

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

**JOINT APPLICATION OF LOUISVILLE GAS)
AND ELECTRIC COMPANY AND KENTUCKY)
UTILITIES COMPANY FOR A CERTIFICATE)
OF PUBLIC CONVENIENCE AND NECESSITY,)
AND A SITE COMPATIBILITY CERTIFICATE,)
FOR THE EXPANSION OF THE TRIMBLE)
COUNTY GENERATING STATION)**

CASE NO: 2004-_____

**DIRECT TESTIMONY OF
PAUL W. THOMPSON
SENIOR VICE PRESIDENT, ENERGY SERVICES
LG&E ENERGY SERVICES INC.**

Filed: December 9, 2004

1 **Q. Please state your name, position and business address.**

2 A. My name is Paul W. Thompson. I am the Senior Vice President of Energy Services for
3 LG&E Energy Services Inc. on behalf of Louisville Gas and Electric Company
4 (“LG&E”) and Kentucky Utilities Company (“KU”) (collectively the “Companies”). My
5 business address is 220 West Main Street, Louisville, Kentucky 40202. A statement of
6 my qualifications is attached as Appendix A.

7 **Q. Have you previously testified before this Commission?**

8 A. Yes. I testified most recently before this Commission in the Companies’ retail rate cases,
9 Case Nos. 2003-00433 and 2003-00434, and the investigation into the Companies’
10 membership in the Midwest Independent Transmission System Operator (“MISO”), Case
11 No. 2003-00266. I also testified in the merger proceedings of LG&E and KU before the
12 Kentucky Public Service Commission in Case No. 97-300, *In the Matter of: Application*
13 *of Louisville Gas and Electric Company and Kentucky Utilities Company for Approval of*
14 *a Merger under KRS 278.020.*

15 **Q. What is the purpose of your testimony?**

16 A. I will provide an overview of the Companies’ plan to expand the Trimble County
17 Generating Station (“Trimble Station”), describe the Companies’ current generation
18 assets, discuss the need for additional capacity to meet growing demand, explain why the
19 proposed expansion of the Trimble Station is the least-cost option to allow the
20 Companies to meet that demand, and describe the planned ownership and generation
21 allocation for the proposed new unit.

1 **Q. Please identify the other witnesses offering direct testimony on behalf of the**
2 **Companies in this case, and generally describe the subject matter of each such**
3 **testimony.**

4 A. The Companies are offering direct testimony from the following witnesses:

5 • David S. Sinclair - Mr. Sinclair will present the Companies' 2004 Joint Load
6 Forecast, describe the study methodology used by the Companies, and discuss
7 the software used to develop that Forecast.

8 • John P. Malloy - Mr. Malloy will sponsor and explain the Companies'
9 Resource Assessment, outline the bid solicitation process used in that
10 Assessment, and summarize the analytical methodology employed in that
11 Assessment.

12 • John N. Voyles - Mr. Voyles will describe the proposed new unit at the
13 Trimble Station from an engineering perspective, discuss the technology to be
14 employed, and outline the unit's construction plans and schedule.

15 • Sharon L. Dodson - Ms. Dodson will discuss environmental compliance and
16 permitting issues relating to the proposed new unit at the Trimble Station, and
17 will sponsor the Companies' Site Assessment Report.

18 • Kent W. Blake - Mr. Blake will discuss financing, joint participation, cost
19 recovery and other regulatory approvals to be obtained relating to the
20 proposed new unit.

21 **Q. Please describe the Companies' planned expansion of the Trimble Station.**

22 A. The Companies are proposing the construction of a 750 MW nominal net (732 MW
23 summer rating) super-critical pulverized coal unit ("TC2") at the Trimble Station, in

1 which the Companies will have a seventy-five percent ownership share. The Companies
2 chose super-critical technology for TC2 because, as explained in the testimony of Mr.
3 Voyles, that technology provides a number of efficiency, economic, reliability and
4 environmental benefits as compared to other technologies. TC2 will also employ state of
5 the art environmental technology. The estimated cost of construction for the Companies'
6 collective share of TC2 is approximately \$800 million, excluding the costs for
7 transmission facilities.

8 **Q. Please describe the Companies' current generation fleet.**

9 A. KU's power generating system consists primarily of four generating stations – Ghent in
10 Carroll County, Tyrone in Woodford County, E.W. Brown in Mercer County and Green
11 River in Muhlenberg County. KU also owns and operates multiple natural gas fired-
12 combustion turbines, which supplement the system during peak periods, as well as a
13 hydroelectric generating station at Dix Dam, located next to the Dix System Control
14 Center. Similarly, LG&E's generation system consists primarily of three coal-fired
15 generating stations – Cane Run, Mill Creek, and the existing unit at the Trimble Station
16 ("TC1"). LG&E also owns and operates multiple natural gas-fired combustion turbines,
17 which supplement the system during peak periods, and the Ohio Falls hydroelectric
18 station, which provides base load supply, subject to river flow constraints. As explained
19 in the testimonies of Mr. Malloy and Mr. Voyles, a number of the Companies' generation
20 stations are aging and it is possible that some of those units may need to be retired in the
21 coming years. That prospect makes it all the more important that the Companies stay
22 prepared to meet growing demand.

23 **Q. When did the Companies last construct a base load generating unit?**

1 A. KU's last base load unit was Ghent 4, which was completed in 1984. LG&E's last base
2 load unit was TC1, which was completed in 1990.

3 **Q. Why are the Companies seeking to expand the Trimble Station?**

4 A. As regulated utilities, the Companies have an obligation to serve all customers located in
5 their service territories, and thus must be prepared to meet load growth in those areas. As
6 explained in the testimony of Mr. Sinclair, the Companies expect to face continued load
7 growth in their respective territories in the coming years. The expansion of the Trimble
8 Station, through the construction of TC2, is essential for KU and LG&E to continue to
9 provide reliable, low-cost power to their growing native loads.

10 **Q. How did the Companies determine the need for additional resources?**

11 A. The Companies determined the need for additional resources through their 2004 Joint
12 Load Forecast. As set out in that Forecast, which is presented through the testimony of
13 Mr. Sinclair, the Companies are projected to need baseload capacity in 2010 and between
14 401 MW and 552 MW of additional capacity by 2012 in order to serve their native loads
15 and maintain the present reserve margin range of 13% to 15%.

16 **Q. Did the Companies consider other options to meet the need for additional capacity?**

17 A. Yes. As explained in detail in the testimony of Mr. Malloy, the Companies conducted a
18 Resource Assessment to compare available options for meeting the projected needs of
19 their respective customers. That Assessment determined that the proposed construction
20 of TC2 at the Trimble Station was the least-cost option to allow the Companies to meet
21 their needs for additional capacity.

22 **Q. Why did the Companies choose the Trimble Station, rather than some other**
23 **location, for the construction of a new base load generating unit?**

1 A. The Trimble Station was originally designed for four coal-fired units with a total capacity
2 of 2,300 MW. When TC1 was constructed, a portion of the common infrastructure was
3 sized to accommodate the addition of a second unit. Those existing systems provide
4 significant economies of scale and are an important factor in making TC2 the least-cost
5 build option for the Companies.

6 **Q. Who will own TC2?**

7 A. As explained in the testimony of Mr. Blake, TC2 is being developed with the
8 participation of the Illinois Municipal Electric Agency (“IMEA”) and the Indiana
9 Municipal Power Agency (“IMPA”). IMEA and IMPA will collectively own 25% of
10 TC2, and the Companies will collectively own the other 75%. The Companies have had
11 a very good working relationship with IMEA and IMPA in the joint ownership of TC1
12 and the initial planning for TC2, and we expect that relationship to continue in the joint
13 development and ownership of TC2.

14 **Q. How will the power generated at TC2 be allocated between the unit’s owners?**

15 A. The allocation of the power generated will follow the ownership percentages between
16 IMEA, IMPA, KU and LG&E. Accordingly, IMEA and IMPA, collectively, will be
17 entitled to 25% of the power generated, and KU and LG&E, collectively, will be entitled
18 to 75% of the power generated at TC2. The Companies’ ownership of TC2 is based on
19 their respective needs as set out in the Resource Assessment, which accompanies Mr.
20 Malloy’s testimony as Exhibit JPM-1. The energy generated at TC2 will be shared
21 between KU and LG&E via the Power Supply System Agreement and the After-the-Fact
22 Billing process enacted at the time of the LG&E/KU merger, just as other energy is

1 shared from existing jointly-owned units (namely E. W. Brown Units 5, 6, & 7, Paddys
2 Run Unit 13, and Trimble County Units 5-10).

3 **Q. Do you have a recommendation for the Commission?**

4 A. Yes. It is my recommendation that the Commission grant the Companies' Joint
5 Application and approve the planned expansion of the Trimble Station as proposed.
6 Construction of TC2 will allow the Companies to grow with our customer bases and
7 thereby protect the continuing availability of reliable, low-cost power for our ratepayers.

8 **Q. Does this conclude your testimony?**

9 A. Yes, it does.

VERIFICATION

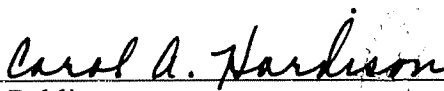
COMMONWEALTH OF KENTUCKY)
) SS:
COUNTY OF JEFFERSON)

The undersigned, **Paul W. Thompson**, being duly sworn, deposes and says he is the Senior Vice President of Energy Services for LG&E Energy Services Inc., that he has personal knowledge of the matters set forth in the foregoing testimony, and that the answers contained therein are true and correct to the best of his information, knowledge and belief.



PAUL W. THOMPSON

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 1st day of December 2004.



Notary Public

My Commission Expires:
August 5, 2008

VERIFICATION

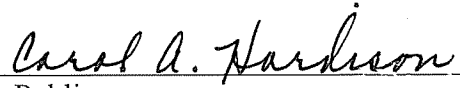
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PAUL W. THOMPSON

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 1st day of December 2004.



Notary Public

My Commission Expires:
August 5, 2008

Appendix A

Paul W. Thompson

Senior Vice President – Energy Services
LG&E Energy LLC
220 West Main Street
P.O. Box 32010
Louisville, Kentucky 40202
(502) 627-3861

Education

University of Chicago, M.B.A. in Finance and Accounting - 1981
Massachusetts Institute of Technology (MIT), B.S. in Mechanical Engineering - 1979
Leadership Louisville – 1997-1998

Previous Positions

LG&E Energy Marketing, Louisville, Kentucky
1998-1999 – Group Vice President

Louisville Gas and Electric Company (“LG&E”), Louisville, Kentucky:
1996-1999 – Vice President, Retail Electric Business

LG&E Energy Corp., Louisville, Kentucky
1994-1996 (Sept.) – Vice President, Business Development
1994-1994 (July) – LG&E, Louisville, Kentucky
General Manager, Gas Operations
1991-1993 – Director, Business Development

Koch Industries Inc.
1990-1991 – Koch Membrane Systems, Boston Massachusetts
National Sales Manager, America
1989-1990 – John Zink Company, Tulsa, Oklahoma
Vice President, International

Lone Star Technologies (a former Northwest Industries subsidiary)
1988-1989 – John Zink Company, Tulsa, Oklahoma
Vice Chairmen
1986-1988 – Hydro-Sonic Systems, Dallas, Texas
General Manager
1986-1986 (July) – Ft. Collins Pipe, Dallas, Texas
General Manager

Appendix A

Previous Positions (continued)

- 1985-1986 – Lone Star Technologies, Dallas, Texas
Assistant to Chairman
- 1980-1985 – Northwest Industries, Chicago, Illinois
Manager, Financial Planning

Civic Activities

- Friends of the Waterfront Board
- Library Foundation Board
 - Chair, Annual Appeal 2002
 - Co-Chair, Annual Children's Reading Appeal 1999, 2000, and 2001
- March of Dimes, Honorary Chair 1997 and 1998
- Habitat for Humanity – Representing LG&E as Co-Sponsor