007 § 532(a)(16)(B); historically, there has been no intersection between demand-side management and certificates of public convenience and necessity under KRS 278.020. That notwithstanding, because utilities generally seek Certificates of Public Convenience and Necessity under KRS 278.020 in accordance with their established IRPs, in which utilities must take into account the cost-effectiveness of energy efficiency options, the Companies do not believe adopting EISA 2007 § 532(a)(16)(B) is either necessary or advisable.



**KENTUCKY UTILITIES COMPANY  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**ADMINISTRATIVE CASE NO. 2008-00408**

**Response to Initial Data Request of Commission Staff  
Dated March 16, 2009**

**Question No. 86**

**Responding Witness: John P. Malloy**

Q-86. Identify all electric DSM programs offered by LG&E and KU. If appropriate, identify any programs offered that have not been specifically authorized by the Commission per KRS 278.285. Identify the amount of kWh (or KW or MW if more appropriate) that KU and LG&E estimate are displaced or saved by each program.

A-86. The Companies currently offer only those DSM programs that have been specifically authorized by the Commission pursuant to KRS 278.285. Any additional programs will be submitted to the Commission for approval prior to implementation.

The following attached charts display the projected energy and demand reductions authorized in Case No. 2007-00319.

## E.ON U.S. Energy Efficiency / DSM 2008 - 2014 Plan Incremental Impacts

	2008	2009	2010	2011	2012	2013	2014
<b>Program MWh</b>							
Residential Conservation Program	1,495	3,491	5,738	7,984	10,231	12,478	14,725
Residential Demand Conservation	4,802	9,605	14,407	18,142	21,877	24,545	26,679
Commercial Demand Conservation	213	427	640	854	1,040	1,201	1,334
WeCare	2,297	4,593	6,890	9,187	11,484	13,780	16,077
Commercial Conservation With Prescriptive Rebates	54,988	109,976	164,964	219,952	274,940	329,928	384,916
Responsive Pricing Pilot	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Residential High Efficiency Lighting	60,603	116,782	168,860	217,137	261,889	303,374	341,831
Energy Star New Homes	409	1,202	2,793	4,624	6,729	9,149	11,933
Residential HVAC Diagnostics & Tune Up	286	939	1,755	2,734	3,714	4,693	5,672
Commercial HVAC Diagnostics & Tune Up	528	1,451	2,769	4,352	6,189	8,045	9,891
Customer Education & Public Information	0	0	0	0	0	0	0
Dealer Referral Network	0	0	0	0	0	0	0
Program Development & Administration	0	0	0	0	0	0	0
<b>Total MWh</b>	<b>125,621</b>	<b>248,466</b>	<b>368,816</b>	<b>484,966</b>	<b>598,093</b>	<b>707,193</b>	<b>813,058</b>
	2008	2009	2010	2011	2012	2013	2014
<b>Program MW</b>							
Residential Conservation Program	0.614	1	2	3	4	5	6
Residential Demand Conservation	20	39.9	59.9	75.4	90.9	102	110.9
Commercial Demand Conservation	1.2	2.3	3.5	4.7	5.7	6.5	7.3
Demand Conservation Legacy Customers	0	0	0	0	0	0	0
WeCare	0.262	0.524	0.787	1	1	2	2
Commercial Conservation With Prescriptive Rebates	21	41	62	83	103	124	145
Responsive Pricing Pilot	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Residential High Efficiency Lighting	4.1	7.9	11.4	14.7	17.7	20.5	23.1
Energy Star New Homes	0.1	0.4	0.9	1.5	2.1	2.9	3.8
Residential HVAC Diagnostics & Tune Up	0.13	0.4	0.8	1.2	1.7	2.1	2.6
Commercial HVAC Diagnostics & Tune Up	0.13	0.35	0.67	1.04	1.49	1.93	2.37
Customer Education & Public Information	0	0	0	0	0	0	0
Dealer Referral Network	0	0	0	0	0	0	0
Program Development & Administration	0	0	0	0	0	0	0
<b>Total MW</b>	<b>47</b>	<b>95</b>	<b>142</b>	<b>186</b>	<b>229</b>	<b>267</b>	<b>303</b>
	2008	2009	2010	2011	2012	2013	2014
<b>Program CCF</b>							
Residential Conservation Program	118,454	214,245	315,587	416,929	518,271	619,613	720,955
Residential Demand Conservation	284,000	576,000	851,000	1,071,000	1,292,000	1,449,000	1,575,000
Commercial Demand Conservation	13,000	25,000	38,000	50,000	61,000	71,000	79,000
WeCare	213,441	426,882	640,323	853,764	1,067,205	1,280,646	1,494,087
Commercial Conservation With Prescriptive Rebates	(152,882)	(305,763)	(458,645)	(611,527)	(764,409)	(917,290)	(1,070,172)
Responsive Pricing Pilot	-	-	-	-	-	-	-
Residential High Efficiency Lighting	-	-	-	-	-	-	-
Energy Star New Homes	14,087	41,351	96,111	159,085	231,505	314,788	410,564
Residential HVAC Diagnostics & Tune Up	-	-	-	-	-	-	-
Commercial HVAC Diagnostics & Tune Up	-	-	-	-	-	-	-
Customer Education & Public Information	-	-	-	-	-	-	-
Dealer Referral Network	-	-	-	-	-	-	-
Program Development & Administration	0	0	0	0	0	0	0
<b>Total CCF</b>	<b>490,100</b>	<b>977,715</b>	<b>1,482,376</b>	<b>1,939,251</b>	<b>2,405,572</b>	<b>2,817,757</b>	<b>3,209,434</b>

**KENTUCKY UTILITIES COMPANY  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**ADMINISTRATIVE CASE NO. 2008-00408**

**Response to Initial Data Request of Commission Staff  
Dated March 16, 2009**

**Question No. 87**

**Responding Witness: Lonnie E. Bellar**

Q-87. State whether KU and LG&E believe that their rate RS for residential service and rate GS for general service, each with a customer charge and flat energy charge, support energy efficiency. Explain why or why not.

A-87. The Companies believe all rates should be cost-based, regardless of customer class or rate structure and have promoted this with cost of service studies when seeking rate relief. The Companies' broad position is that cost-based rates send accurate pricing signals to customers, allowing customers to adjust their consumption accordingly. With the meter technology currently in place, this design does in fact promote energy efficiency. That should not be interpreted as meaning the Companies do not believe that there are metering technologies and rate designs which in tandem would better promote the goal of energy efficiency.

The Companies believe that greater energy efficiency may be possible through the use of time-based rates and enhanced metering and display technologies. To that end, the Companies have received from the Commission approval to conduct responsive pricing pilot program (i.e., time-of-use with a real-time, critical-peak component) and real-time pricing pilot program. In addition to new rate structures, as part of the pilot programs the Companies are employing new technology, such as smart meters, information displays, and programmable thermostats to enable customers to maximize their savings and to manage their consumption appropriately. Both of these programs will yield useful data about customers' responses to pricing structures that effectively reward them for load-shifting and load reduction that help make more efficient use of the Companies' generating resources and power purchases. The Companies believe that these types of cost-based rate structures will result in greater efficiency than inclining block rate structures, which penalize greater energy usage irrespective of the Companies' costs of producing that energy.

**KENTUCKY UTILITIES COMPANY  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**ADMINISTRATIVE CASE NO. 2008-00408**

**Response to Initial Data Request of Commission Staff  
Dated March 16, 2009**

**Question No. 88**

**Responding Witness: Lonnie E. Bellar**

Q-88. State whether KU and LG&E support inclining block rates for either residential service or general service. Explain your answer in detail.

A-88. Please see the Companies' response to Q-87 above.

The Companies do not support inclining block rates for either residential or general service when they are simply a fixed seasonal differential to which customers cannot respond. As stated in the Companies' response to Q-87 above, the Companies believe all rates, regardless of customer class or rate structure, should be cost-based.

Concerning inclining block rates, the Companies have some relevant experience; LG&E utilized inclining block rates until they were eliminated in Case No. 2003-00433. In that case, the Commission approved eliminating inclining block rates because they were not cost-based; however, the Commission expressed concern that eliminating such rates might adversely impact energy efficiency. The Commission therefore ordered LG&E to monitor any such impact and to file a report thereon. LG&E's report, filed on December 28, 2006, showed "no discernable impact from the elimination of the seasonal differential."

**KENTUCKY UTILITIES COMPANY  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**ADMINISTRATIVE CASE NO. 2008-00408**

**Response to Initial Data Request of Commission Staff  
Dated March 16, 2009**

**Question No. 89**

**Responding Witness: Lonnie E. Bellar**

Q-89. With reference to EISA 2007, Section 532(a)(17)(B)(i), under which the Commission shall consider removing the throughput incentive, address the following:

- a. State whether or not KU and LG&E support decoupling. Explain your answer in detail.
- b. Current literature describes a myriad of decoupling mechanisms. If applicable, describe specifically the form of decoupling that KU and LG&E support.

A-89. The Companies believe revenue decoupling is a rate-making tool at the Commission's disposal under Kentucky's current statutory and regulatory regime. Nonetheless, the Companies believe that legislation explicitly granting the Commission decoupling authority could add clarity to that authority and ensure its integrity.

The Companies further believe there are circumstances under which it may be appropriate for the Commission to employ revenue decoupling. For example, the current demand-side management ("DSM") cost recovery statute, KRS 278.285, provides for a form of decoupling that the Companies support, namely the recovery of lost revenues and financial incentives for putting in place DSM/energy efficiency programs.

The Companies have also expressed support for, and continue to support, allowing annual reviews of utilities' financial results, with rate adjustments, to ensure utilities' revenues remain consistent with their approved rate designs.<sup>1</sup> This approach would allow utilities to pursue energy efficiency programs even more aggressively because they could be assured of adequate revenue even if energy sales decrease, which presumably they would as a result of the effective implementation of energy efficiency programs. The Commission has used such a

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<sup>1</sup> See *In the Matter of an Investigation of the Energy and Regulatory Issues in Section 50 of Kentucky's 2007 Energy Act*, Case No. 2007-00477, Testimony of Lonnie E. Bellar at 2-3 (Feb. 29, 2008).

rate-making approach with jurisdictional utilities in the past.<sup>2</sup> Under this approach, in a general rate case the Commission would establish a level of revenue that would provide the utility a fair, just, and reasonable rate of return. Annually thereafter, but before the utility's next general rate case, the utility would determine if it achieved the base level of revenue in the previous period. If the utility received more revenues than the base level, the utility would distribute the overage to customers prospectively in the next period. If the utility received less than the base level, that amount would be added to the base level of revenues for the next period and would then be recovered. This arrangement would allow the utility to remain revenue-neutral, even if sales declined due to effective energy efficiency programs.

The Companies continue to evaluate other opportunities for revenue decoupling.

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<sup>2</sup> See *In the Matter of a Joint Application for the Approval of Demand-Side Management Programs, a DSM Cost Recovery Mechanism, and a Continuing Collaborative Process on DSM for Louisville Gas and Electric Company*, Case No. 1993-00150, Order (Nov. 12, 1993).

**KENTUCKY UTILITIES COMPANY  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**ADMINISTRATIVE CASE NO. 2008-00408**

**Response to Initial Data Request of Commission Staff  
Dated March 16, 2009**

**Question No. 90**

**Responding Witness: Lonnie E. Bellar**

Q-90. Explain whether KU and LG&E believe the Commission should implement decoupling to support energy efficiency.

A-90. Please see the Companies' response to Q-89 above.

**KENTUCKY UTILITIES COMPANY  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**ADMINISTRATIVE CASE NO. 2008-00408**

**Response to Initial Data Request of Commission Staff  
Dated March 16, 2009**

**Question No. 91**

**Responding Witness: Lonnie E. Bellar**

Q-91. Page 5 of the Testimony of Lonnie E. Bellar (“Bellar Direct”) includes a list of rate designs that KU and LG&E believe promote energy efficiency investments. Explain whether KU and LG&E are aware of additional rate designs that would further promote energy efficiency and discuss whether KU and LG&E believe such rate designs would be appropriate in Kentucky.

A-91. Please see the Companies’ response to Q-89 above.

In addition to the current rate designs in place at the Companies, there are two kinds of measures the Companies respectfully suggest could help the development and implementation of energy efficiency programs.

First, utilities should be able to capitalize all non-expense components of energy efficiency programs, to be recovered as part of energy efficiency program filings. Investments in smart metering, for example, would fall in the category of expenses the Companies believe should be capitalized in this way. This will allow utilities to earn a reasonable return on these investments, further encouraging investment in them.

Second, additional financial incentives will further encourage the development and implementation of energy efficiency programs. Such incentives could come in a number of forms. One would be to provide a durable incentive rate of return on equity (“ROE”) for capital investments in energy efficiency programs, meaning an incentive adder to ROE that persists across rate cases and that is not included in the calculation of a utility’s earnings to depress the base ROE set in rate cases (e.g., a 0.25% incentive ROE adder).

Another possible incentive structure could be fair, reasonable, and equitable distributions of energy efficiency program savings between customers and utility applicants. This would provide additional incentives to utilities while also providing savings to customers as compared to building and operating new power plants.



**KENTUCKY UTILITIES COMPANY  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**ADMINISTRATIVE CASE NO. 2008-00408**

**Response to Initial Data Request of Commission Staff  
Dated March 16, 2009**

**Question No. 92**

**Responding Witness: John P. Malloy**

Q-92. Describe any AMI deployed by KU and LG&E.

A-92. LG&E and KU have been monitoring AMI technology for several years. Currently the only AMI deployed is the “smart” equipment associated with LG&E’s Responsive Pricing and Smart Metering Pilot, which the Commission approved in its July 12, 2007 Order in Case No. 2007-00117. This Order allows a three-year pilot deployment of 2,000 “smart meters” to be installed on customers premises served under Residential and General Services Rates. LG&E is currently in its second year of the three-year pilot.

**KENTUCKY UTILITIES COMPANY  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**ADMINISTRATIVE CASE NO. 2008-00408**

**Response to Initial Data Request of Commission Staff  
Dated March 16, 2009**

**Question No. 93**

**Responding Witness: John P. Malloy**

Q-93. Describe any transmission and distribution automation equipment deployed by KU and LG&E.

A-93. Distribution

Both LG&E and KU employ automated load transferring capabilities in select distribution substation and circuit applications. These applications fall into one of three general categories:

1. Automatic substation bus transfer schemes in large, critical substations with multiple buses and transformers (such as the new Waterside West Substation) which can automatically isolate deenergized or faulted substation equipment and automatically restore service after a momentary interruption in service to multiple distribution feeders serving many customers.
2. Automated distribution circuit load transfer switchgear in the core downtown Lexington area that allows a quick, automated restoration of service after a brief interruption to distribution feeders serving many customers in a portion of the downtown area.
3. Customer-specific automated second source transfer solutions, including automated bus transfer schemes in substations for very large customers and second feed, distribution circuit source transfer schemes for critical customers such as hospitals, data centers and other critical services. Customer-specific automated source transfer solutions are installed at the request of a customer for its benefit and at its expense.

### Transmission

The Companies own and operate a traditional Transmission System with a classic protection philosophy. The Transmission protection system is designed to protect the system against fault conditions and operational issues with minimal impacts to the availability of the system. This design maximizes availability while ensuring reliability.

The KU and LG&E transmission system is both monitored and controlled using the Supervisory Control and Data Acquisition (“SCADA”) functions of the Energy Management System (“EMS”). This system communicates with Remote Terminal Units (“RTUs”) located in substations to help the transmission system operator monitor the reliability of the transmission network and control remote devices when necessary.

The traditional protection system automatically trips and recloses per the Companies’ engineering standards. This level of automated protection meets the NERC Mandatory Reliability Standards and the Companies’ engineering standards. The equipment involved in this level of protection includes protective relays, breakers, motor operated switches, and miscellaneous other equipment.

The Companies’ transmission protection standards call for all new protection systems to be installed using microprocessor relays and other high speed devices. It is also the Companies’ practice to install optical ground-wire (“OPGW”) fiber optic cable (static wire) on all new transmission lines to facilitate high speed communications.

**KENTUCKY UTILITIES COMPANY  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**ADMINISTRATIVE CASE NO. 2008-00408**

**Response to Initial Data Request of Commission Staff  
Dated March 16, 2009**

**Question No. 94**

**Responding Witness: John P. Malloy**

Q-94. Describe any digital communications or any other smart grid technology deployed by KU and LG&E.

A-94. Distribution

Virtually all routine communications (for voice, data, video and system control functions) at both LG&E and KU are digital. However, there is only limited digital communication capability in place for the purpose of automation or smart grid initiatives outside of traditional Supervisory Control and Data Acquisition (SCADA) which is in place in a portion of LG&E and KU substations.

Currently these non-SCADA-related communications capabilities are limited to:

1. Unidirectional (read-only) walk-by/drive-by AMR systems covering a portion of both the LG&E and KU service territories.
2. Unidirectional (read-only) low frequency Power Line Carrier (PLC) based AMR system in a small portion of the KU service territory.
3. Unidirectional (send-only) radio frequency control of demand-response devices.

Other than the communications mentioned above, neither KU nor LG&E currently has any smart grid technology deployed on the distribution system.

### Transmission

Many of the substations in the more urban areas are connected to our communications network via fiber optic and microwave connections to one of several synchronous optical network (“SONET”) rings. This communications infrastructure offers a redundant architecture that provides multiple secure and reliable paths for our control networks. In addition to the communications infrastructure used in the urban areas, traditional leased communication circuits are used to provide monitoring and control capability to more remote substations. The information collected from the Remote Terminal Units (“RTUs”) is brought back to the Energy Management System (“EMS”) and processed by advanced applications such as the State Estimator and Contingency Analysis programs. Contingency Analysis models the transmission grid under scenarios of the next contingency outage to provide the transmission operator with advanced warning of potential problems so that action may be taken before an event occurs to prevent cascading outages.

**KENTUCKY UTILITIES COMPANY  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**ADMINISTRATIVE CASE NO. 2008-00408**

**Response to Initial Data Request of Commission Staff  
Dated March 16, 2009**

**Question No. 95**

**Responding Witness: John P. Malloy**

Q-95. Describe KU's and LG&E's plans with regard to the installation of additional smart grid technology and components. Include budgets and timelines if appropriate. If KU and LG&E have no such plans, explain why.

A-95. The Companies continue to evaluate the broad range of smart grid technologies and more specifically the information technology platforms necessary to support data management and automation control. LG&E has recently completed the first year of a three-year Responsive Pricing and Smart Meter pilot. Data from this pilot will continue to provide the necessary operational and technical experience to develop a long-range smart grid strategy.

**KENTUCKY UTILITIES COMPANY  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**ADMINISTRATIVE CASE NO. 2008-00408**

**Response to Initial Data Request of Commission Staff  
Dated March 16, 2009**

**Question No. 115**

**Responding Witness: John P. Malloy**

Q-115. Identify all DSM programs offered by LG&E. If appropriate, identify any programs offered that have not been specifically authorized by the Commission per KRS 278.285. Identify the annual Mcfs or Btus that the utility estimates are displaced by each program.

A-115. Please see the Companies' response to Q-86 above.

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**Question No. 116**

**Responding Witness: Lonnie E. Bellar**

Q-116. Identify and describe LG&E's current gas rate designs that promote energy efficiency. Identify the annual Mcfs or Btus that the utility estimates are displaced by each rate design.

A-116. LG&E's current rate design, including its demand-side management ("DSM") programs, promote energy efficiency. LG&E's DSM programs integrate energy efficiency resources into LG&E's planning processes and include energy efficiency audits and weatherization programs. Furthermore, the Commission already has the authority to approve new and innovative energy efficiency programs under KRS 278.285.

As a part of its ratemaking proposals, such as in Case No. 2008-00252, LG&E continues to use cost-based ratemaking approaches that have increased customer charges over time to reflect related customer costs, leaving the remaining costs to be recovered through volume-based distribution charges, such that customers continue to have incentives to use natural gas more efficiently. LG&E's gas service rates also include certain provisions to promote energy efficiency. Specifically, Firm Commercial Service Rate CGS and Firm Industrial Rate IGS include off-peak pricing provisions that provide a lower price for off-peak usage. In addition, the charge for service under As-Available Gas Service Rate AAGS is lower than the charge for firm sales services in order to encourage customers to take non-firm, interruptible service.

Additionally, because somewhere between two-thirds and three-fourths of LG&E's annual gas revenues represent the cost of gas, and because those gas costs continue to be recovered from customers through a volumetric-based charge reflecting the cost of gas, customers have ample incentive to use natural gas more efficiently.

LG&E does estimate volumes that are displaced by applicable DSM programs. Declines in natural gas consumption on a normalized basis are generally consistent with LG&E's experience over time, and these generalized declines are reflected in the plans and processes of the Company.



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**Question No. 117**

**Responding Witness: Lonnie E. Bellar**

Q-117. With reference to Bellar Direct, page 12, lines 1 through 8, address the following:

- a. Current literature describes a myriad of decoupling mechanisms. If applicable describe specifically the form of decoupling LG&E supports.
- b. Explain how the decoupling form supported by LG&E differs from simply the recovery of fixed costs entirely from per-unit fixed rates.
- c. Explain how separating fixed-cost recovery of base or delivery charges from the volume of sales is a move toward decoupling.

A-117. a. Please see the Companies' response to Q-89.

- b. Because LG&E and KU are continuing to evaluate decoupling options, there is not a specific form of decoupling that LG&E supports. That notwithstanding, decoupling generally differs from the recovery of fixed costs through fixed-cost rates in that it ensures recovery of a utility's fixed costs irrespective of the quantity of services or commodities it sells.
- c. The National Association of Regulatory Utility Commissioners ("NARUC") has defined "decoupling" to be "a rate adjustment mechanism that separates (decouples) an electric or gas utility's fixed cost recovery from the amount of electricity or gas it sells."<sup>3</sup> By definition, then, to separate fixed-cost recovery of base or delivery charges from the volume of sales is a move toward decoupling.

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<sup>3</sup> NARUC, "Decoupling for Electric and Gas Utilities Frequently Asked Questions (FAQ)" at 1, September 2007. Available at: [http://www.naruc.org/Publications/NARUCDecouplingFAQ9\\_07.pdf](http://www.naruc.org/Publications/NARUCDecouplingFAQ9_07.pdf). The same document defines "fixed costs" as follows: "For our purposes 'fixed costs' are those costs incurred to render service, which remain relatively constant between rate cases. These typically include investment costs, including interest on debt and return on equity, and unavoidable maintenance costs for power plants, transmission lines, gas pipelines, and other infrastructure, as well as employee payroll. Variable costs are those which vary with the level of electric or gas output and include fuel expenses, purchased power, and costs that vary broadly from month to month and are not included in decoupling mechanisms. These are often addressed through fuel or other adjustment clauses under existing regulatory practice."

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**Question No. 118**

**Responding Witness: Lonnie E. Bellar**

Q-118. Explain whether or not LG&E believes the DSM surcharge authorized by KRS 278.285 needs to be supplemented by a decoupling provision.

A-118. As stated in the Companies' response to Q-89 above, the current demand-side management ("DSM") cost recovery statute, KRS 278.285, already provides for a form of decoupling that the Companies support, namely the recovery of lost revenues and financial incentives for putting in place DSM/energy efficiency programs. The Companies further believe that the Commission has considerable latitude under the financial incentive provision of KRS 278.285 to approve innovative proposals from utilities to encourage their DSM/energy efficiency programs, which might include additional decoupling-like alternatives. Therefore, the Companies do not believe that KRS 278.285 needs to be supplemented by a decoupling provision; however, the Companies believe that legislation explicitly granting the Commission decoupling authority could add clarity to that authority and ensure its integrity.

Please see the Companies' response to Q-91 above for additional financial incentives the Companies believe the Commission has authority to approve under KRS 278.285.

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**Question No. 119**

**Responding Witness: Lonnie E. Bellar**

Q-119. On page 12 of his testimony, Mr. Bellar states that adopting EISA Section 532(b)(6) would inhibit the Commission's current process for approving alternative rate designs. Explain whether any rate designs included in LG&E's existing tariffs would be disallowed if the standard is implemented.

A-119. The Companies cannot state whether any of their current rate schedules would be disallowed if the standards set out in EISA § 532(b)(6) were implemented; however, as the Companies stated in response to Q-116 above, they believe that LG&E's current gas rate schedules have the effect of encouraging energy efficiency. Moreover, KRS 278.285 already allows gas utilities to apply for cost-effective DSM/energy efficiency programs. Given the tools already at the disposal of the Commission and Kentucky's regulated gas utilities, the Companies believe that implementation of EISA § 532(b)(6) could only have the effect of potentially limiting the Commission's current authority.

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**Question No. 120**

**Responding Witness: John P. Malloy**

Q-120. The American Recovery and Reinvestment Act of 2009 (“Stimulus Bill”) contains a number of spending and tax measures crafted to inject more aggregate demand into the nation’s sagging economy. Some of those measures impact, among other things, energy infrastructure. Certain provisions of EISA 2007 have been amended to reflect the incentives enacted by the Stimulus Bill, particularly in the area of smart grid technology. Explain whether or not your opinion on smart grid investments has changed in light of these amendments.

A-120. LG&E is currently in the second year of a three year responsive pricing pilot. Additionally, the Companies are engaged in the evaluation of smart grid technologies inclusive of infrastructure investments as well as information technology platforms and associated communication protocols. The Companies expect to formulate a long-term smart grid strategy using the data it obtains from the pilot program and its smart grid research.

Smart grid strategies are long-range investments that will fundamentally change the utility industry. Therefore the value proposition and long-range financial implications to our customers are of paramount concern consistent with our prudence obligations under our current regulatory framework. In this regard, short term funding opportunities, e.g. “Stimulus funding” would not alter the long term investment strategy.

Lastly, considering the time it takes to develop a comprehensive strategy, determine a launch platform, engineer the projects, specify the technology requirements (both from an infrastructure perspective and an IT perspective), issue requests for quotations (“RFQs”), award contracts, and seek regulatory approvals, the time frame identified for stimulus funding to assist in recovering the nation’s sagging economy may not be sufficient.