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PUBLIC SERVICE COMMISSION

Kentucky Utilities Company
State Regulation and Rates
220 West Main Street
PO Box 32010
Louisville, Kentucky 40232
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Kent W. Blake
Director
T 502-627-2573
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Ms. Elizabeth O'Donnell
Executive Director
Kentucky Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky 40602-0615

November 16, 2006

RE: *In the Matter Of: The Application Of Kentucky Utilities Company To Modify Certain Certificates of Public Convenience and Necessity To Construct Ductwork for Two Flue Gas Desulfurization Units At The Ghent Power Station*- **Case No. 2006-00493**

Dear Ms. O'Donnell:

Enclosed please find an original and ten (10) copies of Kentucky Utilities Company's ("KU") Application and Testimonies to be filed with the Commission to establish the above-referenced docket.

The filing includes:

- KU's Application and Exhibit
- Kent W. Blake's Testimony
- John P. Malloy's Testimony and Exhibits

Also enclosed are an original and ten (10) copies of KU's Motion for Confidential Treatment regarding certain information contained in Exhibits JPM-3 through JPM-7 to Mr. Malloy's prefiled testimony. One paper copy of these exhibits is being filed with the Motion in a sealed envelope marked confidential. The original and each copy of Exhibits JPM-3 through JPM-7 filed with Mr. Malloy's testimony in support of KU's application contain a complete copy of the document with the confidential information redacted.

To accommodate KU's construction schedule, a decision on the Application is respectfully requested by December 31, 2006. In order to facilitate this

proceeding, KU would welcome the opportunity to meet with all parties at the Commission at a mutually agreeable time to review the contents of the Application and testimony and answer any related questions. KU suggests that such a meeting, if desired, occur some time during the next two weeks, either before or after the Thanksgiving holiday. This would facilitate the Company's planning for this project and its construction schedule. As indicated in the filing, however, if the Commission requires more time, KU will alter its construction dates accordingly.

Should you have any questions concerning the enclosed, please do not hesitate to contact me. If you receive any requests for copies of the attached document(s), please refer the same to me directly; I will promptly provide such copies upon request.

Sincerely,

Kent W. Blake

Kent W. Blake

cc: Hon. Elizabeth E. Blackford
Hon. Michael L. Kurtz
Hon. Edgar N. James
Robert H. Stropp, Jr.

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

RECEIVED
NOV 16 2006
PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF KENTUCKY UTILITIES COMPANY TO MODIFY CERTAIN CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY TO CONSTRUCT DUCTWORK FOR TWO FLUE GAS DESULFURIZATION UNITS AT THE GHENT POWER STATION	)	**CASE NO. 2006-00493**

APPLICATION

Kentucky Utilities Company ("KU") hereby petitions the Kentucky Public Service Commission ("Commission") by application to issue an order: (1) prospectively modifying the certificate of public convenience and necessity ("CPCN") the Commission granted KU in the final Order issued in Case No. 92-005, dated July 24, 1992, which CPCN authorized KU to construct a scrubber (i.e., a flue gas desulfurization unit ["FGD"]) at Ghent Unit No. 1, to allow the certificated Ghent Unit No. 1 FGD to serve Ghent Generating Unit No. 2;[1] (2) prospectively modifying the CPCN the Commission granted KU in the final Order in Case No. 2004-00426, dated June 20, 2005, which CPCN authorized KU to construct an FGD at Ghent Unit No. 2 (among others), to allow the certificated (but not yet constructed) Ghent Unit No. 2 FGD to serve Ghent Generating Unit No. 1;[2] and (3) clarifying the description of the "Generating Station" portion of Project No. 21 in the Environmental Surcharge Compliance Plan approved by the Commission in Case No. 2004-00426 to include Ghent Generating Unit No. 1 and to exclude Ghent Generating Unit No. 2. KU is also submitting in this proceeding for the Commission's

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[1] *In the Matter of: The Application of Kentucky Utilities Company For A Certificate Of Convenience And Necessity To Construct A Scrubber On Unit No. 1 Of Its Ghent Generating Plant,* Case No. 92-005, Order at 4 (July 24, 1992)

[2] *In the Matter of: The Application Of Kentucky Utilities Company For A Certificate Of Convenience And Necessity To Construct Flue Gas Desulphurization Systems and Approval Of Its 2004 Compliance Plan For Recovery By Environmental Surcharge,* Case No. 2004-00426, Order at 31 (June 20, 2005)

review and information an analysis demonstrating that constructing the three certificated Ghent FGDs continues to be the most cost-effective means of complying with relevant sulfur dioxide emission limits.

In support of this Application, KU states as follows:

1. Address: The Applicant's full name and business address is: Kentucky Utilities Company, One Quality Street, Lexington, Kentucky 40507. KU's mailing address is Kentucky Utilities Company c/o Louisville Gas and Electric Company, Post Office Box 32010, 220 West Main Street, Louisville, Kentucky 40232.

2. Articles of Incorporation: A certified copy of KU's current Articles of Incorporation are on file with the Commission in Case No. 2005-00471, *In the Matter of: Application of Louisville Gas and Electric Company and Kentucky Utilities Company for Authority to Transfer Functional Control of their Transmission System*, filed on November 18, 2005, and is incorporated by reference herein pursuant to 807 KAR 5:001, Section 8(3).

3. KU is a public utility, as defined in KRS 278.010(3)(a), engaged in the electric business. KU generates and purchases electricity, and distributes and sells electricity at retail in the following counties in Central, Northern, Southeastern and Western Kentucky:

Adair	Edmonson	Jessamine	Ohio
Anderson	Estill	Knox	Oldham
Ballard	Fayette	Larue	Owen
Barren	Fleming	Laurel	Pendleton
Bath	Franklin	Lee	Pulaski
Bell	Fulton	Lincoln	Robertson
Bourbon	Gallatin	Livingston	Rockcastle
Boyle	Gerrard	Lyon	Rowan
Bracken	Grant	Madison	Russell
Bullitt	Grayson	Marion	Scott
Caldwell	Green	Mason	Shelby
Campbell	Hardin	McCracken	Spencer
Carlisle	Harlan	McCreary	Taylor
Carroll	Harrison	McLean	Trimble
Casey	Hart	Mercer	Union

Christian	Henderson	Montgomery	Washington
Clark	Henry	Muhlenberg	Webster
Clay	Hickman	Nelson	Whitley
Crittenden	Hopkins	Nicholas	Woodford
Daviess			

Request to Modify Certain Certificates of Public Convenience and Necessity

4. Statement of Need: In support of KU's contention that the public convenience and necessity requires, or will require, the proposed construction to allow the certificated (but not yet constructed) Ghent Unit No. 2 FGD to serve Ghent Generating Unit No. 1 and to allow the certificated and extant Ghent Unit No. 1 FGD to serve Ghent Generating Unit No. 2, KU submits the following:

a. Title IV of the Clear Air Act Amendments of 1990 imposed permanent reductions in sulfur dioxide emissions. KU's current SO_2 emissions are in excess of its annual Environmental Protection Agency ("EPA") allotment and KU has been using banked allowances to remain in compliance with its operating permits.

b. EPA adopted the Clean Air Interstate Rule ("CAIR") in March 2005. CAIR is a multi-pollutant strategy rule requiring significant additional reduction of SO_2 and NO_x emissions in order to further reduce levels of ozone and fine particulate matter in the atmosphere. It reduces emissions through cap-and-trade allowance-based programs. The program will reduce emissions over two phases. CAIR targets annual SO_2 reductions of 3.6 million tons during Phase I (from 2010-2014) and an additional 2 million tons during Phase II (from 2015 and beyond).

c. To comply with CAIR, KU will have to reduce significantly SO_2 emissions or obtain credits for the excess emissions, or both.

d. To comply most cost-effectively with these tightening regulations, the Commission recently granted KU a CPCN to construct three additional FGDs (one already exists) at the Ghent power station.[3]

e. To comply with these regulations most cost-effectively (a savings of $9.5 million) and to obtain the greatest operational efficiency will require ductwork routing the flue gas of Ghent Generating Unit No. 2 to the existing FGD currently serving Ghent Generating Unit No. 1, and will require ductwork routing the flue gas of Ghent Generating Unit No. 1 to the not-yet-built FGD currently certificated to serve Ghent Generating Unit No. 2.

5. Description of Proposed Construction: KU requests modifications to the CPCNs the Commission granted it in Case Nos. 92-005 and 2004-00426 to construct ductwork to allow the extant Ghent Unit No. 1 FGD to serve Ghent Generating Unit No. 2 and to allow the certificated but not-yet-built Ghent Unit No. 2 FGD to serve Ghent Generating Unit No. 1.

The proposed ductwork will result in a significant cost savings (approximately $9.5 million) as compared to constructing the additional ductwork necessary to connect Ghent Generating Unit No. 2 with the FGD to be constructed.[4] (A diagram showing the proposed final configuration of all the relevant units, FGDs, and ductwork is attached hereto as Application Exhibit 1.) In addition to cost savings, the proposed modifications and ductwork rerouting will more efficiently utilize limited space at the Ghent facility, allow better overhead access to

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[3] *In the Matter of the Application of Kentucky Utilities Company for a Certificate of Public Convenience and Necessity to Construct Flue Gas Desulfurization Systems and Approval of its 2004 Compliance Plan for Recovery by Environmental Surcharge*, Case No. 2004-00426, Order (June 20, 2005) and *In the Matter of: The Application of Kentucky Utilities Company For A Certificate Of Convenience And Necessity To Construct A Scrubber On Unit No. 1 Of Its Ghent Generating Plant,* Case No. 92-005, Order at 4 (July 24, 1992

[4] The total capital cost of the proposed ductwork is estimated to be $8.5 million. This is $9.5 million less costly than routing the Ghent Generating Unit No. 2 flue gas to the certificated Ghent Unit No. 2 FGD (a total capital cost of $18.0 million).

maintain existing plant operating equipment, and improve operational efficiencies for Ghent Generating Unit Nos. 1 and 2. Because the proposed ductwork route requires only 110 feet of new ductwork, compared to 500 feet required to connect Ghent Generating Unit No. 2 to the new FGD, less auxiliary power will be required for fans to keep flue gas moving down the shorter ducts.

The proposed ductwork constitutes only a minor revision to the currently certificated construction plans for the Ghent power station. The order KU requests in this proceeding will serve only to route one generating unit's flue gas to a certain FGD and another generating unit's flue gas to a different FGD. Importantly, none of the proposed modifications to the CPCNs granted by this Commission in Case Nos. 92-005 and 2004-00426 will change the ultimate result that all four of the Ghent generating units will ultimately have their flue gasses "scrubbed" by an FGD. Installing three additional FGDs at the Ghent Station in order to "scrub" all four units at the station remains the least cost plan to comply with environmental regulations.

The construction timeframe for the Ghent Unit No. 2 FGD and the ductwork proposed herein is set out in the table below:

System	Procurement	Construction Start/Mobilization	Construction Completion
Foundation	01/02/2006	01/22/2006	06/01/2007
Module	01/31/2006	06/01/2007	09/27/2008
Chimney	03/14/2006	03/20/2007	03/15/2008
Ductwork	12/05/2006	08/16/2007	06/01/2008

Because ductwork procurement is scheduled to begin in December, KU respectfully requests that the Commission issue the requested order by December 31, 2006, in order to minimize delays. If the Commission requires more time to review this application, however, KU will alter its construction dates accordingly.

6. Permits or Franchises: The requisite permits for the FGDs at the Ghent Station are a matter of record in Case Nos. 2004-00426 and 92-005.[5]

7. Area Maps: A map of the Ghent power station is of record in Case No. 2004-00426. A drawing illustrating the proposed ductwork is attached hereto as Application Exhibit 1.

8. Financing Plans: KU's financing plans for the construction of the three additional FGDs at the Ghent Station are a matter of record in Case No. 2004-00426. The construction costs of the ductwork proposed in this application were reflected in financing plans in Case No. 2004-00426.

9. Estimated Cost of Operation: The estimated annual cost of operations of all four Ghent FGDs is $13.5 million, as indicated in Case No. 2004-00426. The cost of operating the proposed ductwork is included therein.

10. Final action on this Application is requested by December 31, 2006 in order to allow KU to procure materials and adhere as closely as possible to the proposed construction schedule.

11. A detailed summary of the facts and compliance requirements supporting this Application is set forth in the direct testimony and exhibits of KU's witnesses:

- The testimony of Kent W. Blake, Director, State Regulation and Rates, E.ON U.S. Services, Inc., presents a summary of KU's request in this application.
- The testimony of Mr. John P. Malloy, Director, Generation Services, E.ON U.S. Services, Inc., describes the ductwork rerouting and presents evidence as to the cost effectiveness and operational efficiency of the

[5] In the event the Commission determines to deny KU's application in this case, the Kentucky Department of Air Quality has indicated that KU's air permit will need be revised and processed as a minor permit revision to reflect the connection between Ghent FGD No. 2 and Ghent Generating Unit No. 2.

ductwork. His testimony also includes, as exhibits, photographs of the Ghent power station, which provide clear depiction of the routing of the proposed ductwork. In addition, he will discuss changes regarding the scrubbers at the Ghent Station that have occurred since the Commission granted a CPCN in Case No. 2004-00426 and demonstrate that the construction of three additional FGDs at the Ghent Station remains the least cost compliance plan.

WHEREFORE, Kentucky Utilities Company requests that the Commission enter an order by December 31, 2006, (1) prospectively modifying the CPCN the Commission granted KU in Case No. 92-005 to allow the certificated Ghent Unit No. 1 FGD to serve Ghent Generating Unit No. 2; (2) prospectively modifying the CPCN the Commission granted KU in the final Order in Case No. 2004-00426 to allow the certificated (but not yet constructed) Ghent Unit No. 2 FGD to serve Ghent Generating Unit No. 1; and (3) clarifying the description of the "Generating Station" portion of Project No. 21 in the Environmental Surcharge Compliance Plan approved by the Commission in Case No. 2004-00426 to include Ghent Generating Unit No. 1 and to exclude Ghent Generating Unit No. 2.

Dated: November 16, 2006

Respectfully submitted,

Kendrick R. Riggs
W. Duncan Crosby III
Stoll Keenon Ogden PLLC
2000 PNC Plaza
500 West Jefferson Street
Louisville, Kentucky 40202-2828
Telephone: (502) 333-6000

Elizabeth L. Cocanougher
Senior Corporate Counsel
Louisville Gas and Electric Company
220 West Main Street
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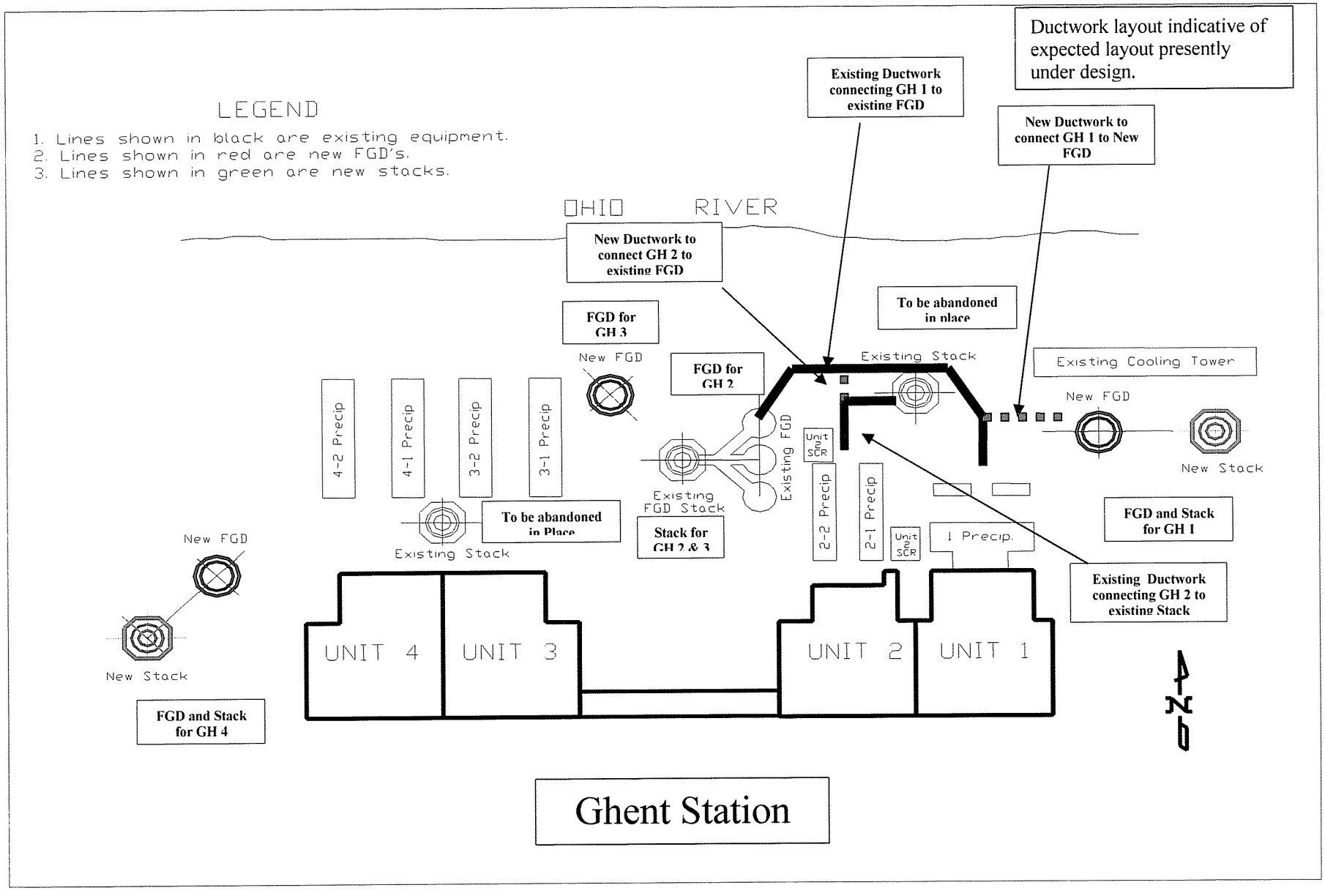
Telephone: (502) 627-4850

Counsel for Kentucky Utilities Company



Application Exhibit 1

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and correct copy of the foregoing Application was served on the following persons who represented parties of record in Case Nos. 92-005 and 2004-00426 on the 16th day of November 2006, U.S. mail, postage prepaid:

Michael L. Kurz
Boehm, Kurtz & Lowry
36 East Seventh Street, Suite 1510
Cincinnati, Ohio 45202

Elizabeth E. Blackford
Office of the Attorney General
Office of Rate Intervention
1024 Capital Center Drive, Suite 200
Frankfort, Kentucky 40601-8204

Edgar N. James
Guerrieri, Edmond and James
4th Floor, 1331 F. Street, N.W.
Washington, D.C. 20004

Robert H. Stropp, Jr.
United Mine Workers of America
900 15th Street, N.W.
Washington, D.C. 20005

Counsel for Kentucky Utilities Company

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF KENTUCKY UTILITIES COMPANY TO MODIFY CERTAIN CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY TO CONSTRUCT DUCTWORK FOR TWO FLUE GAS DESULFURIZATION UNITS AT THE GHENT POWER STATION	)	CASE NO. 2006-_____

DIRECT TESTIMONY OF
KENT W. BLAKE
DIRECTOR, STATE REGULATION AND RATES
E.ON U.S. SERVICES INC.

Filed: November 16, 2006

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

A. My name is Kent W. Blake. I am the Director of State Regulation and Rates for E.ON U.S. Services Inc., which provides services to Louisville Gas and Electric Company ("LG&E") and Kentucky Utilities Company ("KU") (collectively, "the Companies"). My business address is 220 West Main Street, Louisville, Kentucky 40202. A complete statement of my education and work experience is attached to this testimony as Appendix A.

Q. Have you previously testified before this Commission?

A. Yes. I have testified several times, including Case Nos. 2004-00426[1] and 2006-00206[2], KU's most recent Environmental Cost Recovery applications.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to summarize KU's application in this proceeding seeking an Order: (1) prospectively modifying the Certificate of Public Convenience and Necessity ("CPCN") the Commission granted KU in Case No. 92-005 to allow the certificated Ghent Unit No. 1 flue gas desulfurization unit ("FGD") to serve Ghent Generating Unit No. 2; (2) prospectively modifying the CPCN the Commission granted KU in the final Order in Case No. 2004-00426 to allow the certificated (but not yet constructed) Ghent Unit No. 2 FGD to serve Ghent Generating Unit No. 1; and (3) clarifying the description of the "Generating Station" portion of Project No. 21 in the Environmental Surcharge Compliance Plan approved by the Commission in Case No. 2004-00426 to include Ghent Generating Unit No. 1 and to exclude Ghent

[1] *In the Matter of: The Application of Kentucky Utilities Company for a Certificate of Public Convenience and Necessity to Construct Flue Gas Desulfurization Systems and Approval of its 2004 Compliance Plan for Recovery by Environmental Surcharge*

Generating Unit No. 2. KU's proposal is described in the testimony of Mr. John Malloy in detail.

Q. Will customers benefit from the modification of the ductwork proposed by KU in this case?

A. Yes. As described in the testimony of Mr. Malloy, construction of this proposed ductwork will result in approximately $9.5 million in cost savings, as well as other operational efficiencies, as compared to constructing ductwork to connect Ghent Generating Unit No. 2 to the certificated (but not yet constructed) Ghent Unit No. 2 FGD.

Q. Will KU benefit from the modification of the ductwork proposed in this application?

A. No. The ductwork design is consistent with the Company's ongoing efforts to keep costs down for the benefit of its customers. From a financial standpoint, this ductwork design will actually have an adverse impact on KU's net operating income.

Q. How does KU's proposed ductwork, if approved, affect the certificates of public convenience and necessity issued by the Commission for construction of a flue gas desulfurization at Ghent Generation Units 1 and 2?

A. The proposed ductwork, if approved, will allow the existing Ghent Unit No. 1 FGD to serve Ghent Generating Unit No. 2 and will allow the certificated but not-yet-built Ghent Unit No. 2 FGD to serve Ghent Generating Unit No. 1. The order KU requests in this proceeding will serve only to approve the routing of one generating unit's flue gas to a certain FGD and another generating unit's flue gas to a different FGD.

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[2] *In the Matter of: The Application of Kentucky Utilities Company for a Certificate of Public Convenience and Necessity to Construct a Selective Catalytic Reduction System and Approval of its 2006 Compliance Plan for Recovery by Environmental Surcharge*

Importantly, none of the proposed modifications to the CPCNs granted by this Commission in Case Nos. 92-005 and 2004-00426 will change the ultimate result that all four of the Ghent generating units will have their flue gasses "scrubbed" by an FGD. As further discussed in Mr. Malloy's testimony, installing three additional FGDs at the Ghent Station in order to scrub all four units at the station remains the least cost plan to comply with environmental regulations.

Q. Does KU's proposed ductwork, if approved, affect the calculation of the environmental surcharge?

A. Yes. A portion of the ductwork presently in service and connecting the existing Ghent Unit No. 1 FGD to Ghent Generating Unit No. 1 will be retired in place. KU will reflect the retirement of this section of the ductwork in the calculation of the environmental surcharge in accordance with the Commission's prior orders.

Q. What other alternative does KU have for connecting the FGDs?

A. KU has the alternative, at a higher cost, to connect the Ghent Generating Unit No. 2 to the certificated, but not yet constructed, Ghent Unit No. 2 FGD. Should the Commission not approve KU's request in this application, the Company can and will continue construction to connect the new FGD to Ghent Generating Unit No. 2 and will leave the existing and operating FGD connected to Ghent Generating Unit No. 1.

Q. What is KU requesting from the Commission in this proceeding?

A. KU is requesting the Commission issue an order (1) prospectively modifying the CPCN the Commission granted KU in Case No. 92-005 to allow the certificated Ghent Unit No. 1 FGD to serve Ghent Generating Unit No. 2; (2) prospectively modifying the CPCN the Commission granted KU in the final Order in Case No. 2004-00426 to allow the certificated (but not yet constructed) Ghent Unit No. 2 FGD

to serve Ghent Generating Unit No. 1; and (3) clarifying the description of the "Generating Station" portion of Project No. 21 in the Environmental Surcharge Compliance Plan approved by the Commission in Case No. 2004-00426 to include Ghent Generating Unit No. 1 and to exclude Ghent Generating Unit No. 2.

Q. Does this conclude your testimony?

A. Yes, it does.

VERIFICATION

COMMONWEALTH OF KENTUCKY)
) **SS:**
COUNTY OF JEFFERSON)

The undersigned, **Kent W. Blake**, being duly sworn, deposes and says he is Director, State Regulation and Rates for E.ON U.S. Services Inc., and that he has personal knowledge of the matters set forth in the foregoing testimony, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

Kent W Blake
KENT W. BLAKE

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 16th day of November 2006.

Tammy J. Elder (SEAL)
Notary Public

My Commission Expires:

November 9, 2010

APPENDIX A

Kent W. Blake

Director, State Regulation and Rates
E.ON U.S. Services Inc.
220 West Main Street
P. O. Box 32010
Louisville, Kentucky 40202
(502) 627-2573

Education

University of Kentucky, B.S. in Accounting, 1988
Certified Public Accountant, Kentucky, 1991
Multiple industry and executive development programs

Previous Positions

LG&E Energy LLC, Louisville, Kentucky
- 2003 (Sept) – 2004 (Oct) – Director, Regulatory Initiatives
- 2003 (Feb) – 2003 (Sept) – Director, Business Development
- 2002 (Aug) – 2003 (Feb) – Director, Finance and Business Analysis

Mirant Corporation (f.k.a. Southern Company Energy Marketing)
- 2002 (Feb-Aug) – Senior Director, Applications Development
- 2000-2002 – Director, Systems Integration
- 1998-2000 – Trading Controller

LG&E Energy Corp.
- 1997-1998 – Director, Corporate Accounting and Trading Controls

Arthur Andersen LLP
- 1992-1997 – Manager, Audit and Business Advisory Services
- 1990-1992 – Senior Auditor
- 1988-1990 – Audit Staff

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF KENTUCKY UTILITIES COMPANY TO MODIFY CERTAIN CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY TO CONSTRUCT DUCTWORK FOR TWO FLUE GAS DESULFURIZATION UNITS AT THE GHENT POWER STATION	)	CASE NO. 2006-_____

DIRECT TESTIMONY OF
JOHN P. MALLOY
DIRECTOR, GENERATION SERVICES
E.ON U.S. SERVICES INC.

Filed: November 16, 2006

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

A. My name is John P. Malloy. I am the Director of Generation Services for E.ON U.S. Services Inc. which provides services to Louisville Gas and Electric Company ("LG&E") and Kentucky Utilities Company ("KU") (collectively, "the Companies"). My business address is 220 W. Main Street, Louisville, Kentucky, 40202. A complete statement of my education and work experience is attached to this testimony as Appendix A.

Q. Have you previously testified before this Commission?

A. Yes. I have testified several times including prior six month Fuel Adjustment Clause reviews and in Case Nos. 2004-00426[1] and 2006-00206[2], KU's most recent Environmental Cost Recovery ("ECR") applications.

Q. Are you sponsoring any exhibits?

A. Yes, I am sponsoring the following exhibits:

Exhibit JPM-1	Ghent Station Layout
Exhibit JPM-2	Aerial Photo- Ductwork Configuration of Ghent Unit 1 FGD
Exhibit JPM-3	PVRR with Base Capital Cost / Base SO_2 Market Prices
Exhibit JPM-4	PVRR with Base Capital Cost / Base SO_2 Market Prices through 2036

[1] In the Matter of: *The Application of Kentucky Utilities Company for a Certificate of Public Convenience and Necessity to Construct Flue Gas Desulfurization Systems and Approval of its 2004 Compliance Plan for Recovery by Environmental Surcharge*

[2] In the Matter of: *The Application of Kentucky Utilities Company for a Certificate of Public Convenience and Necessity to Construct a Selective Catalytic Reduction System and Approval of its 2006 Compliance Plan for Recovery by Environmental Surcharge*

Exhibit JPM-5	PVRR with Increased FGD Capital Cost 5% / Base SO_2 Market Prices
Exhibit JPM-6	PVRR with Base Capital Cost / Increase SO_2 Prices by 5%
Exhibit JPM-7	PVRR with Increased FGD Capital Cost 5% and Increase SO_2 Prices by 5%

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to

1. describe the current configuration of the Ghent Station as pertinent to the Flue Gas Desulfurization ("FGD") construction alternatives;
2. discuss cost impacts associated with modifying the planned ductwork configuration of the Ghent Unit 1 and Unit 2 FGDs;
3. identify changes regarding the scrubbers at the Ghent Power Station that have occurred since the filing of Case No. 2004-00426; and
4. provide KU's analysis that scrubbing Ghent as planned continues to have a lower present value revenue requirement than relying on the sulfur dioxide ("SO_2") allowance market for SO_2 compliance.

Q. Is the flue gas from a Ghent generating unit currently scrubbed?

A. Yes. As approved by the Commission in Case No. 92-005, an FGD was constructed and is currently processing flue gas exiting Ghent Unit 1. Presently, it is the only operating FGD at the Station.

Q. Discuss the physical location of the existing FGD at Ghent as it relates to Ghent Units 1 and 2.

A. As shown in Exhibits JPM-1 and JPM-2, the existing FGD at Ghent is located between Ghent Units 2 and 3. The existing FGD ductwork begins at Unit 1's Selective Catalytic Reduction ("SCR") outlet and runs first North and then West around the existing stack to the existing FGD as shown by the arrows in Exhibit JPM-2. The original design and location of the existing FGD contemplated the possible addition of more modules to scrub Ghent Unit 2; however, as discussed in prior proceedings, the implementation of the Clean Air Interstate Rule necessitates the need to scrub all of the Ghent Station. As such, prudent utilization of remaining real-estate becomes more and more important as available space for retrofits is increasingly problematic from a construction and operational perspective. Additionally, the proposed location of equipment considers overhead access to maintain existing and future plant additions.

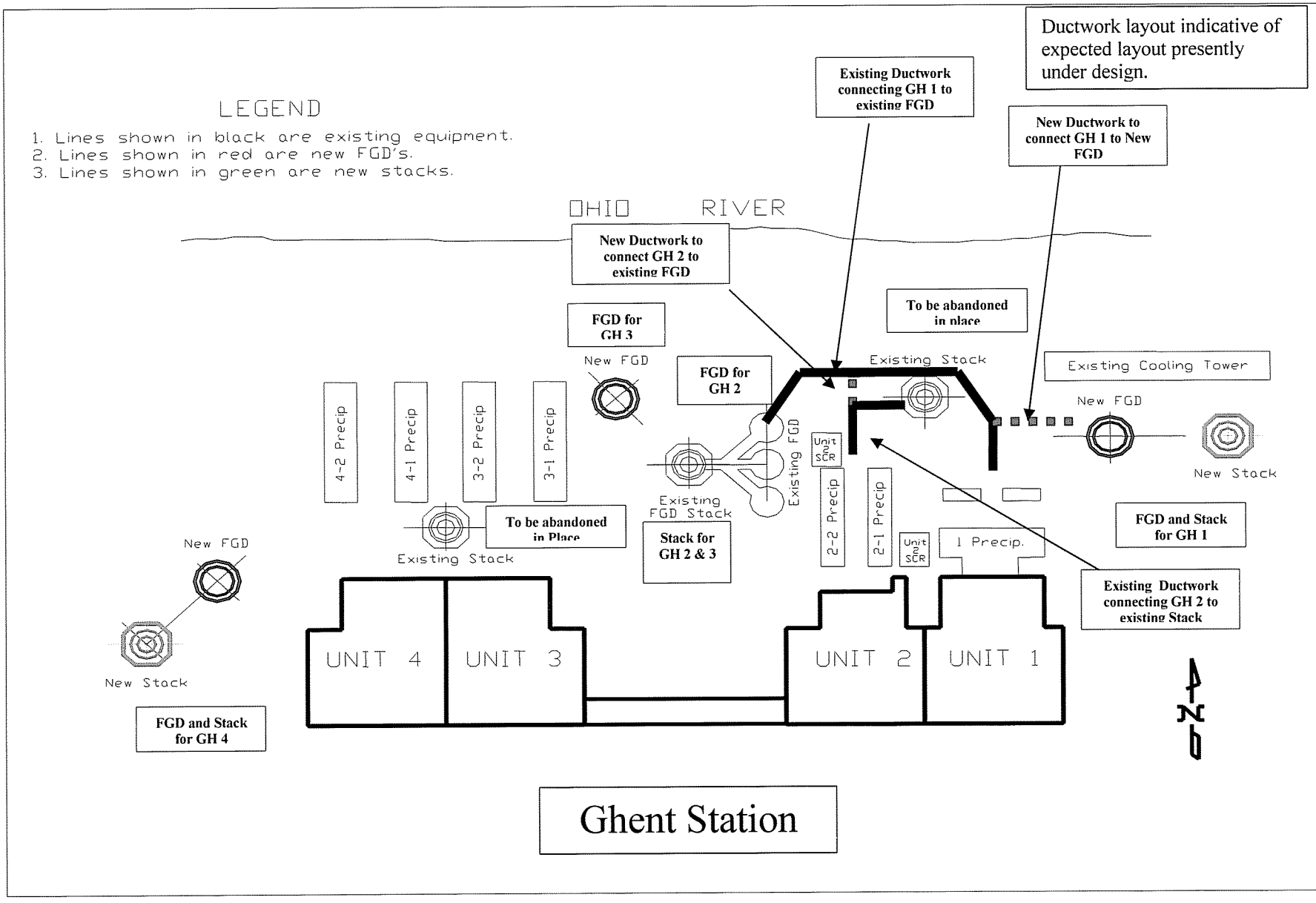
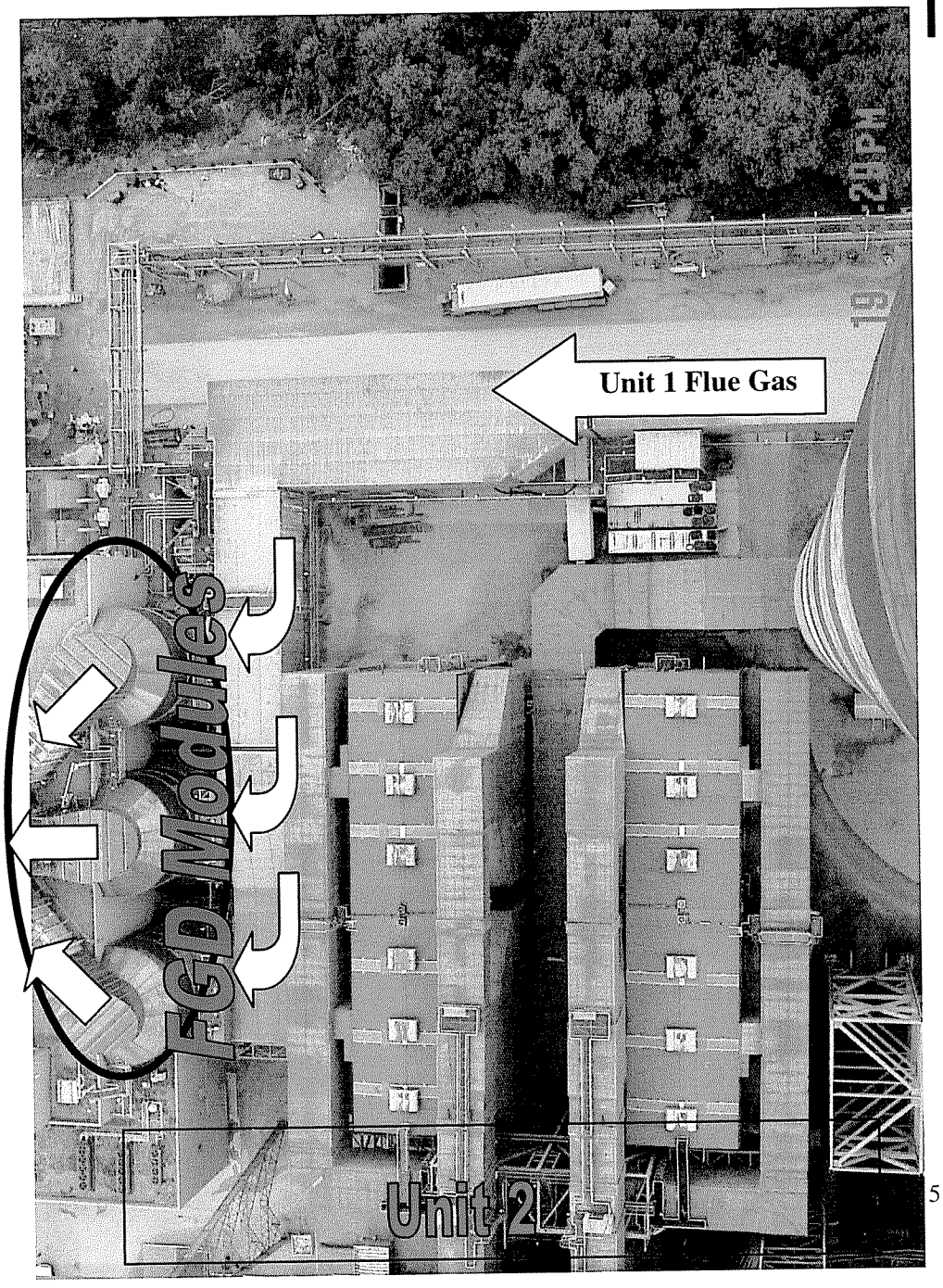
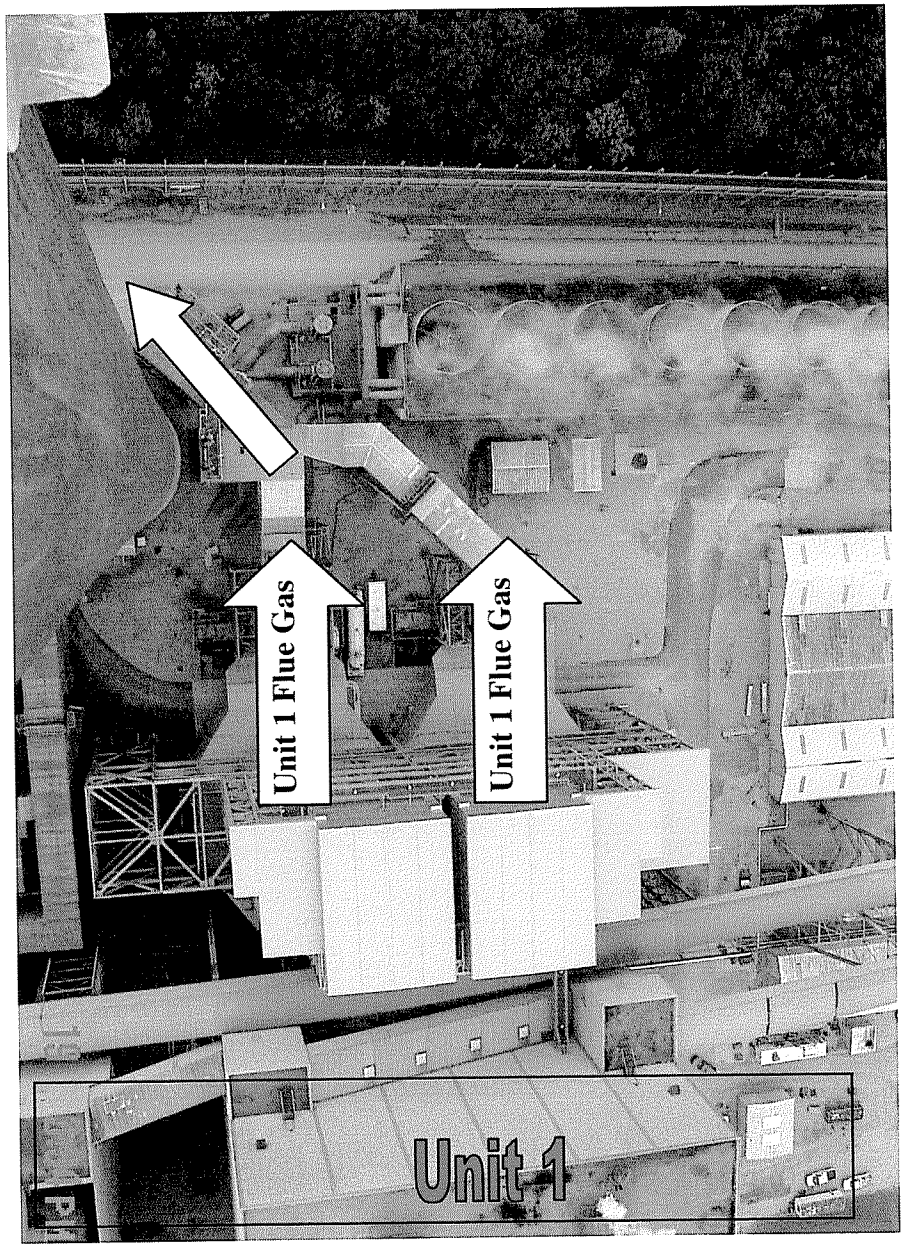

Ductwork layout indicative of expected layout presently under design.
LEGEND
1. Lines shown in black are existing equipment.
2. Lines shown in red are new FGD's.
3. Lines shown in green are new stacks.
Existing Ductwork connecting GH 1 to existing FGD
New Ductwork to connect GH 1 to New FGD
OHIO RIVER
New Ductwork to connect GH 2 to existing FGD
To be abandoned in place
FGD for GH 3
New FGD
FGD for GH 2
Existing Stack
Existing Cooling Tower
New FGD
New Stack
4-2 Precip
4-1 Precip
3-2 Precip
3-1 Precip
Existing FGD
Unit SCR
Existing FGD Stack
Stack for GH 2 & 3
To be abandoned in Place
Existing Stack
2-2 Precip
2-1 Precip
Unit SCR
1 Precip.
FGD and Stack for GH 1
Existing Ductwork connecting GH 2 to existing Stack
New FGD
New Stack
FGD and Stack for GH 4
UNIT 4
UNIT 3
UNIT 2
UNIT 1
N
Ghent Station

Exhibit JPM-2
Kentucky Utilities Company
Aerial Photo- Ductwork Configuration of Ghent Unit 1 FGD





Q. You indicate that the location of the existing scrubber modules contemplated the possible scrubbing of Ghent Unit 2. Why then is this no longer a viable alternative?

A. The recommendation of Case No. 92-005, subsequently approved by the Commission, recommended the scrubbing of Ghent Unit 1 as the most economical, flexible and reliable means of meeting the Phase I requirements of the Clean Air Act Amendments of 1990 ("CAAA"). KU's Optimal Compliance Plan Analysis submitted in support of that filing envisioned that no other unit at Ghent other than Ghent Unit 2 would be scrubbed as a part of KU's compliance with Phase I and Phase II of the CAAA. However, as discussed in KU's testimony in Case No. 2004-00426, the Clean Air Interstate Rule ("CAIR"), finalized in March 2005, requires significant reduction in SO_2 and NO_x emissions beginning in 2010 and, as demonstrated in my testimony in Case No. 2004-00426, the scrubbing of all of the remaining units at the Ghent Power Station are now an essential component of the Companies' most cost-effective plan for environmental compliance. Because of the space constraints imposed by the required scrubbers associated with Ghent Units 3 and 4, the addition of modules and use of the existing stack to scrub Ghent Unit 2 is not the most economical means to comply with these current environmental regulations.

Q. What are the options for scrubbing Ghent Unit 2?

A. There are two options: (1) the higher cost option which leaves the existing FGD on Ghent Generating Unit 1 and construction of a new FGD and associated ductwork on Ghent Generating Unit 2 or (2) the lesser cost alternative, which would switch the

ductwork currently associated with Ghent Unit 1's FGD to Ghent Generating Unit 2 and to connect Ghent Generating Unit 1 to the new FGD, thereby reducing the amount of ductwork required. To facilitate Option 2 primarily duct work modifications need to be made. The balance of the plan to scrub all of the Ghent Station remains the same. The benefits of Option 2 include (a) more efficient utilization of the limited space at the facility (b) greater operational efficiencies for Ghent Units 1 and 2 by lowering auxiliary power consumption and (c) reduction in total amount of new ductwork (110 feet compared to 500 feet).

Q. What permits are required to facilitate the construction and operation of the Ghent Unit 2 FGD inclusive of switching the ductwork for the new FGD to process the flue gas from Ghent Unit 1?

The construction and operation of Ghent Unit 2 FGD inclusive of the ductwork changes is considered a minor modification to the existing Title V permit. KU requested this modification from the Kentucky Division for Air Quality ("KDAQ") by letter dated January 13, 2005 and received confirmation from KDAQ, by letter dated February 15, 2005, that the application was complete and would be processed as a minor modification. The submission to the KDAQ for the modification included plans for switching the ductwork between Ghent Generating Unit 1 and Ghent Generating Unit 2 consistent with Option 2 as previously identified. Should Option 1 be selected, a minor change in the Title V Air Permits would be required for both Ghent Units 1 and 2.

Q. What is the current status of the engineering, procurement and construction associated with the Ghent Unit 2 FGD?

A. The status of procurement and construction of the new FGD to serve Ghent Generating Unit 1 currently is in the final detailed engineering phase with the following major engineering, procurement and construction activities having occurred.

With respect to the new Ghent Unit 1 FGD, detailed engineering locating the final siting of the FGD and balance of plant support systems is nearing completion. Detailed site investigation of underground utilities and balance of plant systems affected by the final siting of the module and stack are also nearing completion. Final detailed engineering of the FGD and supporting systems is scheduled to commence in December 2006. The chimney has been awarded to Commonwealth Dynamics Inc. on a lowest evaluated technical and commercial competitive bid basis. The FGD technology, including the Stebbins module, has been awarded to Babcock Power Environmental Inc. ("BPEI") on a lowest evaluated technical and commercial competitive bid basis. The FGD award includes the alloy inserts and module cap to mitigate future cost impacts attributed to extreme market conditions. Demolition of storage buildings required to provide space for the construction of the FGD has begun. No other significant construction or procurement activities have taken place.

With respect to the connection of Ghent Generating Unit 2 to the existing Ghent Unit 1 FGD, detailed engineering is currently in progress. This ductwork engineering is being conducted in concert with the ductwork modifications that will be required on the Ghent Unit 2 SCR project to ensure the best overall design for the

Ghent Unit 2 projects. To date, no procurement or construction activities have occurred.

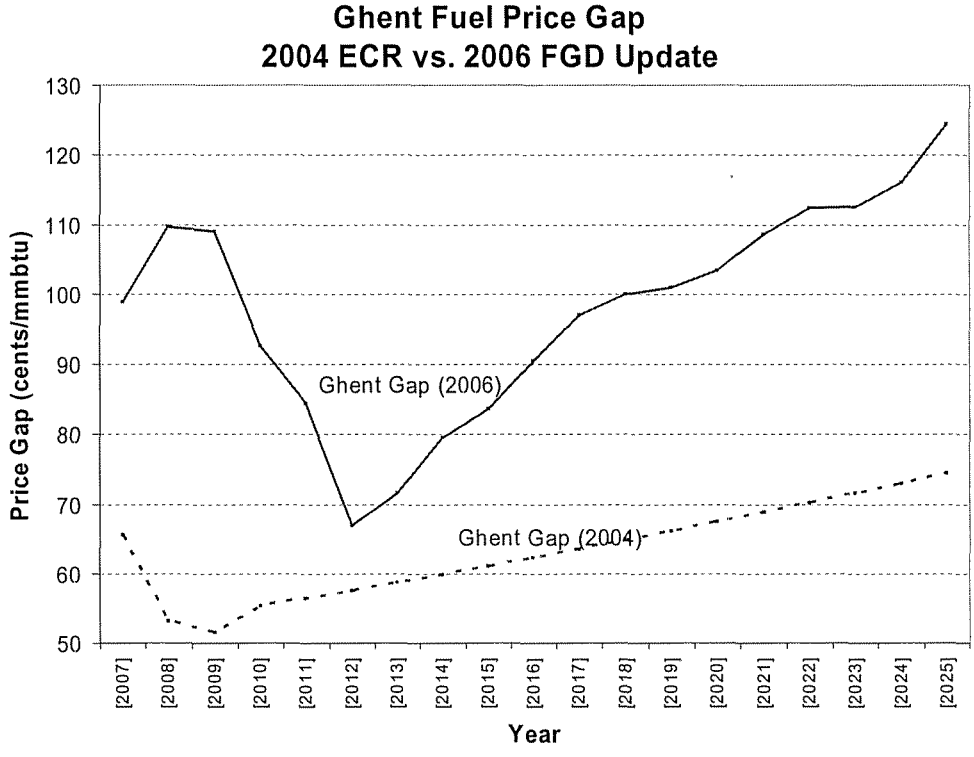
Economic Analysis and Evaluation

Q. What are the primary factors that influence the economic decision to add an FGD or to purchase allowances?

A. There are three significant drivers to economic evaluations of this type. They are (1) the difference in fuel price between the low sulfur (compliance coal) fuel currently burned at the facility and the high sulfur fuel that would be burned upon completion of the project, (2) the forecasted SO_2 market allowance price and (3) the projected capital costs and associated costs of capital.

Q. Can you provide a comparison of the forecasted gap between compliance and high sulfur fuel in Case No. 2004-00426 and the forecasted gap between the same fuels expected by the Company using the most recent fuel forecast.

A. Yes. The most recent coal forecast continues to show that high sulfur coal will be delivered to the Ghent Station at a significant discount to compliance coal. Comparing the updated forecast to the forecast used in Case No. 2004-00426 (see figure below) shows the gap between the two coal price forecasts has increased by as little as $0.09 per MMBTU (in 2012) to nearly $0.60 per MMBTU (in 2009 and later years of the forecast).



The near term increased gap is a function of current market conditions. The current market for compliance coal is very tight, resulting in a more than doubling in price since 2004. The forecast reflects a belief that this gap will lessen in 2010-2012 as more FGDs are installed and some low sulfur coal demand shifts to high sulfur. Over the long term, the gap widens because of limited supply of eastern compliance coal due to reserve depletion in Central Appalachia.

Q. What impact does the increased gap between the cost of compliance coal and high sulfur coal in the 2004 fuel forecast and the cost in the current forecast have on the decision to scrub the remaining units at Ghent?

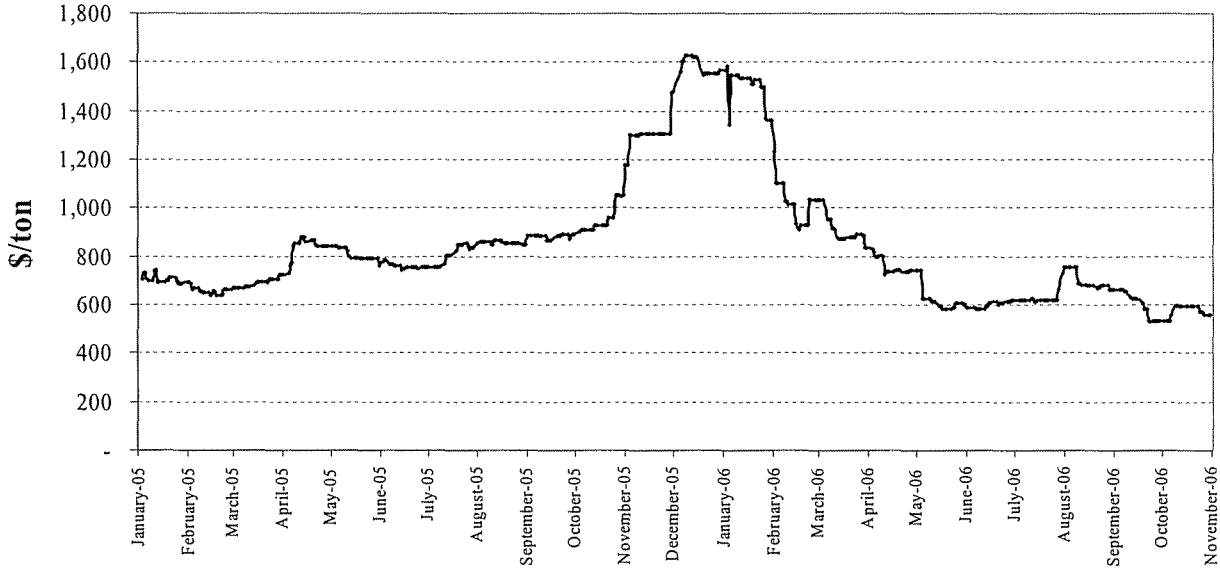
A. In Case No. 2004-00426, KU's application showed a projected fuel savings associated with construction of FGDs at Ghent Units 2-4. Increasing the gap in fuel

costs further increases the fuel savings associated with scrubbing, making scrubbing an even more attractive alternative than presented in Case No. 2004-00426. All fuel savings associated with scrubbing all four units at Ghent Station will be reflected in the calculation of the monthly Fuel Adjustment Clause filings.

Q. Can you provide a comparison of the forecasted SO_2 allowance price in Case No. 2004-00426 to the Company's most recent SO_2 allowance price forecast?

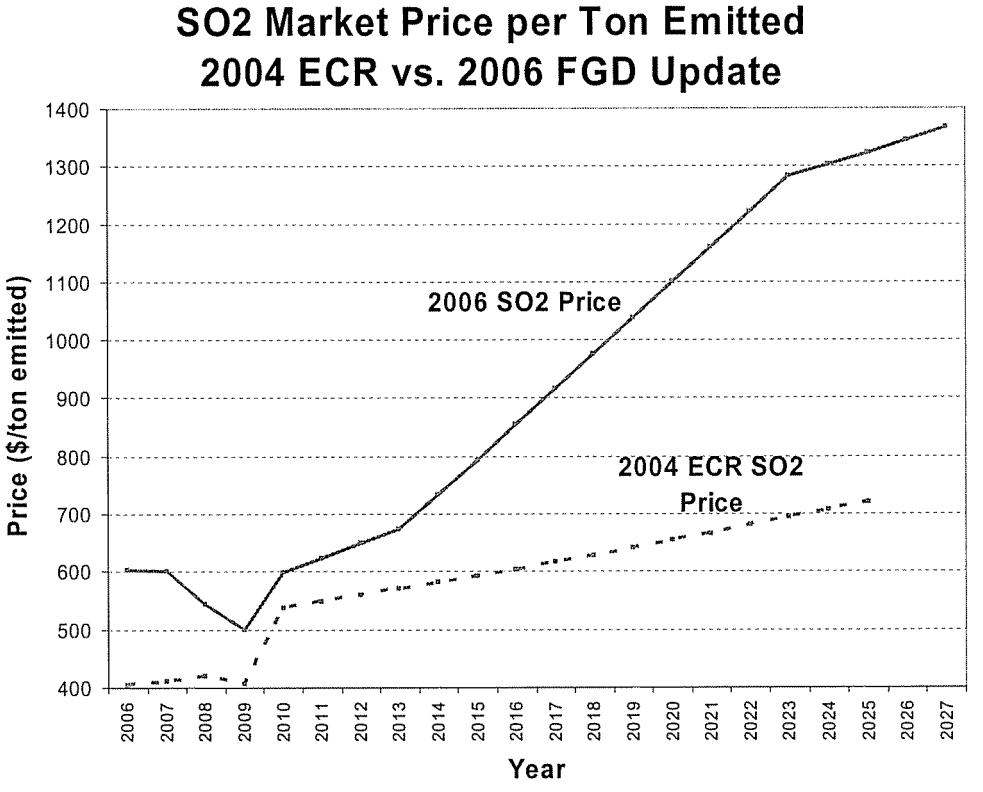
A. Yes. The SO_2 allowance market price forecast has increased since the filing of Case No. 2004-00426. The forecast for SO_2 allowances continues to show volatility. As shown below, in December of 2005, the spot price of an SO_2 allowance reached 1,628 $/ton.

SO_2 Spot Daily Market Price Indicators
(January 2005 through October 2006)



This information was provided by Cantor Fitzgerald.

The SO_2 allowance price forecast used in this analysis presented in the 2006 ECR filing reflects this upward pressure in allowance prices. The following graph presents the forecast comparison:



Q. What impact does the increased market price of SO_2 allowances have on the decision to scrub the remaining units at Ghent?

A. The higher forward price curve for SO_2 purchase allowances from the allowance market makes scrubbing a more attractive alternative than at lower SO_2 allowance market prices.

Q. Can you provide a comparison of the expected capital cost of the Ghent FGDs in the 2004 filing with the Company's present expectation of the scrubbers costs?

A. Yes. The estimated cost of the Ghent FGD project has increased by approximately $100 million from the 2004 estimate. The total estimated cost for constructing the three FGDs at the Ghent Station is $525.1 million. The table below reflects the cost increase across each Unit at the Station and for the Common plant equipment.

Ghent FGD Project	2004 ECR	2006 Update	Delta
Common FGD	78.04	113.67	35.64
Unit 3	103.01	110.17	7.16
Unit 1 & 2	123.56	151.05	27.49
Unit 4	120.14	150.22	30.08
Total	424.74	525.11	100.37

(All costs in Millions $)

This table highlights the fact that the cost increase associated with the FGD at Ghent Unit 3 (the first FGD to be placed in-service) is significantly less than for the FGDs constructed later. The original target price from Flour, obtained during the initial phase of the project, was based on preliminary engineering design. Since that time, changes in commodity prices, vendor availabilities and labor impacted the target pricing associated with constructing subsequent FGDs (after Ghent Unit 3 FGD), and those changes are reflected in the updated cost estimates. The detailed engineering shown below provides an in-depth scope associated with the Ghent FGDs.

Common		Cost (M$)
Mill Design and Sizing		19.0
Limestone Conveyor and Pipe Rack		11.0
Centralized Warehouse/Misc.		5.0
	Subtotal	35.0
Unit 3		
13.8kV and 4kV		2.5
Absorber Vessel		1.2
Additional Design Improvements		1.2
Reserve Auxiliary Transformer		0.7
Duct Routing		0.6
Copper		0.3
Service Water		0.2
Labor		0.2
Well Water		0.1
Electrical Room Mods		0.1
	Subtotal	7.1
Unit 4		
Ductwork		10.0
Stack		7.0
Auxiliary Power		5.5
Miscellaneous Labor/Equipment		5.0
13.8kV and 4kV		2.5
	Subtotal	30.0
Unit 1/2		
Auxiliary Power		10.0
Stack		7.0
Ductwork		6.0
Labor/Equipment/Building		4.0
	Subtotal	27.0
	Total	**99.1**

Q. Please describe the category marked "Common."

A. The Common category refers to components of the project that will ultimately serve the entire system including Balance of Plant Utilities, plant labor and gypsum handling. The most significant cost impact in the Common Area has been the cost of the Limestone Preparation System. To ensure a sufficient supply of limestone slurry on a continuous basis, the maximum limestone requirement was used as the design basis instead of the average limestone needs. The mill design and sizing increased the overall size of the building as well as increased the scale of supporting material such as piping, foundations, electrical equipment, and auxiliary power. The mill-related changes and market forces for material, equipment, and labor resulted in an added

cost of approximately $19 million. The limestone conveyor and pipe rack added $11 million to the original estimate due to length of new conveyor, extent of new rack installation and modifications to existing rack. The remaining variance of approximately $5 million was due to the consolidation of several small warehouses that needed to be relocated for the FGD construction space and other miscellaneous site changes.

Q. Please describe the category marked "Unit 3."

A. After detailed engineering for the Ghent Unit 3 FGD was completed, several items were added to the scope of the project from the initial preliminary engineering performed in 2003. These added, but necessary, scope changes include: duct routing changes ($553,000), well water additions ($94,000), electrical room modifications ($103,000), reserve auxiliary transformer ($712,000), securing the absorber vessel cap ($1,152,000), service water strainers ($208,000), labor increases ($242,000) and copper costs ($339,000). There is an additional $1.2 million worth of design improvements that have also impacted this category.

The original auxiliary power design included 4KV electrical buses to transmit the startup and normal operating power to the pumps and equipment. Due to an increase in induced draft ("ID") fan horsepower, both 13.8KV and 4KV electrical bus systems were needed. This change added extra 13.8KV buses and (2) additional 13.8/4KV transformers and increased the overall cost by approximately $2.5 million.

Q. Please describe the category marked "Unit 4."

A. The primary difference between Ghent Unit 4 and Ghent Unit 3 scope is the addition of a stack. Once the bids were reviewed the cost of the chimney increased by $7 million over the amount estimated three years earlier. The original auxiliary power design included 4KV electrical buses to transmit the startup and normal operating power to the pumps and equipment. Due to an increase in ID Fan horsepower, both 13.8KV and 4KV electrical bus systems were needed. This change added extra 13.8KV buses and (2) additional 13.8/4KV transformers and increased the overall cost by approximately $2.5 million.

Approximate increases in other areas are: ductwork cost increases ($10 million), auxiliary power ($5.5 million), and miscellaneous labor and equipment cost increases ($5 million).

Q. Please describe the category marked "Unit 1/2."

A. The new FGD, to be located east of Ghent Unit 1 also includes a new stack that costs $7 million more than originally forecast. The same auxiliary power issues discussed for Ghent Units 3 and 4 also apply to Unit 2 ($10 million). The remaining cost increases are ductwork ($6 million), and additional labor, equipment, and building size ($4 million).

Q. Can you provide a comparison of the Cost of Capital used in Case No. 2004-00426 to that utilized in this analysis.

A. Yes. Based on the Commission's Order in Case No. 2004-00426, the Return on Equity was changed from 11.0% (requested in Case No. 2004-00426) to 10.5%. This change in return on equity and other changes to cost of capital and the capital structure are reflected in the table below.

		Adjusted Electric Capitalization	Capital Structure Weighting	Cost Rate	Weighted Cost of Capital	
2004-00426	Short-Term Debt	$31,227,137	2.41%	0.98%	0.02%	
	Long-Term Debt	$566,165,469	43.65%	3.28%	1.43%	
	Preferred Stock	$30,579,272	2.36%	5.64%	0.13%	
	Common Equity	$669,083,718	51.58%	**11.00%**	5.67%	
	Totals	$1,297,055,596	100%		**7.26%**	**Overall Rate of Return**
2006 Update	Short-Term Debt	$81,486,773	5.85%	4.51%	0.26%	
	Long-Term Debt	$528,855,431	37.96%	4.42%	1.68%	
	Preferred Stock					
	Common Equity	$782,949,614	56.19%	10.50%	5.90%	
	Totals	$1,393,291,818	100%		**7.84%**	**Overall Rate of Return**

The table above compares the values used in Case No. 2004-00426 to those used in this update. Using KU's adjusted Jurisdictional Capitalization as of February 28, 2006, as provided to the Commission in response to Question 17(c) of Information Requested in Appendix B of Commission's Order dated April 25, 2006 in Case No. 2006-00129[3], the overall rate of return increases from 7.26% to 7.84%.

Q. Have the expected in-service dates of the FGDs been changed since the 2004 CCN filing?

[3] In the Matter of; *An Examination by the Public Service Commission of the Environmental Surcharge Mechanism of Kentucky Utilities Company for the Six-Month Billing Periods Ending July 31, 2003, January 31, 2004, January 31, 2005, July 31, 2005, and January 31, 2006 and for the Two-Year Billing Period Ending July 31, 2004*

A. Identical to Case No. 2004-00426, one new FGD is expected to come on-line and operational in each year 2007, 2008 and 2009. However, in order to minimize project costs, the expected in-service dates of the Ghent Unit 2 FGD and the Ghent Unit 4 FGD were switched. There is not expected to be an impact on SO_2 compliance as Ghent Unit 2 and Ghent Unit 4 are similar units.

	Summer Net Capacity	FGD Construction Timing	
Unit	2006	2004	2006
Ghent 2	484	May-2008	May-2009
Ghent 3	493	May-2007	May-2007
Ghent 4	493	May-2009	May-2008

Q. What is the combined impact of the new fuel forecast, the new purchase allowance market forecast, updated capital cost projections, the updated cost of capital and capital structure and the optimized in-service date of the FGDs on the decision to scrub the remaining units at Ghent instead of purchasing allowances?

A. In Case No. 2004-00426 a detailed evaluation was conducted that included comparing scrubbing the remaining units at Ghent with purchasing allowances on an as needed basis. An update to the analysis supporting scrubbing Ghent as submitted in Case No. 2004-00426 has been completed. The updated analysis utilizes the Companies' most recent load forecast as well as the updated assumptions for fuel prices, allowance purchases prices, capital costs and cost of capital as previously discussed. The PROSYM™ detailed hourly production costing computer model from Global Energy Decisions and the Strategist® Capital Expenditure and Recovery ("CER") module

from New Energy Associates were utilized to analyze the economics associated with (1) not constructing the FGDs at the Ghent Station and purchasing all allowances on an as needed basis from the allowance market and (2) constructing FGDs on the remaining units at the Ghent Station while procuring the remainder of allowance need from the allowance market. The analysis is a multi-year, present value revenue requirements ("PVRR") evaluation of both alternatives based on the combined impact of the new forecasts and revised capital cost projections.

Using the new forecasts and the revised estimates for the project capital cost and cost of capital, scrubbing the remaining units at the Ghent Station ("Scrub Gh234") is estimated to reduce the 2007 PVRR by over $378M through 2027 when compared to purchasing allowances alone ("Base Case").

	Base Case Total PVRR ($000)	Scrub Gh234 Total PVRR ($000)	Delta Total PVRR ($000)
Capital	$135,460	$881,187	$745,727
SO_2	$924,830	$520,711	-$404,119
Nox	$115,835	$95,957	-$19,879
Production	$15,838,778	$15,138,720	-$700,058
Total	$17,014,904	$16,636,575	-$378,329 [4]

The economics of scrubbing Ghent Units 2 through 4 improve when the evaluation is expanded through 2036. The table below reflects the increase in the Delta PVRR from $378M to $634M associated with the longer evaluation time period.

[4] Support for the values within this table can be found in Exhibit JPM-3 to this testimony.

	Base Case Total PVRR ($000)	Scrub Gh234 Total PVRR ($000)	Delta Total PVRR ($000)
Capital	$135,460	$881,187	$745,727
SO_2	$1,178,071	$678,150	-$499,921
Nox	$160,170	$132,407	-$27,764
Production	$19,340,537	$18,487,991	-$852,546
Total	$20,814,238	$20,179,735	-$634,503 [5]

The increased capital costs are offset predominantly by decreased purchases of SO_2 allowances from the allowance market and production expenditures (which includes fuel, fixed and variable operation and maintenance expenses and purchased power expenses). The number of SO_2 allowances purchased from the allowance market, while still required, is greatly reduced. As in the 2004 ECR/CCN filing, KU continues to recommend limiting the amount of customer exposure to the SO_2 allowance market as the SO_2 allowance market continues to exhibit volatility and upward pressure.

Construction of FGDs on the remaining units at the Ghent Station continues to be a key part of the Companies' least cost environmental compliance plan.

Q. Compare the PVRR of scrubbing Ghent Units 2-4 in the 2004 CCN/ECR filing with the revised 2006 Update PVRR.

A. The economic evaluation of scrubbing Ghent Units 2-4, as presented to the Commission in Case No. 2004-00426, estimated a reduction in PVRR (in 2005 dollars) from the Base Case (purchasing allowances only) of approximately $121.5 million[6]. As previously stated, the revised estimate of PVRR savings (in 2007

[5] Support for the values within this table can be found in Exhibit JPM-4 to this testimony.
[6] See page 14 of Exhibit JPM-2 of the testimony of John P. Malloy in Case 2004-00426

dollars) associated with scrubbing Ghent Units 2-4 through 2027 is approximately $378.3 million.

Q. At the October 31, 2006 informal conference at the Kentucky Public Service Commission, the Companies discussed a PVRR savings of approximately $457M for scrubbing all of the Ghent Station versus buying SO_2 allowances. What changed to lower the value of the savings to $378M (PVRR)?

A. The primary change in the PVRR was an update to KU's cost of capital. The current evaluation utilizes KU's cost of capital as of February 28, 2006. This information was provided to the Commission in response to Question 17(c) of Information Requested in Appendix B of Commission's Order dated April 25, 2006 in Case No. 2006-00129. Consistent with updating the capital structure, other inputs into the model (i.e. income tax rate, property tax rate, discount rate) were updated as necessary.

Q. Do the capital cost and SO_2 market price sensitivities impact the decision to scrub the remaining un-scrubbed units at Ghent?

A. No. The scrubbing of all remaining un-scrubbed units at Ghent continues to be economical compared to purchasing SO_2 allowance from the allowance market, even with a 5% increase in forecast capital cost. The following tables identify the change in 2007 PVRR associated with (1) a 5% increase above the 2006 forecasted capital cost of each FGD at Ghent, (2) a 5% increase in the current forecast for the SO_2 allowance market, and (3) both a 5% increase in capital costs and SO_2 allowance market prices.

5% Increase in FGD Capital Cost (above the 2006 Capital Cost Projection):

	Base Case Total PVRR ($000)	Scrub Gh234 Total PVRR ($000)	Delta Total PVRR ($000)
Capital	$135,460	$918,470	$783,010
SO_2	$924,830	$520,711	-$404,119
Nox	$115,835	$95,957	-$19,879
Production	$15,838,778	$15,138,720	-$700,058
Total	$17,014,904	$16,673,858	-$341,046 [8]

The construction of FGDs at Ghent as planned remains the least cost option even with a 5% increase in capital costs.

5% Increase in SO_2 Allowance Market Price Forecast (above the 2006 Forecast):

	Base Case Total PVRR ($000)	Scrub Gh234 Total PVRR ($000)	Delta Total PVRR ($000)
Capital	$135,460	$881,187	$745,727
SO_2	$971,072	$546,747	-$424,325
Nox	$115,835	$95,957	-$19,879
Production	$15,838,778	$15,138,720	-$700,058
Total	$17,061,146	$16,662,611	-$398,535 [9]

The construction of FGDs at Ghent as planned remains the least cost option even with a 5% increase in the SO_2 allowance purchase market.

[8] Support for the values within this table can be found in Exhibit JPM-5 to this testimony.
[9] Support for the values within this table can be found in Exhibit JPM-6 to this testimony.

A 5% Increase in FGD Capital Cost and SO_2 Allowance Market Price Forecast:

	Base Case Total PVRR ($000)	Scrub Gh234 Total PVRR ($000)	Delta Total PVRR ($000)
Capital	$135,460	$918,470	$783,010
SO_2	$971,072	$546,747	-$424,325
Nox	$115,835	$95,957	-$19,879
Production	$15,838,778	$15,138,720	-$700,058
Total	$17,061,146	$16,699,894	-$361,252 [10]

The construction of FGDs at Ghent as planned remains the least cost option with both a 5% increase in both SO_2 allowance prices and capital costs.

Compared to purchasing allowances, construction of FGDs on the un-scrubbed units at Ghent decreases the PVRR cost of SO_2 compliance by primarily reducing ratepayer production cost (associated with switching the un-scrubbed Ghent Units to less costly high sulfur fuel more widely available in the Commonwealth of Kentucky) and SO_2 allowance expenses (associated with avoiding a significant number of allowance purchases).

Q. Do you have a recommendation for the Commission?

A. Yes. The analysis presented in my testimony clearly shows that KU's plans to scrub each generating unit at the Ghent Power Station remains the least-cost, most reasonable environmental compliance option available under current and expected economic and operating conditions. The proposed ductwork described in my testimony is a reasonable and cost-effective method for achieving the goal of scrubbing Generating Units 1 and 2 at the Ghent Power Station. The Commission

[10] Support for the values within this table can be found in Exhibit JPM-7 to this testimony.

should authorize KU to proceed with this ductwork configuration by approving the Company's application.

Q. Does this conclude your testimony?

A. Yes, it does.

VERIFICATION

COMMONWEALTH OF KENTUCKY)
) SS:
COUNTY OF JEFFERSON)

The undersigned, John P. Malloy, being duly sworn, deposes and says he is Director, Generation Services for E.ON U.S. Services, Inc., and that he has personal knowledge of the matters set forth in the foregoing testimony, 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 15th day of November 2006.

Notary Public (SEAL)

My Commission Expires:

November 9, 2010

Appendix A

John P. Malloy

Director – Generation Services
E.ON U.S. Services Inc.
220 West Main Street
P.O. Box 32010
Louisville, Kentucky 40202
(502) 627-4836

Education

Indiana University, Master Business Administration – 2000
Indiana University, B.S. in Finance - 1998

Previous Positions

Louisville Gas and Electric Company, Louisville, Kentucky:

1998-2003 –	Maintenance Manager, Mill Creek
1996-1998 –	Manager Resource / Project Management, Louisville Gas and Electric - Fleet
1989-1996 –	Instrument and Electrical Supervisor, Mill Creek
1986-1989 –	Instrument and Electrical Technician, Mill Creek
1984-1986 –	Production Operations, Mill Creek
1983-1984 –	Coal Handling Operations, Cane Run
1980-1983 –	Instrument and Electrical Technician, Cane Run

Other Professional Associations

LG&E Credit Union

2001-Present	Chairman, Board of Directors
1998 - 2001	Treasurer, Board of Directors
1995-1998	Board of Directors

Cost Comparison of Alternative SO2 Compliance Plans

All Costs in 2007 PVRR $ x1000

GH234 FGD ('09'07'08)

Fuel Forecast: Base — Cap Cost Sensitivity %:
Load Forecast: Base
SO2 Price Forecast: Base X 1
NOX Price Forecast: None X 1
Other Description: Gh234 in '09,'07,'08
NO Brown 123 FGD
0

Environmental Controls:

Unit	SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost (M$)
Brown 1	0%	n/a	0	LNB (1993)	0	
Brown 2	0%	n/a	0	LNCFS I (1994)	0	
Brown 3	0%	n/a	0	LNCFS III (1992)	2015	
Ghent 2	98%	FS HS+Wet FGD	2009	LNCFS III (2000)	2010	
Ghent 3	98%	FS HS+Wet FGD	2007	LNB & OFA (1998)	0	
Ghent 4	98%	FS HS+Wet FGD	2008	LNB & OFA (1999)	0	

SO_2 Allowances Purchased: 1,307,112 — SO_2 Tons Emitted: 2,834,967
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 198%
Ann+Oz Seas NO_x Allow Purch: 78,876 — Ann+Oz Seas NO_x Tons Emit: 759,939

Case00- Do Nothing

Fuel Forecast: Base — Cap Cost Sensitivity %:
Load Forecast: Base
SO2 Price Forecast: Base X 1
NOX Price Forecast: Base X 1
Other Description: NO Ghent 234 FGD
NO Brown 123 FGD
0

Environmental Controls:

SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost (M$)
0%	n/a	0	LNB (1993)	0	
0%	n/a	0	LNCFS I (1994)	0	
0%	n/a	0	LNCFS III (1992)	2015	
0%	n/a	0	LNCFS III (2000)	2010	
0%	n/a	0	LNB & OFA (1998)	0	
0%	n/a	0	LNB & OFA (1999)	0	

SO_2 Allowances Purchased: 2,286,741 — SO_2 Tons Emitted: 3,814,596
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 309%
Ann+Oz Seas NO_x Allow Purch: 81,777 — Ann+Oz Seas NO_x Tons Emit: 776,477

Price Curve Multipliers
SO_2 1.00
NO_x 1.00

DIFFERENCE CALCULATIONS

Year	Emission Price (Nominal $/ton emit) NOx	SO2	Production $	Combined Company Allow. Purchases NOx $	SO2 $	Capital $	PVRR Total $	Emission Price (Nominal $/ton emit) NOx	SO2	Production $	Combined Company Allow. Purchases NOx $	SO2 $	Capital $	PVRR Total $	Total $	Cumulative Total $
2005						15,651							12,406		3,245	3,245
2006						34,814							15,752		19,062	22,306
2007	2150	600		-	-	64,965		2150	600		-	-	13,990		31,064	53,370
2008	2000	543		-	-	82,002		2000	543		-	-	12,419		23,368	76,738
2009	2158	500		5,172	-	86,474		2158	500		5,888	-	11,019		7,752	84,490
2010	2315	599		3,599	-	79,408		2315	599		4,018	48,730	9,770		(34,932)	49,558
2011	2333	624		3,149	14,331	70,426		2333	624		3,586	57,608	8,657		(31,289)	18,269
2012	2359	649		2,714	30,930	62,422		2359	649		3,014	53,414	7,665		30	18,299
2013	2341	673		3,541	27,648	55,283		2341	673		4,284	49,115	6,772		(6,357)	11,942
2014	2459	733		2,445	25,066	48,912		2459	733		3,619	46,327	5,968		(13,322)	(1,380)
2015	3126	794		5,046	35,842	43,216		3126	794		6,243	56,616	5,246		(16,106)	(17,486)
2016	3139	855		5,475	35,867	38,109		3139	855		6,676	57,370	4,597		(23,341)	(40,827)
2017	3153	916		6,113	37,632	33,517		3153	916		7,094	58,466	4,014		(25,495)	(66,322)
2018	3197	977		5,494	37,044	29,392		3197	977		6,433	58,331	3,493		(29,248)	(95,570)
2019	3255	1038		6,917	35,200	25,689		3255	1038		7,781	55,722	3,026		(28,648)	(124,218)
2020	3261	1099		6,491	36,279	22,370		3261	1099		7,998	57,031	2,608		(32,028)	(156,246)
2021	3314	1160		6,672	36,422	19,398		3314	1160		8,283	56,854	2,235		(34,345)	(190,591)
2022	3368	1221		5,595	32,459	16,738		3368	1221		7,321	51,381	1,903		(32,105)	(222,696)
2023	3423	1282		4,625	29,008	14,365		3423	1282		6,564	47,424	1,606		(31,973)	(254,669)
2024	3478	1303		5,539	28,381	12,247		3478	1303		6,962	45,182	1,343		(30,027)	(284,696)
2025	3533	1323		5,677	27,689	10,220		3533	1323		6,770	44,213	969		(32,277)	(316,973)
2026	3590	1345		5,917	25,437	7,780		3590	1345		6,775	40,750	-		(30,960)	(347,934)
2027	3647	1366		5,774	25,477	5,002		3647	1366		6,527	40,294	-		(33,180)	(381,114)
2028				-	-	2,411					-	-	-		2,411	(378,704)
2029				-	-	374					-	-	-		374	(378,329)
2030				-	-	-					-	-	-		-	(378,329)
Totals			15,138,720	95,957	520,711	881,187	**16,636,575**			15,838,778	115,835	924,830	135,460	**17,014,904**	**(378,329)**	
										Delta (PVRR $000)	(700,058)	(19,879)	(404,119)	745,727	(378,329)	

CONFIDENTIAL INFORMATION REDACTED **Exhibit JPM-4: Base Capital Cost / Base SO_2 Market Prices (Eval Period Through 2036)**

Cost Comparison of Alternative SO2 Compliance Plans
All Costs in 2007 PVRR $ x1000

GH234 FGD ('09'07'08)

Fuel Forecast: Base — Cap Cost Sensitivity %:
Load Forecast: Base
SO2 Price Forecast: Base X 1
NOX Price Forecast: None X 1
Other Description: Gh234 in '09,'07,'08

Environmental Controls:

Unit	SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost (M$)
Brown 1	0%	n/a	0	LNB (1993)	0	
Brown 2	0%	n/a	0	LNCFS I (1994)	0	
Brown 3	0%	n/a	0	LNCFS III (1992)	2015	
Ghent 2	98%	FS HS+Wet FGD	2009	LNCFS III (2000)	2010	
Ghent 3	98%	FS HS+Wet FGD	2007	LNB & OFA (1998)	0	
Ghent 4	98%	FS HS+Wet FGD	2008	LNB & OFA (1999)	0	

SO_2 Allowances Purchased: 2,005,637 — SO_2 Tons Emitted: 2,834,967
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 198%
Ann+Oz Seas NO_x Allow Purch: 140,824 — Ann+Oz Seas NO_x Tons Emit: 759,939

Case00- Do Nothing

Fuel Forecast: Base — Cap Cost Sensitivity %:
Load Forecast: Base
SO2 Price Forecast: Base X 1
NOX Price Forecast: Base X 1
Other Description: NO Ghent 234 FGD

Environmental Controls:

SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost (M$)
0%	n/a	0	LNB (1993)	0	
0%	n/a	0	LNCFS I (1994)	0	
0%	n/a	0	LNCFS III (1992)	2015	
0%	n/a	0	LNCFS III (2000)	2010	
0%	n/a	0	LNB & OFA (1998)	0	
0%	n/a	0	LNB & OFA (1999)	0	

SO_2 Allowances Purchased: 3,408,425 — SO_2 Tons Emitted: 3,814,596
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 309%
Ann+Oz Seas NO_x Allow Purch: 153,887 — Ann+Oz Seas NO_x Tons Emit: 776,477

Price Curve Multipliers
SO_2 1.00
NO_x 1.00

DIFFERENCE CALCULATIONS

Year	Emission Price (Nominal $/ton emit) NOx	SO2	Production $	Combined Company Allow. Purchases NOx $	SO2 $	Capital $	PVRR Total $	Emission Price (Nominal $/ton emit) NOx	SO2	Production $	Combined Company Allow. Purchases NOx $	SO2 $	Capital $	PVRR Total $	Total $	Cumulative Total $
2005						15,651							12,406		3,245	3,245
2006						34,814							15,752		19,062	22,306
2007	2150	600		-	-	64,965		2150	600		-	-	13,990		31,064	53,370
2008	2000	543		-	-	82,002		2000	543		-	-	12,419		23,368	76,738
2009	2158	500		5,172	-	86,474		2158	500		5,888	-	11,019		7,752	84,490
2010	2315	599		3,599	-	79,408		2315	599		4,018	48,730	9,770		(34,932)	49,558
2011	2333	624		3,149	14,331	70,426		2333	624		3,586	57,608	8,657		(31,289)	18,269
2012	2359	649		2,714	30,930	62,422		2359	649		3,014	53,414	7,665		30	18,299
2013	2341	673		3,541	27,648	55,283		2341	673		4,284	49,115	6,772		(6,357)	11,942
2014	2459	733		2,445	25,066	48,912		2459	733		3,619	46,327	5,968		(13,322)	(1,380)
2015	3126	794		5,046	35,842	43,216		3126	794		6,243	56,616	5,246		(16,106)	(17,486)
2016	3139	855		5,475	35,867	38,109		3139	855		6,676	57,370	4,597		(23,341)	(40,827)
2017	3153	916		6,113	37,632	33,517		3153	916		7,094	58,466	4,014		(25,495)	(66,322)
2018	3197	977		5,494	37,044	29,392		3197	977		6,433	58,331	3,493		(29,248)	(95,570)
2019	3255	1038		6,917	35,200	25,689		3255	1038		7,781	55,722	3,026		(28,648)	(124,218)
2020	3261	1099		6,491	36,279	22,370		3261	1099		7,998	57,031	2,608		(32,028)	(156,246)
2021	3314	1160		6,672	36,422	19,398		3314	1160		8,283	56,854	2,235		(34,345)	(190,591)
2022	3368	1221		5,595	32,459	16,738		3368	1221		7,321	51,381	1,903		(32,105)	(222,696)
2023	3423	1282		4,625	29,008	14,365		3423	1282		6,564	47,424	1,606		(31,973)	(254,669)
2024	3478	1303		5,539	28,381	12,247		3478	1303		6,962	45,182	1,343		(30,027)	(284,696)
2025	3533	1323		5,677	27,689	10,220		3533	1323		6,770	44,213	969		(32,277)	(316,973)
2026	3590	1345		5,917	25,437	7,780		3590	1345		6,775	40,750	-		(30,960)	(347,934)
2027	3647	1366		5,774	25,477	5,002		3647	1366		6,527	40,294	-		(33,180)	(381,114)
2028	3706	1388		4,228	21,767	2,411		3706	1388		5,420	35,468	-		(32,919)	(414,033)
2029	3765	1410		3,559	19,285	374		3765	1410		4,848	31,233	-		(30,892)	(444,926)
2030	3825	1433		3,704	18,486	-		3825	1433		4,801	30,313	-		(31,420)	(476,345)
2031	3886	1456		4,085	18,135	-		3887	1456		5,052	28,957	-		(28,706)	(505,051)
2032	3949	1479		4,050	17,414	-		3949	1479		4,916	27,981	-		(28,488)	(533,539)
2033	4012	1503		4,198	16,207	-		4012	1503		4,927	26,122	-		(26,632)	(560,171)
2034	4076	1527		4,132	16,039	-		4076	1527		4,823	25,627	-		(26,234)	(586,405)
2035	4141	1551		4,349	15,410	-		4141	1551		4,936	24,558	-		(25,057)	(611,462)
2036	4207	1576		4,145	14,695	-		4208	1576		4,610	22,982	-		(23,041)	(634,503)
Totals			18,487,991	132,407	678,150	881,187	20,179,735			19,340,537	160,170	1,178,071	135,460	20,814,238	(634,503)	
								Delta (PVRR $000)		(852,546)	(27,764)	(499,921)	745,727	(634,503)		

Cost Comparison of Alternative SO2 Compliance Plans

All Costs in 2007 PVRR $ x1000

GH234 FGD ('09'07'08)

Fuel Forecast: Base
Load Forecast: Base
SO2 Price Forecast: Base X 1
NOX Price Forecast: None X 1
Other Description: Gh234 in '09,'07,'08
NO Brown 123 FGD
0

Cap Cost Sensitivity %:

Environmental Controls:

Unit	SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost (M$)
Brown 1	0%	n/a	0	LNB (1993)	0	
Brown 2	0%	n/a	0	LNCFS I (1994)	0	
Brown 3	0%	n/a	0	LNCFS III (1992)	2015	
Ghent 2	98%	FS HS+Wet FGD	2009	LNCFS III (2000)	2010	
Ghent 3	98%	FS HS+Wet FGD	2007	LNB & OFA (1998)	0	
Ghent 4	98%	FS HS+Wet FGD	2008	LNB & OFA (1999)	0	

SO_2 Allowances Purchased: 1,307,112 — SO_2 Tons Emitted: 2,834,967
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 198%
Ann+Oz Seas NO_x Allow Purch: 78,876 — Ann+Oz Seas NO_x Tons Emit: 759,939

Case00- Do Nothing

Fuel Forecast: Base
Load Forecast: Base
SO2 Price Forecast: Base X 1
NOX Price Forecast: Base X 1
Other Description: NO Ghent 234 FGD
NO Brown 123 FGD
0

Cap Cost Sensitivity %:

Environmental Controls:

SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost (M$)
0%	n/a	0	LNB (1993)	0	
0%	n/a	0	LNCFS I (1994)	0	
0%	n/a	0	LNCFS III (1992)	2015	
0%	n/a	0	LNCFS III (2000)	2010	
0%	n/a	0	LNB & OFA (1998)	0	
0%	n/a	0	LNB & OFA (1999)	0	

SO_2 Allowances Purchased: 2,286,741 — SO_2 Tons Emitted: 3,814,596
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 309%
Ann+Oz Seas NO_x Allow Purch: 81,777 — Ann+Oz Seas NO_x Tons Emit: 776,477

Price Curve Multipliers
SO_2 1.00
NO_x 1.00

DIFFERENCE CALCULATIONS

Year	Emission Price (Nominal $/ton emit) NOx	SO2	Production $	Combined Company Allow. Purchases NOx $	SO2 $	Capital $	PVRR Total $	Emission Price (Nominal $/ton emit) NOx	SO2	Production $	Combined Company Allow. Purchases NOx $	SO2 $	Capital $	PVRR Total $	Total $	Cumulative Total $
2005						15,814							12,406		3,407	3,407
2006						35,768							15,752		20,015	23,423
2007	2150	600		-	-	67,514		2150	600		-	-	13,990		33,613	57,036
2008	2000	543		-	-	85,480		2000	543		-	-	12,419		26,847	83,882
2009	2158	500		5,172	-	90,247		2158	500		5,888	-	11,019		11,525	95,407
2010	2315	599		3,599	-	82,890		2315	599		4,018	48,730	9,770		(31,450)	63,956
2011	2333	624		3,149	14,331	73,515		2333	624		3,586	57,608	8,657		(28,200)	35,756
2012	2359	649		2,714	30,930	65,160		2359	649		3,014	53,414	7,665		2,768	38,524
2013	2341	673		3,541	27,648	57,709		2341	673		4,284	49,115	6,772		(3,931)	34,593
2014	2459	733		2,445	25,066	51,060		2459	733		3,619	46,327	5,968		(11,174)	23,419
2015	3126	794		5,046	35,842	45,114		3126	794		6,243	56,616	5,246		(14,209)	9,211
2016	3139	855		5,475	35,867	39,783		3139	855		6,676	57,370	4,597		(21,667)	(12,456)
2017	3153	916		6,113	37,632	34,992		3153	916		7,094	58,466	4,014		(24,020)	(36,476)
2018	3197	977		5,494	37,044	30,687		3197	977		6,433	58,331	3,493		(27,954)	(64,430)
2019	3255	1038		6,917	35,200	26,822		3255	1038		7,781	55,722	3,026		(27,515)	(91,945)
2020	3261	1099		6,491	36,279	23,358		3261	1099		7,998	57,031	2,608		(31,041)	(122,986)
2021	3314	1160		6,672	36,422	20,255		3314	1160		8,283	56,854	2,235		(33,488)	(156,474)
2022	3368	1221		5,595	32,459	17,480		3368	1221		7,321	51,381	1,903		(31,363)	(187,837)
2023	3423	1282		4,625	29,008	15,002		3423	1282		6,564	47,424	1,606		(31,335)	(219,172)
2024	3478	1303		5,539	28,381	12,791		3478	1303		6,962	45,182	1,343		(29,483)	(248,656)
2025	3533	1323		5,677	27,689	10,683		3533	1323		6,770	44,213	969		(31,814)	(280,470)
2026	3590	1345		5,917	25,437	8,170		3590	1345		6,775	40,750	-		(30,571)	(311,041)
2027	3647	1366		5,774	25,477	5,252		3647	1366		6,527	40,294	-		(32,930)	(343,971)
2028				-	-	2,532					-	-	-		2,532	(341,439)
2029				-	-	393					-	-	-		393	(341,046)
2030				-	-	-					-	-	-		-	(341,046)
Totals			15,138,720	95,957	520,711	918,470	**16,673,858**			15,838,778	115,835	924,830	135,460	**17,014,904**	**(341,046)**	
								Delta (PVRR $000)		(700,058)	(19,879)	(404,119)	783,010	(341,046)		

Cost Comparison of Alternative SO2 Compliance Plans

All Costs in 2007 PVRR $ x1000

GH234 FGD ('09'07'08)

Fuel Forecast: Base
Load Forecast: Base
SO2 Price Forecast: Base X 1.05
NOX Price Forecast: None X 1
Other Description: Gh234 in '09,'07,'08
NO Brown 123 FGD
0

Cap Cost Sensitivity %:

Environmental Controls:

Unit	SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost (M$)
Brown 1	0%	n/a	0	LNB (1993)	0	
Brown 2	0%	n/a	0	LNCFS I (1994)	0	
Brown 3	0%	n/a	0	LNCFS III (1992)	2015	
Ghent 2	98%	FS HS+Wet FGD	2009	LNCFS III (2000)	2010	
Ghent 3	98%	FS HS+Wet FGD	2007	LNB & OFA (1998)	0	
Ghent 4	98%	FS HS+Wet FGD	2008	LNB & OFA (1999)	0	

SO_2 Allowances Purchased: 1,307,112 — SO_2 Tons Emitted: 2,834,967
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 198%
Ann+Oz Seas NO_x Allow Purch: 78,876 — Ann+Oz Seas NO_x Tons Emit: 759,939

Case00- Do Nothing

Fuel Forecast: Base
Load Forecast: Base
SO2 Price Forecast: Base X 1.05
NOX Price Forecast: Base X 1
Other Description: NO Ghent 234 FGD
NO Brown 123 FGD
0

Cap Cost Sensitivity %:

Environmental Controls:

SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost (M$)
0%	n/a	0	LNB (1993)	0	
0%	n/a	0	LNCFS I (1994)	0	
0%	n/a	0	LNCFS III (1992)	2015	
0%	n/a	0	LNCFS III (2000)	2010	
0%	n/a	0	LNB & OFA (1998)	0	
0%	n/a	0	LNB & OFA (1999)	0	

SO_2 Allowances Purchased: 2,286,741 — SO_2 Tons Emitted: 3,814,596
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 309%
Ann+Oz Seas NO_x Allow Purch: 81,777 — Ann+Oz Seas NO_x Tons Emit: 776,477

Price Curve Multipliers
SO_2 1.05
NO_x 1.00

DIFFERENCE CALCULATIONS

Year	Emission Price (Nominal $/ton emit) NOx	SO2	Production $	Combined Company Allow. Purchases NOx $	SO2 $	Capital $	PVRR Total $	Emission Price (Nominal $/ton emit) NOx	SO2	Production $	Combined Company Allow. Purchases NOx $	SO2 $	Capital $	PVRR Total $	Total $	Cumulative Total $
2005			[redacted]			15,651	[redacted]			[redacted]			12,406	[redacted]	3,245	3,245
2006						34,814							15,752		19,062	22,306
2007	2150	630		-	-	64,965		2150	630		-	-	13,990		31,064	53,370
2008	2000	570		-	-	82,002		2000	570		-	-	12,419		23,368	76,738
2009	2158	525		5,172	-	86,474		2158	525		5,888	-	11,019		7,752	84,490
2010	2315	629		3,599	-	79,408		2315	629		4,018	51,167	9,770		(37,369)	47,121
2011	2333	655		3,149	15,048	70,426		2333	655		3,586	60,488	8,657		(33,453)	13,668
2012	2359	681		2,714	32,477	62,422		2359	681		3,014	56,085	7,665		(1,094)	12,575
2013	2341	707		3,541	29,030	55,283		2341	707		4,284	51,571	6,772		(7,431)	5,144
2014	2459	770		2,445	26,319	48,912		2459	770		3,619	48,643	5,968		(14,385)	(9,240)
2015	3126	834		5,046	37,634	43,216		3126	834		6,243	59,447	5,246		(17,145)	(26,386)
2016	3139	898		5,475	37,660	38,109		3139	898		6,676	60,239	4,597		(24,416)	(50,802)
2017	3153	962		6,113	39,513	33,517		3153	962		7,094	61,389	4,014		(26,537)	(77,339)
2018	3197	1026		5,494	38,896	29,392		3197	1026		6,433	61,248	3,493		(30,312)	(107,651)
2019	3255	1090		6,917	36,960	25,689		3255	1090		7,781	58,508	3,026		(29,674)	(137,325)
2020	3261	1154		6,491	38,093	22,370		3261	1154		7,998	59,883	2,608		(33,066)	(170,391)
2021	3314	1218		6,672	38,243	19,398		3314	1218		8,283	59,697	2,235		(35,367)	(205,757)
2022	3368	1282		5,595	34,082	16,738		3368	1282		7,321	53,951	1,903		(33,051)	(238,809)
2023	3423	1346		4,625	30,458	14,365		3423	1346		6,564	49,795	1,606		(32,893)	(271,702)
2024	3478	1368		5,539	29,800	12,247		3478	1368		6,962	47,442	1,343		(30,867)	(302,569)
2025	3533	1390		5,677	29,073	10,220		3533	1390		6,770	46,424	969		(33,103)	(335,673)
2026	3590	1412		5,917	26,709	7,780		3590	1412		6,775	42,787	-		(31,726)	(367,399)
2027	3647	1434		5,774	26,751	5,002		3647	1434		6,527	42,309	-		(33,921)	(401,320)
2028				-	-	2,411					-	-	-		2,411	(398,909)
2029				-	-	374					-	-	-		374	(398,535)
2030				-	-	-					-	-	-		-	(398,535)
Totals			15,138,720	95,957	546,747	881,187	**16,662,611**			15,838,778	115,835	971,072	135,460	**17,061,146**	**(398,535)**	
								Delta (PVRR $000)		(700,058)	(19,879)	(424,325)	745,727	(398,535)		

Cost Comparison of Alternative SO2 Compliance Plans

All Costs in 2007 PVRR $ x1000

GH234 FGD ('09'07'08)

Fuel Forecast: Base
Load Forecast: Base
SO2 Price Forecast: Base X 1.05
NOX Price Forecast: None X 1
Other Description: Gh234 in '09,'07,'08
NO Brown 123 FGD
0

Cap Cost Sensitivity %:

Environmental Controls:

Unit	SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost (M$)
Brown 1	0%	n/a	0	LNB (1993)	0	
Brown 2	0%	n/a	0	LNCFS I (1994)	0	
Brown 3	0%	n/a	0	LNCFS III (1992)	2015	
Ghent 2	98%	FS HS+Wet FGD	2009	LNCFS III (2000)	2010	
Ghent 3	98%	FS HS+Wet FGD	2007	LNB & OFA (1998)	0	
Ghent 4	98%	FS HS+Wet FGD	2008	LNB & OFA (1999)	0	

SO_2 Allowances Purchased: 1,307,112
SO_2 Tons Emitted: 2,834,967
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 198%
Ann+Oz Seas NO_x Allow Purch: 78,876
Ann+Oz Seas NO_x Tons Emit: 759,939

Case00- Do Nothing

Fuel Forecast: Base
Load Forecast: Base
SO2 Price Forecast: Base X 1.05
NOX Price Forecast: Base X 1
Other Description: NO Ghent 234 FGD
NO Brown 123 FGD
0

Cap Cost Sensitivity %:

Environmental Controls:

SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost (M$)
0%	n/a	0	LNB (1993)	0	
0%	n/a	0	LNCFS I (1994)	0	
0%	n/a	0	LNCFS III (1992)	2015	
0%	n/a	0	LNCFS III (2000)	2010	
0%	n/a	0	LNB & OFA (1998)	0	
0%	n/a	0	LNB & OFA (1999)	0	

SO_2 Allowances Purchased: 2,286,741
SO_2 Tons Emitted: 3,814,596
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 309%
Ann+Oz Seas NO_x Allow Purch: 81,777
Ann+Oz Seas NO_x Tons Emit: 776,477

Price Curve Multipliers
SO_2 1.05
NO_x 1.00

DIFFERENCE CALCULATIONS

Year	Emission Price (Nominal $/ton emit) NOx	SO2	Production $	Combined Company Allow. Purchases NOx $	SO2 $	Capital $	PVRR Total $	Emission Price (Nominal $/ton emit) NOx	SO2	Production $	Combined Company Allow. Purchases NOx $	SO2 $	Capital $	PVRR Total $	Total $	Cumulative Total $
2005						15,814							12,406		3,407	3,407
2006						35,768							15,752		20,015	23,423
2007	2150	630		-	-	67,514		2150	630		-	-	13,990		33,613	57,036
2008	2000	570		-	-	85,480		2000	570		-	-	12,419		26,847	83,882
2009	2158	525		5,172	-	90,247		2158	525		5,888	-	11,019		11,525	95,407
2010	2315	629		3,599	-	82,890		2315	629		4,018	51,167	9,770		(33,887)	61,520
2011	2333	655		3,149	15,048	73,515		2333	655		3,586	60,488	8,657		(30,364)	31,156
2012	2359	681		2,714	32,477	65,160		2359	681		3,014	56,085	7,665		1,644	32,800
2013	2341	707		3,541	29,030	57,709		2341	707		4,284	51,571	6,772		(5,005)	27,795
2014	2459	770		2,445	26,319	51,060		2459	770		3,619	48,643	5,968		(12,237)	15,558
2015	3126	834		5,046	37,634	45,114		3126	834		6,243	59,447	5,246		(15,247)	311
2016	3139	898		5,475	37,660	39,783		3139	898		6,676	60,239	4,597		(22,742)	(22,431)
2017	3153	962		6,113	39,513	34,992		3153	962		7,094	61,389	4,014		(25,062)	(47,493)
2018	3197	1026		5,494	38,896	30,687		3197	1026		6,433	61,248	3,493		(29,018)	(76,511)
2019	3255	1090		6,917	36,960	26,822		3255	1090		7,781	58,508	3,026		(28,541)	(105,052)
2020	3261	1154		6,491	38,093	23,358		3261	1154		7,998	59,883	2,608		(32,079)	(137,130)
2021	3314	1218		6,672	38,243	20,255		3314	1218		8,283	59,697	2,235		(34,510)	(171,640)
2022	3368	1282		5,595	34,082	17,480		3368	1282		7,321	53,951	1,903		(32,309)	(203,949)
2023	3423	1346		4,625	30,458	15,002		3423	1346		6,564	49,795	1,606		(32,256)	(236,206)
2024	3478	1368		5,539	29,800	12,791		3478	1368		6,962	47,442	1,343		(30,323)	(266,529)
2025	3533	1390		5,677	29,073	10,683		3533	1390		6,770	46,424	969		(32,640)	(299,169)
2026	3590	1412		5,917	26,709	8,170		3590	1412		6,775	42,787	-		(31,337)	(330,505)
2027	3647	1434		5,774	26,751	5,252		3647	1434		6,527	42,309	-		(33,671)	(364,177)
2028				-	-	2,532					-	-	-		2,532	(361,645)
2029				-	-	393					-	-	-		393	(361,252)
2030				-	-	-					-	-	-		-	(361,252)
Totals			15,138,720	95,957	546,747	918,470	**16,699,894**			15,838,778	115,835	971,072	135,460	**17,061,146**	**(361,252)**	
								Delta (PVRR $000)		(700,058)	(19,879)	(424,325)	783,010	(361,252)		