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PUBLIC SERVICE COMMISSION

Kentucky Utilities Company

State Regulation and Rates 220 West Main Street PO Box 32010 Louisville, Kentucky 40232 www.eon-us.com

Robert M. Conroy Director - Rates T 502-627-3324 F 502-627-3213 robert.conroy@eon-us.com

David R. McDowell, Assistant Director Public Service Commission of Kentucky Filings Division 211 Sower Boulevard P.O. Box 615 Frankfort, Kentucky 40602-0615

March 28, 2008

Re: Annual Report Form No. 1 and Annual Resource Assessment for Kentucky Utilities Company Pursuant to Administrative Case No. 387

Dear Mr. McDowell:

Enclosed is one completed signed copy of Annual Report Form No. 1 for Electric Utilities covering the operations of Kentucky Utilities Company ("KU").

Also enclosed, in accordance with Ordering Paragraph (2) of the Commission's Order in Administrative Case 387, dated October 7, 2005, are an original and five (5) copies of the 2007 Annual Resource Assessment Filing for KU, along with a Petition for Confidential Protection regarding certain information provided in response to Item Nos. 11 and 14.

Sincerely,

Robert M. Conroy

**Enclosures** 

#### COMMONWEALTH OF KENTUCKY

### BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

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PUBLIC SERVICE COMMISSION

In the Matter of:

A REVIEW OF THE ADEQUACY OF

KENTUCKY'S GENERATION CAPACITY

AND TRANSMISSION SYSTEM

ADMINISTRATIVE

CASE NO. 387

2007 ANNUAL RESOURCE ASSESSMENT FILING
OF
KENTUCKY UTILITIES COMPANY
PURSUANT TO APPENDIX G
OF THE COMMISSION'S ORDER
DATED DECEMBER 20, 2001
AS AMENDED BY THE
COMMISSION'S ORDER
DATED MARCH 29, 2004

**FILED: MARCH 2008** 

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# 2007 ANNUAL RESOURCE ASSESSMENT FILING PURSUANT TO APPENDIX G OF THE COMMISSION'S ORDER DATED DECEMBER 20, 2001, IN ADMINISTRATIVE CASE NO. 387 AS AMENDED BY THE COMMISSION'S ORDER DATED MARCH 29, 2004 FILED MARCH 2008

## ITEM NO. 1

The information originally requested in Item 1 of Appendix G of the Commission's Order dated December 20, 2001, in Administrative Case No. 387, is no longer required pursuant to the Commission's Order of March 29, 2004, amending the previous Order.

# 2007 ANNUAL RESOURCE ASSESSMENT FILING PURSUANT TO APPENDIX G OF THE COMMISSION'S ORDER DATED DECEMBER 20, 2001, IN ADMINISTRATIVE CASE NO. 387 AS AMENDED BY THE COMMISSION'S ORDER DATED MARCH 29, 2004 FILED MARCH 2008

## ITEM NO. 2

The information originally requested in Item 2 of Appendix G of the Commission's Order dated December 20, 2001, in Administrative Case No. 387, is no longer required pursuant to the Commission's Order of March 29, 2004, amending the previous Order.



# 2007 ANNUAL RESOURCE ASSESSMENT FILING PURSUANT TO APPENDIX G OF THE COMMISSION'S ORDER DATED DECEMBER 20, 2001, IN ADMINISTRATIVE CASE NO. 387 AS AMENDED BY THE COMMISSION'S ORDER DATED MARCH 29, 2004 FILED MARCH 2008

#### ITEM NO. 3

RESPONDENT: Robert Thomson/Scott Cooke

3. Actual and weather-normalized monthly coincident peak demands for the just completed calendar year. Demands should be disaggregated into (a) native load demand (firm and non-firm) and (b) off-system demand (firm and non-firm).

# Response:

Please refer to the attached Table KU-3, which shows the actual and weather-normalized native KU peak demands. The normalized native KU stand alone peak demands are available only on a seasonal (summer/winter) basis.

TABLE KU-3
NATIVE AND OFF-SYSTEM DEMANDS BY MONTH FOR 2007

# **Kentucky Utilities**

Normal Weather

|                             | Actual      |          |       | (Seasonal)  | Off-System (1 | )            |       |
|-----------------------------|-------------|----------|-------|-------------|---------------|--------------|-------|
| Time of Monthly Native Peak | Native Peak | Non-Firm | Firm  | Native Peak | Firm (2) N    | lon-Firm (2) | Total |
| 2007-01-31 08:00            | 4,178       | 21       | 4,157 |             | 37            | 1            | 38    |
| 2007-02-06 08:00            | 4,300       | 67       | 4,233 | 4,353       | 0             | 0            | 0     |
| 2007-03-05 08:00            | 3,436       | 45       | 3,391 |             | 0             | 0            | 0     |
| 2007-04-09 07:00            | 3,198       | 55       | 3,143 |             | 15            | 0            | 15    |
| 2007-05-30 15:00            | 3,573       | 11       | 3,562 |             | 257           | 2            | 259   |
| 2007-06-27 15:00            | 3,727       | 10       | 3,717 |             | 49            | 1            | 50    |
| 2007-07-09 15:00            | 3,844       | 0        | 3,844 |             | 0             | 0            | 0     |
| 2007-08-09 15:00            | 4,344       | 46       | 4,298 | 4,236       | 0             | 0            | 0     |
| 2007-09-04 17:00            | 3,886       | 67       | 3,819 |             | 0             | 0            | 0     |
| 2007-10-08 15:00            | 3,623       | 41       | 3,582 |             | 0             | 0            | 0     |
| 2007-11-30 08:00            | 3,475       | 68       | 3,407 |             | 19            | 0            | 19    |
| 2007-12-17 08:00            | 3.688       | 69       | 3.619 |             | 0             | 0            | 0     |

#### **Notes**

- (1) The allocation of off-system sales split between LG&E and KU is handled in the After-the-Fact Billing process in accordance with the Power Supply System Agreement between LG&E and KU. The individual company sales will include an allocation of the sales sourced with purchased power and allocated to the individual company based on each company's contribution to off-system sales.
- (2) The allocation of off-system sales between firm and non-firm is not available from the hourly data in AFB. The breakout is based on the monthly totals for LG&E and KU sales for firm and non-firm sales.

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# 2007 ANNUAL RESOURCE ASSESSMENT FILING PURSUANT TO APPENDIX G OF THE COMMISSION'S ORDER DATED DECEMBER 20, 2001, IN ADMINISTRATIVE CASE NO. 387 AS AMENDED BY THE COMMISSION'S ORDER DATED MARCH 29, 2004 FILED MARCH 2008

## ITEM NO. 4

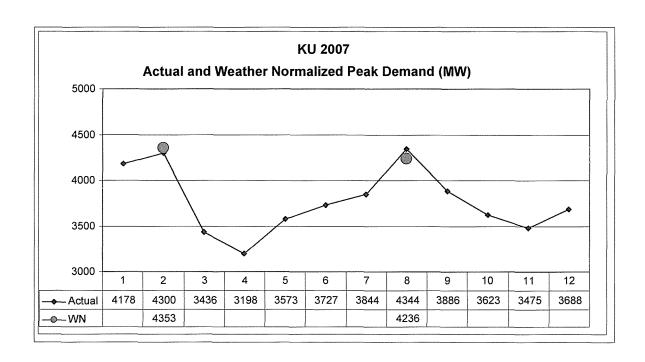
**RESPONDENT: Robert Thomson** 

4. Load shape curves that show actual peak demands and weather-normalized peak demands (native load demand and total demand) on a monthly basis for the just completed calendar year.

# Response:

Please refer to the attached Figure KU-4.

Figure KU-4



# 2007 ANNUAL RESOURCE ASSESSMENT FILING PURSUANT TO APPENDIX G OF THE COMMISSION'S ORDER DATED DECEMBER 20, 2001, IN ADMINISTRATIVE CASE NO. 387 AS AMENDED BY THE COMMISSION'S ORDER DATED MARCH 29, 2004 FILED MARCH 2008

#### ITEM NO. 5

The information originally requested in Item 5 of Appendix G of the Commission's Order dated December 20, 2001, in Administrative Case No. 387, is no longer required pursuant to the Commission's Order of March 29, 2004, amending the previous Order.



# 2007 ANNUAL RESOURCE ASSESSMENT FILING PURSUANT TO APPENDIX G OF THE COMMISSION'S ORDER DATED DECEMBER 20, 2001, IN ADMINISTRATIVE CASE NO. 387 AS AMENDED BY THE COMMISSION'S ORDER DATED MARCH 29, 2004 FILED MARCH 2008

#### ITEM NO. 6

**RESPONDENT: Robert Thomson/Scott Cooke** 

6. Based on the most recent demand forecast, the base case demand and energy forecasts and high case demand and energy forecasts for the current year and the following four years. The information should be disaggregated into (a) native load (firm and non-firm demand) and (b) off-system load (both firm and non-firm demand).

## Response:

- a) Please see the attached Table KU-6a.
- b) Off-system sales ("OSS") projections for 2008-2012 contained in Table KU-6b are based on the Companies' current plan. For OSS, only base case total sales energy projections exist for 2008-2012. The projections consist of the expected market sales, dubbed "Wholesale OSS". In the long-range model, wholesale financially Firm and Non-firm sales are not distinguished but are combined into an overall expected sales energy.

Table KU-6a

| Kentucky Utilities  | 2008   | 2009   | 2010   | 2011   | 2012   |
|---|--------|--------|--------|--------|--------|
| Base Case Energy Sales (GWh) High Case Energy Sales (GWh)               | 22,141 | 22,494 | 22,823 | 23,192 | 23,519 |
|   | 22,661 | 23,157 | 23,606 | 24,073 | 24,517 |
| Base Case Energy Requirements (GWh) High Case Energy Requirements (GWh) | 23,514 | 23,889 | 24,239 | 24,631 | 24,981 |
|   | 24,065 | 24,592 | 25,070 | 25,566 | 26,040 |
| Base Case Native Peak Demand (MW) High Case Native Peak Demand (MW)     | 4,306  | 4,371  | 4,428  | 4,496  | 4,560  |
|   | 4,407  | 4,500  | 4,580  | 4,667  | 4,753  |

Table KU-6b
Total Base Case Off-System Sales Energy Projection

|                     | 2008  | 2009  | 2010  | 2011  | 2012  |
|---------------------|-------|-------|-------|-------|-------|
| Wholesale OSS (GWH) | 2,148 | 1,735 | 1,935 | 3,146 | 2,983 |

# 2007 ANNUAL RESOURCE ASSESSMENT FILING PURSUANT TO APPENDIX G OF THE COMMISSION'S ORDER DATED DECEMBER 20, 2001, IN ADMINISTRATIVE CASE NO. 387 AS AMENDED BY THE COMMISSION'S ORDER DATED MARCH 29, 2004 FILED MARCH 2008

#### ITEM NO. 7

**RESPONDENT: Scott Cooke** 

7. The target reserve margin currently used for planning purposes, stated as a percentage of demand. If changed from what was in use in 2001, include a detailed explanation for the change.

## Response:

The Companies established an optimal reserve margin range of 13% to 15%, with 14% recommended for planning purposes. The range provides an optimum level of reliability through various system operating conditions. The reserve margin analysis was performed as part of the 2008 Integrated Resource Plan ("2008 IRP"), to be filed with the Commission in April 2008.

The Companies utilized a planning reserve margin target of 12% in 2001 and 14% in 2002 based on a reserve margin range of 11%-14% established in the Companies' 1999 IRP. A detailed explanation of the current target reserve margin is documented in the report titled "2008 Analysis of Reserve Margin Planning Criterion" and will be included in Volume III of the Companies' 2008 IRP. The Companies have utilized a 14% planning reserve margin target since 2002.

# 2007 ANNUAL RESOURCE ASSESSMENT FILING PURSUANT TO APPENDIX G OF THE COMMISSION'S ORDER DATED DECEMBER 20, 2001, IN ADMINISTRATIVE CASE NO. 387 AS AMENDED BY THE COMMISSION'S ORDER DATED MARCH 29, 2004 FILED MARCH 2008

#### ITEM NO. 8

**RESPONDENT: Scott Cooke** 

8. Projected reserve margins stated in megawatts and as a percentage of demand for the current year and the following 4 years. Identify projected deficits and current plans for addressing these. For each year identify the level of firm capacity purchases projected to meet native load demand.

# Response:

LG&E and KU are finalizing their Joint 2008 Integrated Resource Plan ("IRP") to be filed with the Commission in April 2008. KU will submit a supplemental response providing the requested information following the submittal of the 2008 IRP.

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# 2007 ANNUAL RESOURCE ASSESSMENT FILING PURSUANT TO APPENDIX G OF THE COMMISSION'S ORDER DATED DECEMBER 20, 2001, IN ADMINISTRATIVE CASE NO. 387 AS AMENDED BY THE COMMISSION'S ORDER DATED MARCH 29, 2004 FILED MARCH 2008

# ITEM NO. 9

The information originally requested in Item 9 of Appendix G of the Commission's Order dated December 20, 2001, in Administrative Case No. 387, is no longer required pursuant to the Commission's Order of March 29, 2004, amending the previous Order.

# 2007 ANNUAL RESOURCE ASSESSMENT FILING PURSUANT TO APPENDIX G OF THE COMMISSION'S ORDER DATED DECEMBER 20, 2001, IN ADMINISTRATIVE CASE NO. 387 AS AMENDED BY THE COMMISSION'S ORDER DATED MARCH 29, 2004 FILED MARCH 2008

## ITEM NO. 10

The information originally requested in Item 10 of Appendix G of the Commission's Order dated December 20, 2001, in Administrative Case No. 387, is no longer required pursuant to the Commission's Order of March 29, 2004, amending the previous Order.

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# 2007 ANNUAL RESOURCE ASSESSMENT FILING PURSUANT TO APPENDIX G OF THE COMMISSION'S ORDER DATED DECEMBER 20, 2001, IN ADMINISTRATIVE CASE NO. 387 AS AMENDED BY THE COMMISSION'S ORDER DATED MARCH 29, 2004 FILED MARCH 2008

## ITEM NO. 11

**RESPONDENT: Scott Cooke** 

11. A list that identifies scheduled outages or retirements of generating capacity during the current year and the following four years.

# Response:

The planned maintenance outage schedule for 2008 through 2012 is being provided pursuant to a Petition for Confidential Protection. The schedule is regularly modified based on actual operating conditions, forced outages, changes in the schedule required to meet environmental compliance regulations, fluctuations in wholesale prices, and other unforeseen events.

# 2007 ANNUAL RESOURCE ASSESSMENT FILING PURSUANT TO APPENDIX G OF THE COMMISSION'S ORDER DATED DECEMBER 20, 2001, IN ADMINISTRATIVE CASE NO. 387 AS AMENDED BY THE COMMISSION'S ORDER DATED MARCH 29, 2004 FILED MARCH 2008

#### ITEM NO. 12

**RESPONDENT: Scott Cooke** 

12. Identify all planned base load or peaking capacity additions to meet native load requirements over the next 10 years. Show the expected in-service date, size and site for all planned additions. Include additions planned by the utility, as well as those by affiliates, if constructed in Kentucky or intended to meet load in Kentucky.

Response:

LG&E and KU are finalizing their Joint 2008 Integrated Resource Plan ("IRP") to be filed with the Commission in April 2008. KU will submit a supplemental response providing the requested information following the submittal of the 2008 IRP.



# 2007 ANNUAL RESOURCE ASSESSMENT FILING PURSUANT TO APPENDIX G OF THE COMMISSION'S ORDER DATED DECEMBER 20, 2001, IN ADMINISTRATIVE CASE NO. 387 AS AMENDED BY THE COMMISSION'S ORDER DATED MARCH 29, 2004 FILED MARCH 2008

#### ITEM NO. 13

#### **RESPONDENT: Keith Yocum**

- 13. The following transmission energy data for the just completed calendar year and the forecast for the current year and the following four years:
  - a. Total energy received from all interconnections and generation sources connected to the transmission system.
  - b. Total energy delivered to all interconnections on the transmission system.
  - c. Peak load capacity of the transmission system.
  - d. Peak demand for summer and winter seasons on the transmission system.

## Response:

Data exists for 2007. The Company does not forecast this type of data; therefore no forecast exists for 2008-2011.

a. LG&E and KU operate as a single NERC Control area that contains several generators not owned by LG&E and KU; the non-Company owned facilities are also included as sources below:

| Tie Lines Received (MWH)    | 15,731,450     |
|-----------------------------|----------------|
| Net Generation-LG&E (MWH)   | 17,243,884     |
| Net Generation-KU (MWH)     | 17,920,212     |
| Net Received from OMU (MWH) | 1,288,540      |
| Net Generation-IPPs (MWH)   | <u>938,692</u> |
| Total Sources (MWH)         | 53,122,778     |

b. LG&E and KU operate as a single Control Area, the amount of energy delivered at the interconnections of the single Control area were 16,721,960 MWH(s).

- c. There is no set number for peak load capacity for the transmission system. The system is built to support Network Service and firm PTP customers as tested under the E.ON Transmission Planning Guidelines. Actual transmission capacity available for Network customers, import, export or thru-flow will vary depending on which facilities (generation, load or transmission) in the interconnected transmission system of the eastern interconnect are connected and operated at any given time.
- d. The maximum summer peak transmission load for the combined LG&E/KU transmission system was 7888 MW for the peak hour of 8/9/2007 at 4PM.

The maximum winter peak transmission load for the combined LG&E/KU transmission system was 6859 for the peak hour of 2/5/2007 at 8 AM.

# 2007 ANNUAL RESOURCE ASSESSMENT FILING PURSUANT TO APPENDIX G OF THE COMMISSION'S ORDER DATED DECEMBER 20, 2001, IN ADMINISTRATIVE CASE NO. 387 AS AMENDED BY THE COMMISSION'S ORDER DATED MARCH 29, 2004 FILED MARCH 2008

#### ITEM NO. 14

**RESPONDENT: Keith Yocum** 

14. Identify all planned transmission capacity additions for the next 10 years. Include the expected in-service date, size and site for all planned additions and identify the transmission need each addition is intended to address.

# Response:

The response to this item is being provided pursuant to a Petition for Confidential Protection.