an e.on company

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

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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kent.blake@eon-us.com

June 23, 2006

RE: *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* - **Case No. 2006-00206**

Dear Ms. O'Donnell:

Enclosed please find an original and ten (10) copies of Kentucky Utilities Company's ("KU") Application and Testimonies in the above-referenced docket.

The filing includes:

- KU's Application,
- Kent W. Blake's Testimony and Exhibits,
- Sharon L. Dodson's Testimony and Exhibits,
- John P. Malloy's Testimony and Exhibits,
- Shannon L Charnas' Testimony, and
- Robert M. Conroy's Testimony and Exhibits.

The original version of KU's application and testimony contains a complete paper copy of each exhibit. Each copy of KU's application and supporting testimony contains a CD holding an electronic copy of Exhibit JPM-4 for the testimony of Mr. Malloy and a CD holding electronic copies of three exhibits for the testimony of Ms. Dodson (Exhibit SLD-1, Exhibit SLD-2 and Exhibit SLD-5) along with paper copies of the remaining exhibits to the testimony.

Also enclosed are an original and ten (10) copies of KU's Petition for Confidential Protection regarding certain information contained in KU's *2006 NO_x Compliance Strategy for E.ON U.S. Subsidiaries Kentucky Utilities and Louisville Gas and Electric* marked as Exhibit JPM-2 to Mr. Malloy's testimony. One paper copy of this document is being filed with the Petition in a sealed envelope marked confidential. The original and each copy of Exhibit JPM-2 filed with Mr. Malloy's testimony in support of KU's application contain a complete copy of the document with the confidential information redacted.

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

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

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	)	**CASE NO. 2006-00206**

APPLICATION

Kentucky Utilities Company ("KU"), pursuant to KRS 278.020(1), KRS 278.183 and 807 KAR 5:001, Sections 8 and 9, hereby petitions the Kentucky Public Service Commission ("Commission") by application to issue an order granting KU a Certificate of Public Convenience and Necessity ("CCN") for the construction of Selective Catalytic Reduction ("SCR") Nitrogen Oxides emission control facility at Ghent Unit 2 and approving an amended compliance plan for purposes of recovering the costs of new and additional pollution control facilities through its Environmental Surcharge tariff ("2006 Environmental Compliance Plan"). These compliance costs are incurred in meeting the nitrogen oxide ("NO_x") and sulfur dioxide ("SO_2") emissions limits mandated by the Environmental Protection Agency ("EPA") and the Clean Air Act as amended ("CAAA") and also in complying with the Clean Air Interstate Rule ("CAIR"), the Clean Air Mercury Rule ("CAMR"), the Clean Air Visibility Rule ("CAVR"), and other federal, state or local environmental requirements which apply to KU's facilities used for the generation of energy from coal. 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, 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 for Certificate of Public Convenience and Necessity

4. Statement of Need: In support of KU's position that the public convenience and necessity requires, or will require, the proposed construction of Selective Catalytic Reduction Nitrogen Oxides emission control facility at Ghent Unit 2, KU submits the following:

a. On March 10, 2005, the EPA issued the CAIR. With CAIR's implementation, the EPA imposed year-round restrictions on NO_x emissions beginning in 2009. Current restrictions apply only during the ozone season.

b. In connection with KU's continued environmental review process, a study was conducted entitled, *2006 NO_x Compliance Strategy for E.ON U.S. Subsidiaries Kentucky Utilities and Louisville Gas and Electric* ("NO_x Compliance Strategy"). This study can be found at Exhibit JPM-2.

c. The NO_x Compliance Strategy indicates that as a result of CAIR, KU will have insufficient annual NO_x allowances beginning in 2009 and that its current "bank" of allowances will be fully depleted by 2013. Because of the volatility of the NO_x allowance market, such depletion requires the addition of new control facilities.

d. The NO_x Compliance Strategy identified the construction of an SCR facility at Ghent in 2009 to be the next step in continued compliance with CAIR.

e. SCR technology is a proven methodology for reducing NO_x emissions. In fact, the Commission has previously granted CCN's for the construction of the same facilities for the purpose of reducing NO_x emissions at Ghent Unit Nos. 1, 3 and 4, Brown Unit 3, Trimble County Unit 1 and Mill

Creek Units 3 and 4. *In the Matter of: Application of Kentucky Utilities Company and Louisville Gas and Electric Company for a Certificate of Convenience and Necessity to Construct Selective Catalytic Reduction (SCR) NO_x Control Technologies*, Case No. 2000-00112, Order Issued June 22, 2000.

f. In accordance with its NO_x Compliance Strategy, KU is seeking approval of a CCN to begin construction of an SCR facility at Ghent Unit 2 in 2007.

5. Description of Proposed Construction: KU is requesting a CCN for an SCR at facility Ghent Unit 2. This project qualifies as "new" construction which requires prior approval from the Commission under KRS 278.020. The construction timeframe for the SCR is 18-24 months. Construction is expected to begin in early 2007 and be completed in 2009. For this reason, KU is requesting that the Commission issue its CCN by December 20, 2006. No like facilities owned by others are located within the map area, and the proposed construction is not likely to be in competition with any other utility, corporation or person.

6. Permits or Franchises: The Kentucky Environmental and Public Protection Cabinet, Division for Air Quality may require permitting for the construction of this SCR. The permit may either be incorporated directly into the existing Ghent Generating Station's Title V Operating Permit found as Exhibit SLD-2 or issued as a separate construction permit.

7. Area Maps: Area maps showing the locations where the SCR is proposed to be constructed are attached hereto at the tab labeled 'Maps'.

8. Financing Plans: The proposed construction of the SCR technology for which KU is seeking a CCN will cost approximately $95 million. KU's proposed financing of such costs is discussed in the prepared direct testimony of Mr. Blake.

9. Estimated Cost of Operation: The estimated annual cost of operation of the proposed construction is $2.8 million.

10. Final action on this Application is requested by December 20, 2006 in order to allow KU to begin procurement of materials and equipment under the proposed construction schedule.

Request for Approval of KU's 2006 Environmental Compliance Plan for Recovery by Environmental Surcharge

11. This Application and supporting testimony and exhibits are available for public inspection at each KU office where bills are paid. The Company is giving notice to the public of the proposed change to its environmental surcharge tariff by newspaper publication and through a bill insert in monthly billings to its customers. An initial Certificate of Notice and Publication is filed with this Application. A Certification of Completed Notice and Publication will be filed with the Commission upon the completion of this notice.

12. Pursuant to KRS 278.183, KU is entitled to recovery of its costs of complying with environmental requirements which apply to coal combustion wastes and by-products from facilities used to generate electricity from coal.

13. KU is adding five new pollution control projects to its Environmental Compliance Plan to reflect its plans for complying with environmental requirements to reduce SO_2 emissions, NO_x emissions, fine particulates, fly ash and also to monitor mercury emissions. The environmental regulations creating the need for these new and additional projects are shown in the 2006 Environmental Compliance Plan which is attached to this application and to the testimony of Mr. Malloy as Exhibit JPM-1. Ms. Dodson's testimony presents KU's evidence concerning the applicable regulatory requirements and how the pollution control facilities satisfy those regulatory requirements. The 2006 Environmental Compliance Plan identifies the

appropriate regulatory approvals or permits which demonstrate that such projects fulfill the obligations under the applicable environmental regulations. The pollution control projects included in the 2006 Environmental Compliance Plan are:

a. Project No. 23: Installation of Air Quality Control System ("AQCS") equipment at Trimble County Unit 2;

b. Project No. 24: Installation of Sorbent Injection equipment at Ghent Units 1, 3 and 4;

c. Project No. 25: Installation of Mercury Monitors on all plants;

d. Project No. 26: Installation of Selective Catalytic Reduction equipment at Ghent Unit 2;

e. Project No. 27: Installation of Electrostatic Precipitators at the Brown Plant.

The total capital cost of these new and additional projects to the Environmental Compliance Plan is estimated to be $ 325 million.

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

- The testimony of Kent W. Blake, Director, State Regulation and Rates, E.ON U.S. Services Inc., presents an overview of KU's environmental surcharge plan and requests the recovery of an overall rate of return that includes a 10.50% return on common equity.
- The testimony of Ms. Sharon L. Dodson, Director, Environmental Affairs, E.ON U.S. Services Inc., describes the environmental regulatory requirements imposed

on KU, including the CAIR, CAMR, CAVR and other federal, state or local environmental laws and regulations.

- The testimony of Mr. John P. Malloy, Director, Generation Services, E.ON U.S. Services Inc., describes the new projects in KU's 2006 Environmental Compliance Plan and presents evidence as to the cost effectiveness of those projects.
- The testimony of Ms. Shannon L. Charnas, Director, Utility Accounting and Reporting, E.ON U.S. Services Inc., explains KU's reporting and accounting for the operation and maintenance expenses associated with the pollution control facilities in KU's 2006 Environmental Compliance Plan and affirms that the environmental compliance costs KU proposes to recover through its surcharge are not already included in existing rates.
- The testimony of Mr. Robert M. Conroy, Manager, Rates, E.ON U.S. Services Inc., explains how the surcharge for the 2006 Environmental Compliance Plan will be calculated and billed under KU's proposed revised ECR Tariff. Mr. Conroy's testimony explains the reasons for the proposed changes in the terms of the Electric Rate Schedule ("ECR") and affirms that the calculations will be consistent with the methods and methodologies previously approved by the Commission.

WHEREFORE, Kentucky Utilities Company requests the Commission: (1) enter an order by December 20, 2006 granting KU a Certificate of Public Convenience and Necessity to permit the construction of the Selective Catalytic Reduction Nitrogen Oxides emission control facility as herein described; (2) approve the new and additional projects to KU's Compliance

Plan for purposes of recovering the costs of the projects through the environmental surcharge; (3) approve the revised Rate Schedule ECR to become effective for bills rendered on and after February 1, 2007 and (4) approve the recovery of the overall rate of return requested herein.

Dated: June 23, 2006

Respectfully submitted,

Kendrick R. Riggs
Stoll Keenon Ogden PLLC
2000 PNC Plaza
500 West Jefferson Street
Louisville, Kentucky 40202
Telephone: (502) 560-4222

Elizabeth L. Cocanougher
Senior Corporate Attorney
E.ON U.S. Serivce Inc. for
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220 West Main Street
Post Office Box 32010
Louisville, Kentucky 40232
Telephone: (502) 627-4850

Counsel for Kentucky Utilities Company

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and correct copy of the foregoing Application was served on the following persons on the 23rd day of June 2006, via overnight delivery, postage prepaid:

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

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

Counsel for Kentucky Utilities Company

Compliance Plan

Exhibit JPM-1 – Kentucky Utilities Company's 2006 Environmental Compliance Plan

KENTUCKY UTILITIES COMPANY

2006 ENVIRONMENTAL COMPLIANCE PLAN

Project	Air Pollutant or Waste/By-Product To Be Controlled	Control Facility	Generating Station	Environmental Regulation*	Environmental Permit*	Actual or Scheduled Completion	Actual (A) or Estimated (E) Project Cost
23	Fly Ash, NO_x, SO_2, SO_3, Hg and Particulate	Selective Catalytic Reduction, Dry Electrostatic Precipitator, Pulverized Activated Carbon Injection, Hydrated Lime Injection, Fabric Filter Bag House, Wet Flue Gas Desulfurization, Wet Electrostatic Precipitator	Trimble Co. Unit 2	Clean Air Act Amendments (1990), Clean Air Interstate Rule (2005), Clean Air Mercury Rule (2005), Clean Air Visibility Rule (2005)	Title V Permit V-02-043 rev. 2	2010	$185.29 M (E)
24	NO_x/SO_3	Sorbent Injection	Ghent Unit 1, Ghent Unit 3, Ghent Unit 4	KRS Chapter 224, General Duty Provisions, Clean Air Interstate Rule (2005)	Title V Permit V-97-025	2008	$39.59 M (E)
25	Mercury	Mercury Monitors	All Plants	Clean Air Mercury Rule (2005)	to be incorporated into Title V Operating Permits before 2009	2007	$2.97 M (E)
26	NO_x	Selective Catalytic Reduction	Ghent Unit 2	Clean Air Act Amendments (1990), Clean Air Interstate Rule (2005)	Title V Permit V-97-025	2009	$95.00 M (E)
27	Fly Ash and Particulate	Electrostatic Precipitators	Brown Plant	401 KAR: 50:055	Title V Permit V-03-034	2008	$2.23 M (E)
							$325.08

**Sponsored by witness Dodson*

Statutory Notice

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

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	)))))))	**CASE NO. 2006-00206**

STATUTORY NOTICE

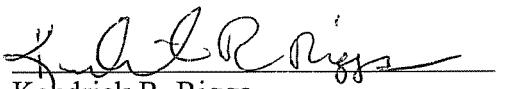
Kentucky Utilities Company ("KU"), by counsel, informs the Kentucky Public Service Commission ("Commission") that it is engaged in business as an operating public utility, principally furnishing retail electric service within the Commonwealth of Kentucky.

Pursuant to KRS 278.183, KU hereby gives notice to the Commission that, on this 23rd day of June 2006, it files herewith its application to issue an order granting KU a Certificate of Public Convenience and Necessity ("CCN") for the construction of Selective Catalytic Reduction Nitrogen Oxides emission control facility at Ghent Unit 2 and approving an amended compliance plan for purposes of recovering the costs of new and additional pollution control facilities through its Electric Rate Schedule ECR.

Notice is further given that the proposed effective date for Electric Rate Schedule ECR is February 1, 2007 as applied to bills rendered on and after that same date.

Submitted to the Commission this 23rd day of June 2006.

Respectfully submitted,



Kendrick R. Riggs
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500 West Jefferson Street
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Elizabeth L. Cocanougher
Senior Corporate Attorney
E.ON U.S. Services Inc. for
Kentucky Utilities Company
220 West Main Street
Louisville, Kentucky 40202
Telephone: (502) 627-4850

Counsel for Kentucky Utilities Company

CERTIFICATE OF SERVICE

The undersigned hereby certifies the original and ten copies of this statutory notice was hand delivered to Elizabeth O'Donnell, Executive Director, Kentucky Public Service Commission, 211 Sower Boulevard, Frankfort, Kentucky 40601, and a copy of this statutory notice was delivered via overnight delivery to Elizabeth E. Blackford, Assistant Attorney General, Office of Rate Intervention, 1024 Capital Center Drive, Suite 200, Frankfort, Kentucky 40601; Michael L. Kurtz, Boehm, Kurtz & Lowry, 36 East Seventh Street, Suite 1510, Cincinnati, Ohio 45202 this 23rd day of June 2006.

Counsel for Kentucky Utilities Company

Tariff Sheet with Revision Marks

Kentucky Utilities Company

Second Revision to Original Sheet No. 72
P.S.C. No. 13

ECR
Environmental Cost Recovery Surcharge

APPLICABLE
In all territory served.

AVAILABILITY OF SERVICE
To all electric rate schedules.

RATE
The monthly billing amount under each of the schedules to which this mechanism is applicable, including the fuel adjustment clause, demand-side management cost recovery mechanism and STOD program cost recovery factor, shall be increased or decreased by a percentage factor calculated in accordance with the following formula. T T

$$CESF = E(m) / R(m) \qquad MESF = CESF - BESF$$

MESF = Monthly Environmental Surcharge Factor
CESF = Current Environmental Surcharge Factor
BESF = Base Environmental Surcharge Factor

Where E(m) is the jurisdictional total of each approved environmental compliance plan revenue requirement of environmental compliance costs for the current expense month and R(m) is the revenue for the current expense month as set forth below.

DEFINITIONS

1) For all Plans, $E(m) = [(RB/12) (ROR + (ROR - DR) (TR / (1 - TR))] + OE - BAS$ T
   Where:
   a) RB is the Total Environmental Compliance Rate Base.
   b) ROR is the Rate of Return in Environmental Compliance Rate Base, designated as the overall all rate of return [cost of short term debt, long term debt, preferred stock, and common equity] T
   c) DR is the Debt Rate [cost of short term debt, and long term debt] T
   d) TR is the Composite Federal and State Income Tax Rate. T
   e) OE is the Operating Expenses [Depreciation and Amortization Expense, Property Taxes, Insurance Expense adjusted for the Average Month Expense already included in existing rates]. Includes operation and maintenance expense recovery authorized by the K.P.S.C. in Case Nos. 2000-439, 2002-146, 2004-00426 and 2006-00206. T T
   f) BAS is the total proceeds from by-product and allowance sales.

2) Total E(m) (sum of each approved environmental compliance plan revenue requirement) is multiplied by the Jurisdictional Allocation Factor to arrive at Net Jurisdictional E(m)

3) The revenue R(m) is the average monthly base revenue for the Company for the 12 months ending with the current expense month. Base revenue includes the customer, energy and demand charge for each rate schedule to which this mechanism is applicable and automatic adjustment clause revenues for the Fuel Adjustment Clause, the Demand-Side Management Cost Recovery Mechanism and STOD Program Cost Recovery Factor as applicable for each rate schedule. T T T T T T

4) Current expense month (m) shall be the second month preceding the month in which the Environmental Surcharge is billed.

Date of Issue: June 23, 2006
Canceling First Revision to Original Sheet No. 72
Issued June 28, 2005

Issued By

John R. McCall
General Counsel and Secretary
Louisville, Kentucky

Date Effective: With Bills Rendered On and After February 1, 2007

Certificate of Notice

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

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	)))))))	**CASE NO. 2006-00206**

CERTIFICATE OF NOTICE

Pursuant to the Kentucky Public Service Commission's Rules Governing Tariffs effective August 4, 1984, I hereby certify that I am John R. McCall, Executive Vice President, General Counsel and Corporate Secretary, E.ON U.S. Services Inc. for Kentucky Utilities Company ("KU" or "Company"), a utility furnishing retail electric service within the Commonwealth of Kentucky, which, on the 23rd day of June 2006, filed an application to issue an order granting KU a Certificate of Public Convenience and Necessity ("CCN") for the construction of a certain facility known as a Selective Catalytic Reduction Nitrogen Oxides emission control technology at Ghent Unit 2 and approving an amended compliance plan for purposes of recovering the costs of new and additional pollution control facilities through its Electric Rate Schedule ECR as required by KRS 278.183, as follows:

On the 23rd day of June 2006, the same was delivered for exhibition and public inspection at the offices and places of business of the Company in the territory affected thereby, to-wit, at the following places:

Barlow	London
Campbellsville	Maysville
Carrollton	Middlesboro
Danville	Morehead

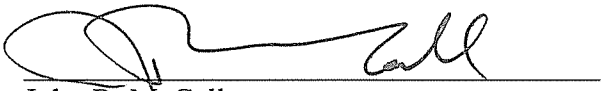
Earlington	Morganfield
Eddyville	Mt. Sterling
Elizabethtown	Paris
Georgetown	Richmond
Greenville	Shelbyville
Harlan	Somerset
Lexington	Versailles
Lexington North	Winchester

and that the same will be kept open to public inspection at said offices and places of business in conformity with the requirements of 807 KAR 5:011, Section 8.

That more than twenty (20) customers will be affected by said change by way of an increase in their bills, and that on the 8th day of June 2006, there was delivered to the Kentucky Press Association, an agency that acts on behalf of newspapers of general circulation throughout the Commonwealth of Kentucky in which customers affected reside, for publication therein once a week for three consecutive weeks beginning the week of June 19, 2006, a notice of the filing of KU's application, a copy of said notice being attached hereto. A certificate of publication of said notice will be furnished to the Kentucky Public Service Commission upon completion of same pursuant to 807 KAR 5:011, Section 8(2)(c).

In addition, Kentucky Utilities Company will include a general statement explaining the application in this case with the bills for all Kentucky retail customers during the course of their regular monthly billing cycle beginning on or about June 19, 2006.

Given under my hand this 23rd day of June 2006.



John R. McCall
Executive Vice President, General Counsel
and Corporate Secretary
E.ON U.S. Services Inc. for
KENTUCKY UTILITIES COMPANY
220 West Main Street
Louisville, Kentucky 40202

NOTICE TO CUSTOMERS OF
KENTUCKY UTILITIES COMPANY

RECOVERY BY ENVIRONMENTAL SURCHARGE OF KU'S 2006
ENVIRONMENTAL COMPLIANCE PLAN

PLEASE TAKE NOTICE that on June 23, 2006, Kentucky Utilities Company ("KU") will file with the Kentucky Public Service Commission ("Commission") in Case No. 2006-00206, an Application pursuant to Kentucky Revised Statute 278.183 for approval of an amended compliance plan ("KU's 2006 Environmental Compliance Plan") for the purpose of recovering the capital costs and operation and maintenance costs associated with new pollution control facilities through an environmental surcharge on customers' bills beginning February 2007, under KU's existing rate mechanism known as the environmental cost recovery surcharge or "Electric Rate Schedule ECR."

Federal, state and local environmental regulations require KU to continually build and upgrade equipment and/or facilities in order to operate in an environmentally sound manner. Specifically, KU is seeking Commission approval of a Certificate of Public Convenience and Necessity ("CCN") to construct a new Selective Catalytic Reduction System ("SCR") for Ghent Unit 2 at the Ghent Generating Station in Ghent, Kentucky to comply with federally mandated Nitrogen Oxides requirements. Additionally, KU is seeking recovery of costs associated with environmental projects necessary for compliance with the Federal Clean Air Act, Clean Air Interstate Rule, Clean Air Mercury Rule, and the Clean Air Visibility Rule. These additional projects primarily relate to installation of an SCR system on Ghent Unit 2, mercury emissions monitoring, precipitator upgrades, Air Quality Control System equipment necessary to operate Trimble County Unit 2 within the approved environmental limitations and sulfur trioxide mitigation on electric generating units which burn high sulfur coal. The total capital cost of these new pollution control facilities is estimated to be $325 million.

The estimated impact on a residential customer using 1,000 kilowatt hours per month is expected to be an initial monthly increase of $0.82 for KU customers during 2007, with the maximum monthly increase expected to be $2.67 during 2010.

The Environmental Surcharge Application described in this Notice is proposed by KU. However, the Public Service Commission may make an order modifying or denying KU's Environmental Surcharge Application. Such action may result in an environmental surcharge for consumers other than the environmental surcharge described in this Notice.

Any corporation, association, body politic or person may, by motion within thirty (30) days after publication, request leave to intervene in Case No. 2006-00206. That motion shall be submitted to the Public Service Commission, 211 Sower Blvd., P.O. Box 615, Frankfort, Kentucky, 40602, and shall set forth the grounds for the request including the status and interest of the party. Intervenors may obtain copies of the Application and testimony by contacting Kentucky Utilities Company at 220 West Main Street, Louisville, Kentucky, 40202, Attention: Kent W. Blake, Director, State Regulation and Rates. A copy of the Application and testimony will be available for public inspection at KU's offices where bills are paid after June 23, 2006.

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

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	)))))))	**CASE NO. 2006-00206**

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Danville	Morehead

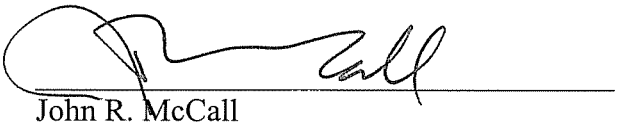
Earlington	Morganfield
Eddyville	Mt. Sterling
Elizabethtown	Paris
Georgetown	Richmond
Greenville	Shelbyville
Harlan	Somerset
Lexington	Versailles
Lexington North	Winchester

and that the same will be kept open to public inspection at said offices and places of business in conformity with the requirements of 807 KAR 5:011, Section 8.

That more than twenty (20) customers will be affected by said change by way of an increase in their bills, and that on the 8th day of June 2006, there was delivered to the Kentucky Press Association, an agency that acts on behalf of newspapers of general circulation throughout the Commonwealth of Kentucky in which customers affected reside, for publication therein once a week for three consecutive weeks beginning the week of June 19, 2006, a notice of the filing of KU's application, a copy of said notice being attached hereto. A certificate of publication of said notice will be furnished to the Kentucky Public Service Commission upon completion of same pursuant to 807 KAR 5:011, Section 8(2)(c).

In addition, Kentucky Utilities Company will include a general statement explaining the application in this case with the bills for all Kentucky retail customers during the course of their regular monthly billing cycle beginning on or about June 19, 2006.

Given under my hand this 23rd day of June 2006.



John R. McCall
Executive Vice President, General Counsel
and Corporate Secretary
E.ON U.S. Services Inc. for
KENTUCKY UTILITIES COMPANY
220 West Main Street
Louisville, Kentucky 40202

NOTICE TO CUSTOMERS OF
KENTUCKY UTILITIES COMPANY

RECOVERY BY ENVIRONMENTAL SURCHARGE OF KU'S 2006
ENVIRONMENTAL COMPLIANCE PLAN

PLEASE TAKE NOTICE that on June 23, 2006, Kentucky Utilities Company ("KU") will file with the Kentucky Public Service Commission ("Commission") in Case No. 2006-00206, an Application pursuant to Kentucky Revised Statute 278.183 for approval of an amended compliance plan ("KU's 2006 Environmental Compliance Plan") for the purpose of recovering the capital costs and operation and maintenance costs associated with new pollution control facilities through an environmental surcharge on customers' bills beginning February 2007, under KU's existing rate mechanism known as the environmental cost recovery surcharge or "Electric Rate Schedule ECR."

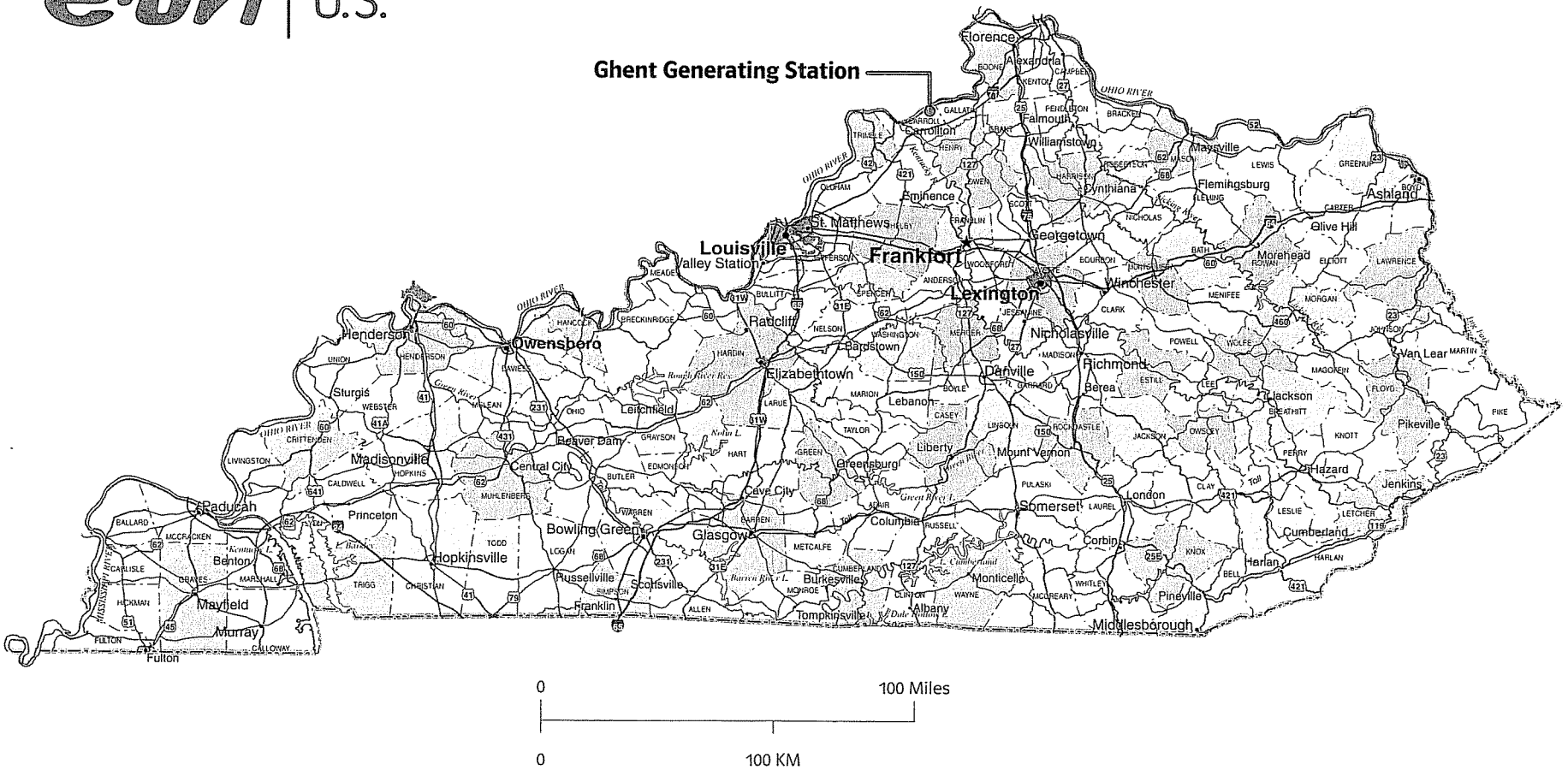
Federal, state and local environmental regulations require KU to continually build and upgrade equipment and/or facilities in order to operate in an environmentally sound manner. Specifically, KU is seeking Commission approval of a Certificate of Public Convenience and Necessity ("CCN") to construct a new Selective Catalytic Reduction System ("SCR") for Ghent Unit 2 at the Ghent Generating Station in Ghent, Kentucky to comply with federally mandated Nitrogen Oxides requirements. Additionally, KU is seeking recovery of costs associated with environmental projects necessary for compliance with the Federal Clean Air Act, Clean Air Interstate Rule, Clean Air Mercury Rule, and the Clean Air Visibility Rule. These additional projects primarily relate to installation of an SCR system on Ghent Unit 2, mercury emissions monitoring, precipitator upgrades, Air Quality Control System equipment necessary to operate Trimble County Unit 2 within the approved environmental limitations and sulfur trioxide mitigation on electric generating units which burn high sulfur coal. The total capital cost of these new pollution control facilities is estimated to be $325 million.

The estimated impact on a residential customer using 1,000 kilowatt hours per month is expected to be an initial monthly increase of $0.82 for KU customers during 2007, with the maximum monthly increase expected to be $2.67 during 2010.

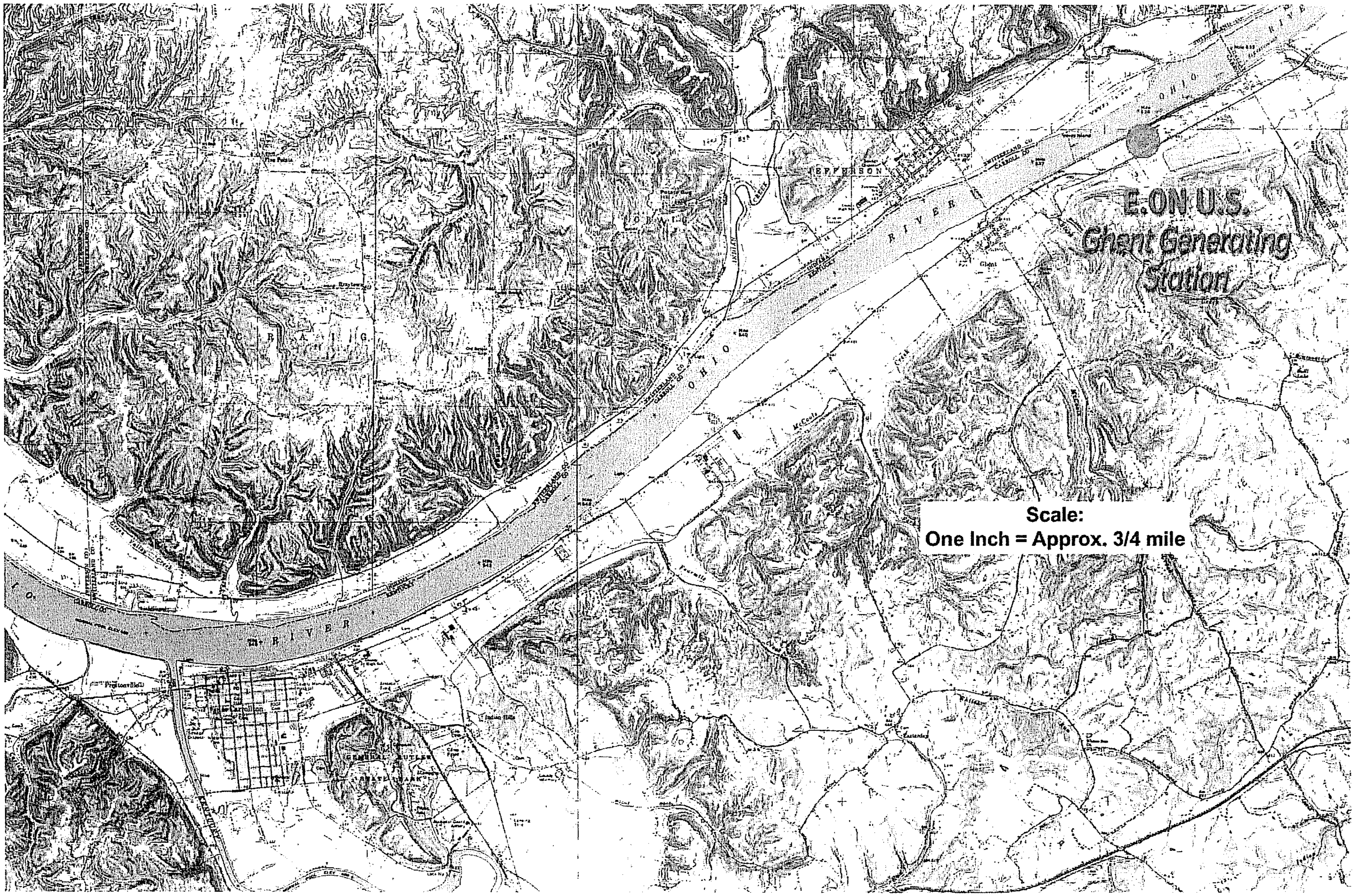
The Environmental Surcharge Application described in this Notice is proposed by KU. However, the Public Service Commission may make an order modifying or denying KU's Environmental Surcharge Application. Such action may result in an environmental surcharge for consumers other than the environmental surcharge described in this Notice.

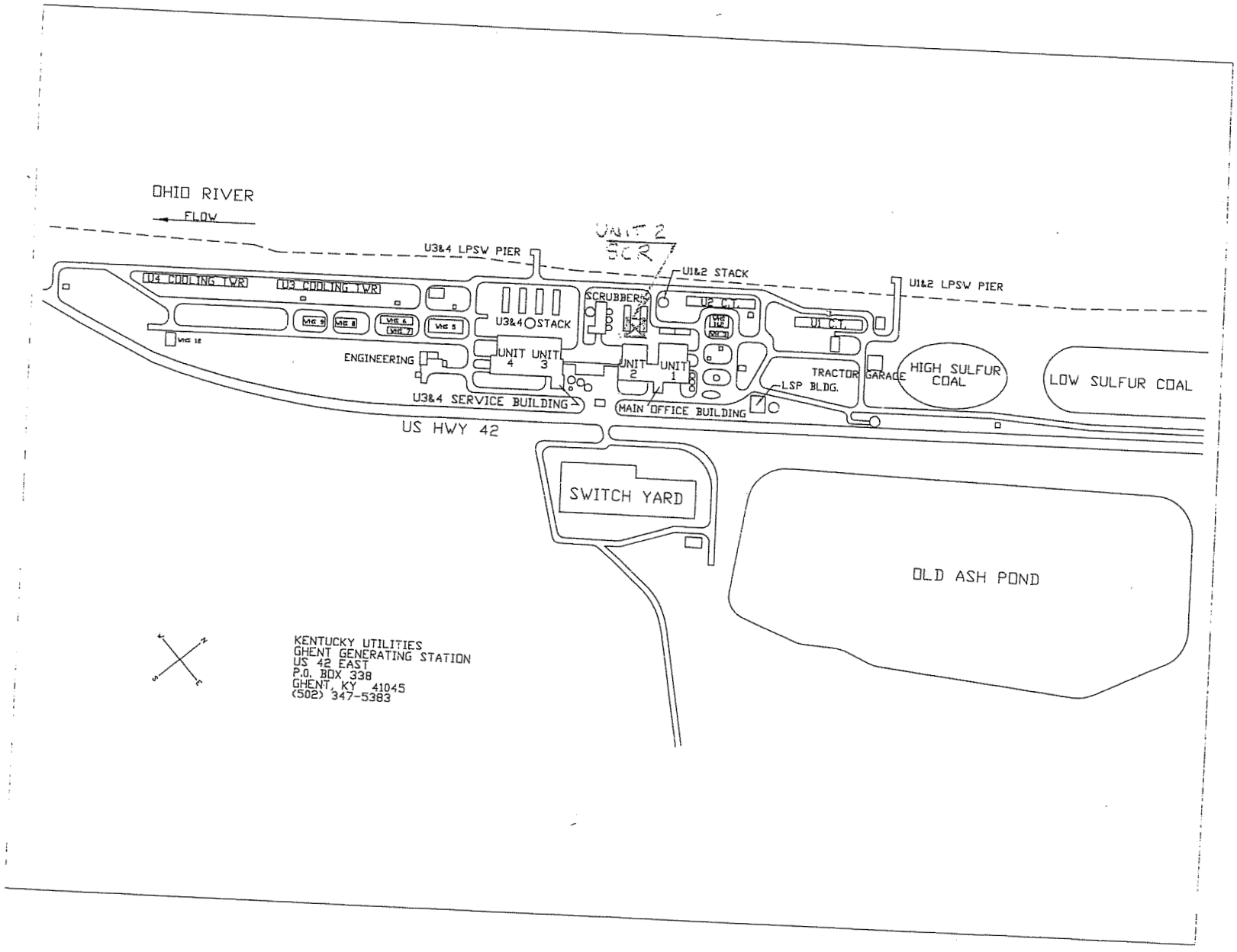
Any corporation, association, body politic or person may, by motion within thirty (30) days after publication, request leave to intervene in Case No. 2006-00206. That motion shall be submitted to the Public Service Commission, 211 Sower Blvd., P.O. Box 615, Frankfort, Kentucky, 40602, and shall set forth the grounds for the request including the status and interest of the party. Intervenors may obtain copies of the Application and testimony by contacting Kentucky Utilities Company at 220 West Main Street, Louisville, Kentucky, 40202, Attention: Kent W. Blake, Director, State Regulation and Rates. A copy of the Application and testimony will be available for public inspection at KU's offices where bills are paid after June 23, 2006.

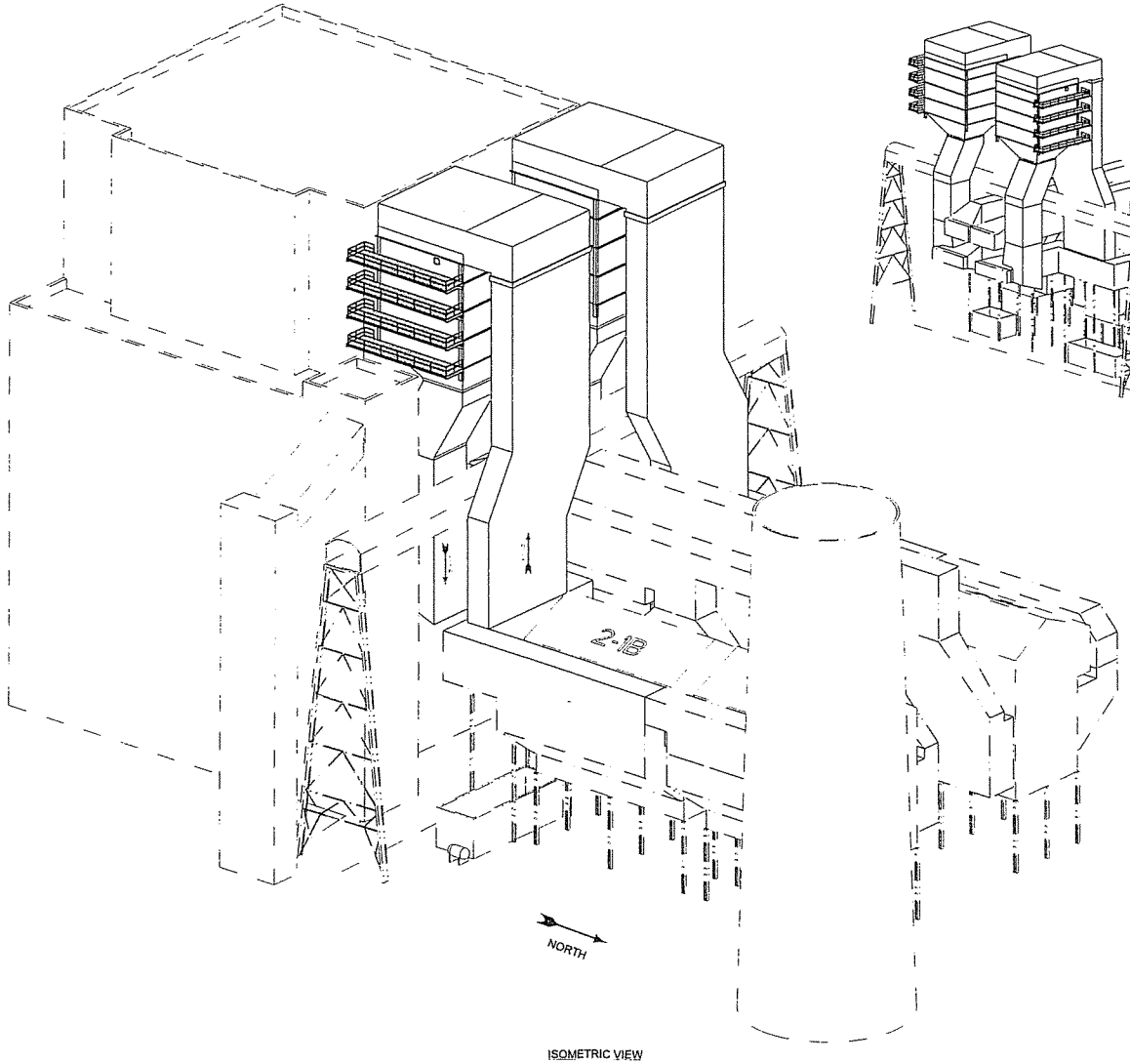
e·on | U.S.

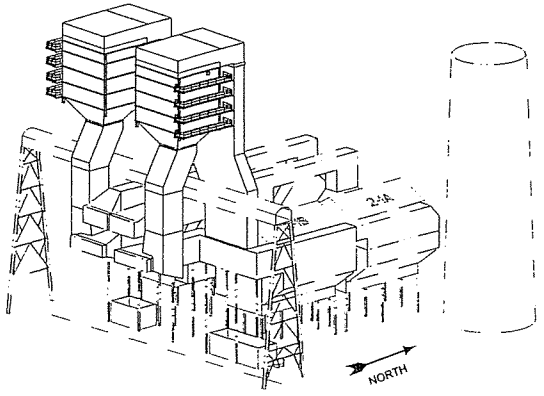


Parallel scale at 38°N 0°E


E.ON U.S.
Ghent Generating
Station
Scale:
One Inch = Approx. 3/4 mile
OHIO RIVER
JEFFERSON


OHIO RIVER
FLOW
U3&4 LPSW PIER
UNIT 2
SCR
U1&2 STACK
U1&2 LPSW PIER
U4 COOLING TWR
U3 COOLING TWR
SCRUBBERS
U3&4 STACK
ENGINEERING
UNIT 4
UNIT 3
UNIT 2
UNIT 1
TRACTOR GARAGE
HIGH SULFUR COAL
LOW SULFUR COAL
LSP BLDG.
U3&4 SERVICE BUILDING
MAIN OFFICE BUILDING
US HWY 42
SWITCH YARD
OLD ASH POND
KENTUCKY UTILITIES
GHENT GENERATING STATION
US 42 EAST
P.O. BOX 338
GHENT, KY 41045
(502) 347-5383



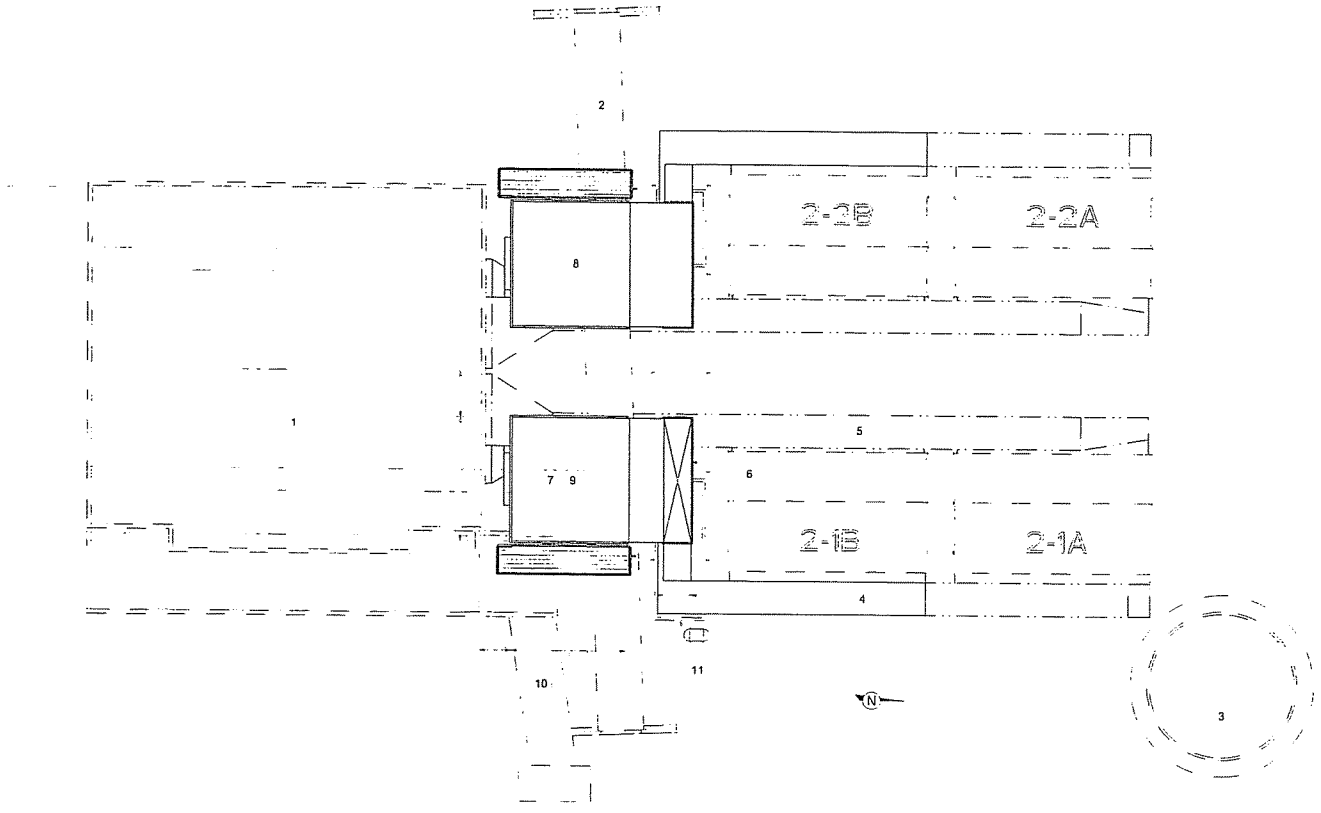


1. BOILER BUILDING UNIT 2
2. EXISTING COAL CONVEYOR TO UNIT 3
3. EXISTING STACK
4. UNIT 2-1A & 2-1B PRECIP OUTLET DUCT
5. UNIT 2-1A & 2-1B PRECIP INLET DUCT
6. SCR INLET DUCT
7. SCR REACTOR UNIT 2-1
8. SCR REACTOR UNIT 2-2
9. SCR OUTLET DUCT
10. COAL CONVEYOR FROM UNIT 1
11. DIESEL GEN. & PRECIP 2-1 SW/GR ROOM

IN PROGRESS

ISOMETRIC VIEW

BABCOCK POWER ENVIRONMENTAL INC.



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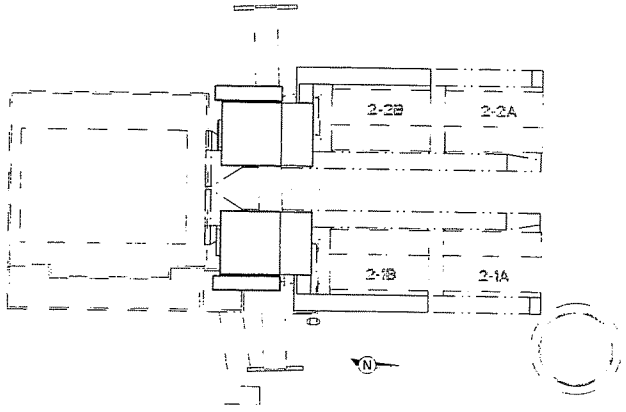
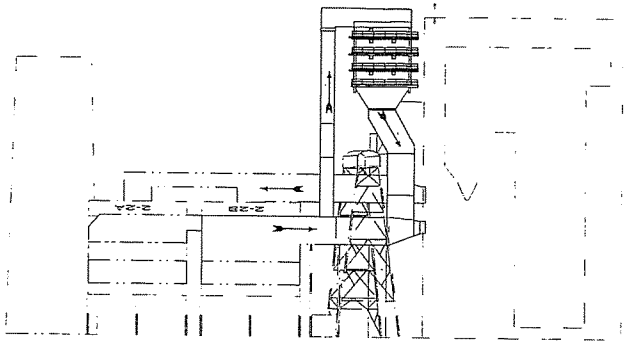
IN PROGRESS

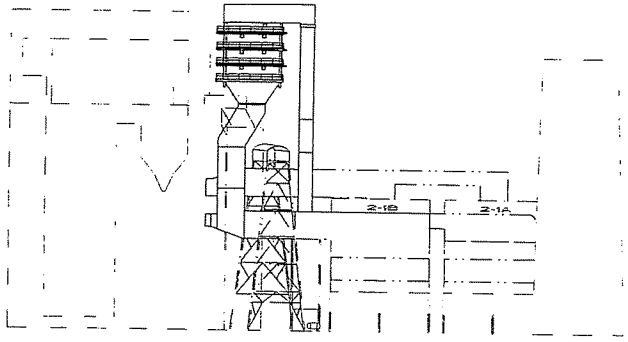
BABCOCK POWER ENVIRONMENTAL INC.



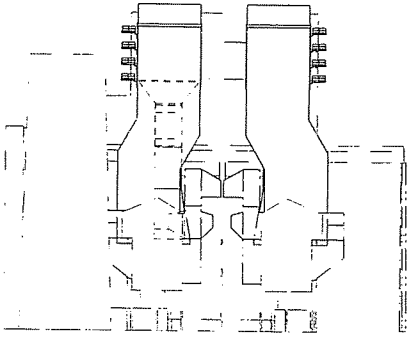
PLAN VIEW



ELEVATION LOOKING EAST



ELEVATION LOOKING WEST



ELEVATION LOOKING SOUTH

IN PROGRESS

BABCOCK POWER ENVIRONMENTAL INC.

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

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	)))))))	CASE NO. 2006-00206

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

Filed: June 23, 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 2004-00421[2], the Companies' most recent Environmental Cost Recovery applications.

Q. Are you sponsoring any exhibits?

A. Yes, I am sponsoring the following three exhibits:

(1) Exhibit KWB-1 is the Regulatory Research Associates publication *Regulatory Focus* of April 5, 2006 containing the compilation of allowed returns;

(2) Exhibit KWB-2 contains interest rates showing an upward trend from the timeframe of the last ECR proceeding to the present; and

(3) Exhibit KWB-3 is the Value Line *Quarterly Economic Review* from May 2006 showing interest rate projections.

Q. What is the purpose of your testimony?

A. My testimony provides an overview of the testimony of our other witnesses and outlines the reasons for our request for approval of a Certificate of Public

[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 Louisville Gas and Electric Company for Approval if its 2004 Compliance Plan for Recovery by Environmental Surcharge*

Convenience and Necessity ("CCN") associated with the construction of a Selective Catalytic Reduction ("SCR") Nitrogen Oxides ("NO_x") control technology at Ghent Unit 2. I will also address the plan to finance the proposed construction of the SCR. Additionally, I will present an overview of KU's 2006 Environmental Compliance Plan ("2006 Plan"). KU's 2006 Plan includes the SCR, KU's allocated share of the costs of environmental equipment to be installed on Trimble County Unit 2 ("TC2"), and other environmental projects KU must construct to continue to remain in compliance with various environmental laws and regulations. Finally, I will explain why KU is seeking environmental surcharge recovery of its 2006 Plan through its Environmental Cost Recovery ("ECR") Surcharge tariff, beginning in February 2007, including KU's request and support for continuing the current 10.50 percent return on common equity.

Overview of Application

Q. Would you please provide an overview of the testimony of the witnesses supporting KU's application in this proceeding?

A. Yes. In addition to my testimony, KU is presenting the testimony of four other witnesses in this case in support of its application. These witnesses and the subject of their testimony are:

- Sharon L. Dodson, Director of Environmental Affairs, E.ON U.S. Services Inc., presents testimony concerning the environmental regulatory requirements faced by the Companies, including a description of the background surrounding the Clean Air Interstate Rule ("CAIR"), the Clean Air Mercury Rule ("CAMR"), Clean Air Visibility Rule ("CAVR"), and fine particulate emission rules.

- John P. Malloy, Director of Generation Services, E.ON U.S. Services Inc., presents testimony that describes the projects and presents evidence as to the cost effectiveness of the projects in KU's 2006 Plan.
- Shannon L. Charnas, Director of Utility Accounting and Reporting, E.ON U.S. Services Inc., presents testimony affirming that none of the costs for which KU is seeking recovery through its Environmental Surcharge tariff are included in base rates and describes the accounting associated with the projects in KU's 2006 Plan.
- Robert M. Conroy, Manager of Rates, E.ON U.S. Services Inc., presents KU's proposed Electric Rate Schedule ECR and corresponding monthly reporting requirements and presents testimony affirming that the calculation of KU's environmental surcharge will comply with all previous Commission Orders.

Certificate of Public Convenience and Necessity

Q. Is KU requesting the Commission issue a certificate of public convenience and necessity to construct an SCR facility at the Ghent Unit 2?

A. Yes. KU is seeking Commission approval in the form of a certificate of public convenience and necessity to construct one SCR NO_x control facility at the Ghent Unit 2 in order to meet certain environmental requirements. While KU and LG&E were previously authorized by the Commission to build as needed seven SCRs in Case No. 2000-112[3], the Companies determined that mandated reductions in NO_x emissions were achievable by constructing six SCRs instead of the seven units

originally planned, primarily due to better-achieved operating effectiveness compared to modeled results.

As explained in the testimony of Ms. Dodson, the environmental requirements set forth in the United States Environmental Protection Agency's ("EPA") NO_x State Implementation Plan ("SIP") Call and as expanded and made more restrictive with the adoption of the Clean Air Interstate Rule ("CAIR") in March 2005 require certain reductions in the NO_x emissions. Specifically, with the implementation of the CAIR in March 2005, the EPA imposed year-round restrictions on NO_x emissions beginning in 2009, compared to the current restrictions that apply only during the ozone season. In order to achieve the required reduction in permitted levels of emission, and comply with CAIR in 2009, KU needs to construct an additional SCR at the Ghent Unit No. 2. The construction of the proposed SCR, as outlined in the Companies' Application and the testimony of Mr. Malloy, is the most cost-effective method of complying with the EPA's NO_x reduction requirements. Those reduction requirements are described in full detail in the prefiled testimony of Ms. Dodson.

Q. Would you please identify the process KU used to evaluate the need for the proposed SCR facility?

A. Yes. KU closely follows the changes in environmental regulatory requirements for NO_x emissions, mercury and fine particulate matter under the Federal Clean Air Act as amended ("CAAA") and more recently, the CAIR. The evolution in the environmental regulation is reflected in the Company's evaluation of its cost-effective strategy for compliance with the existing levels of permitted NO_x emissions. As the

[3] In the Matter of: *Application of Kentucky Utilities Company and Louisville Gas and Electric Company for a Certificate of Public Convenience and Necessity to Construct Selective Catalytic Reduction (SCR) NOx Control Technologies* (June 22, 2000).

EPA's position developed, and as the NO_x emission allowance market responded, KU developed an initial compliance strategy that included construction of four SCRs three at Ghent units (e.g. Ghent Unit Nos. 1, 3 and 4) and one at E.W. Brown Unit 3 - as needed to ensure full compliance with EPA's then current NO_x emission limits. Subsequently, KU determined that construction of the SCR at E.W. Brown Unit 3 was not needed or cost-effective to achieve compliance with allowed NO_x emission levels, and therefore built only three SCRs at the Ghent facility, for Units 1, 3 and 4.

The most recent evaluation process is described in Mr. Malloy's testimony and presented in detail in KU's *2006 NO_x Compliance Strategy for E.ON U.S Subsidiaries Kentucky Utilities and Louisville Gas and Electric ("2006 NO_x Compliance Strategy")* which is attached to Mr. Malloy's testimony as Exhibit JPM-2. This analysis shows that faced with increasing reductions in NO_x emissions mandated by CAIR, the construction of the fourth SCR facility is now necessary; and the most advantageous location for the SCR is at Ghent Unit 2, rather than at E.W. Brown Unit 3.

Q. What is the construction timeframe for the SCR?

A. As indicated in the Application and in Mr. Malloy's testimony, KU expects construction to take 18 – 24 months to complete, with the unit being placed in-service in 2009. The anticipated in-service date coincides with the planned 2009 outage necessary to make the Ghent Unit 2 Flue Gas Desulfurization System operational.

Q. When does KU need to begin construction of the SCR to meet the proposed 2009 in-service date?

A. Based upon the preliminary engineering design work, KU anticipates the need to commence construction of the SCR facility in early 2007 to meet the proposed 2009

in-service date. For this reason, KU is requesting that the Commission issue its CCN by December 20, 2006. To date, KU has not executed any contracts for the acquisition or construction of the proposed facility.

Q. What is the anticipated investment of the proposed SCR?

A. KU estimates that the capital investment in the SCR will be approximately $95 million. The support for this estimate is provided in Mr. Malloy's testimony.

Q. How does the Company plan to finance construction of the SCR?

A. KU expects to finance the costs of the SCR with a combination of new debt and equity. The mix of debt and equity used to finance the project will be determined so as to allow KU to maintain its strong investment-grade credit rating and is consistent with the targets previously referenced by the Company in proceedings before this Commission. The equity component will take the form of retained earnings. The cost does not qualify for tax-exempt funding under current laws.

KU anticipates that any incremental debt financing will be funded on a temporary basis utilizing proceeds from the money pool. This short-term debt would be replaced with long-term loans from E.ON affiliates when market conditions are attractive and the money pool balance is sufficient to issue long-term securities. KU will seek the Commission's approval of any debt or securities as necessary.

During the course of the construction program, KU will continue to review new financing structures to determine if more cost-effective financing methods are available.

Q. Did the Commission issue a certificate of public convenience and necessity which includes the pollution control facilities to be built as part of the Trimble County Unit 2 ?

A. Yes. The environmental equipment to be built in connection with the construction of the Trimble County Unit 2 is included in the authority of the CCN issued by the Commission in its Order dated November 1, 2005 in Case No. 2004-00507[4].

2006 Environmental Surcharge Plan and Recovery

Q. Is environmental compliance important to KU?

A. Yes. Protection of the environment is a major priority for KU. KU has a long-standing commitment to compliance with all environmental regulations and statutes. Most recently, Vic Staffieri, president, chairman and chief executive of E.ON U.S., the parent company of KU, recognized global warming as a real concern and committed funds to research at the University of Kentucky addressing affordable ways to capture emissions from power plants.

Q. Will KU seek recovery of the costs of the SCR through the Environmental Cost Recovery mechanism?

A. Yes. KU, in this proceeding, is seeking approval of the CCN, the 2006 Plan and cost recovery through the Environmental Cost Recovery mechanism. The CCN is requested pursuant to the requirements of KRS 278.020, while cost recovery is requested consistent with regulatory requirements under KRS 278.183, as applied by the Commission.

Q. Is KU proposing a 2006 Environmental Surcharge Plan in this proceeding?

A. Yes. The projects in KU's 2006 Plan serve its Ghent, E.W. Brown, Green River and Tyrone generating stations, as well as, KU's ownership of Trimble County Unit 2 which is now under construction. KU's 2006 Plan contains five new projects that

[4] 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.*

enable KU to comply with the requirements of the CAAA, CAIR, CAMR, CAVR and other environmental regulations that apply to KU facilities used for the production of energy from coal. The testimony of Ms. Dodson presents KU's evidence concerning the applicable environmental regulatory requirements and shows how the pollution control facilities in the 2006 Plan satisfy KU's environmental obligations. KU's 2006 Plan is attached as Exhibit JPM-1 to Mr. Malloy's testimony. The testimony of Mr. Malloy presents KU's 2006 Plan, describes the need for the new projects in that plan, provides the timeframe for construction, provides evidence as to the cost-effectiveness of the projects and details the estimated capital cost of $325 million for the projects.

Q. What evidence does KU present on the accounting of the cost for the 2006 Plan?

A. Ms. Charnas' testimony explains KU's reporting and accounting for the capital costs and operation and maintenance expenses associated with the pollution control facilities and affirms that the environmental compliance costs KU proposes to recover through its surcharge are not already in existing rates.

Q. What return on common equity is KU currently allowed in its ECR tariff?

A. KU is currently allowed a return on equity ("ROE") of 10.50 percent per the Commission's June 20, 2005 Order in Case No. 2004-00426[5].

Q. What ROE is KU requesting in this proceeding?

A. The Company is requesting a continuation of the 10.50 percent ROE allowed in Case No. 2004-00426[6]. This level of ROE is still reasonable and is, in fact, conservative under the economic conditions prevailing currently.

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[5] 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*

Q. On what basis do you say that a 10.50 percent ROE would be reasonable, and even conservative?

A. An examination of (1) allowed returns on common equity for utilities, in general, (2) the recent level and trend in interest rates and (3) the projected course of interest rates shows this to be the case.

According to Regulatory Research Associates *Regulatory Focus* of April 5, 2006, allowed returns for electric utilities and gas utilities in the first quarter of 2006 averaged 10.4 percent and 10.6 percent, respectively. Exhibit KWB-1 contains a complete copy of this publication. For calendar year 2005, electric utilities and gas utilities were both allowed an average return on equity of 10.50 percent. Thus, an allowed return of 10.50 percent for KU for ECR purposes is within the mainstream of allowed return for utilities in general. While such awards do not necessarily determine what ROE should be awarded in a case, the Commission has found such awards do "indicate a reasonableness measure for a company's allowed ROE."[7] Exhibit KWB-1 shows KU's request for continuing the current 10.50% ROE is reasonable when measured by the current authorized ROEs by other commissions.

In addition, these allowed ROEs are consistent with those recently authorized by this Commission in cases involving other investor-owned utilities serving the State of Kentucky. Most recently, on March 14, 2006, the Commission approved a settlement agreement in, *In the Matter of: General Adjustments of Electric Rates of Kentucky Power Company,* Case No. 2005-00341, Appendix A, Settlement

[6] 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*

Agreement, Paragraph 7, which, among other things, authorized the use of a 10.5% rate of return on equity for environmental surcharge purposes and for accounting for allowance for funds used during construction.

Exhibit KWB-2 shows the level of interest rates for 10- and 20-year Treasury bonds, A-rated utility bonds and Aaa-rated Corporate bonds for the period January 2005-May 2006. As can be seen from Exhibit KWB-2, there has generally been an upward trend in the level of interest rates over this period, with an acceleration in the increase noticeable over the past several months. On a spot basis—comparing May 2006 with June 2005 (when the Commission rendered its Order in the last ECR proceeding)—interest rates are up about one full percentage point. As shown on the bottom of Exhibit KWB-2, on a six-month average basis, interest rates are up roughly 30-40 basis points.

Projections of interest rates show that the upward trend in interest rates is forecast to continue. For example, *The Value Line Quarterly Economic Review* of May 26, 2006 shows that 10-year and long-term Treasury securities are projected to rise to the level of 5.3 percent and 5.5 percent, respectively, by 2008. AAA-rated Corporate Bonds are projected to increase to 6.4 percent by that time period. A complete copy of the Value Line publication is attached as Exhibit KWB-3 to my testimony.

Based on the above data and comparisons, a continuation of the 10.50 percent allowed ROE for ECR purposes is reasonable, and even conservative.

[7] In the Matter of: The Application of Kentucky Utilities Company For A Certificate Of Public 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, p. 27 (June 20, 2005).

Q. How does KU propose to recover the cost of the pollution control projects in its 2006 Plan?

A. KU proposes to recover the cost of the pollution control projects in its 2006 Plan through KU's Electric Rate Schedule ECR filed with this application and proposed to be effective for bills rendered on and after February 1, 2007. Mr. Conroy's testimony explains how the surcharge for the 2006 Plan will be calculated and billed under KU's proposed revised ECR Tariff. Mr. Conroy's testimony also explains the reasons for the proposed changes in the terms of Electric Rate Schedule ECR and affirms that the calculation will be consistent with the methods and methodologies previously approved by the Commission.

Q. What action should the Commission take regarding this application?

A. The Commission should approve KU's application for a Certificate of Public Convenience and Necessity for construction of the SCR facility at Ghent Unit 2. Additionally, the Commission should approve KU's 2006 Plan and application for cost recovery of its compliance costs through its Electric Rate Schedule ECR tariff beginning with bills rendered on and after February 1, 2007.

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 23rd day of June 2006.

Tammy J. Elzy (SEAL)
Notary Public

My Commission Expires:

TAMMY J. ELZY
NOTARY PUBLIC
STATE AT LARGE
KENTUCKY
My Commission Expires Nov. 9, 2006

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

Exhibit KWB-1 – Regulatory Research Associates publication *Regulatory Focus*

Regulatory Research Associates
An SNL Energy Company
REGULATORY FOCUS

Regulatory Study
April 5, 2006

MAJOR RATE CASE DECISIONS--JANUARY-MARCH 2006

For the first three months of 2006, the average electric equity return authorization by state commissions was 10.38% (three determinations), compared to the 10.54% average in calendar-2005. The average gas equity return authorization for the first quarter of 2006 was 10.63% (six determinations), compared to the 10.46% average in calendar-2005. During the first quarter of 2006, there were no telecommunications equity return authorizations.

After reaching a low in the late-1990's and early-2000's, the number of equity return determinations for energy companies increased somewhat beginning in 2002 and reached a ten-year high in 2005. Relatively low inflation and interest rates, competitive pressures, technological improvements, the use of settlements that do not specify return parameters, and a reduced number of companies due to mergers may prevent the number of yearly determinations from substantially increasing further. However, increased costs and the need for generation and delivery system infrastructure upgrades and expansion at many companies argue for at least a modest increase in the number of cases to be filed and decided over the next several years. We also note that electric industry restructuring in many states has led to the unbundling of rates, with state commissions authorizing revenue requirement and return parameters for transmission and/or distribution operations only (which we footnote in our chronology table), complicating data comparability. The tables included in this study are extensions of those contained in the January 12, 2006 Regulatory Study entitled *Major Rate Case Decisions--January 2004-December 2005--Supplemental Study*. Refer to that report for information concerning individual rate case decisions that were rendered in 2004 and 2005.

The table on page 2 shows annual average equity returns authorized since 1996, and by quarter since 2000, in major electric, gas, and telecommunications rate decisions, followed by the number of determinations during each period. The tables on page 3 present the composite industry data for items in the chronology of this and earlier reports, summarized annually since 1996, and quarterly for the most recent nine quarters. The individual electric, gas, and telecommunications cases decided in the first three months of 2006 are listed on pages 4 and 5, with the decision date shown first, followed by the company name, the abbreviation for the state issuing the decision, the authorized rate of return (ROR), return on equity (ROE), and percentage of common equity in the adopted capital structure. Next we show the month and year in which the adopted test year ended, whether the commission utilized an average or a year-end rate base, and the amount of the permanent rate change authorized. The dollar amounts represent the permanent rate change ordered at the time decisions were rendered. Summary data for 2005 is also included for comparative purposes. A case is generally considered "major" if the rate change initially requested was $5 million or greater, or the authorized rate change was at least $3 million. Gas rate requests that are considered in conjunction with major electric requests are recorded and reported as individual cases, regardless of size. Fuel adjustment clause rate changes are not reflected in this study.

Average Equity Returns Authorized January 1988 - March 1998

(Return Percent - No. of Observations)

	Period	Electric Utilities	Gas Utilities	Telephone Utilities
1988	Full Year	12.79 (33)	12.85 (31)	13.13 (13)
1989	Full Year	12.97 (27)	12.88 (31)	12.97 (15)
1990	Full Year	12.70 (44)	12.67 (31)	12.91 (9)
1991	Full Year	12.55 (45)	12.46 (35)	12.89 (16)
1992	1st Quarter	12.37 (12)	12.42 (5)	12.25 (2)
	2nd Quarter	11.83 (12)	11.98 (3)	--- (0)
	3rd Quarter	12.03 (8)	11.87 (5)	12.35 (2)
	4th Quarter	12.12 (16)	11.94 (16)	12.23 (3)
1992	Full Year	12.09 (48)	12.01 (29)	12.27 (7)
1993	1st Quarter	11.84 (7)	11.75 (4)	12.20 (1)
	2nd Quarter	11.64 (9)	11.71 (6)	12.36 (4)
	3rd Quarter	11.15 (6)	11.39 (13)	11.65 (1)
	4th Quarter	11.07 (10)	11.15 (22)	11.45 (6)
1993	Full Year	11.41 (32)	11.35 (45)	11.83 (12)
1994	1st Quarter	11.20 (10)	11.12 (5)	11.05 (3)
	2nd Quarter	11.13 (5)	10.81 (5)	12.46 (3)
	3rd Quarter	12.75 (1)	10.95 (2)	--- (0)
	4th Quarter	11.41 (15)	11.64 (16)	11.88 (5)
1994	Full Year	11.34 (31)	11.35 (28)	11.81 (11)
1995	1st Quarter	11.96 (8)	--- (0)	--- (0)
	2nd Quarter	11.36 (9)	11.00 (1)	11.84 (4)
	3rd Quarter	11.33 (6)	11.07 (3)	12.50 (1)
	4th Quarter	11.53 (10)	11.56 (12)	12.25 (3)
1995	Full Year	11.55 (33)	11.43 (16)	12.08 (8)
1996	1st Quarter	11.28 (2)	11.45 (2)	11.70 (2)
	2nd Quarter	11.46 (9)	10.88 (6)	11.30 (1)
	3rd Quarter	10.76 (3)	11.25 (2)	12.25 (1)
	4th Quarter	11.58 (8)	11.32 (10)	--- (0)
1996	Full Year	11.39 (22)	11.19 (20)	11.74 (4)
1997	1st Quarter	11.30 (4)	11.31 (7)	11.80 (1)
	2nd Quarter	11.62 (3)	11.70 (1)	11.60 (1)
	3rd Quarter	12.00 (1)	12.00 (1)	11.70 (1)
	4th Quarter	11.08 (4)	11.01 (5)	11.35 (2)
1997	Full Year	11.36 (12)	11.28 (14)	11.56 (5)
1998	1st Quarter	11.49 (5)	12.20 (1)	11.30 (1)

Electric Utilities--Summary Table*

	Period	ROR %	ROE %	Eq. as % Cap. Struc.	Amt. $ Mil.
1996	Full Year	9.21 (20)	11.39 (22)	44.34 (20)	-5.6 (38)
1997	Full Year	9.16 (12)	11.40 (11)	48.79 (11)	-553.3 (33)
1998	Full Year	9.44 (9)	11.66 (10)	46.14 (8)	-429.3 (31)
1999	Full Year	8.81 (18)	10.77 (20)	45.08 (17)	-1,683.8 (30)
2000	Full Year	9.20 (12)	11.43 (12)	48.85 (12)	-291.4 (34)
2001	Full Year	8.93 (15)	11.09 (18)	47.20 (13)	14.2 (21)
2002	Full Year	8.72 (20)	11.16 (22)	46.27 (19)	-475.4 (24)
2003	Full Year	8.86 (20)	10.97 (22)	49.41 (19)	313.8 (22)
2004	1st Quarter	8.94 (3)	11.00 (3)	44.94 (3)	-716.4 (4)
	2nd Quarter	7.88 (6)	10.54 (6)	45.59 (6)	641.8 (11)
	3rd Quarter	9.01 (2)	10.33 (2)	45.05 (2)	119.4 (4)
	4th Quarter	8.55 (7)	10.91 (8)	49.64 (6)	1,047.8 (11)
2004	Full Year	8.44 (18)	10.75 (19)	46.84 (17)	1,092.6 (30)
2005	1st Quarter	8.57 (6)	10.51 (7)	44.55 (7)	482.1 (8)
	2nd Quarter	8.27 (5)	10.05 (7)	48.30 (5)	180.2 (9)
	3rd Quarter	7.78 (4)	10.84 (4)	43.58 (4)	40.2 (5)
	4th Quarter	8.37 (11)	10.75 (11)	48.55 (11)	671.2 (14)
2005	Full Year	8.31 (26)	10.54 (29)	46.73 (27)	1,373.7 (36)
2006	1st Quarter	8.13 (3)	10.38 (3)	50.25 (3)	439.0 (9)

Gas Utilities--Summary Table*

1996	Full Year	9.25 (23)	11.19 (20)	47.69 (19)	193.4 (34)
1997	Full Year	9.13 (13)	11.29 (13)	47.78 (11)	-82.5 (21)
1998	Full Year	9.46 (10)	11.51 (10)	49.50 (10)	93.9 (20)
1999	Full Year	8.86 (9)	10.66 (9)	49.06 (9)	51.0 (14)
2000	Full Year	9.33 (13)	11.39 (12)	48.59 (12)	135.9 (20)
2001	Full Year	8.51 (6)	10.95 (7)	43.96 (5)	114.0 (11)
2002	Full Year	8.80 (20)	11.03 (21)	48.29 (18)	303.6 (26)
2003	Full Year	8.75 (22)	10.99 (25)	49.93 (22)	260.1 (30)
2004	1st Quarter	8.52 (4)	11.10 (4)	45.61 (4)	56.3 (6)
	2nd Quarter	8.21 (3)	10.25 (2)	46.90 (2)	121.7 (9)
	3rd Quarter	8.27 (8)	10.37 (8)	42.92 (8)	113.4 (8)
	4th Quarter	8.40 (6)	10.66 (6)	49.72 (6)	12.1 (8)
2004	Full Year	8.34 (21)	10.59 (20)	45.90 (20)	303.5 (31)
2005	1st Quarter	8.19 (3)	10.65 (2)	43.00 (1)	50.8 (4)
	2nd Quarter	8.17 (5)	10.54 (5)	47.69 (4)	99.5 (6)
	3rd Quarter	8.15 (6)	10.47 (5)	49.54 (5)	75.3 (7)
	4th Quarter	8.33 (15)	10.40 (14)	49.03 (14)	232.8 (17)
2005	Full Year	8.25 (29)	10.46 (26)	48.66 (24)	458.4 (34)
2006	1st Quarter	8.62 (6)	10.63 (6)	51.18 (6)	138.7 (6)

Telephone Utilities--Summary Table*

1996	Full Year	9.65 (2)	11.74 (4)	56.00 (2)	-348.2 (11)
1997	Full Year	9.57 (5)	11.56 (5)	55.84 (5)	-154.4 (7)
1998	Full Year	9.37 (1)	11.30 (1)	52.00 (1)	-323.3 (13)
1999	Full Year	11.34 (1)	13.00 (1)	66.90 (1)	-570.1 (19)
2000	Full Year	9.52 (2)	11.38 (2)	56.59 (2)	-390.4 (14)
2001	Full Year	9.61 (1)	--- (0)	--- (0)	-130.0 (8)
2002	Full Year	--- (0)	--- (0)	--- (0)	7.7 (4)
2003	Full Year	--- (0)	--- (0)	--- (0)	-62.6 (2)
2004	1st Quarter	8.02 (1)	10.00 (1)	44.18 (1)	3.1 (1)
	2nd Quarter	--- (0)	--- (0)	--- (0)	--- (0)
	3rd Quarter	--- (0)	--- (0)	--- (0)	--- (0)
	4th Quarter	--- (0)	--- (0)	--- (0)	--- (0)
2004	Full Year	8.02 (1)	10.00 (1)	44.18 (1)	3.1 (1)
2005	1st Quarter	--- (0)	--- (0)	--- (0)	--- (0)
	2nd Quarter	--- (0)	--- (0)	--- (0)	71.9 (2)
	3rd Quarter	8.72 (1)	10.50 (1)	54.00 (1)	-8.2 (1)
	4th Quarter	--- (0)	--- (0)	--- (0)	--- (0)
2005	Full Year	8.72 (1)	10.50 (1)	54.00 (1)	63.7 (3)
2006	1st Quarter	--- (0)	--- (0)	--- (0)	--- (0)

* Number of observations in each period indicated in parentheses.

Date	Company (State)	ROR %	ROE %	Common Eq. as % Cap. Str.	Test Year & Rate Base	Amt. $ Mil.
	ELECTRIC UTILITY DECISIONS					
2005	***FULL-YEAR: AVERAGES/TOTAL***	**8.31**	**10.54**	**46.73**		**1373.7**
	MEDIAN	**8.08**	**10.25**	**44.59**		---
	OBSERVATIONS	**26**	**29**	**27**		**36**
1/5/06	Northern States Power (WI)	8.94 (G)	11.00	53.66	12/06-A	43.4
1/25/06	Wisconsin Electric Power (WI)	---	---	---	---	229.7 (1)
1/27/06	United Illuminating (CT)	6.88 (2)	9.75	48.00	12/04-A	35.6 (Di,Z,2)
2/22/06	PacifiCorp (WY)	---	---	---	---	25.0 (B,Z)
2/23/06	Aquila Networks-MPS (MO)	---	---	---	---	22.4 (B)
2/23/06	Aquila Networks-L&P (MO)	---	---	---	---	3.9 (B)
3/3/06	Interstate Power and Light (MN)	8.58	10.39	49.10	12/04-A	1.2 (I,B)
3/14/06	Kentucky Power (KY)	---	---	---	---	41.0 (B)
3/29/06	Entergy Gulf States (LA)	---	---	---	---	36.8 (I,B)
2006	***1ST QUARTER: AVERAGES/TOTAL***	**8.13**	**10.38**	**50.25**		**439.0**
	MEDIAN	**8.58**	**10.39**	**49.10**		---
	OBSERVATIONS	**3**	**3**	**3**		**9**
	GAS UTILITY DECISIONS					
2005	***FULL-YEAR: AVERAGES/TOTAL***	**8.25**	**10.46**	**48.66**		**458.4**
	MEDIAN	**8.42**	**10.23**	**47.14**		---
	OBSERVATIONS	**29**	**26**	**24**		**34**
1/5/06	Northern States Power (WI)	8.94 (G)	11.00	53.66	12/06-A	3.9
1/25/06	Wisconsin Electric Power (WI)	8.52 (G)	11.20	56.34	12/06-A	21.4
1/25/06	Wisconsin Gas (WI)	8.29 (G)	11.20	50.20	12/06-A	38.7
2/3/06	Public Service of Colorado (CO)	8.70	10.50	55.49	12/04-A	22.5 (B)
2/23/06	Southwest Gas (AZ)	8.40	9.50	40.00 (Hy)	8/04-YE	49.3
3/1/06	Aquila (IA)	8.88	10.40 (E)	51.39	12/04-A	2.9 (I,B)
2006	***1ST QUARTER: AVERAGES/TOTAL***	**8.62**	**10.63**	**51.18**		**138.7**
	MEDIAN	**8.61**	**10.75**	**52.53**		---
	OBSERVATIONS	**6**	**6**	**6**		**6**
	TELEPHONE UTILITY DECISIONS					
2005	***FULL-YEAR: AVERAGES/TOTAL***	**8.72**	**10.50**	**54.00**		**63.7**
	MEDIAN	**8.72**	**10.50**	**54.00**		---
	OBSERVATIONS	**1**	**1**	**1**		**3**
2006	***1ST QUARTER: AVERAGES/TOTAL***	---	---	---		---
	MEDIAN	---	---	---		---
	OBSERVATIONS	**0**	**0**	**0**		**0**

FOOTNOTES

A- Average
B- Order followed stipulation or settlement by the parties. Decision particulars not necssarily precedent-setting or specifically adopted by the regulatory body.
Di- Rate change applicable to electric distribution rates only.
E- Estimated
G- Return on capital
Hy- Hypothetical capital structure utilized
I- Interim rates implemented prior to the issuance of final order, normally under bond and subject to refund.
YE- Year-end
Z- Rate change implemented in multiple steps.
* Capital structure includes cost-free items or tax credit balances at the overall rate of return.

(1) The electric rate increase was not supported by a traditional cost-of-service analysis, but reflected recovery of certain specific costs.
(2) Indicated rate increase to be phased-in over four years, with a 6.88% ROR authorized for 2006, 6.89% for 2007, 7.09% for 2008, and 7.48% for 2009.

Dennis Sperduto

Exhibit KWB-2 – Interest Rates

INTEREST RATES
January 2005 - May 2006

		10- Year Treasury Bond Yields (1)	20- Year Treasury Bond Yields (2)	A Utility Bond Yields (3)	Aaa Corporate Bond Yields (4)
2005	January	4.22 %	4.77 %	5.78 %	5.36 %
	February	4.17	4.61	5.61	5.20
	March	4.50	4.89	5.83	5.40
	April	4.34	4.75	5.64	5.33
	May	4.14	4.56	5.53	5.15
	June	4.00	4.35	5.40	4.96
	July	4.18	4.48	5.51	5.06
	August	4.26	4.53	5.50	5.09
	September	4.20	4.51	5.52	5.13
	October	4.46	4.74	5.79	5.34
	November	4.54	4.83	5.88	5.42
	December	4.47	4.73	5.80	5.38
2006	January	4.42	4.65	5.75	5.29
	February	4.57	4.73	5.82	5.35
	March	4.72	4.91	5.98	5.52
	April	4.99	5.22	6.29	5.84
	May	5.10	5.34	6.40	5.95
6-Month Average Ended:					
	June 2005	4.23	4.66	5.63	5.23
	May 2006	4.71	4.93	6.01	5.56

Source: Cols. (1)&(2) - Federal Reserve Statistical Release.
Cols. (3)&(4) - Mergent *Bond Record* and Moody's website.

Exhibit KWB-3 – Value Line *Quarterly Economic Review*

THE VALUE LINE Investment Survey®

PAGES 1107-1122
File in page order in the *Selection & Opinion* binder.

PART 2 — *Selection & Opinion* — MAY 26, 2006

Dear Subscriber,

As part of our ongoing efforts to keep *The Value Line Investment Survey* the most valuable investment resource for our subscribers, the entire service is now being released on the Web at 8:00AM Eastern time on Thursday. You can find it at www.valueline.com by using your user name and password. Supplements will be available as appropriate. We look forward to continuing to provide you with the most accurate and innovative research tools available.

Faithfully,

The Quarterly Economic Review

In This Issue

In Three Parts: Part 1 is the Summary & Index. This is Part 2, Selection & Opinion. Part 3 is Ratings & Reports. Volume LXI, Number 39.

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ECONOMIC AND STOCK MARKET COMMENTARY

Three months ago, in our last "Quarterly Economic Review," we observed that it looked as though economic growth would "pick up nicely" in the first quarter, which, in fact, it did. However, the unfolding business strength was greater than we expected, with the nation's gross domestic product increasing by a vigorous 4.8%. Contributing to this sharp improvement, versus the prior period's lackluster 1.7% rate of GDP growth, were significant increases in consumer expenditures, U.S. exports, government spending (especially on national defense), and nonresidential construction. On the other hand, the growth in residential building slowed a bit, although such activity did not decline as bearish forecasters had warned might be the case.

We think the momentum built up in the opening quarter will remain largely in place during the current period. Our expectation is that this early 2006 strength will ease only modestly, with the economy growing by a still solid 3.3%-3.5%. That's in line with the growth we had forecast three months ago. Once again, the capital goods sector should lead the way, with solid growth across much of Europe and Asia helping to increase demand for U.S. exports. Continuing gains in personal income, meanwhile, should lead to an additional uptick in personal consumption expenditures, although it is arguable just how much longer consumers will retain their spending pace given near-record oil prices. The lone discordant note is now being sounded by the housing market, where construction activity declined further in April. Sales of new and existing homes also appear to be headed lower.

Some further slowing in the pace of business activity is likely to evolve later this year and in 2007. The major risk in the second half of 2006, and next year as well, involves the once-frothy U.S.

Continued on page 1110

VALUE LINE FORECAST FOR THE U.S. ECONOMY

Statistical Summary for 2005-2007

	2005:4	2006:1	2006:2	2006:3	2006:4	2007:1	2007:2	2007:3	2006	2007
GDP AND OTHER KEY MEASURES										
Real Gross Domestic Product	11248	*11381*	*11477*	*11568*	*11653*	*11731*	*11818*	*11909*	*11520*	*11865*
Total Light Vehicle Sales (Mill. Units)	15.8	*16.9*	*16.5*	*16.4*	*16.2*	*16.0*	*16.3*	*16.6*	*16.5*	*16.4*
Housing Starts (Million Units)	2.06	*2.13*	*1.88*	*1.85*	*1.83*	*1.80*	*1.78*	*1.78*	*1.92*	*1.79*
Corporate Economic Profits ($Bill.)	1293.0	*1479.0*	*1537.0*	*1461.0*	*1396.0*	*1538.0*	*1583.0*	*1534.0*	*1468.0*	*1527.0*
ANNUALIZED RATES OF CHANGE										
Gross Domestic Product (Real)	1.7	*4.8*	*3.4*	*3.2*	*3.0*	*2.7*	*3.0*	*3.1*	*3.5*	*3.0*
GDP Deflator	3.5	*3.3*	*3.4*	*2.3*	*2.0*	*2.1*	*2.1*	*2.2*	*2.8*	*2.2*
CPI-All Urban Consumers	3.2	*2.2*	*4.0*	*2.7*	*2.0*	*2.3*	*2.3*	*2.5*	*2.7*	*2.4*
AVERAGE FOR THE PERIOD										
National Unemployment Rate	4.9	*4.7*	*4.7*	*4.7*	*4.7*	*4.8*	*4.8*	*4.9*	*4.7*	*4.9*
Prime Rate	7.0	*7.4*	*7.9*	*8.3*	*8.3*	*8.3*	*8.1*	*7.8*	*8.0*	*8.0*
10-Year Treasury Note Rate	4.5	*4.6*	*5.1*	*5.2*	*5.2*	*5.2*	*5.1*	*5.1*	*5.0*	*5.1*

Value Line Forecast for the U.S. Economy

	ACTUAL	*ESTIMATED*						
	2005:4	2006:1	2006:2	2006:3	2006:4	2007:1	2007:2	2007:3
GROSS DOMESTIC PRODUCT AND ITS COMPONENTS (2000 CHAIN WEIGHTED $) BILLIONS OF DOLLARS								
Final Sales	11208	*11355*	*11445*	*11530*	*11607*	*11681*	*11759*	*11844*
Total Consumption	7925	*8032*	*8092*	*8152*	*8210*	*8267*	*8328*	*8390*
Nonresidential Fixed Investment	1320	*1365*	*1398*	*1432*	*1459*	*1477*	*1495*	*1517*
Structures	256	*261*	*267*	*274*	*280*	*282*	*285*	*289*
Equipment & Software	1081	*1122*	*1149*	*1174*	*1194*	*1209*	*1224*	*1242*
Residential Fixed Investment	614	*618*	*613*	*599*	*583*	*571*	*564*	*558*
Exports	1218	*1253*	*1268*	*1299*	*1329*	*1358*	*1386*	*1415*
Imports	1873	*1931*	*1931*	*1963*	*1989*	*2007*	*2028*	*2045*
Federal Government	745	*764*	*756*	*760*	*761*	*763*	*764*	*766*
State & Local Governments	1249	*1249*	*1250*	*1255*	*1261*	*1270*	*1277*	*1282*
Gross Domestic Product	12766	*13021*	*13236*	*13392*	*13535*	*13699*	*13853*	*14011*
Real GDP (2000 Chain Weighted $)	11248	*11381*	*11477*	*11568*	*11653*	*11731*	*11818*	*11909*
PRICES AND WAGES-ANNUAL RATES OF CHANGE								
GDP Deflator	3.5	*3.3*	*3.4*	*2.3*	*2.0*	*2.1*	*2.1*	*2.2*
CPI-All Urban Consumers	3.2	*2.2*	*4.0*	*2.7*	*2.0*	*2.3*	*2.3*	*2.5*
PPI-Finished Goods	7.3	*-0.7*	*4.5*	*2.3*	*1.7*	*1.5*	*1.8*	*1.8*
Employment Cost Index—Total Comp	2.8	*2.4*	*3.5*	*3.5*	*3.5*	*3.6*	*3.5*	*3.3*
Productivity	-0.3	*3.2*	*2.5*	*2.0*	*2.0*	*1.5*	*1.8*	*2.0*
PRODUCTION AND OTHER KEY MEASURES								
Industrial Prod. (% Change, Annualized)	5.3	*4.5*	*6.0*	*4.0*	*3.0*	*2.5*	*2.5*	*2.7*
Factory Operating Rate (%)	79.8	*80.4*	*81.0*	*80.5*	*80.4*	*80.3*	*80.2*	*80.0*
Inventory Change (2000 Chain Weighted $)	43.0	25.7	32.0	38.0	47.0	50.0	59.0	65.0
Housing Starts (Mill. Units)	2.06	*2.13*	*1.88*	*1.85*	*1.83*	*1.80*	*1.78*	*1.78*
Existing House Sales (Mill. Units)	6.94	*6.80*	*6.65*	*6.50*	*6.20*	*6.10*	*6.10*	*6.00*
Total Light Vehicle Sales (Mill. Units)	15.8	*16.9*	*16.5*	*16.4*	*16.2*	*16.0*	*16.3*	*16.6*
National Unemployment Rate (%)	4.9	*4.7*	*4.7*	*4.7*	*4.7*	*4.8*	*4.8*	*4.9*
Federal Budget Surplus (Unified, FY, $Bill)	-119.3	*-183.4*	*85.0*	*-90.0*	*-100.0*	*-150.0*	*50.0*	*-55.0*
Price of Oil ($Bbl., U.S. Refiners' Cost)	53.94	*55.97*	*63.75*	*64.65*	*61.25*	*61.25*	*59.50*	*60.00*
MONEY AND INTEREST RATES								
3-Month Treasury Bill Rate (%)	3.8	*4.4*	*4.8*	*5.0*	*5.0*	*5.0*	*4.9*	*4.7*
Federal Funds Rate (%)	4.0	*4.5*	*4.9*	*5.3*	*5.3*	*5.3*	*5.2*	*4.9*
10-Year Treasury Note Rate (%)	4.5	*4.6*	*5.1*	*5.2*	*5.2*	*5.2*	*5.1*	*5.1*
Long-Term Treasury Bond Rate (%)	4.7	*4.6*	*5.3*	*5.4*	*5.4*	*5.4*	*5.3*	*5.3*
AAA Corporate Bond Rate (%)	5.4	*5.4*	*6.0*	*6.2*	*6.2*	*6.2*	*6.1*	*6.1*
Prime Rate (%)	7.0	*7.4*	*7.9*	*8.3*	*8.3*	*8.3*	*8.1*	*7.8*
INCOMES								
Personal Income (Annualized % Change)	9.4	*6.2*	*6.5*	*6.0*	*5.8*	*5.8*	*5.5*	*5.3*
Real Disp. Inc. (Annualized % Change)	6.7	*3.2*	*3.0*	*4.0*	*4.0*	*3.8*	*3.8*	*3.6*
Personal Savings Rate (%)	-0.2	*-0.7*	*-0.5*	*-0.5*	*-0.2*	*0.1*	*0.2*	*0.4*
Corporate Economic Profits (Annualized $Bill)	1293.0	*1479.0*	*1537.0*	*1461.0*	*1396.0*	*1538.0*	*1583.0*	*1534.0*
Yr-to-Yr % Change	15.7	*21.3*	*14.0*	*13.0*	*8.0*	*4.0*	*3.0*	*5.0*
COMPOSITION OF REAL GDP-ANNUAL RATES OF CHANGE								
Gross Domestic Product	1.7	*4.8*	*3.4*	*3.2*	*3.0*	*2.7*	*3.0*	*3.1*
Final Sales	-0.2	*5.4*	*3.2*	*3.0*	*2.7*	*2.6*	*2.7*	*2.9*
Total Consumption	0.9	*5.5*	*3.0*	*3.0*	*2.9*	*2.8*	*3.0*	*3.0*
Nonresidential Fixed Investment	4.5	*14.3*	*10.0*	*10.0*	*8.0*	*5.0*	*5.0*	*6.0*
Structures	3.1	*8.6*	*9.0*	*12.0*	*9.0*	*3.0*	*4.0*	*5.0*
Equipment & Software	5.0	*16.4*	*10.0*	*9.0*	*7.0*	*5.0*	*5.0*	*6.0*
Residential Fixed Investment	2.8	*2.6*	*-3.0*	*-9.0*	*-10.0*	*-8.0*	*-5.0*	*-4.0*
Exports	5.0	*12.1*	*5.0*	*10.0*	*9.6*	*9.0*	*8.6*	*8.6*
Imports	12.1	*13.0*	*-0.1*	*6.9*	*5.3*	*3.8*	*4.3*	*3.3*
Federal Government	-2.6	*10.8*	*-3.9*	*1.7*	*1.0*	*0.9*	*0.6*	*0.6*
State & Local Governments	0.3	*0.0*	*0.4*	*1.5*	*2.0*	*2.8*	*2.3*	*1.5*

Value Line Forecast for the U.S. Economy

	ACTUAL					*ESTIMATED*				
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
GROSS DOMESTIC PRODUCT AND ITS COMPONENTS (2000 CHAIN WEIGHTED $) BILLIONS OF DOLLARS										
Final Sales	9921	10036	10304	10702	11113	*11484*	*11804*	*12158*	*12547*	*12974*
Total Consumption	6910	7099	7306	7589	7857	*8121*	*8360*	*8611*	*8878*	*9171*
Nonresidential Fixed Investment	1180	1072	1085	1187	1289	*1413*	*1507*	*1583*	*1662*	*1778*
Structures	306	254	243	248	253	*271*	*287*	*296*	*308*	*323*
Equipment & Software	874	820	847	948	1051	*1160*	*1233*	*1295*	*1373*	*1483*
Residential Fixed Investment	448	470	509	562	602	*603*	*562*	*551*	*557*	*573*
Exports	1037	1013	1031	1118	1195	*1287*	*1401*	*1539*	*1683*	*1811*
Imports	1436	1485	1553	1719	1828	*1953*	*2038*	*2111*	*2225*	*2348*
Federal Government	601	643	688	724	740	*760*	*765*	*772*	*777*	*786*
State & Local Governments	1179	1216	1223	1228	1246	*1254*	*1279*	*1296*	*1321*	*1339*
Gross Domestic Product	10128	10470	10971	11734	12487	*13296*	*13935*	*14614*	*15369*	*16194*
Real GDP (2000 Chain Weighted $)	9891	10049	10321	10756	11135	*11520*	*11865*	*12233*	*12637*	*13079*
PRICES AND WAGES-ANNUAL RATES OF CHANGE										
GDP Deflator	2.4	1.7	2.0	2.6	2.8	*2.8*	*2.2*	*2.0*	*2.1*	*2.2*
CPI-All Urban Consumers	2.8	1.6	2.3	2.7	3.4	*2.7*	*2.4*	*2.2*	*2.3*	*2.5*
PPI-Finished Goods	1.9	-1.3	3.2	3.6	4.9	*2.0*	*1.7*	*1.3*	*1.5*	*2.0*
Employment Cost Index—Total Comp.	4.1	3.8	4.0	3.9	3.1	*3.2*	*3.4*	*3.3*	*3.4*	*3.5*
Productivity	2.2	4.3	3.8	3.4	2.7	*2.4*	*1.8*	*2.0*	*2.3*	*2.5*
PRODUCTION AND OTHER KEY MEASURES										
Industrial Prod. (% Change)	-3.4	-0.3	0.0	4.1	3.2	*4.4*	*2.7*	*2.5*	*2.7*	*3.0*
Factory Operating Rate (%)	75.4	73.5	73.7	76.7	78.9	*80.6*	*80.1*	*79.5*	*80.0*	*80.5*
Inventory Change (2000 Chain Weighted $)	-31.7	15.2	15.4	49.9	25.0	*36.0*	*61.0*	*75.0*	*90.0*	*105.0*
Housing Starts (Mill. Units)	1.60	1.71	1.85	1.95	2.07	*1.92*	*1.79*	*1.75*	*1.73*	*1.80*
Existing House Sales (Mill. Units)	5.29	5.65	6.17	6.72	7.06	*6.54*	*6.05*	*6.00*	*6.05*	*6.10*
Total Light Vehicle Sales (Mill. Units)	17.1	16.8	16.6	16.9	16.9	*16.5*	*16.4*	*16.7*	*17.0*	*17.5*
National Unemployment Rate (%)	4.8	5.8	6.0	5.5	5.1	*4.7*	*4.9*	*4.8*	*4.7*	*4.8*
Federal Budget Surplus (Unified, FY, $Bill)	127.3	-157.8	-377.0	-413.0	-318.0	*-310.0*	*-260.0*	*-315.0*	*-295.0*	*-280.0*
Price of Oil ($Bbl., U.S. Refiners' Cost)	22.95	24.00	28.60	36.91	50.31	*61.50*	*60.00*	*56.35*	*50.75*	*45.00*
MONEY AND INTEREST RATES										
3-Month Treasury Bill Rate (%)	3.4	1.6	1.0	1.4	3.1	*4.8*	*4.8*	*4.6*	*4.7*	*4.8*
Federal Funds Rate (%)	3.9	1.7	1.1	1.4	3.2	*5.0*	*5.0*	*4.8*	*5.0*	*5.2*
10-Year Treasury Note Rate (%)	5.0	4.6	4.0	4.3	4.3	*5.0*	*5.1*	*5.3*	*5.4*	*5.5*
Long-Term Treasury Bond Rate (%)	5.5	5.4	5.0	5.1	4.6	*5.2*	*5.3*	*5.5*	*5.6*	*5.8*
AAA Corporate Bond Rate (%)	7.1	6.5	5.7	5.6	5.2	*6.0*	*6.1*	*6.4*	*6.6*	*6.6*
Prime Rate (%)	6.9	4.7	4.1	4.3	6.2	*8.0*	*8.0*	*7.8*	*7.9*	*8.0*
INCOMES										
Personal Income (% Change)	3.5	1.8	3.2	5.9	5.5	*6.1*	*5.5*	*5.6*	*5.7*	*5.8*
Real Disp. Inc. (% Change)	1.9	3.1	2.4	3.4	1.5	*3.5*	*3.7*	*3.7*	*3.8*	*3.8*
Personal Savings Rate (%)	1.8	2.4	2.1	1.7	-0.4	*-0.5*	*0.3*	*0.8*	*1.0*	*1.2*
Corporate Economic Profits ($Bill)	767.0	886.0	1032.0	1162.0	1352.0	*1468.0*	*1527.0*	*1603.0*	*1715.0*	*1852.0*
Yr-to-Yr % Change	-6.2	15.5	16.4	12.6	16.4	*8.6*	*4.0*	*5.0*	*7.0*	*8.0*
COMPOSITION OF REAL GDP-ANNUAL RATES OF CHANGE										
Gross Domestic Product	0.8	1.6	2.7	4.2	3.5	*3.5*	*3.0*	*3.1*	*3.3*	*3.5*
Final Sales	1.6	1.2	2.7	3.9	3.8	*3.3*	*2.8*	*3.0*	*3.2*	*3.4*
Total Consumption	2.5	2.7	2.9	3.9	3.5	*3.4*	*2.9*	*3.0*	*3.1*	*3.3*
Nonresidential Fixed Investment	-4.2	-9.2	1.2	9.4	8.6	*9.7*	*6.6*	*5.0*	*5.0*	*7.0*
Structures	-2.2	-17.0	-4.3	2.2	2.0	*7.0*	*6.1*	*3.0*	*4.0*	*5.0*
Equipment & Software	-4.9	-6.2	3.3	11.9	10.9	*10.4*	*6.3*	*5.0*	*6.0*	*8.0*
Residential Fixed Investment	0.2	4.9	8.3	10.3	7.1	*0.2*	*-6.8*	*-2.0*	*1.0*	*3.0*
Exports	-5.4	-2.3	1.8	8.4	6.9	*7.7*	*8.8*	*9.9*	*9.3*	*7.6*
Imports	-2.7	3.4	4.6	10.7	6.3	*6.9*	*4.3*	*3.6*	*5.4*	*5.5*
Federal Government	3.8	7.0	7.0	5.2	2.3	*2.8*	*0.6*	*0.9*	*0.7*	*1.1*
State & Local Governments	3.1	3.1	0.6	0.4	1.5	*0.6*	*2.0*	*1.3*	*1.9*	*1.4*

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Continued from cover page

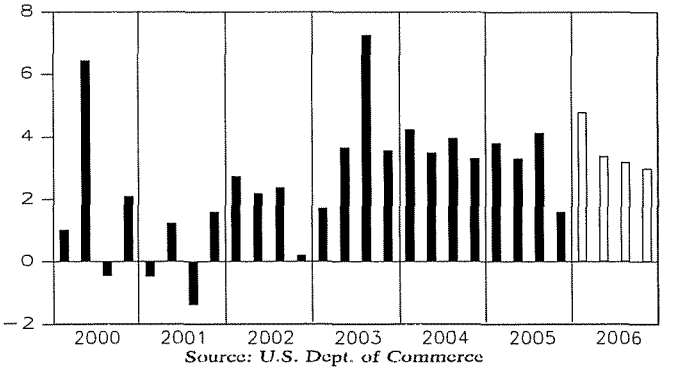
housing market, where a collapse, while unlikely, can't be totally ruled out. High real estate prices and rising mortgage rates are reducing housing affordability for many Americans. The higher cost of heating and cooling one's home isn't helping matters. Our sense is that stabilizing long-term borrowing costs, lower oil prices, and flat-to-lower home prices—all of which we expect in the months ahead—are likely to help produce a soft landing in this sector, rather than a sharp downturn. Should our optimism be well founded, housing should not detract materially from GDP growth, which may still average 3%, or so, from late 2006 through 2007, and a little more than that by the final years of this decade.

Inflation and interest-rate trends are uncertain. Inflation is continuing to show some sharp month-to-month swings as oil prices surge, pull back, then rise again. Backing out the food and energy components—to give us the so-called core rate of inflation—yields a much more stable outcome, with prices remaining in a relatively narrow range. The recent rise in the price of other commodities (e.g., iron ore, copper, and zinc) and a pickup in labor costs pose their own risks to this pricing stability. The stepup in productivity (or labor-cost efficiency) during the first quarter should help lessen the price risks a bit. Interest rates are also charting an uncertain path, as the Federal Reserve's recent decision to raise the Federal Funds rate from 4.75% to 5.00% may not be the last word on monetary tightening. How the interest-rate scenario finally plays out will depend heavily on the likely paths taken by the economy—in terms of growth and inflation.

Global uncertainties are a very serious threat. The risks here have less to do with the developed world, where certain economies in Europe and Asia are performing well, than with the lesser-developed countries, where political and military unrest across the Mideast (notably in Iran and Iraq), and lingering strains

Gross Domestic Product *Chart 1*

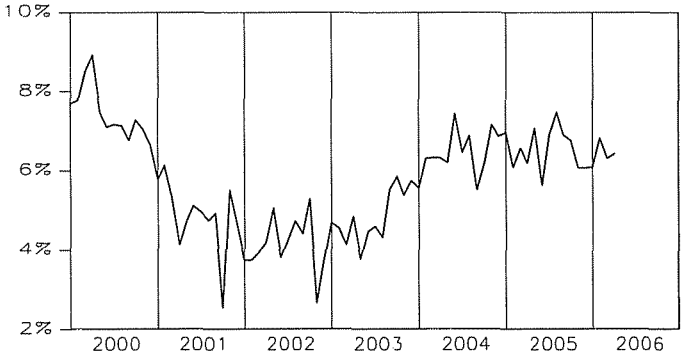
Real Annualized Percent Change - 2000 Chain-Weighted Dollars



Source: U.S. Dept. of Commerce

Personal Consumption Expenditures

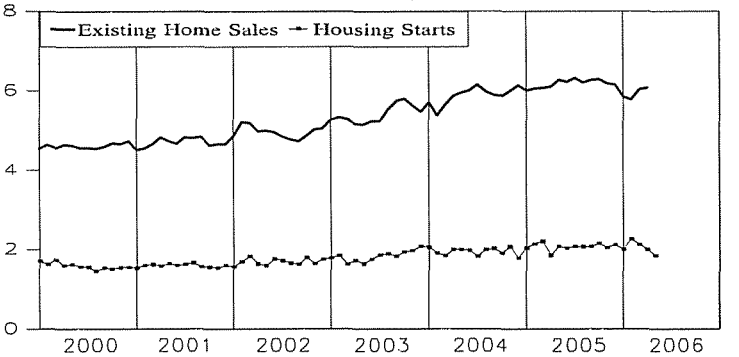
(Annualized Percent Change - Current Dollars) *Chart 2*



Source: U.S. Dept. of Commerce

Existing Home Sales & Housing Starts

(In Millions) *Chart 3*



Sources: U.S. Dept. of Commerce, Nat'l Assoc. of Realtors

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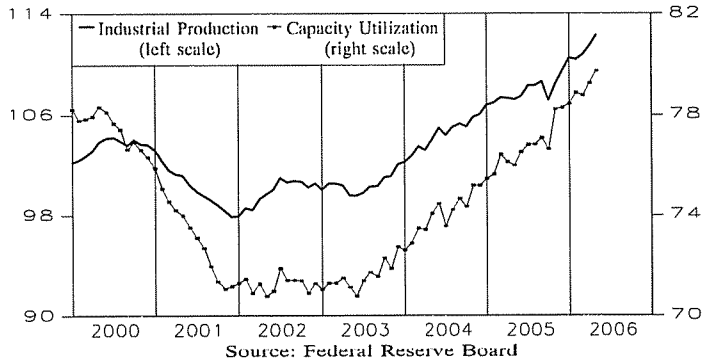
Industrial Production and Capacity Utilization *Chart 4*

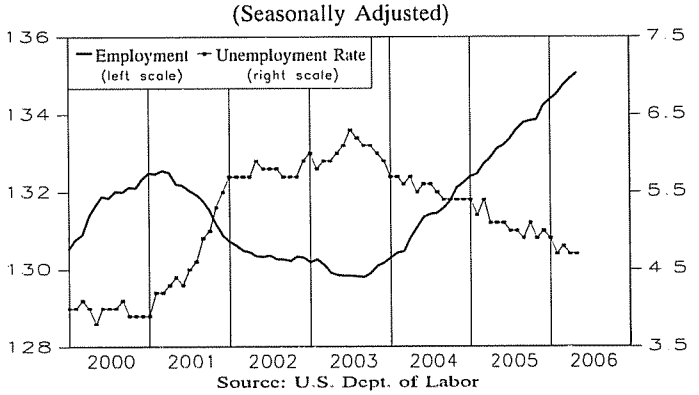
(Index: 1997 = 100)



Source: Federal Reserve Board

Employment & Unemployment Rate *Chart 5*

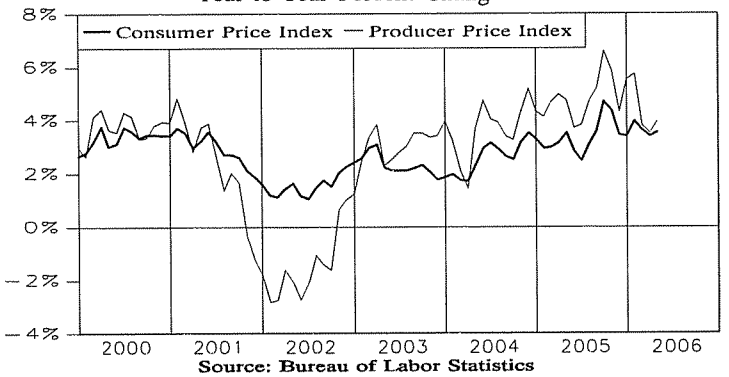
(Seasonally Adjusted)



Source: U.S. Dept. of Labor

Consumer and Producer Price Indexes

Year-to-Year Percent Change *Chart 6*



Source: Bureau of Labor Statistics

with North Korea, Nigeria, and Venezuela hold the potential to further roil the energy markets.

SOME SPECIFICS

Economic Growth: As noted, the pace of economic growth picked up noticeably during the opening three months of this year (Chart 1), with GDP surging by 4.8% on the strength of increases in personal consumption expenditures (Chart 2), government spending (principally on outlays for defense), and nonresidential fixed investment (i.e., capital spending). Restraining growth was a slower rate of increase in residential construction, as housing demand, which had been red hot for years, cooled down a bit, in response to record home prices and rising mortgage rates (Chart 3).

This solid improvement (following a weak close in the fourth quarter of 2005, in which GDP increased by just 1.7%) is likely to continue through the middle part of this year, with growth of 3.3%-3.5% likely during the current quarter. Helping the economy move forward should be further increases in industrial production and factory use (Chart 4), steady growth in payrolls and low unemployment (Chart 5), and moderate gains in retail spending. We also expect the housing market to soften further and the auto sector to remain spotty. Thereafter, we think GDP growth will average 3%, or so, over the following 12 to 18 months, as higher heating and cooling bills and greater borrowing costs induce economically vulnerable consumers to consider reining in their spending. Business investment in plant and equipment should remain strong, as it often does in the mature stages of an economic expansion, and that should help pick up some of the slack.

It should be noted that our GDP forecast for 2006 and 2007 assumes that oil prices will average $60-$65 a barrel, which is somewhat below their recent peak, that the Federal Reserve will be finished raising interest rates by this summer and then start to cut rates next year, and that there

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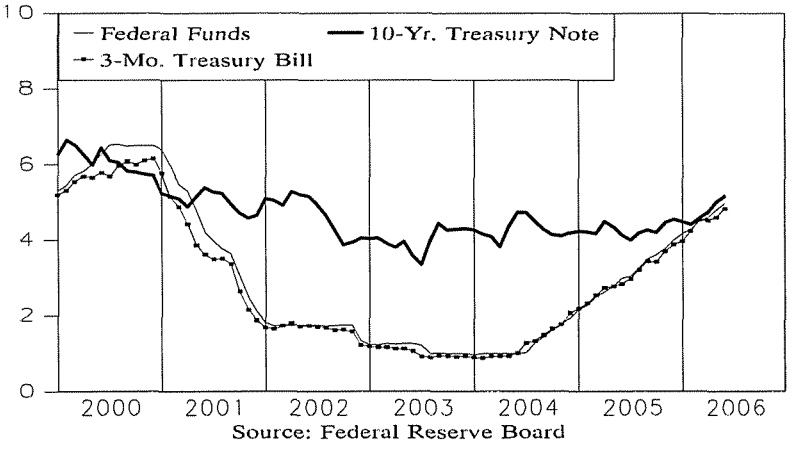
will be no major deterioration on the global front, which is a risky assumption in the post-September 11, 2001 world.

Inflation: Relative pricing stability (excluding food and energy) has been a hallmark of the current business up cycle, as well as over the last two decades. However, there are signs, which suggest that the days of stable inflation may be numbered. We aren't assuming that inflation will suddenly surge. However, we do sense that record oil prices, the relentless rise in industrial materials prices, and the recent rise in wage costs will combine to produce somewhat higher inflation. Helping to limit these likely pricing pressures should be moderating GDP growth, stabilizing energy prices, and additional increases in productivity. Nevertheless, with the outlook for growth brightening in parts of Europe and Asia, it is unlikely we will see a sustained drop in the prices of oil, precious metals, or commodities. However, we may still see a selective easing in producer and consumer prices later this year (Chart 6).

Interest Rates: On May 10th, the Federal Reserve raised the Federal Funds rate from 4.75% to 5.00%, the 16th consecutive increase in that key short-term lending rate. The Fed also indicated that future rate action would be contingent on the strength of the economic data going forward. Given the likely moderation in GDP growth in the second half of this year, we think the Fed will call a halt to its rate tightening initiatives over the summer, with one or two additional rate hikes at most. Such a course should not bring the business expansion to a premature end. As noted, we think the Fed's subsequent moves—which may take place as early as next spring—will focus on reducing rates in recognition of a probable slowing in GDP growth and a likely stabilization of inflation (Chart 7).

Corporate Earnings: The news here continues to be favorable, with key sectors, led by the oil companies and many industrial concerns, routinely reporting solid year-to-year earnings growth. Indeed, the recent quarter was highly rewarding for Corporate America with increases in the range of 13%-15% for the companies listed in the Standard & Poor's 500 Index. Similar strong profit growth is likely during the current period, with healthy demand, rising productivity, and the careful attention to costs probably combining to generate further stellar bottom-line comparisons. Thereafter, earnings growth is likely to moderate somewhat, which would be consistent with the more restrained increases in GDP we see ahead. Earnings should still trend modestly higher in 2007. Steady income growth also is likely over the coming 3 to 5 years.

Selected Interest Rates *Chart 7*
(In Percent)



Source: Federal Reserve Board

THE STOCK MARKET

The recovery in such heretofore moribund industrial sectors as steel, machinery, and aluminum, the record profits in the energy group, and the steady growth in most other sectors had helped—until severe profit-taking set in earlier this month—to give the market a nice lift. In fact, a number of the principal averages—such as the Standard & Poor's 500 Index and the NASDAQ—had, at one point, surged to several-year highs. The Dow Jones Industrial Average, meanwhile, had come to within a whisker of a record close until the aforementioned profit taking set in, while the Value Line (Arithmetic) Index had earlier climbed to an all-time high.

The modest 2006 market gains to date have come against a backdrop of rising oil prices, surging precious metals prices (especially gold, which recently rose above $700 an ounce), and soaring commodities, as well as a difficult and threatening global outlook, which continues to defy easy solutions. The market's resilience, which attests to the importance of earnings, is all the more remarkable given the length of the present bull market, which dates back to 2002.

Going forward, the equity market's fundamentals appear solid, as profits seem set to rise further, interest rates seem likely to peak over the summer, the economy is growing steadily, and oil prices should stabilize later this year, which clearly would be helpful in keeping inflation excesses at bay.

Conclusion: The foregoing would seem to be a prescription for a pickup in the stock market in the months ahead, absent a major shock globally or a serious misstep by an overly aggressive Federal Reserve Board. Please refer to the inside back cover of *Selection & Opinion* for our Asset Allocation Model's current reading.

Stock Highlight: MCDERMOTT INT'L (MDR - 44.05)

McDermott International is a worldwide energy services company that operates in three market segments. Its marine construction unit, J. Ray McDermott, is involved in the engineering and installation of offshore energy exploration & production facilities. The company's government operations, BWX Technologies, supplies nuclear components and manages facilities for the U.S. Department of Energy. Lastly, Babcock & Wilcox (B&W) produces coal-powered generation systems for various industries.

During the past year, all of McDermott's business units made great strides in lifting sales and net income closer to full recovery. Share net rose 128%, to $1.37 (adjusted for a 3-for-2 stock split payable 6/1/06), in 2005, and we expect this measure to double by 2008. Since the start of 2005, the share price has nearly quadrupled, achieving record highs. Volatile McDermott shares are ranked 1 (Highest) for Timeliness, and offer above-average appreciation potential to 2009-2011. In our view, the equity is best considered by momentum investors.

Business is on an Upswing

J. Ray McDermott is the company's largest unit. This operation is currently benefiting from the restoration and expansion of offshore drilling in the Gulf of Mexico area. Given ample global business opportunity, management has been selective in taking jobs, thus securing good prices. (For example, the Dolphin Energy project in the Middle East will add $20 million in operating profit to current quarter results.) Margins are quite favorable. J. Ray's backlog has mushroomed to $2.4 billion at the end of the recent March quarter, up from $1.1 billion one year ago. Importantly, the unit has bids out for $3.7 billion worth of business, which augurs well for long-term revenue and earnings streams. McDermott's total backlog stands at $5.93 billion, or more than double the year-earlier level.

Elsewhere, this year, McDermott has returned to reporting B&W results on a consolidated basis. Last August, management reached a settlement with asbestos claimants (see below), which enabled B&W to come out of bankruptcy in February. The unit is capitalizing on demand for economical coal-fired power generation. Indeed, it holds about a 50% share of the industrial market, and continues to bring in more business.

Also notable, BWX Technologies is part of a group that has won a contract to operate the Department of Energy's nuclear facility at Los Alamos National Laboratory. Over the next 18 years, this turnkey agreement should provide annual revenues of $80 million and share net of $0.07-$0.08 to McDermott. A solid, long-standing record of service to the U.S. government probably helped to secure participation.

A Richer Cash Position

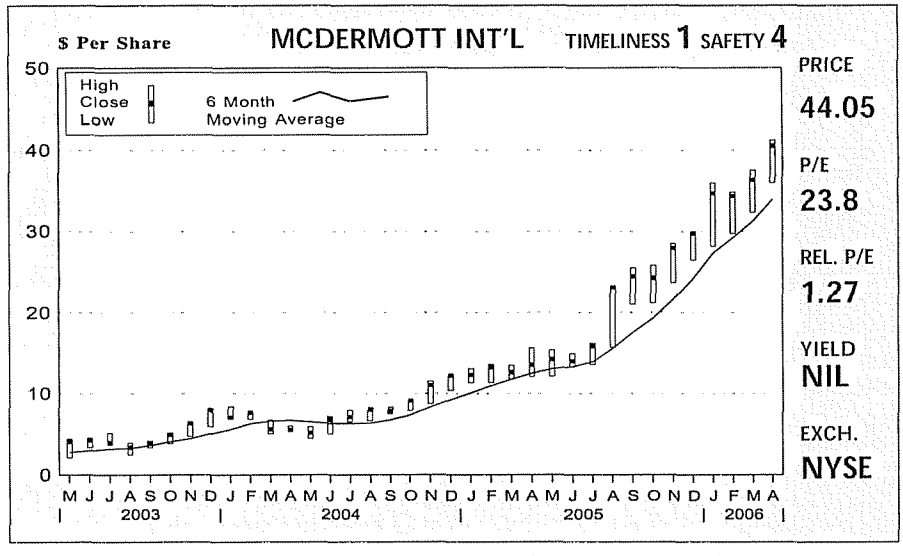
After several years of uneven operating performance, McDermott firmed up results in 2004 and 2005 and cash flow strengthened. This has created greater financial flexibility. This month, the company announced a cash tender offer for $200 million in J. Ray 11% Senior Secured Notes due 2013. Interest savings should be significant. Too, at the close of the latest quarter, cash on the balance sheet hit a high of $687 million (including short-term investments). After completion of the tender offer, we expect most of this cash to be set aside for B&W's asbestos claims. According to the above-mentioned settlement, the unit will contribute $605 million to an asbestos claimant trust, unless the Fairness in Asbestos Injury Resolution (FAIR) Act becomes law by November 30th. (The company would confirm a $250 million B&W note payable and make a $355 million cash payment in May 2007.) If the FAIR passes by that date, which is by no means certain, McDermott would only be on the hook for $25 million. Regardless of the FAIR outcome, McDermott will gain from B&W's positive operating contribution.

Eric M. Gottlieb
Analyst

YEAR	EPS	DIV.	P/E Ratio
2007E	2.40	—	18.4
2006E	1.95	—	22.6
2005A	1.37	—	13.0
2004A	0.60	—	12.6
2003A	d0.85	—	—

STOCK HIGHLIGHT SELECTION

Value Line selects its Stock Highlight from the 100 stocks that have been and currently are ranked 1 (Highest) for probable market performance in the next 12 months. The analysis offered is solely to provide subscribers with a more detailed examination of the individual stock and is not necessarily suggested as a recommendation for a specific portfolio



(For a full-page report, including company statistics, see page 1393 of Ratings & Reports dated 4/28/06)

(All per-share numbers are adjusted for a 3-for-2 stock split payable 6/1/06)

Stocks for Long-Term Gains

Each week, the *Summary & Index* includes a screen titled "High 3- to 5-year Appreciation Potential" that lists 100 equities under our review with the highest projected capital gains through 2009-2011. Within this list, however, are some very risky issues whose forecasted progress is based on the success of projected turnarounds, which, of course, cannot be assured.

We have greater confidence in our year-ahead ranking system, which is primarily based on historical data, than in our 3- to 5-year projections. Therefore, even if you have long-term investment goals, the best way to fulfill them, in our judgment, is by maintaining a portfolio of timely stocks. Accordingly, this week we've prepared a screen that focuses on long-term gains, but in a rigorous fashion.

First, we limited our roster to stocks whose price appreciation potential through 2009-2011, calculated by using the mid-point of each stock's target price range, is at least 90%, versus the 45% median for the Value Line universe. We also restricted our selections to companies whose per-share earnings have grown at an annualized rate of at least 18% over the last five years and whose Safety rank is 3 (Average) or better. Finally, all stocks had to be ranked at least 2 (Above Average) for Timeliness, thus guarding against near-term underperformance. The equities that survived these cuts are listed in descending order of projected long-term appreciation.

As always, we advise investors to consult the most recent stock analyses in *Ratings & Reports* before investing in any of these issues.

Ratings & Reports Page	Ticker	Company Name	Recent Price	3-5 Year Appreciation Potential	E.P.S. Growth Past 5 Years	Timeliness	Safety	P/E Ratio
883	HD	Home Depot	38 01	175%	20 5%	1	2	12 6
2193	FISV	Fiserv Inc	43 30	130	21 5	2	3	17 5
1075	NSM	National Semic	27 38	120	36 5	2	3	18 9
885	LOW	Lowe's Cos	61 27	100	27 0	2	2	15 3
1870	TWX	Time Warner	17 53	100	49 5	2	3	18 3
1712	BBBY	Bed Bath & Beyond	36 24	95	30 5	2	2	18 2
1686	KSS	Kohl's Corp	57 20	90	20 5	1	3	21 7

CLOSING STOCK MARKET AVERAGES AS OF PRESS TIME

	5/11/2006	5/18/2006	%Change 1 week	%Change 12 months
Dow Jones Industrial Average	11500 73	11128 29	-3 2%	+6 3%
Standard & Poor's 500	1305 92	1261 81	-3 4%	+6 4%
N Y. Stock Exchange Composite	8526 74	8148 18	-4 4%	+14 6%
NASDAQ Composite	2272 70	2180 32	-4 1%	+7 4%
NASDAQ 100	1657 48	1587 11	-4 2%	+5 2%
American Stock Exchange Index	2012 84	1916 13	-4 8%	+32 1%
Value Line (Geometric)	446 58	426 81	-4 4%	+11 8%
Value Line (Arithmetic)	2104 03	2011 78	-4 4%	+16 7%
London (FT-SE 100)	6042 0	5671 6	-6 1%	+14 6%
Tokyo (Nikkei)	16862 14	16087 18	-4 6%	+48 5%
Russell 2000	757 47	718 47	-5 1%	+18 2%

Investors' Datebook: June, 2006

DATE	EVENT
6/1	Initial Unemployment Claims-8:30
	Construction Expenditures, April-10:00
	ISM's Purchasing Manager's Index, May-10:00
	Weekly Fed Data-4:30
	Productivity & Costs (Revised)
6/2	Employment Situation, May-8:30
	Factory Orders, April-10:00
6/5	13- & 26-Week Treasury Bill Auction
6/7	Consumer Installment Credit, April-3:00
6/8	Initial Unemployment Claims-8:30
	Weekly Fed Data-4:30
	Wholesale Trade, April
6/9	Merchandise Trade Balance, April-8:30
6/12	13- & 26-Week Treasury Bill Auction
	Treasury Budget Report, May-2:00
6/13	Advance Retail Sales, May-8:30
	Producer Price Index, May-8:30
	Mfg. & Trade: Inventories & Sales, April-10:00
6/14	Consumer Price Index, May-8:30
	Real Earnings, May
6/15	Initial Unemployment Claims-8:30
	Capacity Utilization, May-9:15
	Industrial Production, May-9:15
	Weekly Fed Data-4:30
6/19	13- & 26-Week Treasury Bill Auction
6/20	Housing Starts & Building Permits, May-8:30
6/22	Initial Unemployment Claims-8:30
	Leading Indicators, May-10:00
	Weekly Fed Data-4:30
6/23	Durable Goods Orders, May-8:30
6/26	13- & 26-Week Treasury Bill Auction
	New Home Sales, May-10:00
6/28	FOMC Meeting
6/29	Initial Unemployment Claims-8:30
	Weekly Fed Data-4:30
	Agricultural Prices
	Corporate Profits, 1Q06 (Final)
	FOMC Meeting
	Gross Domestic Product, 1Q06 (Final)
6/30	Personal Income and Outlays, May-8:30

Source: Office of Management & Budget.

Model Portfolios: Recent Developments

PORTFOLIO I

The first two months of the June quarter have been particularly difficult for Portfolio I, as it has underperformed the major market benchmarks by a considerable margin. Although there have been instances where investors either were disappointed in or grew wary over one or more of our selections' prospects, the general motivation appears to be one of profit taking. We note that the portfolio had a strong first quarter, making it ripe for such action. In the ensuing interim, we have replaced a number of our holdings with stocks that should work to stem the current losses. Meanwhile, in the arena of good news/bad news, Dell has announced that it will start using *Advanced Micro Devices* microprocessors in its server products, giving a large boost to *AMD* shares and support to the semiconductor maker's prospects. On the other hand, a cloud has recently gathered over *RSA Security* stock, as there seems to be some concern over the timing of stock option grants to executive management. We are making no changes this week.

PORTFOLIO II

Portfolio II has been weighed down by the market's recent selloff. Most of the stocks have traded lower lately, erasing the modest gains recorded by the portfolio in the opening weeks of the June quarter. Two of our hardest hit equities in the recent downturn have been *Microchip Technology* and *Textron*, which, not surprisingly, have the two lowest scores, 30 and 60, respectively, for Price Stability among our holdings. (We would attribute most of the recent downturn in *Wachovia* shares to investor skittishness regarding the bank's proposed $25 billion acquisition of a California thrift rather than trends in the broader market.) Still, in keeping with its relatively conservative posture, the portfolio has a median Price Stability of 90, on a scale of 5 to 100. It follows then that our holdings overall would perform relatively well during rocky market stretches. The portfolio's performance thus far in the June quarter, though hardly exciting on an absolute basis, seems to bear this out. We are making no changes to our holdings this week.

PORTFOLIO III

Portfolio III has drifted lower in recent days, as investor fears of rising inflation and further interest rate hikes by the Federal Reserve have taken the air out of the broader market averages. In this climate, even companies that report healthy, but not spectacular, financial results are seeing their stock prices come under pressure. *Home Depot*, for instance, posted better-than-expected share-net growth of 23% during the April interim, thanks to gross margin improvement, good expense management, and a strong sales performance from the former Hughes Supply operations. Yet, its shares retreated when Wall Street raised questions about unexciting market-share trends and the company's decision to no longer report same-store sales figures. That said, we believe that *Home Depot* has a bright future. Growth out to decade's end will likely be fueled by additional margin expansion, and a strategic shift away from retail and toward the highly profitable (and fairly stable) commercial business. We are making no changes to Portfolio III this week.

PORTFOLIO I: STOCKS WITH ABOVE-AVERAGE YEAR-AHEAD PRICE POTENTIAL

(primarily suitable for more aggressive investors)

Ratings & Reports Page	Ticker	Company	Recent Price	Time-liness	Safety	P/E	Yield%	Beta	Financial Strength	Industry Name
1050	AMD	Advanced Micro Dev	30 77	1	4	23 1	Nil	1 95	B+	Semiconductor
374	ABCO	Advisory Board	50 64	2	3	34 2	Nil	0 95	A	Information Services
126	A	Agilent Technologies	34 79	1	3	24 0	Nil	1 55	B++	Precision Instrument
1027	BHE	Benchmark Electronics	25 95	1	3	18 1	Nil	1 55	B+	Electronics
590	BER	Berkley (W R)	34 90	1	3	11 7	0 5	0 85	B+	Insurance (Prop/Cas)
775	ESRX	Express Scripts 'A'	76 02	2	3	24 8	Nil	1 05	A	Pharmacy Services
1426	GS	Goldman Sachs	148 21	2	1	9 2	0 9	1.30	A++	Securities Brokerage
1544	HANS	Hansen Natural Corp	186 83	1	3	52 9	Nil	0 85	B+	Beverage (Soft Drink)
776	HLEX	HealthExtras Inc	28 61	2	3	42 1	Nil	1 05	B+	Pharmacy Services
1113	HPQ	Hewlett-Packard	32 16	1	3	17 9	1 0	1 40	A+	Computers/Peripherals
1067	ISIL	Intersil Corp 'A'	27 43	1	3	28 9	0 7	1 85	B+	Semiconductor
1298	MPS	MPS Group	15 00	1	3	23 1	Nil	1 20	B	Human Resources
223	MDT	Medtronic, Inc	49 19	2	1	20 7	0 9	0 80	A++	Medical Supplies
226	MDCC	Molecular Devices	28 99	2	3	26 4	Nil	0 95	B+	Medical Supplies
2210	PAYX	Paychex, Inc	38 68	1	3	31 2	1 7	1 15	A	Computer Software/Svcs
2212	RSAS	RSA Security	17 39	1	3	32 2	Nil	1 70	B++	Computer Software/Svcs
230	RMD	ResMed Inc	47 33	2	3	35 6	Nil	0 95	B++	Medical Supplies
1954	SLB	Schlumberger Ltd	65 93	1	3	27 1	0 8	1 10	A+	Oilfield Svcs/Equip
908	SCSS	Select Comfort	36.26	1	3	28 1	Nil	0 85	A	Furn/Home Furnishings
354	SRCL	Stericycle Inc	62 50	2	3	27 1	Nil	0 80	B+	Environmental

To qualify for purchase in the above portfolio, a stock must have a Timeliness Rank of 1 and a Financial Strength Rating of at least B+. If a stock's Timeliness rank falls below 2, it will be automatically removed. Stocks in the above portfolio are selected and monitored by Charles Clark, Assistant Research Director.

PORTFOLIO II: STOCKS FOR INCOME AND POTENTIAL PRICE APPRECIATION

(primarily suitable for more conservative investors)

Ratings & Reports Page	Ticker	Company	Recent Price	Time-liness	Safety	P/E	Yield%	Beta	Financial Strength	Industry Name
593	CB	Chubb Corp	50 59	3	2	11 6	2.0	1 05	A	Insurance (Prop/Cas)
948	CL	Colgate-Palmolive	60.98	3	1	21 7	2 1	0.60	A++	Household Products
1966	EMN	Eastman Chemical	55 06	3	3	10 7	3 2	1 05	B+	Chemical (Diversified)
788	ETN	Eaton Corp	76 28	3	1	12 8	1 8	1 10	A+	Auto Parts
1383	FO	Fortune Brands	75 99	NR	1	15 0	1 9	NMF	A+	Diversified Co
1011	GE	Gen'l Electric	34 42	3	1	17 9	2 9	1 30	A++	Electrical Equipment
1493	HNZ	Heinz (H J)	41 03	3	1	20 2	2 9	0 65	A+	Food Processing
1166	HCBK	Hudson City Bancorp	13 52	2	3	24 6	2 3	0 85	B+	Thrift
1389	ITT	ITT Industries	55 05	3	1	19 3	0 8	0 90	A	Diversified Co
218	JNJ	Johnson & Johnson	60 13	3	1	16 6	2 5	0 70	A++	Medical Supplies
447	KMI	Kinder Morgan	85 10	3	3	17 6	4 2	0 95	B+	Natural Gas (Div)
1072	MCHP	Microchip Technology	33 50	2	3	23 8	2 6	1 30	B+	Semiconductor
943	SON	Sonoco Products	29 75	3	2	14 9	3 2	1 00	A	Packaging & Container
2123	SNV	Synovus Financial	27 00	3	2	14 8	3 0	1 05	B++	Bank
1405	TXT	Textron, Inc	93 48	3	3	19 3	1 7	1 20	A	Diversified Co
263	UPS	United Parcel Serv	79 73	2	1	21 1	1 9	0 75	A+	Air Transport
629	USB	U S Bancorp	31 20	3	3	12 2	4 3	1 15	B++	Bank (Midwest)
1665	VFC	V F Corp	61 50	3	2	12 7	3 6	0 95	A	Apparel
2125	WB	Wachovia Corp	54 01	3	2	11 7	3 8	1 05	A	Bank
2127	WFC	Wells Fargo	66 47	3	1	13 7	3 1	0 85	A+	Bank

To qualify for purchase in the above portfolio, a stock must have a yield that is in the top half of the Value Line universe, a Timeliness Rank of at least 3 (unranked stocks may be selected occasionally), and a Safety Rank of 3 or better. If a stock's Timeliness Rank falls below 3, that stock will be automatically removed. Stocks are selected and monitored by Robert M. Greene, CFA, Senior Industry Analyst.

PORTFOLIO III: STOCKS WITH LONG-TERM PRICE GROWTH POTENTIAL

(primarily suitable for investors with a 3- to 5-year horizon)

Ratings & Reports Page	Ticker	Company	Recent Price	Time-liness	Safety	P/E	Yield%	Beta	3- to 5-yr Appreciation Potential	Industry Name
1202	AFL	Aflac Inc	47 44	3	2	17 6	1 1	0 90	35 - 90%	Insurance (Life)
1533	BUD	Anheuser-Busch	46 27	4	1	19 0	2 3	0 60	50 - 85	Beverage (Alcoholic)
1580	BFAM	Bright Horizons Family	36 70	3	3	25 7	Nil	0 80	35 - 120	Educational Services
1252	BMY	Bristol-Myers Squibb	24 13	3	2	20 8	4 6	1 00	25 - 65	Drug
1719	CDWC	CDW Corp	55 40	3	3	16 7	0 8	1 20	15 - 80	Retail (Special Lines)
1864	DIS	Disney (Walt)	29 76	1	3	19 8	0 9	1 35	35 - 100	Entertainment
1597	ERTS	Electronic Arts	42 18	5	3	55 5	Nil	1 15	40 - 125	Entertainment Tech
883	HD	Home Depot	38 01	1	2	12 6	1 6	1 10	135 - 215	Retail Building Supply
1495	HRL	Hormel Foods	33 26	3	1	17 1	1 7	0 70	50 - 95	Food Processing
218	JNJ	Johnson & Johnson	60 13	3	1	16 6	2 5	0 70	40 - 75	Medical Supplies
223	MDT	Medtronic, Inc	49 19	2	1	20 7	0 9	0 80	95 - 135	Medical Supplies
604	PRE	PartnerRe Ltd	61 88	4	3	13 8	2 6	1 10	20 - 85	Insurance (Prop/Cas)
1547	PEP	PepsiCo, Inc	59 65	3	1	20 7	2 0	0 65	35 - 70	Beverage (Soft Drink)
1753	PETM	PetSmart, Inc	27 38	3	3	20 9	0 5	0 95	65 - 135	Retail (Special Lines)
316	SBUX	Starbucks Corp	36 41	2	3	52 0	Nil	0 80	35 - 90	Restaurant
769	TMX	Telefonos de Mexico ADR	22 06	3	3	9 3	3 6	0.85	35 - 105	Foreign Telecom
653	UNH	UnitedHealth Group	46 89	3	1	17 1	0 1	0 65	105 - 145	Medical Services
1772	WSM	Williams-Sonoma	40 92	3	3	22 2	1 0	1 20	35 - 95	Retail (Special Lines)
1513	WWY	Wrigley (Wm) Jr	47 20	5	1	24 8	2 2	0 60	60 - 90	Food Processing
1087	XLNX	Xilinx Inc	27 04	2	3	24 8	1 3	1.75	65 - 140	Semiconductor

To qualify for purchase in the above portfolio, a stock must have worthwhile and longer-term appreciation potential. Among the factors considered for selection are a stock's Timeliness and Safety Rank and its 3- to 5-year appreciation potential. (Occasionally a stock will be unranked (NR), usually because of a short trading history or a major corporate reorganization.) Stocks in the above portfolio are selected and monitored by Justin Hellman, Senior Industry Analyst.

Equity Funds Average Performance

TOTAL RETURN*
Percent Change through April, 2006

	One Month	Three Month	Year-to-Date	One Year	Five Year (Annualized)
Performance Objective					
Aggressive Growth	0.68	2.29	7.80	24.60	2.92
Growth	0.91	2.16	6.10	19.80	3.47
Growth/Income	1.67	3.18	6.40	17.40	3.82
Income	1.98	3.45	6.60	20.50	5.81
Balanced	0.94	1.70	3.90	11.40	3.92
International					
European Equity	5.55	11.31	19.20	37.90	10.27
Foreign Equity	5.23	7.95	16.30	41.50	11.94
Global Equity	3.08	5.38	11.20	28.70	6.73
Pacific Equity	4.26	7.27	14.70	43.50	11.89
Sector					
Energy/Natural Resources	6.72	2.25	18.20	60.50	18.72
Financial Services	2.94	5.57	8.50	23.10	8.40
Health	-3.56	-3.09	-0.40	12.80	3.06
Precious Metals	12.34	13.12	35.20	106.10	35.88
Real Estate	-3.04	3.45	10.20	25.70	19.85
Technology	0.34	1.56	8.20	30.50	-3.18
Utilities	1.65	2.08	6.20	17.80	1.43
Other					
Convertible	0.87	1.89	5.80	16.80	4.73
Flexible	1.18	1.91	4.80	12.60	4.17
Specialty	2.00	4.30	8.80	22.30	4.42
Small Company	0.54	4.38	12.50	31.00	9.29
S&P 500	**1.34**	**2.88**	**5.60**	**15.40**	**2.69**

Source: The Value Line Mutual Fund Survey

* *Dividends plus capital appreciation. Dividends are reinvested as of the ex-dividend date. The returns are arithmetic averages based on the performances of all funds within each category.*

Fixed-Income Funds Average Performance

TOTAL REINVESTMENT*
Percent Change through April, 2006

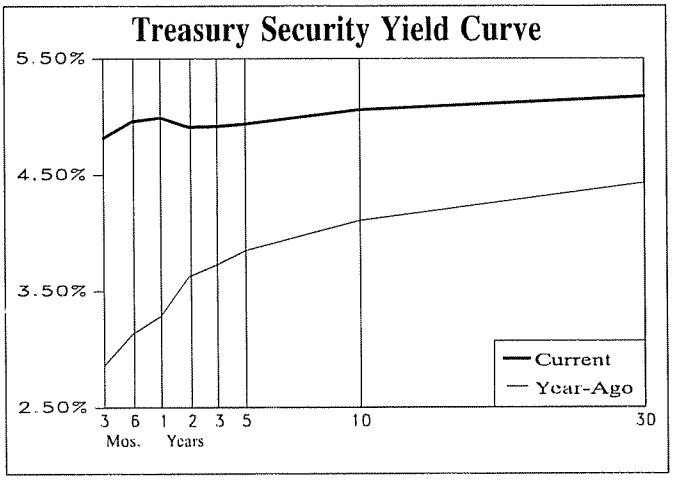
	One Month	Three Month	Year-to-Date	One Year	Five Year (Annualized)
U.S. Government and Agency Bond					
Short term—U.S. Gov't	0.17	0.15	0.30	0.80	2.37
Immediate term—U.S. Gov't	-0.16	-0.70	-0.80	-0.10	3.67
Long term—U.S. Gov't	-0.39	-1.24	-1.40	-0.50	3.87
GNMA	-0.04	-0.19	Nil	1.40	3.72
Corporate Bond					
High Quality	-0.07	-0.52	-0.50	0.70	4.12
High Yield	0.56	1.69	2.90	7.60	5.96
International	1.27	0.70	1.90	3.00	8.20
Municipal Bond					
California Tax Exempt	-0.23	-0.27	-0.10	1.40	4.27
New York State Tax Exempt	-0.19	-0.21	-0.10	1.20	4.00
Other States Tax Exempt	-0.03	-0.04	0.20	2.10	4.19

Source: The Value Line Mutual Fund Survey

* *The cumulative rate of investment growth, including the reinvestment of dividend income and capital gains distributions as of the ex-dividend date. The investment objective averages are arithmetic averages calculated on the basis of the total reinvested rates of return produced by all funds within each investment objective category.*

Selected Yields

	Recent (5/18/06)	3 Months Ago (2/16/06)	Year Ago (5/19/05)
TAXABLE			
Market Rates			
Discount Rate	6.00	5.50	4.00
Federal Funds	5.00	4.50	3.00
Prime Rate	8.00	7.50	6.00
30-day CP (A1/P1)	5.00	4.49	3.02
3-month LIBOR	5.19	4.77	3.28
Bank CDs			
6-month	3.06	2.89	2.26
1-year	3.87	3.46	2.77
5-year	4.03	3.97	3.80
U.S. Treasury Securities			
3-month	4.82	4.53	2.86
6-month	4.96	4.68	3.13
1-year	4.99	4.70	3.29
5-year	4.94	4.58	3.85
10-year	5.06	4.58	4.11
10-year (inflation-protected)	2.37	2.08	1.64
30-year	5.17	4.57	4.43
30-year Zero	5.06	4.62	4.45



	Recent (5/18/06)	3 Months Ago (2/16/06)	Year Ago (5/19/05)
Mortgage-Backed Securities			
GNMA 6.5%	6.01	5.33	4.96
FHLMC 6.5% (Gold)	6.19	5.88	5.09
FNMA 6.5%	6.15	5.74	4.86
FNMA ARM	4.81	4.47	3.48
Corporate Bonds			
Financial (10-year) A	6.01	5.50	4.89
Industrial (25/30-year) A	6.28	5.68	5.36
Utility (25/30-year) A	6.28	5.63	5.25
Utility (25/30-year) Baa/BBB	6.59	5.98	5.61
Foreign Bonds (10-Year)			
Canada	4.32	4.19	4.09
Germany	4.03	3.51	3.35
Japan	1.95	1.57	1.27
United Kingdom	4.58	4.17	4.37
Preferred Stocks			
Utility A	7.25	7.07	6.96
Financial A	6.37	6.22	5.94
Financial Adjustable A	5.52	5.52	5.52
TAX-EXEMPT			
Bond Buyer Indexes			
20-Bond Index (GOs)	4.58	4.42	4.25
25-Bond Index (Revs)	5.24	5.14	4.81
General Obligation Bonds (GOs)			
1-year Aaa	3.62	3.26	2.72
1-year A	3.75	3.38	2.89
5-year Aaa	3.67	3.50	2.98
5-year A	3.95	3.78	3.28
10-year Aaa	4.10	3.86	3.49
10-year A	4.42	4.17	3.84
25/30-year Aaa	4.53	4.36	4.30
25/30-year A	4.79	4.61	4.54
Revenue Bonds (Revs) (25/30-Year)			
Education AA	4.65	4.37	4.31
Electric AA	4.66	4.44	4.44
Housing AA	4.70	4.63	4.65
Hospital AA	4.90	4.79	4.48
Toll Road Aaa	4.77	4.63	4.44

Federal Reserve Data

BANK RESERVES

(Two-Week Period, in Millions, Not Seasonally Adjusted)

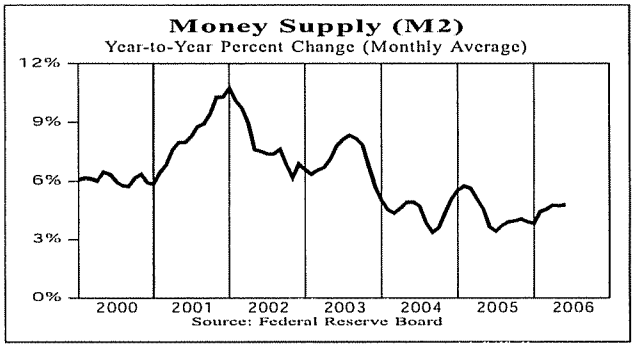
	Recent Levels			Average Levels Over the Last...		
	5/10/06	4/26/06	Change	12 Wks.	26 Wks.	52 Wks.
Excess Reserves	2145	1466	679	1678	1694	1730
Borrowed Reserves	156	103	53	160	147	221
Net Free/Borrowed Reserves	1989	1363	626	1518	1547	1509

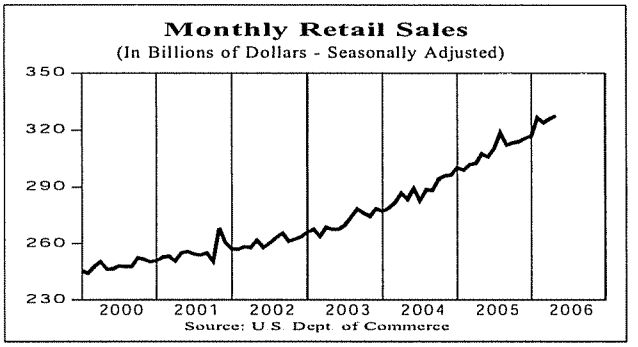
MONEY SUPPLY

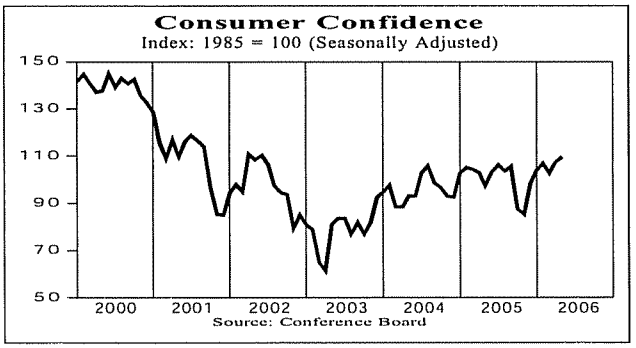
(One-Week Period, in Billions, Seasonally Adjusted)

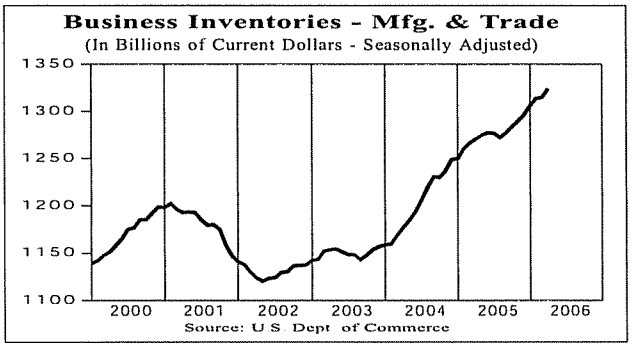
	Recent Levels			Growth Rates Over the Last...		
	5/8/06	5/1/06	Change	3 Mos.	6 Mos.	12 Mos.
M1 (Currency+demand deposits)	1382.8	1388.3	-5.5	-0.1%	3.5%	1.2%
M2 (M1+savings+small time deposits)	6770.9	6794.8	-23.9	2.2%	4.2%	4.4%

Tracking the Economy









Major Insider Transactions†

PURCHASES

Latest Full-Page Report	Timeliness Rank	Company	Insider, Title	Date	Shares Traded	Shares Held(a)	Price Range	Recent Price
2138	3	Aon Corp.	E.R. Martin, Dir.	5/8/06	5,000	10,000	$37.81-$37.82	35.57
410	3	Chesapeake Energy	A.K. McClendon, Chair.	5/5/06-5/9/06	400,000	19,463,552	$32.54-$33.19	29.96
1488	-	Dean Foods	A.J. Bernon, Pres.	5/5/06	3,500	597,944	$36.70	35.64
1947	2	Helix Energy Solutions	O.E. Kratz, Chair.	5/3/06	15,000	4,995,147	$40.08	39.11
1967	3	Hexcel Corp.	M.L. Solomon, Dir.	5/8/06-5/9/06	25,000	93,354	$23.11-$23.20	21.55
1587	3	Laureate Education	R. Appadoo, Pres.	5/8/06	30,000	59,664	$48.74	46.27
1372	3	Watts Water Techn.	R.E. Jackson Jr., Dir.	5/9/06	5,000	13,669	$38.50	36.35

SALES

Latest Full-Page Report	Timeliness Rank	Company	Insider, Title	Date	Shares Traded	Shares Held(a)	Price Range	Recent Price
2231	-	Google, Inc.	K. Shriram, Dir.	5/2/06	150,000	12,681	$390.00-$402.00	374.50
2231	-	Google, Inc.	S. Brin, Pres.	5/2/06-5/3/06	264,499	NA	$390.00-$401.00	374.50
215	2	Intuitive Surgical	R.W. Duggan, Dir.	5/10/06	55,000	716,736	$129.05	115.43
874	3	NVR, Inc.	D.C. Schar, Chair.	5/10/06	16,833	413,059	$739.88-$749.00	667.00
419	2	Occidental Petroleum	S.I. Chazen, CFO	5/9/06	114,000	932,768	$104.52	92.86
419	2	Occidental Petroleum	J.W. Morgan, VP	5/9/06	100,000	328,995	$105.43	92.86
1509	5	Tyson Foods 'A'	D.J. Tyson, Dir.	5/2/06	750,000	NA	$14.64	15.17

* *Beneficial owner of more than 10% of common stock*

(a) Beneficial ownership at end of month in which transaction occurred.

† *Includes only large transactions in U.S.-traded stocks, excludes shares held in the form of limited partnerships, excludes options & family trusts.*

Major Insider Transactions are obtained from Vickers Stock Research Corporation.

Market Monitor

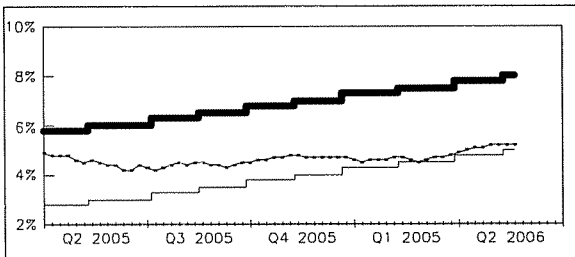
Valuations and Yields	5/18	5/11	13-week range	50-week range	Last market top (3-7-2005)	Last market bottom (10-9-2002)
Median price-earnings ratio of VL stocks	18.7	19.6	18.5 - 19.6	17.5 - 19.6	18.9	14.1
P/E (using 12-mo. est'd EPS) of DJ Industrials	16.2	16.6	16.1 - 16.6	15.3 - 16.8	16.5	15.2
Median dividend yield of VL stocks	1.6%	1.6%	1.5 - 1.6%	1.5 - 1.7%	1.6%	2.4%
Div'd yld. (12-mo. est.) of DJ Industrials	2.4%	2.3%	2.3 - 2.4%	2.2 - 2.5%	2.2%	2.6%
Prime Rate	8.0%	8.0%	7.5 - 8.0%	6.0 - 8.0%	5.5%	4.8%
Fed Funds (Target)	5.0%	5.0%	4.5 - 5.0%	3.0 - 5.0%	2.5%	1.8%
91-day T-bill rate	4.8%	4.8%	4.6 - 4.8%	3.0 - 4.8%	2.7%	1.6%
Moody's Aaa Corporate bond yield	5.9%	6.0%	5.3 - 6.0%	4.9 - 6.0%	5.4%	6.1%
30-year Treasury bond yield	5.2%	5.2%	4.5 - 5.2%	4.2 - 5.2%	4.7%	4.7%
Bond yield minus average earnings yield	0.6%	0.9%	-0.1 - 0.9%	-0.6 - 0.9%	0.1%	-1.0%

Market Sentiment	Wk. Ending 5/18	Wk. Ending 5/11	10-week average	13-week range	Last market top (3-7-2005)	Last market bottom (10-9-2002)
% of total NYSE short sales by:						
Public	57	59	58	56 - 59	46	53
NYSE specialists	13	12	13	10 - 15	26	37
Other NYSE members	30	29	30	28 - 31	28	10
Total NYSE short sales/total NYSE volume	13.7%	13.6%	13.7%	13.0 - 14.1%	12.9%	12.9%
Short interest/avg. daily volume (5 weeks)	4.9	5.1	5.2	4.8 - 5.4	5.1	5.3
Odd-lot sales/purchases	1.1	1.0	1.1	0.9 - 1.2	1.3	1.1
CBOE put volume/call volume	1.28	.89	.87	.58 - 1.28	.80	.96

VALUE LINE ASSET ALLOCATION MODEL

(Based only on economic and financial factors)

	Current (effective 2/11/05)	Previous
Common Stocks	75%-85%	70%-80%
Cash and Treasury Issues	25%-15%	30%-20%



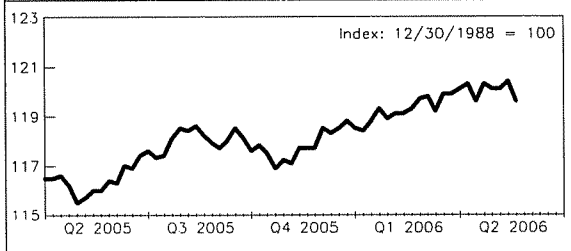
INTEREST RATES

Prime Rate

Federal Funds

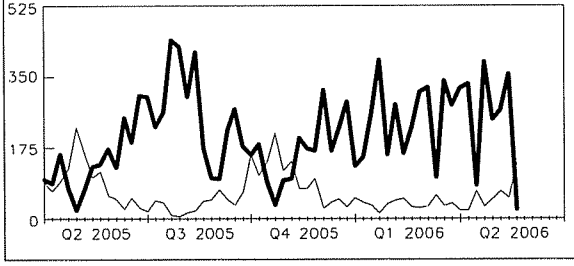
30-Year Treasury Bond

	Recent	Previous Week
Prime Rate	8.0%	8.0%
Fed Funds (Target)	5.0%	5.0%
30-Yr. Treasury	5.2%	5.2%



VALUE LINE UNIVERSE

	Recent	Previous Week
Advances	136	1073
Declines	1500	553
Issues Traded	1639	1640
Market Value ($ Trillion)	17.704	18.619



VALUE LINE COMPOSITE

New Highs

New Low

	Recent	Previous Week
New Highs	23	356
New Lows	137	52

INDUSTRY PRICE PERFORMANCE LAST SIX WEEKS ENDING 5/17/2006

7 Best Performing Industries

Cable TV	+8.7%
Trucking	+6.6%
Beverage (Soft Drink)	+5.5%
Maritime	+4.6%
Auto Parts	+2.9%
Tobacco	+2.4%
Chemical (Basic)	+2.2%

7 Worst Performing Industries

Homebuilding	-22.1%
Cement & Aggregates	-16.0%
Biotechnology	-15.2%
Water Utility	-13.9%
Wireless Networking	-13.4%
Telecom. Equipment	-13.2%
Retail Building Supply	-11.3%

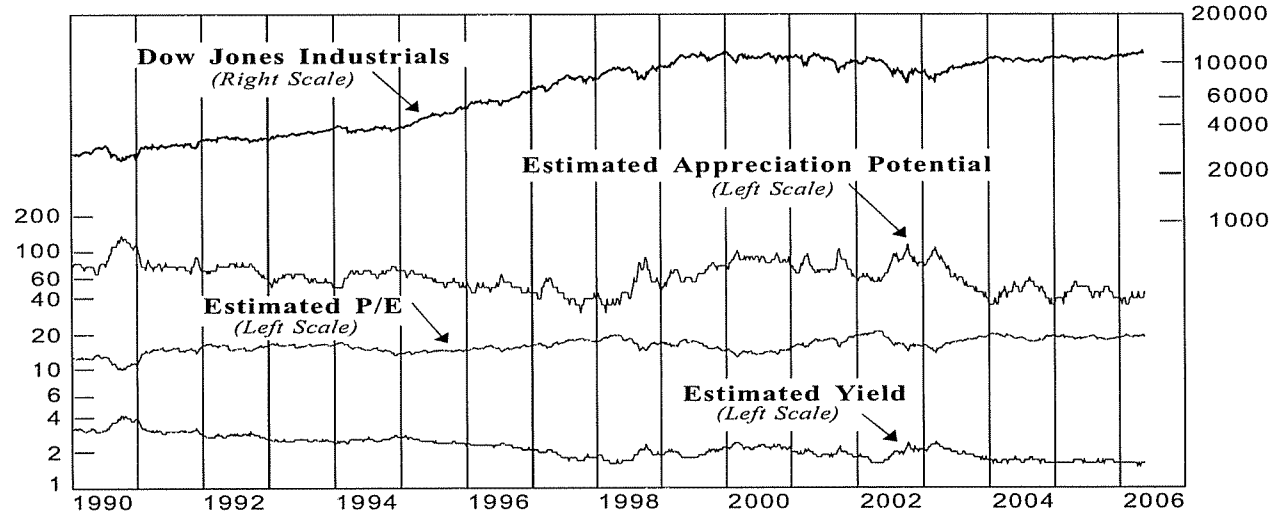
The corresponding change in the Value Line Arithmetic Average is -4.1%

CHANGES IN FINANCIAL STRENGTH RATINGS

Company	Prior Rating	New Rating	Ratings & Reports Page
Franklin Resources	B++	A	2150

Stock Market Averages

VALUE LINE ESTIMATED P/E, YIELD, APPRECIATION POTENTIAL
VERSUS DOW JONES INDUSTRIALS *(JANUARY 2, 1990 - MAY 17, 2006)*



THE VALUE LINE GEOMETRIC AVERAGES

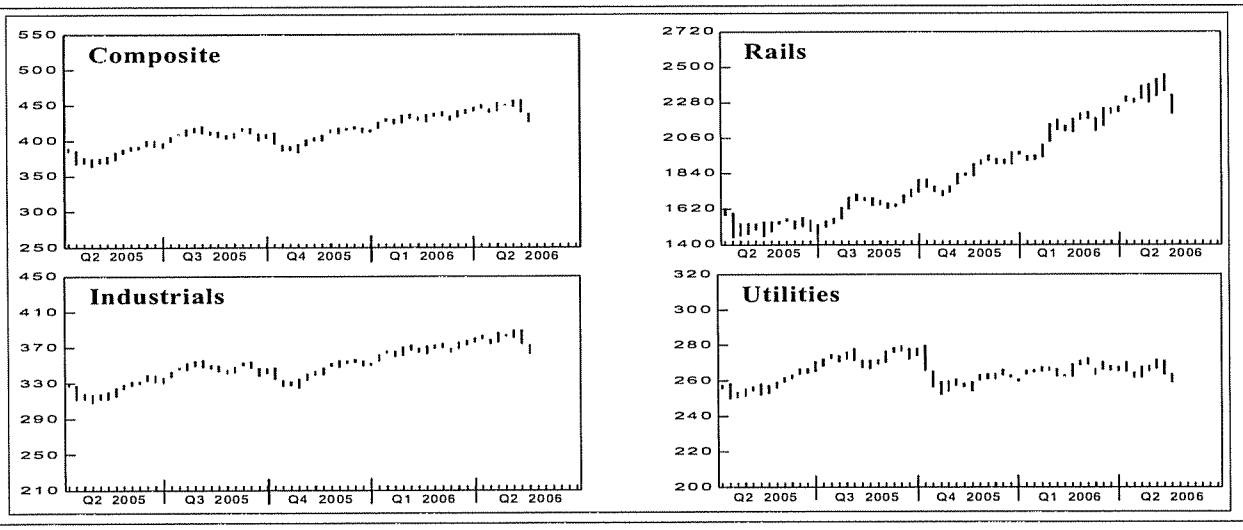
	Composite 1610 stocks	Industrials 1495 stocks	Rails 7 stocks	Utilities 108 stocks
5/12/2006	439.93	373.74	2352.86	263.21
5/15/2006	437.96	371.92	2326.94	263.72
5/16/2006	436.81	370.91	2327.47	263.32
5/17/2006	429.70	364.90	2263.89	259.27
5/18/2006	426.81	362.30	2210.94	259.07
%Change last 4 weeks	-5.9%	-6.1%	-6.6%	-3.0%

Arithmetic Composite 1610 stocks
2073.05
2062.94
2058.26
2025.10
2011.78
-5.6%

THE DOW JONES AVERAGES

Composite 65 stocks	Industrials 30 stocks	Transportation 20 stocks	Utilities 15 stocks
3917.73	11380.99	4840.54	400.07
3929.60	11428.77	4846.35	401.51
3911.71	11419.89	4798.44	400.01
3827.82	11205.61	4670.97	392.62
3804.31	11128.29	4627.33	393.25
-1.6%	-1.9%	-1.7%	-0.7%

WEEKLY VALUE LINE GEOMETRIC AVERAGES *(APRIL 1, 2005 - MAY 18, 2006)*



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COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

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	)))))))	CASE NO. 2006-00206

DIRECT TESTIMONY OF
SHARON L. DODSON
DIRECTOR, ENVIRONMENTAL AFFAIRS
E.ON U.S. SERVICES INC.

Filed: June 23, 2006

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

A. My name is Sharon L. Dodson. I am the Director of Environmental Affairs 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 my testimony as Appendix A.

Q. Have you previously testified before the Commission?

A. Yes. I have testified in Case Nos. 2004-00426[1] and 2004-00421[2], the Companies' most recent Environmental Cost Recovery applications.

Q. Are you sponsoring any exhibits?

A. Yes. I am sponsoring exhibits, identified as exhibits SLD-1 through SLD-5. These exhibits are:

Exhibit SLD-1	Trimble County Station Title V Operating Permit: V-02-043 rev. 2
Exhibit SLD-2	Ghent Station Title V Operating Permit: V-97-025
Exhibit SLD-3	Company's Letter to KYDAQ on SO_3 Mitigation
Exhibit SLD-4	KYDAQ SO_3 Mitigation Response Letter
Exhibit SLD-5	E.W. Brown Station Title V Operating Permit: V-03-034

[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 Louisville Gas and Electric Company for Approval if its 2004 Compliance Plan for Recovery by Environmental Surcharge*

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to identify the environmental requirements which cause the need for the pollution control facilities in KU's 2006 Environmental Compliance Plan ("2006 Plan") and demonstrate how those facilities will allow KU to comply with these environmental regulations. A copy of the 2006 Plan is presented in Exhibit JPM-1 to the testimony of Mr. Malloy. The projects identified in the 2006 Plan are necessary for KU's compliance with the requirements of the Clean Air Act as amended ("CAAA"), the Clean Air Interstate Rule ("CAIR"), the Clean Air Mercury Rule ("CAMR"), the Clean Air Visibility Rule ("CAVR", also known as the Regional Haze Rule) and other environmental regulations that apply to KU's facilities used for the production of electricity from coal.

Q. Please describe environmental regulation as it exists today.

A. Since the passage of the initial Clear Air Act in 1970, environmental compliance has been an ongoing, everyday activity at our facilities and for our operations. All subsequent amendments to and revisions of environmental laws and regulations have increased KU's environmental compliance obligations over time. Continued environmental compliance becomes increasingly challenging over time due to the ever increasing standards. Thus, there is a need for continuous investment in and maintenance of environmental pollution control equipment and facilities. The protection of air quality has especially given rise to the stringent environmental regulations that, in turn, have caused the need for the pollution control projects in KU's 2006 Plan.

Q. What environmental laws and regulations are applicable to the control of air emissions from coal-fired generating stations?

A. Under the CAAA, KU is regulated by federal and state agencies. The United States Environmental Protection Agency ("EPA") has granted the state of Kentucky primacy for implementing the provisions of the CAAA through the State Implementation Plan ("SIP") process. The State of Kentucky is currently revising its SIP process to incorporate the CAIR and CAMR into its program.

KU has four coal-fired units located in Carroll County, Kentucky, three coal-fired and seven natural gas-fired units in Mercer County, Kentucky, two coal-fired units in Muhlenberg County, Kentucky and one coal-fired unit and two oil-fired units located in Woodford County, Kentucky. All of these units fall under the jurisdiction of the Kentucky Environmental and Public Protection Cabinet, Division for Air Quality ("KYDAQ") and must comply with regulations promulgated by the state agency. A coal-fired unit is currently under construction at the Trimble County Power Station and is expected to be completed by 2010.

Project No. 23 - Installation of Pollution Control Equipment on Trimble County Unit 2

Q. What pollution control equipment is being built with the Trimble County Unit 2?

A. As discussed in the testimony of Mr. Malloy, the following Air Quality Control System ("AQCS") pollution control equipment will be built in connection with the construction of the Trimble County Unit No. 2 facility:

- Selective Catalytic Reduction ("SCR") system,
- Dry Electrostatic Precipitator ("DESP"),

- Pulverized Activated Carbon ("PAC") injection system,
- Hydrated lime injection system,
- Pulse Jet Fabric Filter ("PJFF"),
- Limestone forced oxidation Wet Flue Gas Desulfurization ("WFGD") equipment, and
- Wet Electrostatic Precipitator ("WESP").

Q. What current environmental regulations require the need for the construction of the AQCS on Trimble County Unit 2?

A. The AQCS in this project are being undertaken in order to comply with several environmental regulations. Under Kentucky Regulation 401 KAR 51:017, 401 KAR 52:020 and Federal Regulation 40 CFR Part 52.21, the construction of a new unit (i.e., Trimble County Unit 2) is required to undergo a Prevention of Significant Deterioration ("PSD") review, which includes Best Available Control Technology ("BACT") and air quality impact demonstrations. From the PSD review of Trimble County Unit 2, these pollution control technologies were determined to meet the requirements of BACT for particulate matter ("PM/PM_{10}"), sulfuric acid ("H_2SO_4") mist, and fluorides (as "HF"). Through the PSD review process, no significant net increase in sulfur dioxide ("SO_2") or nitrogen oxides ("NO_x") emissions will occur at the facility as a result of taking federally enforceable emission limits on Trimble County Unit 1 for those pollutants. Based on this review, a Title V Operating Permit (Exhibit SLD-1) was obtained with controls specified to be installed on Trimble County Unit 2 as operating limitations. The overall need for a DESP, PAC and

hydrated lime system is being addressed as either an administrative amendment or off-permit change.

The acid rain control requirements under Title IV of the CAAA also play a role in determining the need for these devices. Under that program, each utility unit in the 48 contiguous states must have sufficient SO_2 allowances at the end of each year to account for its emissions. Trimble County Unit 2 will not be given any SO_2 allowances because it is a new unit. KU has built a "bank" of SO_2 allowances that could be used to cover these new SO_2 emissions; however, that bank will be depleted within the next few years. The WFGD will reduce SO_2 emissions and reduce the burden on the Companies' SO_2 allowance bank.

On March 10, 2005, the EPA promulgated the CAIR under its authority provided under Section 110 of the CAAA. The 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 ("$PM_{2.5}$") in the atmosphere. The rule applies to the eastern 28 states (including Kentucky) and the District of Columbia. It reduces emissions through cap-and-trade allowance-based programs, similar to SO_2 under the Acid Rain Program and NO_x under the NO_x SIP Call. For SO_2, current Acid Rain Program allocations would be used. The program will reduce emissions over two phases. The 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). Because KU (and all other utilities impacted by the CAIR) has already received Acid Rain Program allowances for its existing units for 2010 through 2034, the EPA provides that utilities surrender those allowances at a greater

rate than is currently required: on a 2-for-1 and 2.87-for-1 basis, during Phase I and Phase II respectively. However, pre-2010 Acid Rain Program SO_2 allowances (i.e., banked allowances) would retain their full value. As stated earlier, Trimble County Unit 2 will not be given any allowances when it starts operation in 2010. Therefore, the installation of this WFGD and associated equipment is necessary to ensure KU's continued compliance with all current regulations requiring the reduction of SO_2 emissions.

Additionally, for NO_x, the CAIR will replace the NO_x SIP Call ozone-season NO_x reduction requirements with new annual and ozone-season reduction requirements based on the cap-and-trade allowance method. For Kentucky on an annual basis, the CAIR allocations represent a 42% reduction from 2003 NO_x levels for the first phase (2009-2014) of the program and a 58% reduction from 2003 NO_x emissions during the second phase (2015 and beyond). During the ozone season (May-September), emissions will be capped at a level identical to the NO_x SIP Call requirements for 2009-2014 and an approximate 15% reduction is prescribed for 2015 and beyond. The annual and ozone season programs are two separate and distinct allowance programs. CAIR Ozone Season allowances can not be used for compliance with the CAIR Annual Program and CAIR Annual allowances can not be used for compliance with the CAIR Ozone Season Program. To aid the Companies in meeting the requirements of the NO_x portion of the CAIR, an SCR and associated equipment is needed on Trimble County Unit 2.

With the installation of an SCR, sulfur trioxide ("SO_3") levels within the flue gas stream will increase due to the SCR catalyst's reaction with SO_2. Additionally,

various conditions could cause condensation of SO_3 in the PJFF resulting in sulfuric acid ("H_2SO_4") deposition. To address the corrosion and operational issues that could occur from the formation of sulfuric acid and comply with applicable regulatory obligations, a hydrated lime injection system upstream of the PJFF must be installed. Sulfuric acid mist could potentially impact human health and the environment and subsequently result in non-compliance with the general duty provisions of KRS Chapter 224. While the WESP is BACT for removal of sulfuric acid mist and ensures compliance with permitted particulate matter emission limitations, the hydrated lime injection equipment will assist in overall removal of the acid mist while protecting the operating equipment.

On March 15, 2005, the CAMR was promulgated requiring the reduction of mercury emissions from all coal-fired generating facilities. The CAMR is based on "cap-and-trade" methodologies. It is to be implemented in two phases. In Phase I (2010-2017), mercury emissions are to be capped at 38 tons nationwide. In Phase II (2018 and beyond), mercury emissions are to be reduced to 15 tons nationwide (a 69% reduction). Allowances must be surrendered to cover equal amounts of emissions. New sources such as Trimble County Unit 2 are also stipulated to have an emission limit. Trimble County Unit 2 has a limit of $13x10^{-6}$ lb/MWh as stipulated in its operating permit (Exhibit SLD-1). To meet that limit, the PAC injection system coupled with the PJFF is needed to reduce mercury emissions.

In April 1999, the final CAVR was issued. The final rule gives states flexibility in determining reasonable progress goals for the areas of concern, taking into account the statutory requirements of the CAAA. The final regulation requires

all 50 states to cut emissions of fine particulate matter and other air pollutants, including SO_2 and NO_x. Under the rule, the target year is 2064 for restoring clear visibility to 156 areas classified as Class I under the CAAA, although incremental improvements in air quality are required to begin early in the next decade. A DESP, PJFF and WESP are being installed to reduce particulate matter emissions from this unit. The WESP will also be integral in reducing the fine particulate and sulfuric acid mist emissions from this unit.

Q. Has the Company received the necessary environmental permits for the operation of Trimble County Unit No. 2?

A. Yes. The Companies have already received an operating permit (Exhibit SLD-1) for this unit that stipulates the operating and emission limitations and regulatory requirements placed on this unit. The pollution control equipment systems contained in Project 23 are necessary for KU to comply with the pollution control requirements placed on this unit by this operating permit.

Project No. 24 – Sorbent Injection Technology Installations – Ghent Units 1, 3 and 4

Q. Are there environmental regulations which cause the need for the installation of sorbent injection technology on Ghent Units 1, 3 and 4?

A. Yes. Current state environmental laws and regulations require the installation of Sorbent Injection Technology at Ghent Unit Nos. 1, 3 and 4. The Companies contacted KYDAQ to confirm the agency's interpretation of the relevant laws and regulations as shown in Exhibit SLD-3. It is the position of the KYDAQ that the "General Duty" provisions of the Kentucky Revised Statutes (KRS) Chapter 224 require necessary and appropriate action on a case by case basis to mitigate SO_3 emissions that could potentially impact human health and the environment. If a

permittee fails to address SO_3 emissions that may potentially impact human health or the environment, the KYDAQ reserves the right to take appropriate action under KRS Chapter 224 to compel compliance with this requirement. As shown in Exhibit SLD-4, KYDAQ believes it is "necessary and appropriate that such emission be controlled."

Q. What environmental permits will be required for the installation of the proposed equipment?

A. The KYDAQ will require permitting which may either be incorporated directly into the Title V Operating Permit or through separate construction permitting.

Project No. 25 – Continuous Mercury Monitor Installations – All KU Coal-fired Units

Q. What are the environmental regulations causing the need for the installation of continuous mercury monitors on all units in the KU generation fleet?

A. As mentioned in the discussions for Project 23, the CAMR was promulgated in March 2005. Within that rule, monitoring of mercury emissions is required beginning January 1, 2009. Therefore, mercury monitoring equipment must be purchased, installed and certified before that date.

Q. What environmental permits will be required for the installation of the proposed equipment?

A. No new permits are required for the installation of this equipment. 40 CFR Part 75 continuous emission monitoring installation and certification procedures will be followed to place these monitors in operation. Existing Title V Operating Permits will be revised to reflect the installation and operation of these monitors.

Project No. 26 – Selective Catalytic Reduction Device Installation – Ghent Unit 2

Q. What are the environmental regulations causing the need for the installation of a selective catalytic reduction device on Ghent Unit 2?

A. NO_x reduction provisions of the Clean Air Act, NO_x SIP Call, and the provisions of the CAIR that further restricts NO_x emissions are prompting the need to install an SCR on Ghent Unit 2.

Background - Clean Air Act Amendments

Q. Please describe the provisions of the CAAA that further restrict NO_x emissions.

A. Title I of the CAAA contains the provisions for attainment and maintenance of National Ambient Air Quality Standards ("NAAQS"). The significance of these national standards is that they establish uniform goals for all areas of the country to achieve in order to protect public health. Ozone and particulate matter are two of six criteria air pollutants for which the EPA has established NAAQS under the Clean Air Act. Certain ozone "precursors," namely NO_x and volatile organic compounds ("VOC"s) react during hot, humid weather to form ground level ozone or smog. Particulate matter includes large particles (such as dirt and ash) and smaller particles, some of which are formed in the atmosphere from other pollutants such as SO_2 and NO_x. These smaller particles, with diameter of less than 2.5 microns (called fine particulates or $PM_{2.5}$) have received increased public attention in recent years because of the significant health consequences associated with inhalation of such particles.

Q. Please describe how the NAAQS are implemented by the states.

A. The primary mechanism for achieving the NAAQS is the state implementation plan ("SIP"). The SIP has two primary purposes. First, it must provide a control strategy that will result in the NAAQS being achieved and maintained. Second, it must

demonstrate that progress is being made in attaining the NAAQS in non-attainment areas. States, through the process, designate their ozone and fine particulate non-attainment areas and decide on the appropriate emission levels and associated control requirements necessary to bring these areas into attainment consistent with overall national compliance considerations.

Q. What additional provisions of the CAAA deal with the ozone and fine particulate non-attainment issue?

A. There are two additional provisions of the CAAA which deal with the ozone and fine particulate non-attainment issue: (1) the NO_x SIP Call and (2) the Clean Air Interstate Rule.

The NO_x SIP Call

In September 1998, the EPA finalized regulations to address regional transport of NO_x and its contribution to ozone non-attainment in downwind areas. The EPA's final NO_x SIP Call required 22 Eastern states (including Kentucky) and the District of Columbia to revise their SIPs, by September 30, 1999, to achieve the additional NO_x emissions reductions that the EPA mandated as necessary to mitigate the transport of ozone across the eastern half of the United States. The rule was challenged by eight states, the United Mine Workers of America, and various industry groups. Following extensive litigation, the rule was effectively upheld and required utilities in Kentucky to further reduce NO_x emissions during the "ozone season" of May through September, beginning in 2004.

Clean Air Interstate Rule

On March 10, 2005, the EPA finalized its Clean Air Interstate Rule ("CAIR") regulations under its authority provided under section 110 of the CAAA.

In response to petitions challenging portions of the regulations, the EPA re-opened five provisions of the regulations for additional comment. On March 16, 2006, after considering additional comments, the EPA concluded that its decisions were reasonable and should not be changed.

Q. What specifically does the Clean Air Interstate Rule require?

A. The CAIR is a multi-pollutant strategy rule requiring significant additional reduction of SO_2 and NO_x emissions to further reduce levels of ozone and fine particulate matter ($PM_{2.5}$) in the atmosphere. The regulations apply to 28 eastern states including Kentucky. It reduces emissions through cap-and-trade allowance-based programs, similar to SO_2 under the Acid Rain Program and NO_x under the NO_x SIP Call. For NO_x, it creates two programs: the first replaces the existing NO_x SIP Call and restricts NO_x emissions during the ozone season (for the purpose of reducing ozone formation); the second restricts annual emissions of NO_x (for the purpose of reducing $PM_{2.5}$ formation). Although both programs reduce and restrict NO_x emissions, their purposes and intended results are different. Therefore, the EPA is establishing two separate and distinct allowance programs. CAIR Ozone Season allowances cannot be used for compliance with the Annual Program and vice versa.

Both programs have two phases: the first begins in 2009 and allowance allocations are *nominally* based on an emission rate of 0.15 lb/mmBtu. The second phase begins in 2015 and allowance allocations are *nominally* based on an emission

rate of 0.125 lb/mmBtu. For Kentucky, the annual allowance allocations represent a 42% and 58% reduction from 2003 levels for Phase I and Phase II, respectively.

Project No. 27 – Electrostatic Precipitators at E.W. Brown Station

Q. What are the environmental regulations causing the need for work on the Electrostatic Precipitators at E.W. Brown?

A. The Title V Operating Permit for E.W. Brown Station (Exhibit SLD-5) places a particulate matter emission limitation on each of the units at the station. Regulation 401 KAR 50:055, also stipulates that emission units and associated pollution control devices must be maintained and operated in a manner consistent with good air pollution control practices for minimizing emissions The electrostatic precipitators are the particulate matter emission control devices for these units. Proper operation of these devices is needed to ensure compliance with the permit limitation. This project will allow the devices to be operated properly.

Q. What environmental permits will be required for the proposed work?

A. No new permits will be required to accomplish this work.

Q. Does KU's 2006 Environmental Compliance Plan list the environmental permits and regulations that are applicable to KU?

A. Yes. My testimony describes the environmental regulations, permit requirements and compliance orders applicable to KU. These regulations and requirements are summarized in Column 5 in Exhibit JPM-1. The pollution control facilities listed as Projects 23-27 of KU's 2006 Environmental Compliance Plan enable the Company to continue to fulfill its environmental compliance obligations. The evidence of KU's satisfaction of its environmental compliance obligation and thus the need for the five

projects in the 2006 Environmental Compliance Plan is shown in Column 6, "Environmental Permits" in Exhibit JPM-1.

Q. Does this conclude your testimony?

A. Yes it does.

VERIFICATION

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

The undersigned, **Sharon L. Dodson**, being duly sworn, deposes and says she is Director of Environmental Affairs for E.ON U.S. Services Inc., and that she 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 her information, knowledge and belief.

SHARON L. DODSON

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 23rd day of June 2006.

Notary Public (SEAL)

My Commission Expires:

TAMMY J. ELZY
NOTARY PUBLIC
STATE AT LARGE
KENTUCKY
My Commission Expires Nov. 9, 2006

Appendix A

Sharon L. Dodson

Director – Environmental Affairs
E.ON U.S. Services Inc.
220 West Main Street
P.O. Box 32010
Louisville, Kentucky 40202
(502) 627-2940

Education

- The School of Conservation, Georgia, The Professional Forestry and Wildlife Conservation Program, Diploma – 1998
- Saint Francis College, Pennsylvania, Business Administration (24 credits) – 1986
- Grove City College, Pennsylvania, B.S. in Chemical Engineering – 1984

Previous Positions

Edison International, Rosemead, California

1999-2003 – Manager, Environmental, Health and Safety
Midwest Generation, LLC, Homer City Generating Station
Homer City, Pennsylvania

GPU Generation Inc., Morristown, New Jersey

1995-1999 – Environmental Engineer Sr. 1, Environmental Affairs
Johnstown, Pennsylvania

1994-1995 – Team Leader, Conemaugh Generating Station Water Team
New Florence, Pennsylvania

1993-1994 – Station Engineer Sr.1, Chemical, Conemaugh Generating Station
New Florence, Pennsylvania

1989-1993 – Station Engineer III, Conemaugh Generating Station
New Florence, Pennsylvania

1986-1989 – Station Engineer II, Conemaugh Generating Station
New Florence, Pennsylvania

1984-1986 – Production Engineer I
Johnstown, Pennsylvania

Exhibit SLD-1 – Trimble County Station Title V Operating Permit: V-02-043 rev. 2

Commonwealth of Kentucky
Environmental and Public Protection Cabinet
Department for Environmental Protection
Division for Air Quality
803 Schenkel Lane
Frankfort, Kentucky 40601
(502) 573-3382

Final

AIR QUALITY PERMIT

Issued under 401 KAR 52:020

Permittee Name:	**Louisville Gas and Electric Company**
Mailing Address:	**P.O. Box 32010, Louisville, Kentucky, 40232**
Source Name:	**Louisville Gas and Electric Company**
Mailing Address:	**P.O. Box 32010, Louisville, Kentucky, 40232**
Source Location:	**487 Corn Creek Road, Bedford, Kentucky,**
Permit Number:	**V-02-043 Revision 2**
Source A. I. #:	**4054**
Activity #:	**APE20040003**
Review Type:	**Operating, PSD/TV**
Source ID #:	**21-223-00002**
ORIS Code:	**6071**
Regional Office:	**Florence Regional Office** **8020 Veterans Memorila Drive, Suite 110** **Florence, KY 41042** **(859) 525-4923**
County:	**Trimble**
Application Complete Date:	**February 11, 2005**
Issuance Date:	**June 20, 2003**
Revision Date:	**November 17, 2005** **January 4, 2006**
Expiration Date:	**June 20, 2008**

E-Signed by Diana Andrews
VERIFY authenticity with ApproveIt

John S. Lyons, Director
Division for Air Quality

Revised 10/19/05

TABLE OF CONTENTS

Rev#	Permit type	Log #	Complete Date	Issuance Date	Summary of Action
----	Initial Issuance	F720	12-13-1996	NA	Was not issued proposed or final. Public notification was done.
1	Acid Rain Permit	F526	3-03-1998	3-05-1999	Permit for Unit 1-tangential coal fired boiler
2	PSD permit	53460	01-14-2001	06-22-2001	Permit issued for CT unit only without expiration
3	PSD/TV proposed permit	53460	12-19-02	06-06-03	Consolidating all permits into one
4	Permit Revision one	APE2004 0003	12-24-04	01-04-05	Emission limit as enforceable as practical matter (emission reduction) and the usage of two to three dry bulk trailers for fly ash transport
5	Significant Revision	APE2004 0004	2-11-05	1-4-06	Construction of new utility boiler, creditable emission reduction on source wide sulfur dioxide, and addition of NOx budget to the permit.

SECTION A - PERMIT AUTHORIZATION

Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit has been issued under the provisions of Kentucky Revised Statutes Chapter 224 and regulations promulgated pursuant thereto.

The permittee shall not construct, reconstruct, or modify any affected facilities without first having submitted a complete application and receiving a permit for the planned activity from the permitting authority, except as provided in this permit or in 401 KAR 52:020, Title V Permits.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by this Cabinet or any other federal, state, or local agency.

SECTION B -EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 01 (01) - Unit 1 Indirect Heat Exchanger

Description:
Construction commenced: on or before September 18, 1978
Pulverized coal-fired, dry bottom, tangentially fired, equipped with Selective Catalytic Reduction (SCR), electrostatic precipitator and wet spray scrubber with limestone/lime injection
Up to forty (40) percent petroleum coke co-firing with coal
Number two fuel oil used for startups and flame stabilization
Maximum continuous rating: 5,333 mmBtu/hour

Applicable Regulations:
401 KAR 51:017, Prevention of significant deterioration of air quality
401 KAR 51:160, NO_x requirements for large utility and industrial boilers; incorporating by reference 40 CFR 96
401 KAR 52:060, Acid rain permits, incorporating by reference the Federal Acid Rain provisions as codified in 40 CFR Parts 72 to 78
401 KAR 59:015, New Indirect Heat exchangers with more than 250 mmBtu per hour capacity and commenced on or after August 17, 1971;
40 CFR 60 Subpart D, Standards of Performance for fossil-fuel-fired steam generators, for an emissions unit greater than 250 mmBtu/hour and commenced after August 17, 1971;

1. **Operating Limitations:**
   None

2. **Emission Limitations:**
   a) Pursuant to 401 KAR 59:015, Section 4(1)(b), and 401 KAR 51:017, particulate emissions shall not exceed 0.1 lb/mmBtu based on a three-hour average.

      The permittee may assure continuing compliance with the particulate emission standard by operating the affected facility and associated control equipment such that the opacity does not exceed the upper limit of the indicator range developed from continuous opacity monitoring (COM) data collected during stack tests. If five (5) percent of COM data (based on a three-hour rolling average) recorded in a calendar quarter show excursions from the indicator range, the permittee shall contact the Division within thirty (30) days after the end of the quarter to schedule a stack test to demonstrate compliance with the particulate standard while operating at the conditions which resulted in the excursions. The Division may waive this testing requirement upon a demonstration that the cause of the excursions has been corrected, or may require stack tests at any time pursuant to 401 KAR 50:045, Performance tests.

   b) Pursuant to 401 KAR 59:015, Section 4(2), emissions shall not exceed twenty (20) percent opacity based on a six-minute average except a maximum of twenty-seven (27) percent opacity for not more than one (1) six (6) minute period in any sixty (60)

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

2. **Emission Limitations continued:**

consecutive minutes. Opacity shall be demonstrated by using EPA reference Method 9. Alternatively, the permittee may use COM in determining compliance with opacity.

c) Pursuant to 401 KAR 51:017, sulfur dioxide emissions shall not exceed 0.84 lb/mmBtu based on a three-hour rolling average.

d) Pursuant to 401 KAR 59:015, Section 6(1)(c), nitrogen oxides emissions expressed as nitrogen dioxide shall not exceed 0.7 lb/mmBtu based on a three-hour rolling average.

e) Pursuant to 401 KAR 51:001, Section 1, (146), source has accepted a voluntary limit such that consecutive twelve month rolling total of nitrogen oxide emissions shall not exceed 5,556 tons per year, which through this permit is enforceable as a practical matter. This limit commenced on January 1, 2005.

f) Pursuant to 40 CFR Part 76, nitrogen oxides emissions expressed as nitrogen dioxide shall not exceed 0.45 lb/mmBtu on an annual basis. See Section J, Acid Rain Permit.

g) Pursuant to 401 KAR 51:001, Section 1, (146), source has accepted a voluntary limit such that consecutive twelve month rolling total of sulfur dioxide emissions shall not exceed 4,822 tons per year, which through this permit is enforceable as a practical matter. This limit shall commence on January 1, 2006.

Compliance with nitrogen oxide and sulfur dioxide emissions:

Permittee shall monitor and calculate emissions on a consecutive twelve month rolling total as measured by the continuous emissions monitor (CEM) required pursuant to 40 CFR 75.2(a)

3. **Testing Requirements:**

a) The permittee shall submit a schedule within six months from the initial issuance date of this permit to conduct at least one performance test for particulate within one year following the issuance of this permit. The upper limit of the indicator range shall be developed from the COM data collected during the stack tests.

b) If no additional stack tests are performed pursuant to Condition 2. a) above, the permittee shall conduct one performance test for particulate emissions within the third year of the term of this permit to demonstrate compliance with the allowable standard.

c) The permittee shall determine the opacity of emissions from the stack by EPA Reference Method 9 annually, or more frequently if requested by the Division.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

4. **Specific Monitoring Requirements:**

a) Pursuant to 401 KAR 59:015, Section 7(1) and Section 7(4), 401 KAR 59:005, Section 4, continuous emission monitoring systems shall be installed, calibrated, maintained, and operated for measuring the opacity of emissions, sulfur dioxide, nitrogen oxides, and either oxygen or carbon dioxide emissions. The owner or operator shall ensure the continuous emission monitoring systems are in compliance with, and the owner or operator shall comply with the requirements of 401 KAR 59:005, Section 4.

b) Pursuant to 401 KAR 59:015, Section 7(3), for performance evaluations of the sulfur dioxide and nitrogen oxides continuous emission monitoring system as required under 401 KAR 59:005, Section 4(3) and calibration checks as required under 401 KAR 59:005, Section 4(4), reference methods 6 or 7 shall be used as applicable as described by 401 KAR 50:015.

c) Pursuant to 401 KAR 59:015, Section 7(3), sulfur dioxide or nitric oxide, as applicable, shall be used for preparing calibration gas mixtures under Performance Specification 2 of Appendix B to 40 CFR 60, filed by reference in 401 KAR 50:015.

d) Pursuant to 401 KAR 59:015, Section 7(3), the span value for the continuous emission monitoring system measuring opacity of emissions shall be eighty (80), ninety (90), or one-hundred (100) percent and the span value for the continuous emission monitoring system measuring sulfur dioxide and nitrogen oxides emissions shall be in accordance with 401 KAR 59:015, Appendix C.

e) All span values computed under (d) above for burning combinations of fuels shall be rounded to the nearest 500 ppm.

f) Continuous emission monitoring data shall be converted into the units of applicable standards using the conversion procedure described in 401 KAR 59:015, Section 7(5).

g) Pursuant to 401 KAR 59:015, Section 7(3), for an indirect heat exchanger that simultaneously burns fossil fuel and non-fossil fuel, the span value of all continuous monitoring systems shall be subject to the Division's approval.

5. **Specific Record Keeping Requirements:**

a) Pursuant to 401 KAR 59:005, Section 3 (4), the owner or operator of the indirect heat exchanger shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems and devices; and all other information required by 401 KAR 59:005 recorded in a permanent form suitable for inspection.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

b) Pursuant to 401 KAR 52:020, records, including those documenting the results of each compliance test, shall be maintained for five (5) years.

c) Pursuant to 401 KAR 59:005, Section 3(2), the owner or operator of this unit shall maintain the records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the emissions unit, any malfunction of the air pollution control equipment; or any period during which a continuous monitoring system or monitoring device is inoperative.

d) The permittee shall maintain records of the COM data on a three-hour rolling average basis, the number of excursions above the indicator range, time and date of excursions, opacity value of the excursions, and percentage of the COM data showing excursions from the indicator range in each calendar quarter.

6. **Specific Reporting Requirements:**

a) Pursuant to 401 KAR 59:005, Section 3 (3), minimum data requirements which follow shall be maintained and furnished in the format specified by the Division. Owners or operators of facilities required to install continuous monitoring systems shall submit for every calendar quarter a written report of excess emissions (as defined in applicable sections) to the Division. All quarterly reports shall be postmarked by the thirtieth (30th) day following the end of each calendar quarter and shall include the following information:

1) The magnitude of the excess emission computed in accordance with the 401 KAR 59:005, Section 4(8), any conversion factors used, and the date and time of commencement and completion of each time period of excess emissions.

2) All hourly averages shall be reported for sulfur dioxide and nitrogen oxides monitors. The hourly averages shall be made available in the format specified by the Division.

3) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the emissions unit. The nature and cause of any malfunction (if known), the corrective action taken or preventive measures adopted.

4) The date and time identifying each period during which continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

5) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

b) Pursuant to 401 KAR 59:015, Section 7(7), for the purposes of reports required under 401 KAR 59:005, Section 3(3), periods of excess emissions are defined as follows:

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

6. **Specific Reporting Requirements continued:**

1) Excess emissions are defined as any six minute period during which the average opacity of emissions exceeds twenty percent opacity, except that one (1) six (6) minute average per hour of up to twenty-seven (27) percent opacity need not be reported.

2) Excess emissions of sulfur dioxide are defined as any three (3) hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) exceed the applicable sulfur dioxide emissions standards.

3) Excess emissions for emissions units using a continuous monitoring system for measuring nitrogen oxides are defined as any three (3) hour period during which the average emissions (arithmetic average of three contiguous one hour periods) exceed the applicable nitrogen oxides emissions standards.

c) The permittee shall report the number of excursions above the indicator range, date and time of excursions, opacity value of the excursions, and percentage of the COM data showing excursions from the indicator range in each calendar quarter.

d) The permittee shall report quarterly the twelve-month rolling total sulfur dioxide and nitrogen oxides emissions.

7. **Specific Control Equipment Operating Conditions:**

a) The electrostatic precipitator and wet spray scrubber with limestone/lime injection shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance of the control equipment shall be maintained.

c) See Section E for further requirements.

SECTION B -EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emissions Units: 02 (02, 03, 04) - Auxiliary boilers A, B, and C

Description:
Constructed commenced on or before: December 28, 1987
#2 Fuel Oil-fired Units
Maximum continuous rating: 11.76 mmBtu/hour, each

Applicable Regulations:
401 KAR 59:015, New indirect heat exchangers, applicable to an emissions unit less than 250 mmBtu/hour and commenced on or after April 9, 1972.

1. **Operating Limitations:**
   Total annual #2 fuel oil usage rate for all auxiliary boilers A, B, and C (emission point 02) shall not exceed 682,500 gallons per year and sulfur content shall not exceed 0.8 percent, to demonstrate non-applicability of Prevention of Significant Deterioration of Air Quality.

2. **Emission Limitations:**
   a) Pursuant to 401 KAR 59:015, Section 4(1)(b), particulate emissions shall not exceed 0.1 lb/mmBtu based on a three-hour average. Compliance with the allowable particulate standard may be demonstrated by calculating particulate emissions using fuel heating value, and emission factor information (Particulate formula: (0.002 lbs/gallon) / heating value in mmBtu/gallon.)

   b) Pursuant to 401 KAR 59:015, Section 4(2), emissions shall not exceed twenty (20) percent opacity based on a six-minute average except a maximum of forty (40) percent opacity for not more than six (6) consecutive minutes in any sixty (60) consecutive minutes during cleaning the firebox or blowing soot is allowed.

   c) Pursuant to 401 KAR 59:015, Section 5(1)(b), the sulfur dioxide emission rate shall not exceed 0.8 lb/mmBtu based on a three-hour average. Compliance with the allowable sulfur dioxide standard shall be demonstrated by calculating sulfur dioxide emissions using fuel heating value, fuel supplier certification with sulfur content, and emission factor information (AP-42 factors below). Sulfur dioxide formula: (0.142 lb/gallon x Percent Sulfur in fuel) / heating value in mmBtu/gallon.

3. **Testing Requirements:**
   Compliance with the opacity standard shall be demonstrated by reading the opacity once in every quarter by EPA Reference Method 9.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

4. **Specific Monitoring Requirements:**

a) To demonstrate continuing compliance with the fuel oil sulfur content limitation, monitoring of operations shall consist of, on an as-received basis, fuel supplier certification of the sulfur content of the fuel oil to be combusted. The fuel supplier certification shall include the name of the oil supplier, sulfur content, and a statement that the oil complies with the specifications under the definition for distillate oil in 401 KAR 60:005.

b) The fuel oil sulfur content and heating value shall be determined for the #2 fuel oil, as received, by fuel supplier certification.

5. **Specific Record Keeping Requirements:**

a) Pursuant to 401 KAR 59:005, Section 3 (4), the owner or operator of the indirect heat exchanger shall maintain a file of all measurements, including monthly #2 fuel oil usage. The owner or operator shall maintain a file of the fuel supplier certification; and all other information required by 401 KAR 59:005 recorded in a permanent form suitable for inspection. The file shall be retained for at least five (5) years following the date of such measurements, maintenance, reports, and records.

b) Records of the #2 fuel oil used shall be maintained.

6. **Specific Reporting Requirements:**

See Section F.

7. **Specific Control Equipment Operating Conditions:**

NA

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emissions Unit: 05 (05, 06, -) - Fossil Fuel Handling Operations and Plant Roadways

Description:
Construction commenced on or before: 1990

Equipment includes:	Maximum Operating Rate (Tons/hour)
Continuous barge unloader, one barge unloader bin, and fossil fuel stacker reclaimer	5500
One active pile, one inactive pile, stackout conveyor S, one reclaim hopper	3000
Plant Roadways	NA

Applicable Regulations:
401 KAR 63:010, Fugitive emissions, and
401 KAR 51:017, Prevention of significant deterioration of air quality.

1. **Operating Limitations:**

a) Pursuant to 401 KAR 63:010, Section 3, reasonable precautions shall be taken to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, when applicable, but not be limited to the following:

1. application and maintenance of asphalt, application of water, or suitable chemicals on roads, material stockpiles, and other surfaces which can create airborne dusts;

2. operation of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials, or the use of water sprays or other measures to suppress the dust emissions during handling;

3. the maintenance of paved roadways in a clean condition;

4. the prompt removal of earth or other material from a paved street which earth or other material has been transported thereto by trucking or other earth moving equipment or erosion by water.

b) Pursuant to 401 KAR 63:010, Section 3, discharge of visible fugitive dust emissions beyond the property line is prohibited.

e) No one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway, pursuant to 401 KAR 63:010, Section 4.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

2. **Emission Limitations:**
None

3. **Testing Requirements:**
None

4. **Specific Monitoring Requirements:**

See Section F.

5. **Specific Record Keeping Requirements:**
a) Records of the fossil fuels received and processed shall be maintained for emissions inventory purposes.

b) Annual records estimating the tonnage hauled for plant roadways shall be maintained for emissions inventory purposes.

6. **Specific Reporting Requirements:**
See Section F.

7. **Specific Control Equipment Operating Conditions:**
a) The surfactants, enclosures, and a rotoclone for the fossil fuel receiving operations and the dust water suppressant system for the stockpile operations shall be used as necessary to maintain compliance with applicable requirements, in accordance with manufacturer's specifications and/or standard operating practices.

b) Plant roadways shall be controlled with water as necessary to comply with 401 KAR 63:010.

c) Records regarding the maintenance and use of the surfactants, enclosures, and a rotoclone for the fossil fuel receiving operations and the dust water suppressant system for the stockpile operations shall be maintained.

d) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emissions Unit: 07 (07, 08, 09) - Fossil Fuel Handling Operations (Please refer to Units 36, 37, 38, and 39 for additional future fossil fuel handling operation information)

Description:
Construction commenced on or before: 1990

Continuous Barge Unloader –
One Barge Unloader Bin

Conveyor System -

Conveyor Belt A:	From Continuous Barge Unloader to Conveyor B
Conveyor Belt B:	From Conveyor A to Transfer House/Conveyor C
Conveyor Belt C:	From Transfer House to Coal Sample House Bin
Conveyor Belt D:	From Coal Sample House Bin to Conveyor E1 or S
Conveyor Belt E1:	From Conveyor D to Active Storage and Crusher House
Conveyor Belts F1 & F2:	From Crusher House to Conveyors G1 & G2
Conveyor Belts G1 & G2:	From Conveyors F1 & F2 to Unit 1 & 2 Coal Silos
Conveyor Belt S:	From Conveyor D to One Inactive Fossil Fuel Pile
Reclaim Hopper & Conveyor Belt R1:	From One Inactive Fossil Fuel Pile to Crusher House

Crusher House -
Two crushers, fossil fuel crusher bin, and fuel blender: Crusher House Activities

Operating Rate–

Continuous Barge Unloader	Transfer Rates
One Barge Unloader	5,500 tons/hour

Conveyor System -

Conveyor Belt A:	5,500 tons/hour
Conveyor Belt B:	5,500 tons/hour
Conveyor Belt C:	5,500 tons/hour
Conveyor Belt D:	3,000 tons/hour
Conveyor Belt E1:	2,640 tons/hour
Conveyor Belts F1 & F2:	1,320 tons/hour
Conveyors G1 & G2	1,320 tons/hour
Conveyor Belt S:	1,650 tons/hour
Reclaim Hopper & Conveyor Belt R1:	1,320 tons/hour

Crusher House -
Two crushers, fossil fuel crusher bin, and fuel blender: 3,600 tons/hour

Power House -
Six Unit 1 fossil fuel silos: 800 tons/hour

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Applicable Regulations:
401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart Y, Standards of Performance for Coal Preparation Plants for units commenced after October 24, 1974
401 KAR 51:017, Prevention of significant deterioration of air quality

1. **Operating Limitations:**
None

2. **Emission Limitations:**
Pursuant to 401 KAR 60:005 incorporating by reference 40 CFR 60.252, the owner or operator subject to the provisions of this regulation shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.

3. **Testing Requirements:**
Pursuant to 401 KAR 60:005 incorporating by reference, 40 CFR 60.254, EPA Reference Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity at least annually, or more frequently if requested by the Division.

4. **Specific Monitoring Requirements:**
The permittee shall perform a qualitative visual observation of the opacity of emissions from each stack on a weekly basis and maintain a log of the observations. If visible emissions from any stack are seen, the permittee shall determine the opacity of emissions by Reference Method 9 and instigate an inspection of the control equipment making any necessary repairs.

5. **Specific Record Keeping Requirements:**
Records of the fossil fuels processed shall be maintained for emissions inventory purposes.

6. **Specific Reporting Requirements:**
See Section F.

7. **Specific Control Equipment Operating Conditions:**
   a) The enclosures, surfactants, and rotoclone(s) for crushing and associated conveying operations, the partial enclosures for conveyor system with belts A, B, C, D, G1, G2, 1, 2, and fuel blender, and baghouse for the six fossil fuel silos shall be used/operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

   b) Records regarding the maintenance and use/operation of the control equipment listed in 7(a) shall be maintained.

   c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emissions Unit: 10 (10 and 11) - Lime/Limestone Handling and Processing

Description:

Equipment includes: Receiving Operations: clamshell unloader, clamshell barge unloader bin;
Stockpile/Stackout Operations: active pile, inactive pile
Construction commenced on or before: 1990
Maximum Operating Rate (Receiving): 1650 Tons/hour
Maximum Operating Rate (Stockpile/Stackout): 1500 Tons/hr

Applicable Regulations:
401 KAR 63:010, Fugitive emissions
401 KAR 51:017, Prevention of significant deterioration of air quality

1. **Operating Limitations:**
   a) Pursuant to 401 KAR 63:010, Section 3, reasonable precautions shall be taken to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, when applicable, but not be limited to the following:

      1. application and maintenance of asphalt, application of water, or suitable chemicals on roads, material stockpiles, and other surfaces which can create airborne dusts;

      2. operation of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials, or the use of water sprays or other measures to suppress the dust emissions during handling.

   b) Pursuant to 401 KAR 63:010, Section 3, discharge of visible fugitive dust emissions beyond the property line is prohibited.

2. **Emission Limitations:**
   None

3. **Testing Requirements:**
   None

4. **Specific Monitoring Requirements:**
   See Section F.

5. **Specific Record Keeping Requirements:**
   Records of the lime and/or limestone received and processed shall be maintained for emissions inventory purposes.

6. **Specific Reporting Requirements:**
   See Section F.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

7. **Specific Control Equipment Operating Conditions:**

a) The wet spray low water surfactant and enclosures shall be used as necessary to maintain compliance with applicable requirements, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance and use of the wet spray low water surfactant and enclosures shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emissions Units: 12 (12, 13) - Lime/Limestone Handling and Processing

Description:
Equipment Includes: underground crushing operation (one crusher);
and milling operations (two ball mills)
Construction commenced on or before: 1990
Operating Rate: 260 Tons/hour, each

Applicable Regulations:
401 KAR 60.670, New nonmetallic mineral processing plants, incorporating by reference 40 CFR 60, Subpart OOO, applies to each of the emissions units listed above, commenced after August 31, 1983
401 KAR 51:017, Prevention of significant deterioration of air quality

1. **Operating Limitations:**
   None

2. **Emission Standards:**
   a) Pursuant to 401 KAR 60.670, incorporating by reference 40 CFR 60.672(e), no owner or operator shall cause to be discharged into the atmosphere from any building enclosing any transfer point on a conveyor belt or any other emissions unit any visible fugitive emissions.

   Note that the crusher building is located underground with no direct vent to the atmosphere; therefore as long as this is the case it is assumed to be in compliance.

3. **Testing Requirements:**
   In determining compliance with 401 KAR 60.670, incorporating by reference 40 CFR 60.672(e) for fugitive emissions from buildings, the owner(s) or operator(s) shall determine fugitive emissions while all emissions units are operating in accordance with EPA Reference Method 22, annually.

4. **Specific Monitoring Requirements:**
   The permittee shall inspect the control equipment weekly and make repairs as necessary to assure compliance.

5. **Specific Record Keeping Requirements:**
   Records of the lime and/or limestone processed shall be maintained for emissions inventory purposes.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

6. **Specific Reporting Requirements:**

a) Pursuant to 401 KAR 60.670, incorporating by reference 40 CFR 60.676, the owner(s) or operator(s) of any emissions unit shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards of 40 CFR 60.672 and 401 KAR 59:310, including reports of observations using Method 22 to demonstrate compliance.

b) See Section F.

7. **Specific Control Equipment Operating Conditions:**

a) The enclosure shall be used as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance of the enclosure shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emissions Unit: 14 (14) - Lime/Limestone Handling and Processing

Description:
Equipment Includes: conveyors and transfer points (conveyor system, belts A, B, C, transfer bin, and reclaim hopper)
Construction commenced on or before: 1990
Maximum Operating Rate: 1500 Tons/hour, each

Applicable Regulations:
401 KAR 60:670, incorporating by reference 40 CFR 60 Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants, as modified by Section 3 of 401 KAR 60:670, applies to each of the emissions units listed above, commenced after August 31, 1983
401 KAR 51:017, Prevention of significant deterioration of air quality

1. **Operating Limitations:**
None

2. **Emission Standards:**
a) Pursuant to 401 KAR 60.670, incorporating by reference 40 CFR 60.672 (b), the owner(s) or operator(s) shall not cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other emissions unit any fugitive emissions which exhibit greater than ten (10) percent opacity.

b) Pursuant to 401 KAR 60.670, incorporating by reference 40 CFR 60.672(e), no owner or operator shall cause to be discharged into the atmosphere from any building/enclosure enclosing any transfer point on a conveyor belt or any other emissions unit any visible fugitive emissions.

3. **Testing Requirements:**
a) EPA Reference Method 9 and the procedures in 40 CFR 60.11 and 40 CFR 60.675 shall be used for determining opacity, annually.

b) In determining compliance with 401 KAR 401 KAR 60.670, incorporating by reference 40 CFR 60.672(e) for fugitive emissions from buildings/enclosures, the owner(s) or operator(s) shall determine fugitive emissions while all emissions units are operating in accordance with EPA Reference Method 22, annually.

4. **Specific Monitoring Requirements:**
The permittee shall inspect the control equipment weekly and make repairs as necessary to assure compliance.

5. **Specific Record Keeping Requirements:**
Records of the lime and/or limestone processed shall be maintained for emissions inventory purposes.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

6. **Specific Reporting Requirements:**

a) Pursuant to 401 KAR 60.670, incorporating by reference 40 CFR 60.676, the owner(s) or operator(s) of any emissions unit shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards of 40 CFR 60.672, including reports of opacity observations made using Method 9 to demonstrate compliance, and reports of observations using Method 22 to demonstrate compliance.

b) See Section F.

7. **Specific Control Equipment Operating Conditions:**

a) The partial enclosures shall be used as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance of the partial enclosures shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emissions Unit: 18 (18) - Emergency Diesel Generator

Description:
Maximum Output: 150 kW
Rated capacity: 16.1 gallons/hour diesel fuel
Constructed on or before date: 1995

Applicable Regulations:
None

1. **Operating Limitations:**
None

2. **Emission Limitations:**
None

3. **Testing Requirements:**
None

4. **Specific Monitoring Requirements:**
See Section F.

5. **Specific Record Keeping Requirements:**
Records of the fuel usage rate shall be maintained for emissions inventory purposes.

6. **Specific Reporting Requirements:**
See Section F.

7. **Specific Control Equipment Operating Conditions:**
NA

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emissions Unit: 20 (17) - Existing Natural Draft Cooling Tower (with five chemical injection pumps and two circulating water pumps)

Description:

Control Equipment:	0.008% Drift Eliminators
Circulating Water Rate:	238,227 Gallons per Minute
Construction Commenced Date:	September 1990

Applicable Regulations:

401 KAR 63:010, Fugitive emissions

401 KAR 51:017, Prevention of Significant Deterioration of Air Quality applicable to major construction or modification commenced after September 22, 1982.

1. **Operating Limitations:**
   a) Pursuant to 401 KAR 63:010, Section 3, reasonable precautions shall be taken to prevent particulate matter from becoming airborne.

   b) Pursuant to 401 KAR 63:010, Section 3, discharge of visible fugitive dust emissions beyond the property line is prohibited.

2. **Emission Limitations:**
   a) Pursuant to 401 KAR 51:017, the cooling tower shall utilize 0.008% Drift Eliminators.

   b) Pursuant to 401 KAR 63:010, Section 3, reasonable precautions shall be taken to prevent particulate matter from becoming airborne.

3. **Testing Requirements:**
   None

4. **Specific Monitoring Requirements:**
   The permittee shall monitor of total dissolved solids content of the circulating water on a monthly basis.

5. **Specific Record Keeping Requirements:**
   a) The owner or operator shall maintain records of the manufacturer's design of the Drift Eliminators.

   b) The owner or operator shall maintain records of water circulation rate and monthly records of the circulating water total dissolved solids content.

6. **Specific Reporting Requirements:**
   See Section F for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

7. **Specific Control Equipment Operating Conditions:**

a) Pursuant to 401 KAR 50:055, Section 5, the drift eliminators shall be maintained and operated to ensure the emission units are in compliance with applicable requirements of 401 KAR 63:010 and in accordance with manufacturer's specifications and/or standard operating practices.

b) See Section E for further requirements.

SECTION B -EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emissions Units: 25 – 30 (Emission Points 25 -30) - 6 Combustion Turbines (TC5 - TC10)

Description:
1763 mmBtu/hr maximum rated heat input capacity (@ -10 degrees F), each, 160 MW nominal rated capacity output each. General Electric 7FA natural gas-fired simple cycle combustion turbines equipped with dry low NO_x burners.
Units 25 & 26 (TC 5 & TC6) are proposed to be installed in April of 2002
Units 27 & 28 (TC 7 & TC8) are proposed to be installed in February of 2004
Units 29 & 30 (TC 9 & TC10) are proposed to be installed in April of 2004

The following requirements are applicable to each combustion turbine

Applicable Regulations:
401 KAR 60:005, incorporating by reference 40 CFR 60, Subpart GG, Standards of Performance for Stationary Gas Turbines, for emissions unit with a heat input at peak load equal to or greater than 10 mmBtu/hour for which construction commenced after October 3, 1977, and 40 CFR 60, Subpart A, General Provisions.
401 KAR 51:017, Prevention of significant deterioration of air quality
401 KAR 63:020, Potentially hazardous matter or toxic substances

1. **Operating Limitations:**
   a) The Permittee shall not operate any combustion turbine below load levels at which performance testing has proven compliance with emission limitations, except during periods of startup and shutdown. Startup and shutdown periods shall be limited to no more than two hours for each startup/shutdown event.
   b) The Permittee shall use only natural gas in the turbines.

2. **Emission Limitations:**
   a) Pursuant to 401 KAR 51:017, nitrogen oxides emission levels in the exhaust gas shall not exceed a hourly average of 12 ppm by volume at 15 percent oxygen on a dry basis, and an annual (12 month rolling) average of 9 ppm by volume at 15 percent oxygen on a dry basis, except during periods of startup, shutdown, or malfunction. Continuous compliance with this limit shall be demonstrated by a continuous emission monitor (CEM). Compliance with this limit constitutes compliance with the nitrogen oxide limit contained in 40 CFR 60 Subpart GG.

   b) Pursuant to 401 KAR 51:017, the fuel sulfur content due to the firing of natural gas shall not exceed 2.0 grains/100 SCF. Compliance with this limit shall be demonstrated by fuel sampling or vendor guarantees.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

c) Pursuant to 401 KAR 51:017, except during periods of startup, shutdown, or malfunction, the carbon monoxide emission level in the exhaust gas shall not exceed 9 ppm by volume at 15 % oxygen, on a dry basis, during any 3-hour average period. Continuous compliance with this limit shall be demonstrated by a continuous emission monitor (CEM).

d) Pursuant to 401 KAR 51:017, particulate emissions shall not exceed 19 pounds per hour.

e) The permittee shall not allow total formaldehyde emissions in the exhaust gas to exceed 10 tons during any consecutive 12- month period.

f) See Section D.

3. **Testing Requirements:**

a) Pursuant to 40 CFR 60.335(b), in conducting performance tests required by 40 CFR 60.8, the owner or operator shall use as test methods and procedures the test methods in Appendix A of Part 60 or other methods or procedures as specified in 40 CFR 60.335, except as provided for in 40 CFR 60.8(b).

b) Pursuant to 401 KAR 50:045, the owner or operator shall conduct an initial performance test on at least one of the turbines for sulfur dioxide, nitrogen oxides, carbon monoxide, particulate matter and formaldehyde, with use of a reference test method approved by the Division.

c) See General Conditions G(d)(5) and G(d)(6).

4. **Specific Monitoring Requirements:**

a) Pursuant to 401 KAR 52:020, Section 10, and 40 CFR 75.2, the permittee shall install, calibrate, maintain, and operate the nitrogen oxides Continuous Emissions Monitor (CEM). The nitrogen oxides CEM shall be used as the indicator of continuous compliance with the nitrogen oxides emission standard. Excluding the startup and shut down periods, if any (1) one-hour average exceeds the nitrogen oxides emission limitation, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and complete necessary control device/process/CEM repairs or take corrective action as soon as practicable.

b) Pursuant to 401 KAR 52:020, Section 10, the permittee shall monitor the quantity of natural gas, in millions of cubic feet, fired in each combustion turbine on a daily basis.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

c) Pursuant to 40 CFR 60.334(b), the owner or operator of any stationary turbine shall monitor sulfur content of the fuel being fired in the turbine. The frequency of determination of these values shall be as specified in the following approved Custom fuel monitoring schedule. The permittee will sample the natural gas for sulfur content every six months or use vendor guarantees that the gas contains 2.0 grains/100 SCF of sulfur or less as proof of natural gas quality.

d) Pursuant to 401 KAR 52:020, Section 10, to meet the periodic monitoring requirement for carbon monoxide the permittee shall use a continuous emission monitor (CEM). Excluding the startup and shut down periods, if any (3) three-hour average carbon monoxide value exceeds the standard, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and complete necessary process or CEM repairs or take corrective action as soon as practicable.

e) The permittee shall install, calibrate, operate, test, and monitor all continuous monitoring systems and monitoring devices in accordance with 40 CFR 60.13 or 40 CFR 75.10

f) The Permittee shall monitor the hours of operation of each combustion turbine on a daily basis.

g) The Permittee shall monitor the power output, in MW, of each combustion turbine on a daily basis.

5. **Specific Record Keeping Requirements:**

a) Pursuant to 40 CFR 60.7 (f), the owner or operator of the gas turbines shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems and devices; and all other information required by 40 CFR 60, Subpart A recorded in a permanent form suitable for inspection.

b) Records, including those documenting the results of each compliance test and all other records and reports required by this permit, shall be maintained for five (5) years pursuant to 401 KAR 52:020.

SECTION B -EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

c) The permittee shall maintain a log of all sulfur content measurements as required in the approved custom fuel sulfur-monitoring plan (Condition 4(c) above).

d) The permittee shall maintain a daily log of the natural gas, in millions of cubic feet, fired in each combustion turbine, for any consecutive twelve (12) month period.

e) The permittee shall maintain a daily log of all hours of operation for each combustion turbine, for any consecutive twelve (12) month period.

f) The permittee shall maintain a daily log of all power output, in MW, for each combustion turbine, for any consecutive twelve (12) month period.

6. Specific Reporting Requirements:

a) Pursuant to 40 CFR 60.7 (c), minimum data requirements which follow shall be maintained and furnished in the format specified by the Division. Owners or operators of facilities required to install continuous monitoring systems shall submit for every calendar quarter a written report of excess emissions (as defined in applicable sections) to the Division. All quarterly reports shall be postmarked by the thirtieth (30th) day following the end of each calendar quarter and shall include the following information:

1) The magnitude of the excess emissions computed in accordance with the 40 CFR 60.13 (h), any conversion factors used, and the date and time of commencement and completion of each time period of excess emissions.

2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the emissions unit. The nature and cause of any malfunction (if known), the corrective action taken or preventive measures adopted.

3) The date and time identifying each period during which continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

b) Pursuant to 401 KAR 52:020 Section 10, monitoring requirement with CEM for nitrogen oxides, excess emissions are defined as any (1) one-hour period during which the average emissions (arithmetic average) exceed the applicable nitrogen oxides emission standard. These periods of excess emissions shall be reported quarterly. The nitrogen oxide CEM reports will be used in lieu of the water to fuel ratio requirements of 40 CFR 60.334(c).

c) Pursuant to 40 CFR 60.334(c), excess emissions of sulfur dioxide are defined as any daily period (or as otherwise required in an approved custom fuel sulfur monitoring plan) during which the sulfur content of the fuel being fired in the gas turbine(s) exceeds the limitations set forth in Subsection 2, Emission Limitations. These periods of excess emissions shall be reported quarterly.

d) Pursuant to 401 KAR 52:020, Section 10, monitoring requirement with CEM for carbon monoxide, excess emissions are defined as any (3) three-hour period during which the average emissions (arithmetic average) exceed the applicable carbon monoxide emission standard. These periods of excess emissions shall be reported quarterly.

7. **Specific Control Equipment Operating Conditions:**

a) The Dry Low-NO_x Burners shall be operated to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emissions Unit: 31 - Unit 2 - Supercritical Pulverized Coal Fired Steam Electric Generating Unit Nominal rating 750 MW

Description:
Supercritical Pulverized Coal (SPC) Boiler, equipped with Selective Catalytic Reduction (SCR); Pulse Jet Fabric Filter (PJFF); Wet Flue Gas Desulfurization (WFGD); and Wet Electrostatic Precipitator (WESP).
ASTM Grade No. 2-D S15 fuel oil used for startup and stabilization.
Design capacity rating: 6,942 mmBtu/hour
Fuels include (i) Eastern bituminous coal, and (ii) a blend of Western sub bituminous coal and Eastern bituminous coal.
Construction Commence Date: Estimated 2006

Applicable Regulations:
401 KAR 51:017, Prevention of Significant Deterioration of Air Quality applicable to major construction or modification commenced after September 22, 1982;
401 KAR 51:160, NO_x requirements for large utility and industrial boilers; incorporating by reference 40 CFR 96;
401 KAR 52:060, Acid rain permits, incorporating by reference the Federal Acid Rain provisions as codified in 40 CFR Parts 72 to 78;
401 KAR 59:016, New Electric Utility Steam Generating Units;
40 CFR 60, Appendix F, Quality Assurance Procedures
401 KAR 60:005, incorporating by reference 40 CFR 60, Subpart Da, Standards of Performance for Electric Utility Steam Generating Units applicable to an emission unit with a capacity of more than 250 mmBtu per hour and commenced construction on or after September 19, 1978;
401 KAR 63:020, Potentially Hazardous Matter or Toxic Substances
40 CFR 64, Compliance Assurance Monitoring
40 CFR 75, Continuous Emission Monitoring
Compliance with 40 CFR 75, Continuous Emissions Monitoring, shall constitute compliance with the monitoring and quality assurance requirements of 401 KAR 59:016 and 40 CFR 60, Appendix F.

1. **Operating Limitations:**
The owner or operator shall install control devices selected as BACT.
   - BACT for PM/PM_{10} is PJFF.
   - BACT for CO is good combustion controls.
   - BACT for H_2SO_4 mist is WESP.
   - BACT for fluorides (as HF) is WFGD.
   - BACT does not apply to NO_x and SO_2, however BACT type controls with similar emission levels will be installed with a SCR for NO_x emissions and WFGD for SO_2.
   - Only ASTM Grade No.2-DS15, with a sulfur content not to exceed 15 ppm shall be used for startup and stabilization.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

2. **Emission Limitations:**

a) Pursuant to 401 KAR 59:016, Section 3(1)(b), and 401 KAR 51:017, particulate and PM_{10} emissions shall not exceed 0.018 lb/mmBtu (filterable and condensable) of heat input based on the average of three one-hour tests. Pursuant to 401 KAR 59:016, Section 6(1), compliance with the 0.018lb/mmBtu (filterable and condensable) emission limitation shall constitute compliance with the 99% reduction requirement contained in 401 KAR 59:016, Section 3(1)(b).

b) Pursuant to 401 KAR 60:005, Section 3(1)(c) and 40 CFR 60.42a(c), [per proposed revisions to NSPS Subpart Da published in the Federal Register on February 28, 2005] filterable particulate emissions shall not exceed 0.015 lb/mmBtu of heat input based on a three-hour rolling average.

c) Pursuant to 401 KAR 59:016, Section 3(2), emissions shall not exceed twenty (20) percent opacity based on a six-minute average except that a maximum of twenty-seven (27) percent is allowed for not more than one (1) six (6) minute period per hour.

d) Pursuant to 401 KAR 51:017, Sulfur dioxide emissions shall not exceed 8.94 tons per calendar day and 3,263.1 tons per 12 consecutive months total.

e) Pursuant to 401 KAR 60:005, Section 3(1)(c) and 40 CFR 60.43a(i), [per proposed revisions to NSPS Subpart Da published in the Federal Register on February 28, 2005], sulfur dioxide emissions shall not exceed 2.0 lb/MWh gross energy output, based on a thirty (30) day rolling average. Pursuant to 401 KAR 59:016, Section 4, compliance with this limit shall constitute compliance with the 70% reduction requirement contained in 401 KAR 59:016, Section 4(1)(b).

f) Pursuant to 401 KAR 51:017, Carbon monoxide emissions shall not exceed 0.10 lbs/mmBtu based on a thirty day rolling average or 0.5 lbs/mmBtu on a three hour rolling average.

g) Pursuant to 401 KAR 51:017, Nitrogen oxides emissions shall not exceed 4.17 tons per calendar day and 1,506.72 tons per 12 consecutive months total.

h) Pursuant to 401 KAR 60:005, Section 3(1)(c) and 40 CFR 60.44a(e), [per proposed revisions to NSPS Subpart Da published in the Federal Register on February 28, 2005], nitrogen oxides emissions shall not exceed 1.0 lb/MWh gross energy output, based on a 30-day rolling average. Pursuant to 401 KAR 59:016, Section 5, compliance with this limitation shall constitute compliance with the 65% reduction requirement contained in 401 KAR 59:016, Section 5(2)(e).

i) Pursuant to 401 KAR 51:017, VOC emissions shall not exceed 0.0032 lbs/mmBtu based on a three (3) hour rolling average. Compliance with this limit shall be demonstrated by compliance with Subsection 2(f) above.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

j) Pursuant to 401 KAR 51:017, Sulfuric acid mist emissions shall not exceed 26.6 lbs/hr based on a three (3) hour rolling average.

k) Pursuant to 401 KAR 51:017, Fluorides emissions shall not exceed 1.55 lbs/hr based on a three (3) hour rolling average.

l) Mercury emissions shall not exceed 13 x 10^{-6} lbs/MWh (Gross output) based on a consecutive twelve (12) month rolling average. Compliance with this limit ensures compliance with 40 CFR 60.45a.

m) Lead emissions shall not exceed 0.55 tons per year based on a 12-month rolling total.

n) Pursuant to 401 KAR 63:020, the use of good combustion controls, PJFF, WFGD, and WESP shall be used for the control of organic toxic substances.

o) Compliance with emission limits in Subsections (a), (d), (f) and (i) shall constitute compliance with 401 KAR 63:020 with respect to toxic substances. Mercury is not regulated under 401 KAR 63:020 pursuant to 401 KAR 63:020 Section 1.

p) The above emission limitations shall not apply during periods of startup and shutdown. However, emissions during startup and shutdown shall be included in determining compliance with tons per year limits specified in this permit. Pursuant to 401 KAR 51:017, the owner or operator shall utilize good work and maintenance practices and manufacturer's recommendations to minimize emissions during, and the frequency and duration of, such events.

3. **Testing Requirements:**

a) Pursuant to 401 KAR 50:055, Section 2(1)(a) the owner or operator shall demonstrate compliance with the applicable emission standards within sixty (60) days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the unit.

b) Pursuant to 401 KAR 50:045, Section 2 and 50:015, Section 1, the owner or operator shall determine the opacity of emissions from the stack by EPA Reference Method 9 as requested by the Division.

c) See Section D for further requirements.

4. **Specific Monitoring Requirements:**

a) Pursuant to 401 KAR 52:020, 401 KAR 59:016, Section 7, 401 KAR 51:017, 401 KAR 60:005, Section 3(1)(c), and 401 KAR 59:005, Section 4, the owner or operator shall install, calibrate, maintain, and operate continuous monitoring systems for measuring the opacity of emissions, sulfur dioxide emissions, carbon monoxide emissions, nitrogen oxides emissions, particulate matter emissions, mercury

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

emissions, and either oxygen or carbon dioxide diluents. Oxygen or carbon dioxide shall be monitored at each location where sulfur dioxide or nitrogen oxides emissions are monitored. The owner or operator shall ensure the continuous monitoring systems are in compliance with the requirements of 401 KAR 59:005, Section 4. Due to the wet nature of the stack, a continuous opacity monitor (COM) shall be located after the PJFF and before the WFGD as an indicator of performance.

b) Pursuant to 401 KAR 52:020, 401 KAR 59:016, Section 7(2) and 40 CFR 75.2, to meet the continuous monitoring requirement for sulfur dioxide, the owner or operator shall use a continuous emission monitor (CEM). If any 30 day rolling average (excluding the startup and shut down periods) or 8.94 tons per day limit for sulfur dioxide exceeds the limits, the owner or operator shall, as appropriate, initiate an inspection of the control equipment and/or the CEM system and make any necessary repairs as soon as practicable.

c) Pursuant to 401 KAR 52:020, 401 KAR 59:016, Section 7(3) and 40 CFR 75.2, to meet the continuous monitoring requirement for nitrogen oxide, the owner or operator shall use a CEM. If any 30 day rolling average (excluding the startup and shut down periods) or 4.17 tons per day limit for nitrogen oxide exceeds the limits, the owner or operator shall, as appropriate, initiate an inspection of the control equipment and/or the CEM system and make any necessary repairs as soon as practicable.

d) Pursuant to 401 KAR 52:020, Section 10 and 401 KAR 51:017, to meet the periodic monitoring requirement for CO, the owner or operator shall use a CEM.

e) Pursuant to 401 KAR 52:020, Section 10 and 401 KAR 51:017, to meet the periodic monitoring requirement for PM/PM_{10}, the owner or operator shall use a CEM.

f) Pursuant to 401 KAR 52:020, Section 10 and 40 CFR 60.49a(p), to meet the periodic monitoring requirement for mercury the owner or operator shall use a CEM.

g) Pursuant to 40 CFR 60.49a, 401 KAR 52:020 and 401 KAR 59:016, Section 7(5), all the CEM systems shall be operated and data shall be recorded during all periods of operation of the emissions units including periods of startup, shutdown, malfunction or emergency conditions, except for continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

h) Pursuant to 401 KAR 52:020 and 401 KAR 59:016, Section 7(6), when emission data are not obtained because of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, the owner or operator shall obtain emission data by using other monitoring systems as approved by the Division or the reference methods as described in 401 KAR 59:016, Section 7(8) or other data substitution methods, including 40 CFR 75, to provide emission data for a minimum of eighteen hours in at least twenty-two out of thirty successive boiler operating days.

i) Pursuant to 401 KAR 59:016, Section 7(9), the following procedures shall be used to conduct monitoring system performance evaluations and calibration checks as required under 401 KAR 59:005, Section 4(3):

1. Reference Method 6 or 7, as applicable shall be used for conducting performance evaluations of sulfur dioxide and nitrogen oxides CEM systems.

2. Sulfur dioxide or nitrogen oxides, as applicable, shall be used for preparing calibration mixtures under Performance Specification 2 of Appendix B to 40 CFR 60 incorporated by reference in 401 KAR 50:015, or under 40 CFR 75.

3. The span value for the continuous monitoring system for measuring opacity shall be between sixty (60) and eighty (80) percent and the span value for the continuous monitoring system for measuring nitrogen oxides shall be 1,000 ppm, or span values as specified in 40 CFR 75, Appendix A.

4. The span value for the continuous monitoring system for measuring sulfur dioxide at the outlet of the control device shall be 50 percent of the maximum estimated hourly potential emissions of the fuel fired, or span values as specified in 40 CFR 75, Appendix A.

j) CAM Requirements. The owner or operator shall use Sulfur Dioxide (SO_2), Nitrogen Oxides (NO_x), and particulate matter (PM/PM_{10}) Continuous Emissions Monitors (CEMs) as continuous compliance determination methods consistent with 40 CFR 64.4(d) for those specific parameters, and to demonstrate compliance with Best Available Control Technology (BACT) limits contained in this permit, as applicable.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Pursuant to 40 CFR 64.6, monitoring for H_2SO_4 and Fluoride is shown in the table below:

TABLE 1: CAM MONITORING APPROACH

Applicable CAM Requirement	H_2SO_4 Mist	Fluoride
General Requirements	26.6 lb/hr 3 hour rolling average	1.55 lb/hr 3 hour rolling average
Monitoring Methods and Location	SO_2 CEMs plus initial source test, WESP liquid flow rate, voltage, secondary currents and/or operating parameters, in conjunction with initial performance tests to establish excursion and exceedance, shall be monitored	SO_2 CEMs plus initial source test, weekly coal sampling (as received) with quarterly coal composites
Indicator Range	Initial source testing to establish correlation to SO_2 and coal quality, then establish SO_2 CEM and coal range appropriate	Initial source testing to establish correlation to SO_2 and coal quality, then establish SO_2 CEM and coal range appropriate
Data Collection Frequency	Continuous SO_2 CEM, weekly coal sampling (as received) with quarterly coal composites	Continuous SO_2 CEM, weekly coal sampling (as received) with quarterly coal composites
Averaging Period	3 hour rolling	3 hour rolling
Recordkeeping	Coal quality information will be kept in a designated hard copy or electronic archive, plus CEM data system records	Coal quality information will be kept in a designated hard copy or electronic archive, plus CEM data system records
QA/QC	WFGD/WESP will be maintained and operated in accordance with manufacturer specifications and recommendations	WFGD/WESP will be maintained and operated in accordance with manufacturer specifications and recommendations

5. **Specific Record Keeping Requirements:**

a) Pursuant to 401 KAR 59:005, Section 3(4), the owner or operator of this unit shall maintain a record of applicable measurements, including CEM system, monitoring device, and performance testing measurements; all CEM system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems and devices; and all other information required by 401 KAR 59:005 recorded in a permanent form suitable for inspection.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

b) Pursuant to 401 KAR 59:005, Section 3(2), the owner or operator of this unit shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the affected facility, any malfunction of the air pollution control equipment; or any period during which a CEM system or emission monitoring device is inoperative.

c) Pursuant to KAR 52:020, Section 10 and 401 KAR 50:045, Section 6, the owner or operator shall maintain the results of all compliance tests.

d) CAM Requirements

1. Pursuant to 40 CFR 64.9(b), the owner or operator shall record on a daily basis for the WFGD the following:

   a. The WFGD liquid pH in the reaction tank;
   b. Recycle pump amps and status.

2. Pursuant to 40 CFR 64.9(b), the owner or operator shall record, on a daily basis, voltages, or other parameters identified during the performance test for the WESP, as approved by the Division.

6. **Specific Reporting Requirements:**

a) Pursuant to 401 KAR 59:005, Section 3(3), minimum data requirements which follow shall be maintained and furnished in the format specified by the Division. Owners or operators of facilities required to install continuous monitoring systems shall submit for every calendar quarter a written report of excess emissions (as defined in applicable sections) to the Division. All quarterly reports shall be postmarked by the thirtieth (30th) day following the end of each calendar quarter and shall include the following information:

1. The magnitude of the excess emission computed in accordance with the 401 KAR 59:005, Section 4(8), any conversion factors used, and the date and time of commencement and completion of each time period of excess emissions.

2. All hourly averages shall be reported for sulfur dioxide and nitrogen oxides monitors. The hourly averages shall be made available in the format specified by the Division.

3. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The permittee shall determine the nature and cause of any malfunction (if known), and initiate the corrective action taken or preventive measures adopted.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

4. The date and time identifying each period during which continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

5. When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

6. For sulfur dioxide and nitrogen oxides, all information listed in 401 KAR 59:016, Section 9(2)(a) through (i), shall be reported to the Division for each twenty-four (24) hour period.

7. If the minimum quantity of emission data as required by 401 KAR 59:016, Section 7 is not obtained for any thirty successive boiler operating days, the owner or operator shall report all the information listed in 401 KAR 59:016, Section 9(3) for that thirty (30) day period.

8. If any sulfur dioxide standards as specified in 401 KAR 59:016, Section 4(a and b) are exceeded during emergency conditions because of control system malfunction, the owner or operator shall submit a signed statement including all information as described in 401 KAR 59:016, Section 9(4).

9. For any periods for which opacity, sulfur dioxide or nitrogen oxides emissions data are not available, the owner or operator shall submit a signed statement pursuant to 401 KAR 59:016, Section 9(6) indicating if any changes were made in the operation of the emission control system during the period of data unavailability. Operations of control system and emissions units during periods of data unavailability are to be compared with operation of the control system and emissions units before and following the period of data unavailability.

10. The owner or operator shall submit a signed statement including all information as described in 401 KAR 59:016, Section 9(7).

11. Pursuant to 401 KAR 59:016, Section 9(8), for the purposes of the reports required under 401 KAR 59:005, Section 4, periods of excess emissions are defined as all six (6) minute periods during which the average opacity exceeds the applicable opacity standards as specified in 401 KAR 59:016, Section 3(2). Opacity levels in excess of the applicable opacity standard and the date of such excesses are to be submitted to the Division each calendar quarter. As the COM system is located after the PJFF as an indicator of performance for that device but before the WFGD which provides additional particulate control, in the event of an opacity exceedance, as indicated by COM data, the owner or operator may conduct a Method 9 test to verify that

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

actual opacity from the stack complies with the applicable opacity standard, in which case the owner or operator shall promptly complete any necessary repairs to the PJFF. Such events shall not be considered in excess of the applicable opacity standard for reporting or other purposes. The CEM systems for sulfur dioxide and nitrogen oxide shall be certified, operated and maintained in accordance with the applicable provisions of 40 CFR 75. compliance with which shall be deemed compliance with monitoring provisions of 40 CFR 60.49a.

b) Pursuant to 401 KAR 59:005, Section 3(3), the owner or operator shall report the number of excursions (excluding startup, shut down, malfunction data) above the opacity trigger level, date and time of excursions, opacity value of the excursions, and percentage of the COM data showing excursions above the opacity trigger level in each calendar quarter to the Division's Regional Office consistent with the reporting provisions of paragraph B.6.a.11..

c) CAM Requirements. Pursuant to 40 CFR 64.9(a) the owner or operator shall report the following information regarding its CAM plan according to the general reporting requirements specified in Section F.5. of this permit:

1. Number of exceedances or excursions;
2. Duration of each exceedance or excursion;
3. Cause of each exceedance or excursion;
4. Corrective actions taken on each exceedance or excursion;
5. Number of monitoring equipment downtime incidents;
6. Duration of each monitoring equipment downtime incident;
7. Cause of each monitoring equipment downtime incident;
8. Description of actions taken to implement a quality improvement plan and upon completion of the quality improvement plan, documentation that the plan was completed and reduced the likelihood of similar excursions or exceedances.
9. The permittee shall take a sample of fuel "as received" upon delivery schedule to the PCs. The samples taken shall be uniformly mixed to form a composite sample analyzed to determine fluoride content on a quarterly basis. This data, along with the baseline data established during the initial compliance and subsequent tests, shall be used to demonstrate compliance with the emission limits for HF.

d) The permittee shall report quarterly the twelve (12) month rolling total sulfur dioxide and nitrogen oxides emissions.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

7. **Specific Control Equipment Operating Conditions:**

a) Pursuant to 401 KAR 50:055, Section 2 (5), the SCR, PJFF, WFGD, and WESP, shall be operated to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Pursuant to 401 KAR 59:005, Section 3(4), records regarding the maintenance of the control equipment shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emissions Unit 32 - Auxiliary Steam Boiler D

Description:
40 mmBtu/hr · ASTM Grade No. 2-D S15 fired auxiliary steam boiler
Construction Commenced Date: Estimated 2006

Applicable Regulations:
40 CFR 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, incorporated by reference in 401 KAR 60:005, Section 3(1)(e).
401 KAR 59:015, New Indirect Heat Exchangers.
40 CFR 63, Subpart DDDDD
401 KAR 63:020, Potentially Hazardous Matter or Toxic Substances.
40 CFR 60, Appendix F, Quality Assurance Procedures
401 KAR 51:017, Prevention of significant deterioration of air quality applicable to major construction or modification commenced after September 22, 1982.

1. **Operating Limitations:**
The auxiliary steam boiler, except for testing purposes, shall only operate during periods when Unit 31 is operating at less than 50 percent load. The auxiliary boiler shall not operate more than 1,000 hours in any twelve (12) consecutive months.

2. **Emission Limitations:**
a) Pursuant to 401 KAR 60:005, Section 3(1)(e), 401 KAR 59:015, Section 4(1)(c), 401 KAR 51:017, 40 CFR 60.43c(e) [per proposed revised NSPS Subpart Dc as published in the Federal Register on February 28, 2005], and 40 CFR 63 Subpart DDDDD Table 1, particulate emissions shall not exceed 0.03 lb/mmBtu heat input.

b) Pursuant to 401 KAR 60:005, Section 3(1)(e) and 401 KAR 59:015, Section 4(2)(a), emissions from the auxiliary steam boiler shall not exceed twenty (20) percent opacity based on a six-minute average except that a maximum of twenty-seven (27) percent is allowed for not more than one (1) six (6) minute period per hour.

c) Pursuant to 401 KAR 60:005, Section 3(1)(b); 401 KAR 59:015, Section 5(1)(b); and 401 KAR 51:017, the fuel oil used must meet the sulfur content standards in ASTM Grade No. 2-D S15 and cannot exceed a sulfur content of 15 ppm.

d) Pursuant to 401 KAR 51:017 and 40 CFR 63 Subpart DDDDD Table 1, carbon monoxide emissions shall not exceed 400 ppm by volume on a dry basis corrected to 3 percent oxygen and a 3-hour average.

e) Pursuant to 40 CFR 63 Subpart DDDDD Table 1, hydrogen chloride emissions shall not exceed 0.0005 lbs/mmBtu of heat input.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

3. **Testing Requirements:**

a) Pursuant to 401 KAR 59:005, Section 2(1) and 401 KAR 59:015, Section 8, the owner or operator shall demonstrate compliance with the applicable emission standards within sixty (60) days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility.

b) Pursuant to 40 CFR 63.7506, a performance test to demonstrate compliance with the carbon monoxide and hydrogen chloride emission limits is not required. However the following requirements must be met.

1. To demonstrate initial compliance, a signed statement in the Notification of Compliance Status report that indicates that the unit burns only liquid fossil fuels other than residual oils, either alone or in combination with gaseous fuels.

2. To demonstrate continuous compliance, records must be kept that demonstrate that the unit burned only liquid fossil fuels other than residual oil, either alone or in combination with gaseous fuels. A signed statement must be included in each semiannual compliance report that indicates that the unit burned only liquid fossil fuels other than residual oils, either alone or in combination with gaseous fuels, during the reporting period.

c) Pursuant to 401 KAR 59:015, Section 8(1)(f), if the unit has operated during the previous 12 consecutive months, the owner or operator shall determine the opacity of emissions from the stack by EPA Reference Method 9 upon request by the Division.

d) See Section D for further requirements.

4. **Specific Monitoring Requirements:**

a) The owner or operator shall monitor the hours of operation during each twelve (12) consecutive months.

b) To demonstrate continuing compliance with the fuel oil sulfur content limitation, monitoring of operations shall consist of, on an as-received basis, fuel supplier certification of the sulfur content of the fuel oil to be combusted. The fuel supplier certification shall include the name of the oil supplier, sulfur content, and a statement that the oil complies with the specifications under the definition for distillate oil in 401 KAR 60:005

c) The fuel oil sulfur content and heating value shall be determined for the No. 2 fuel oil, as received, by fuel supplier certification.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

5. **Specific Record Keeping Requirements:**

a) Pursuant to 401 KAR 59:005, Section 3(4), the owner or operator of the indirect heat exchanger shall maintain a file of all measurements and performance testing measurements required by 401 KAR 59:005 recorded in a permanent form suitable for inspection.

b) Pursuant to 401 KAR 59:005, Section 3(2), the owner or operator of this unit shall maintain the records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the affected facility.

c) The owner or operator shall maintain the results of all compliance tests.

d) The owner or operator shall maintain records of hours of operation during each twelve (12) consecutive months.

e) Pursuant to 401 KAR 59:005, Section 3 (4), the owner or operator of the indirect heat exchanger shall maintain a file of all measurements, including monthly No. 2 fuel oil usage. The owner or operator shall maintain a file of the fuel supplier certification; and all other information required by 401 KAR 59:005 recorded in a permanent form suitable for inspection. The file shall be retained for at least five (5) years following the date of such measurements, maintenance, reports, and records.

f) Records of the No. 2 fuel oil used shall be maintained.

6. **Specific Reporting Requirements:**

a) Pursuant to 401 KAR 60:005, Section 3(1)(e), the owner or operator shall follow the applicable Reporting and Recordkeeping requirements specified in 40 CFR 60.48c.

b) Pursuant to 40 CFR 63 Subpart DDDDD, the owner or operator shall make notifications required by 40 CFR 63.7545.

c) Pursuant to 40 CFR 63 Subpart DDDDD, the owner or operator shall submit reports required by 40 CFR 63.7550.

7. **Specific Control Equipment Operating Conditions:**

a) Pursuant to 401 KAR 50:055, Section 5, the auxiliary steam boiler shall be operated in accordance with manufacturer's specifications and / or standard operating practices.

b) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emissions Unit 33 - Backup Diesel Generator

Description:
12.5 mmBtu/hr - ASTM Grade No. 2-D S15 fuel oil-fired Backup Generator without oxidation catalyst or Non-Selective Catalytic Reduction (NSCR).
Construction Commenced Date: Estimated 2006

Applicable Regulations:
401 KAR 63:002, incorporating by reference 40 CFR 63, Subpart ZZZZ National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
401 KAR 51:017, Prevention of significant deterioration of air quality applicable to major construction or modification commenced after September 22, 1982.

1. **Operating Limitations:**
Pursuant to 401 KAR 51:017, the backup diesel generator, except for testing purposes, shall only operate during periods when Unit 31 is operating less than 50 percent load. The backup diesel generator shall not operate more than 1,000 hours per twelve (12) consecutive months.

2. **Emission Limitations:**
Pursuant to 401 KAR 63:002, formaldehyde concentration in the exhaust shall not exceed 580 ppbvd at 15 percent O_2 except during periods of startup, shutdown, and malfunction.

3. **Testing Requirements:**

a) Pursuant to 401 KAR 63:002, the owner or operator shall demonstrate compliance with the applicable emission standards upon startup.

b) Pursuant to 401 KAR 63:002, the average formaldehyde concentration, corrected to 15 percent O_2, dry basis, from the three test runs shall not exceed the formaldehyde emission limit specified in 2.

c) Pursuant to 401 KAR 63:002, semiannual performance tests for formaldehyde will be performed to determine compliance. If compliance is demonstrated with two consecutive semiannual tests, subsequent compliance tests shall be performed on an annual basis, unless otherwise approved by the Division.

d) See Section D for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

4. **Specific Monitoring Requirements:**

a) Pursuant to 401 KAR 63:002, the owner or operator shall install, calibrate, maintain, and operate a continuous parameter monitoring system, or alternative method, as allowed by regulation. The operating parameters are to be approved by the Division.

b) See Section D for further requirements.

5. **Specific Record Keeping Requirements:**

a) The owner or operator shall maintain the results of all compliance tests.

b) The owner or operator shall maintain records of hours of operation during each twelve (12) consecutive month period.

6. **Specific Reporting Requirements:**

a) Pursuant to 401 KAR 60:005, Section 3(1)(e), the owner or operator shall follow the applicable Reporting and Recordkeeping requirements specified in 40 CFR 60.48c.

b) Pursuant to 40 CFR 63 Subpart ZZZZ, the owner or operator shall make notifications required by 40 CFR 63.6645.

c) Pursuant to 40 CFR 63 Subpart ZZZZ, the owner or operator shall submit reports required by 40 CFR 63.6645.

7. **Specific Control Equipment Operating Conditions:**

None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emissions Unit: 34, 35 - Fossil Fuel Handling Operations-Coal Piles (FUGITIVES)

Description:
Construction Commenced Date:
Estimated 2006

Active Northwest Fossil Fuel Pile "A"	Fuel Pile Storage and Maintenance Activities
Active Northeast Fossil Fuel Pile "B"	Fuel Pile Storage and Maintenance Activities

Control Equipment

Active Northwest Fossil Fuel Pile "A"	Compaction and Water Suppression
Active Northeast Fossil Fuel Pile "B"	Compaction and Water Suppression

Applicable Regulations:
401 KAR 63:010, Fugitive emissions.
401 KAR 51:017, Prevention of significant deterioration of air quality applicable to major construction or modification commenced after September 22, 1982.

1. **Operating Limitations:**
   a) Pursuant to 401 KAR 51:017 and 401 KAR 63:010, Section 3, reasonable precautions shall be taken to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, as needed, but not be limited to the following:

      1. Application and maintenance of asphalt, application of water, or suitable chemicals on roads, material stockpiles, and other surfaces which can create airborne dusts;

      2. Operation of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials, or the use of water sprays or other measures to suppress the dust emissions during handling;

      3. The maintenance of paved roadways.

      4. The prompt removal of earth or other material from a paved street which earth or other material has been transported thereto by trucking or other earth moving equipment or erosion by water;

      5. Installation and use of compaction or other measures to suppress the dust emissions during handling.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

b) Pursuant to 401 KAR 63:010, Section 3, discharge of visible fugitive dust emissions beyond the property line is prohibited.

c) No one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway, pursuant to 401 KAR 63:010, Section 4.

d) Pursuant to 401 KAR 51:017, the owner or operator shall apply compaction and water suppression control methods as BACT.

2. **Emission Limitations:**
None

3. **Testing Requirements:**
40 CFR 60 Appendix A, Reference Method 22 shall be used to determine opacity upon request by the Division.

4. **Specific Monitoring Requirements:**
a) The owner or operator shall perform a qualitative visual observation on a weekly basis and maintain a log of the observations and corrective actions.

b) See Section F for further requirements.

5. **Specific Record Keeping Requirements:**
a) Records of the fossil fuels received and processed shall be maintained for emissions inventory purposes.

b) Annual records estimating the tonnage hauled on plant roadways shall be maintained for emissions inventory purposes.

c) The owner or operator shall maintain a log of the date, time and results of the monitoring required in Subsection 4 above.

6. **Specific Reporting Requirements:**
See Section F for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

7. **Specific Control Equipment Operating Conditions:**

a) Pursuant to 401 KAR 50:055, Section 5 and 401 KAR 51:017, the dust water suppressant system for the coal stockpile operations shall be maintained and operated to ensure the emission units are in compliance with applicable requirements of 401 KAR 63:010, and in accordance with manufacturer's specifications and standard operating practices.

b) Plant roadways shall be paved and controlled with water as necessary to comply with 401 KAR 63:010.

c) Pursuant to 401 KAR 59:005, Section 3(4), records regarding the maintenance of the control equipment shall be maintained.

d) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emissions Unit: 36, 37, 38, 39 -- Fossil Fuel Handling Operations, Dust Control Devices, and Associated Systems (Please refer to Units 7, 8 and 9 for additional existing fossil fuel handling operation information)

Description:

Construction Commenced Date: on or Before 1990

Continuous Barge Unloader –

One Barge Unloader Bin

Conveyor System -

Conveyor Belt A:	From Continuous Barge Unloader to Conveyor B
Conveyor Belt B:	From Conveyor A to Transfer House/Conveyor C
Conveyor Belt C:	From Transfer House to Coal Sample House Bin
Conveyor Belt D:	From Coal Sample House Bin to Conveyor E1 or S
Conveyor Belt E1:	From Conveyor D to Active Storage and Crusher House
Conveyor Belts F1 & F2:	From Crusher House to Conveyors G1 & G2
Conveyor Belts G1 & G2:	From Conveyors F1 & F2 to Unit 1 & 2 Coal Silos
Conveyor Belt S:	From Conveyor D to One Inactive Fossil Fuel Pile
Reclaim Hopper & Conveyor Belt R1:	From One Inactive Fossil Fuel Pile to Crusher House

Crusher House -

Two crushers, fossil fuel crusher bin, and fuel blender: Crusher House Activities

Construction Commenced Date: Estimated 2006

Power House –

Six Unit 2 fossil fuel silos: Unit 2 Coal Storage

Conveyor System –

Conveyor Belt E2:	From Unit 2 Active Coal Piles "A & B" to Crusher House
Fuel Blending System:	From Active Coal Storage to Conveyor E2

Control Equipment

EU#36-Barge Unloader Dust Collector (CDC01):	Conveyors A&B
EU#37-U/R Reclaim Vault Dust Collector (CDC02):	Drop from Coal Feeders 1-7 to Conveyor E2
EU#38-Coal Crusher Dust Collector (CDC03):	Coal Crusher House Activities
EU#39-Unit 2 Coal Silo Dust Collector (CDC04):	Conveyors F1&2 and Drop to G1&2; Unit 2 Coal Silos

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Description

Conveyors: Enclosures, water suppression, low drops, and baghouse filters, hoods
Conveyor S: Stackout Chute

Operating Rate–

Continuous Barge Unloader	Transfer Rates
One Barge Unloader	5,500 tons/hour

Conveyor System -

Conveyor Belt A:	5,500 tons/hour
Conveyor Belt B:	5,500 tons/hour
Conveyor Belt C:	5,500 tons/hour
Conveyor Belt D:	3,000 tons/hour
Conveyor Belt E1:	2,640 tons/hour
Conveyor Belt E2:	1,320 tons/hour
Conveyor Belts F1 & F2:	1,320 tons/hour
Conveyors G1 & G2	1.320 tons/hour
Conveyor Belt S:	1,650 tons/hour
Reclaim Hopper & Conveyor Belt R1:	1,320 tons/hour
Unit2 Fuel Blending System:	800 tons/hour

Crusher House -

Two crushers, fossil fuel crusher bin, and fuel blender: 3,600 tons/hour

Power House -

Six unit 2 fossil fuel silos: 800 tons/hour

Applicable Regulations:

401 KAR 60:005, incorporating by reference 40 CFR 60, Subpart Y, Standards of Performance for Coal Preparation Plants for units commenced after October 24, 1974
401 KAR 51:017, Prevention of Significant Deterioration of Air Quality applicable to major construction or modification commenced after September 22, 1982.

1. **Operating Limitations:**
   Pursuant to 401 KAR 51:017, the owner or operator shall install the following dust collectors as BACT:

   a) Barge Unloader Dust Collector

   b) U/R Reclaim Vault Dust Collector

   c) Coal Crusher Dust Collector

   d) Unit 2 Coal Silo Dust Collector

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED

2. **Emission Limitations:**

a) Pursuant to 401 KAR 60:005 incorporating by reference 40 CFR 60.252, the owner or operator subject to the provisions of this regulation shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.

b) Pursuant to 401 KAR 51:017, the dust collectors utilized shall exhibit a particulate design control efficiency of at least 99%.

3. **Testing Requirements:**

Pursuant to 401 KAR 60:005, Section 3(1)(ff) incorporating by reference, 40 CFR 60.254, EPA Reference Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity upon request by the Division.

4. **Specific Monitoring Requirements:**

The owner or operator shall perform a qualitative visual observation of the opacity of emissions from each stack on a weekly basis and maintain a log of the observations. If visible emissions from any stack are seen, the owner or operator shall determine the opacity of emissions by Reference Method 9 and instigate an inspection of the control equipment making any necessary repairs.

5. **Specific Record Keeping Requirements:**

a) The owner or operator shall maintain the records of amount of coal received and processed.

b) The owner or operator shall maintain the results of all compliance tests. The owner or operator shall record each week, the date and time of each observation and opacity of visible emissions monitoring. In case of exceedances, the owner or operator must record the reason (if known) and the measures taken to minimize or eliminate exceedances.

6. **Specific Reporting Requirements:**

See Section F for further requirements.

7. **Specific Control Equipment Operating Conditions:**

a) Pursuant to 401 KAR 50:055, Section 5, the enclosures/partial enclosures, baghouses, bin vent filters, conveyor systems, fuel blending operations, fossil fuel storage silos, and stackout chute shall be maintained and operated to ensure the emission units are in compliance with applicable requirements of 40 CFR 60, Subpart Y and in accordance with manufacturer's specifications and/or standard operating practices.

b) Pursuant to 401 KAR 59:005, Section 3(4), records regarding the maintenance and use/operation of the control equipment listed in 7(a) shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED

Emissions Units: 40 - Limestone Handling Operations, Dust Control Devices, and Associated Systems

Description:
Construction Commenced Date: Estimate 2006

Stockpile/Stackout Operations:

Active Limestone Pile	Limestone Storage Activities
Active Limestone Pile Reclaimer	Limestone Reclaim Activities

Control Equipment

Active Limestone Pile	Low Drop/Enclosure/Dust Collector (LDC01)
Active Limestone Pile Reclaimer	Enclosure/Dust Collector (LDC01)

EU#40-Limestone Dust Collector (LDC01)	Conveyor B onto Active Pile and Active Pile Reclaimer onto Conveyor C

Operating Rate

Active Limestone Pile	N/A
Active Limestone Pile Reclaimer	200 tons/hour

Applicable Regulations:
401 KAR 60.670, New Nonmetallic Mineral Processing Plants, incorporating by reference 40 CFR 60, Subpart OOO – Nonmetallic Mineral Processing Plants, applies to the emissions unit listed above, commenced after August 31, 1983
401 KAR 51:017, Prevention of Significant Deterioration of Air Quality applicable to major construction or modification commenced after September 22, 1982.

1. **Operating Limitations:**
Pursuant to 401 KAR 51:017, the owner or operator shall install a dust collector as BACT.

2. **Emission Limitations:**

a) Pursuant to 401 KAR 60.670, incorporating by reference 40 CFR 60.672(e), no owner or operator shall cause to be discharged into the atmosphere from any building enclosing any transfer point on a conveyor belt or any other emissions unit any visible fugitive emissions.

b) Pursuant to 401 KAR 51:017 and 401 KAR 60:670, emissions of particulate shall be controlled by dust collectors.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

c) Pursuant to 401 KAR 60:670, specifically 40 CFR 60.672(a), stack emissions of particulate shall not exceed 0.05 gr/dscm and shall not exhibit greater than 7% opacity.

d) Pursuant to 401 KAR 60:607, specifically 40 CFR 60.672(b), fugitive emissions of particulate shall not exhibit greater than 10% opacity.

3. **Testing Requirements:**
In determining compliance with 401 KAR 60:670, incorporating by reference 40 CFR 60.672(e), for fugitive emissions from buildings, the owner(s) or operator(s) shall determine fugitive emissions while all emissions units are operating in accordance with EPA Reference Method 22, annually.

4. **Specific Monitoring Requirements:**
The owner or operator shall inspect the control equipment weekly and make repairs as necessary to assure compliance.

5. **Specific Record Keeping Requirements:**
Records of the limestone processed shall be maintained for emissions inventory purposes.

6. **Specific Reporting Requirements:**
a) Pursuant to 401 KAR 60:670, incorporating by reference 40 CFR 60.676, the owner(s) or operator(s) of any emissions unit shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards of 40 CFR 60.672 including reports of observations using Method 22 to demonstrate compliance.

b) See Section F for further requirements.

7. **Specific Control Equipment Operating Conditions:**
a) Pursuant to 401 KAR 50:055, Section 5, the dust collector and enclosures shall be maintained and operated to ensure the emission units are in compliance with applicable requirements of 40 CFR 60, Subpart OOO and in accordance with manufacturer's specifications and/or standard operating practices.

b) Pursuant to 401 KAR 50:050, Section 1, records regarding the maintenance of the control equipment shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED

Unit: 41 - Linear Mechanical Draft Cooling Tower (11 cells)

Description:

Control Equipment:	0.0005% Drift Eliminators
Circulating Water Rate:	173,120 Gallons per Minute
Construction Commenced Date:	Estimated 2006

Applicable Regulations:

401 KAR 63:010, Fugitive emissions

401 KAR 51:017, Prevention of Significant Deterioration of Air Quality applicable to major construction or modification commenced after September 22, 1982.

1. **Operating Limitations:**
   a) Pursuant to 401 KAR 63:010, Section 3, reasonable precautions shall be taken to prevent particulate matter from becoming airborne.

   b) Pursuant to 401 KAR 63:010, Section 3, discharge of visible fugitive dust emissions beyond the property line is prohibited.

2. **Emission Limitations:**
   a) Pursuant to 401 KAR 51:017, the cooling tower shall utilize 0.0005% Drift Eliminators.

   b) Pursuant to 401 KAR 63:010, Section 3, reasonable precautions shall be taken to prevent particulate matter from becoming airborne.

3. **Testing Requirements:**
   Initial performance test to verify drift percent achieved by the drift eliminator will be conducted based on the Cooling Technology Institute (CTI) Acceptance Test Code (ATC) # 140

4. **Specific Monitoring Requirements:**

   The permittee shall monitor total dissolved solids content of the circulating water on a monthly basis.

5. **Specific Record Keeping Requirements:**
   a) The owner or operator shall maintain records of the manufacturer's design of the Drift Eliminators.

   b) The owner or operator shall maintain records of maximum pumping capacity and monthly records of the total dissolved solids content.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

6. **Specific Reporting Requirements:**
See Section F for further requirements.

7. **Specific Control Equipment Operating Conditions:**
a) Pursuant to 401 KAR 50:055, Section 5, the drift eliminators shall be maintained and operated to ensure the emission units are in compliance with applicable requirements of 401 KAR 63:010 and in accordance with manufacturer's specifications and/or standard operating practices.

b) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED

Unit: 42 - Fly Ash Storage Silo and Dust Control Device

Description:
Construction Commenced Date: Estimate
2006

Fly Ash Silo Bins	Fly Ash Storage Activities

Control Equipment

EU#42-Fly Ash Dust Collector (FDC01)	Fly Ash from Units 1 and 31 into Fly Ash Silo Bins and Fly Ash from Fly Ash Silo Bins into Dry Bulk Trailers with Tractors

Operating Rate

Fly Ash Silo Bins	Material Throughput: 33 tons/hour each

Applicable Regulations:
401 KAR 59:010, New Process Operations, applicable to an emission unit, which commenced on or after 1972
401 KAR 51:017, Prevention of Significant Deterioration of Air Quality applicable to major construction or modification commenced after September 22, 1982.

1. **Operating Limitations:**
   Pursuant to 401 KAR 51:017, the owner or operator shall install a dust collector as BACT.

2. **Emission Limitations:**
   a) Pursuant to 401 KAR 59:010, Section 3(1), the owner or operator shall not cause to be discharged into the atmosphere from any of the above listed units emissions greater than twenty (20) percent opacity.

   b) Pursuant to 401 KAR 59:010, particulate matter emissions from the bin dust collector shall not exceed $[3.59 (P)^{0.62}]$ lbs/hr based on a three-hour average, where P is the material throughput rate in tons/hour.

3. **Testing Requirements:**
   None

4. **Specific Monitoring Requirements:**
   The owner or operator shall perform a qualitative visual observation of the opacity of emissions from the stack on a weekly basis and maintain a log of the observations. If visible emissions from any stack included in this emission unit are seen, then the owner or operator shall determine the opacity of emissions by Reference Method 9 and perform an inspection of the control equipment for any necessary repairs.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED

5. **Specific Record Keeping Requirements:**
   a) The owner or operator shall maintain the records of amount of fly ash processed.

   b) Pursuant to 401 KAR 59:005, Section 3(4), the owner or operator shall maintain the results of all compliance tests and calculations.

   c) The owner or operator shall record each week the date, time and opacity of the visible emissions monitoring. In case of an exceedance, the owner or operator must record the reason (if known) and the measures taken to minimize or eliminate the exceedance.

6. **Specific Reporting Requirements:**
   See Section F for further requirements.

7. **Specific Control Equipment Operating Conditions:**
   a) Pursuant to 401 KAR 50:055, Section 5, the dust collector equipment shall be maintained and operated to ensure the emission unit is in compliance with applicable requirements of 401 KAR 59:010 and in accordance with manufacturer's specifications and/or standard operating practices

   b) Pursuant to 401 KAR 59:005, Section 3(4), records regarding the maintenance of the control equipment shall be maintained.

   c) See Section E for further requirements.

SECTION C - INSIGNIFICANT ACTIVITIES

The following listed activities have been determined to be insignificant activities for this source pursuant to 401 KAR 52:020, Section 6. While these activities are designated as insignificant the permittee must comply with the applicable regulation and some minimal level of periodic monitoring may be necessary. Process and emission control equipment at each insignificant activity subject to a general applicable regulation shall be inspected monthly and qualitative visible emission evaluation made. The results of the inspections and observations shall be recorded in a log, noting color, duration, density (heavy or light), cause and any conservative actions taken for any abnormal visible emissions.

	Description	Generally Applicable Regulation
1.	Two station #2 fuel oil tanks, each 100,000 gallons (401 KAR 59:050), and auxiliary boiler day tank storing #2 fuel oil with a size of 16,000 gallons. General recordkeeping requirements - 40 CFR 60.116b(a) and (b)	401 KAR 59:050 40 CFR 60.116b(a) and (b)
2.	Metal degreaser using a maximum throughput of 832 gallons/year solvent.	NA
3.	3,000 gallon unleaded gasoline storage tank.	NA
4.	3,000 gallon diesel storage tank.	NA
5.	1,100 gallon used oil storage tank.	NA
6.	1,100 gallon #1 fuel oil tank.	NA
7.	Fly ash collection system	401 KAR 59:010
8.	Infrequent evaporation of boiler cleaning solutions.	NA
9.	Infrequent burning of De Minimis quantities of used oil for energy recovery.	NA
10.	Paved and Unpaved Roads.	401 KAR 63:010
11.	Preheater (for CTs Units 9 & 10) Max. Heat Input 10.9 mmBtu/hr.	401 KAR 59:010
12.	Preheater (for CTs Units 11 &12) Max. Heat Input 10.9 mmBtu/hr.	401 KAR 59:010
13.	Preheater (for CTs Units 13 & 14) Max. Heat Input 10.9 mmBtu/hr.	401 KAR 59:010
14.	Gypsum Storage Piles	401 KAR 63:010
15.	Coal and Limestone Storage Piles (Inactive Outdoor Piles)	401 KAR 63:010
16.	Bottom Ash and Debris Collection Basin	401 KAR 63:010
17.	Bottom Ash Reclaim Operation	401 KAR 63:010
18.	Three dry bulk fly ash transport trailers	401 KAR 59:010
19.	Maintenance Shop Activities	NA
20.	Miscellaneous Water Storage Tanks	NA
21.	Anhydrous Ammonia Storage Tanks	401 KAR 68
22.	Fire Water Pump Engines	NA
23.	Three dry bulk fly ash transport trailers	401 KAR 59:010

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS

1. As required by Section 1b of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26; compliance with annual emissions and processing limitations contained in this permit, shall be based on emissions and processing rates for any twelve (12) consecutive months.

2. Compliance with visible emission limitations for indirect heat exchanger Unit 01, shall be determined by using EPA reference Method 9. Alternatively, the owner or operator may use COM in determining compliance with opacity.

3. Conditions in permit V-02-043 Revision 1 and PSD permit V-01-012 were merged into one source-wide permit. Limitations from both permits were combined into this permit.

4. Nitrogen oxides, sulfur dioxide, PM (filterable), formaldehyde, visible emissions (opacity), mercury, and carbon monoxide emissions, measured by applicable reference methods, or an equivalent or alternative method specified in 40 C.F.R. Chapter I, or by a test method specified in the state implementation plan shall not exceed the respective limitations specified herein.

5. Unit 31 shall be performance tested initially for compliance with the emission standards for PM/PM_{10} (filterable and condensable), sulfur dioxide (SO_2), nitrogen oxides (NO_x), and carbon monoxide (CO), VOCs, mercury, and H_2SO_4, lead and fluorides by applicable reference methods, or by equivalent or alternative test methods specified in this permit or approved by the cabinet or U.S. EPA. For Unit 31 annual performance tests for PM/PM_{10}, VOCs, and lead will be conducted.

6. After the initial compliance test for Unit 31, and CEMS/COMs certification as stated in 401 KAR 50:055, continuing compliance with the emission standards shall be determined by continuous monitoring systems for NO_x, CO, PM/PM_{10}, mercury, and SO_2. Continuing compliance with the emission standards for H_2SO_4 mist and Fluorides shall be determined by following provision of the CAM plan in Section B of this permit.

7. The 12-month rolling total emissions from Units 31, 32, 33, and emergency fire water pump engine shall be less than: 1,523 NO_x tons, 3,264 SO_2 tons, and 0.55 lead tons.

8. The permittee shall evaluate the relationship between CO and VOC during the initial and annual stack tests. Results of this evaluation shall be submitted to the Division within sixty days after submitting the annual test results.

SECTION E - SOURCE CONTROL EQUIPMENT REQUIREMENTS

Pursuant to 401 KAR 50:055, Section 2(5), at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS

1. When continuing compliance is demonstrated by periodic testing or instrumental monitoring, the permittee shall compile records of required monitoring information that include:
   a. Date, place as defined in this permit, and time of sampling or measurements.
   b. Analyses performance dates;
   c. Company or entity that performed analyses;
   d. Analytical techniques or methods used;
   e. Analyses results; and
   f. Operating conditions during time of sampling or measurement.
   [Section 1b (IV)1 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

2. Records of all required monitoring data and support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all reports required by the Division for Air Quality, shall be retained by the permittee for a period of five years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality [Sections 1b(IV) 2 and 1a(8) of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

3. In accordance with the requirements of 401 KAR 52:020 Section 3(1)h the permittee shall allow authorized representatives of the Cabinet to perform the following during reasonable times:
   a. Enter upon the premises to inspect any facility, equipment (including air pollution control equipment), practice, or operation;
   b. To access and copy any records required by the permit:
   c. Inspect, at reasonable times, any facilities, equipment (including monitoring and pollution control equipment), practices, or operations required by the permit. Reasonable times are defined as during all hours of operation, during normal office hours; or during an emergency.
   d. Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements.
   e. Reasonable times are defined as during all hours of operation, during normal office hours; or during an emergency.

4. No person shall obstruct, hamper, or interfere with any Cabinet employee or authorized representative while in the process of carrying out official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

5. Summary reports of any monitoring required by this permit, other than continuous emission or opacity monitors, shall be submitted to the Regional Office listed on the front of this permit at least every six (6) months during the life of this permit, unless otherwise stated in this permit. For emission units that were still under construction or which had not commenced operation at the end of the 6-month period covered by the report and are subject to monitoring requirements in this permit, the report shall indicate that no monitoring was performed during

SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

the previous six months because the emission unit was not in operation [Section 1b (V)1 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

6. The semi-annual reports are due by January 30th and July 30th of each year. Data from the continuous emission and opacity monitors shall be reported to the Technical Services Branch in accordance with the requirements of 401 KAR 59:005, General Provisions, Section 3(3). All reports shall be certified by a responsible official pursuant to 401 KAR 52:020 Section 23. All deviations from permit requirements shall be clearly identified in the reports.

7. In accordance with the provisions of 401 KAR 50:055, Section 1 the owner or operator shall notify the Regional Office listed on the front of this permit concerning startups, shutdowns, or malfunctions as follows:
   a. When emissions during any planned shutdowns and ensuing startups will exceed the standards, notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.
   b. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards, notification shall be made as promptly as possible by telephone (or other electronic media) and shall be submitted in writing upon request.

8. The owner or operator shall report emission related exceedances from permit requirements including those attributed to upset conditions (other than emission exceedances covered by Section F.7. above) to the Regional Office listed on the front of this permit within *30 days*. Other deviations from permit requirements shall *be included in the semiannual report required by Section F.6* [Section 1b (V) 3, 4. of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

9. Pursuant to 401 KAR 52:020, Permits, Section 21, the permittee shall certify compliance with the terms and conditions contained in this permit, by completing and returning a Compliance Certification Form (DEP 7007CC) (or an alternative approved by the regional office) to the Regional Office listed on the front of this permit and the U.S. EPA in accordance with the following requirements:
   a. Identification of the term or condition;
   b. Compliance status of each term or condition of the permit;
   c. Whether compliance was continuous or intermittent;
   d. The method used for determining the compliance status for the source, currently and over the reporting period, and
   e. For an emissions unit that was still under construction or which has not commenced operation at the end of the 12-month period covered by the annual compliance certification, the permittee shall indicate that the unit is under construction and that compliance with any applicable requirements will be demonstrated within the timeframes specified in the permit.

SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

f. The certification shall be postmarked by January 30th of each year. Annual compliance certifications should be mailed to the following addresses:

Division for Air Quality
Florence Regional Office
8020 Veterans Memorial drive
Suite 110, Florence, KY 41042

U.S. EPA Region 4
Air Enforcement Branch
Atlanta Federal Center
61 Forsyth St. Atlanta, GA 30303-8960

Division for Air Quality
Central Files
803 Schenkel Lane
Frankfort, KY 40601

10. In accordance with 401 KAR 52:020, Section 22, the permittee shall provide the Division with all information necessary to determine its subject emissions within thirty (30) days of the date the KYEIS emission survey is mailed to the permittee.

11. Results of performance test(s) required by the permit shall be submitted to the Division by the source or its representative within forty-five days or sooner if required by an applicable standard, after the completion of the fieldwork.

SECTION G - GENERAL PROVISIONS

(a) General Compliance Requirements

1. The permittee shall comply with all conditions of this permit. Noncompliance shall be a violation of 401 KAR 52:020 and of the Clean Air Act and is grounds for enforcement action including but not limited to termination, revocation and reissuance, revision or denial of a permit [Section 1a, 3 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020 Section 26].

2. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance, shall not stay any permit condition [Section 1a, 6 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

3. This permit may be revised, revoked, reopened and reissued, or terminated for cause in accordance with 401 KAR 52:020, Section 19. The permit will be reopened for cause and revised accordingly under the following circumstances:
   a. If additional requirements become applicable to the source and the remaining permit term is three (3) years or longer. In this case, the reopening shall be completed no later than eighteen (18) months after promulgation of the applicable requirement. A reopening shall not be required if compliance with the applicable requirement is not required until after the date on which the permit is due to expire, unless this permit or any of its terms and conditions have been extended pursuant to 401 KAR 52:020, Section 12;
   b. The Cabinet or the U. S. EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements;
   c. The Cabinet or the U. S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit;
   d. If any additional applicable requirements of the Acid Rain Program become applicable to the source.

   Proceedings to reopen and reissue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Reopenings shall be made as expeditiously as practicable. Reopenings shall not be initiated before a notice of intent to reopen is provided to the source by the Division, at least thirty (30) days in advance of the date the permit is to be reopened, except that the Division may provide a shorter time period in the case of an emergency.

4. The permittee shall furnish information upon request of the Cabinet to determine if cause exists for modifying, revoking and reissuing, or terminating the permit; or to determine compliance with the conditions of this permit [Section 1a, 7,8 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

SECTION G - GENERAL PROVISIONS (CONTINUED)

5. The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such facts or corrected information to the permitting authority [401 KAR 52:020, Section 7(1)].

6. Any condition or portion of this permit which becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this permit [Section 1a, 14 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

7. The permittee shall not use as a defense in an enforcement action the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance [Section 1a, 4 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

8. Except for requirements identified in this permit as state-origin requirements, all terms and conditions shall be enforceable by the United States Environmental Protection Agency and citizens of the United States [Section 1a, 15 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

9. This permit shall be subject to suspension if the permittee fails to pay all emissions fees within 90 days after the date of notice as specified in 401 KAR 50:038, Section 3(6) [Section 1a, 10 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

10. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance [401 KAR 52:020, Section 11(3)(b)].

11. This permit does not convey property rights or exclusive privileges [Section 1a, 9 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

12. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by the Kentucky Cabinet for Environmental and Public Protection or any other federal, state, or local agency.

13. Nothing in this permit shall alter or affect the authority of U.S. EPA to obtain information pursuant to Federal Statute 42 USC 7414, Inspections, monitoring, and entry [401 KAR 52:020, Section 11(3)(d)].

14. Nothing in this permit shall alter or affect the authority of U.S. EPA to impose emergency orders pursuant to Federal Statute 42 USC 7603, Emergency orders [401 KAR 52:020, Section 11(3)(a)].

SECTION G - GENERAL PROVISIONS (CONTINUED)

15. This permit consolidates the authority of any previously issued PSD, NSR, or Synthetic minor source preconstruction permit terms and conditions for various emission units and incorporates all requirements of those existing permits into one single permit for this source.

16. Pursuant to 401 KAR 52:020, Section 11, a permit shield shall not protect the owner or operator from enforcement actions for violating an applicable requirement prior to or at the time of issuance. Compliance with the conditions of a permit shall be considered compliance with:
    (a) Applicable requirements that are included and specifically identified in the permit and
    (b) Non-applicable requirements expressly identified in this permit.

17. *The permittee shall submit a startup and shut down plan to implement the requirements of this permit and 401 KAR 50:055. The plan shall be submitted at least ninety (90) days prior to the startup of the Unit #2 for the Division's approval. The startup/shutdown plan will be accessible for public review at the Division's central office and the regional office.*

18. *The permittee shall provide the Division the final design information consistent with Kentucky Open Records Act. The design plan will be accessible for public review at the Division's central office and the regional office*

(b) Permit Expiration and Reapplication Requirements

1. This permit shall remain in effect for a fixed term of five (5) years following the original date of issue. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted to the Division at least six months prior to the expiration date of the permit. Upon a timely and complete submittal, the authorization to operate within the terms and conditions of this permit, including any permit shield, shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the Division [401 KAR 52:020, Section 12].

2. The authority to operate granted shall cease to apply if the source fails to submit additional information requested by the Division after the completeness determination has been made on any application, by whatever deadline the Division sets [401 KAR 52:020 Section 8(2)].

(c) Permit Revisions

1. A minor permit revision procedure may be used for permit revisions involving the use of economic incentive, marketable permit, emission trading, and other similar approaches, to the extent that these minor permit revision procedures are explicitly provided for in the SIP or in applicable requirements and meet the relevant requirements of 401 KAR 52:020, Section 14(2).

SECTION G - GENERAL PROVISIONS (CONTINUED)

2. This permit is not transferable by the permittee. Future owners and operators shall obtain a new permit from the Division for Air Quality. The new permit may be processed as an administrative amendment if no other change in this permit is necessary, and provided that a written agreement containing a specific date for transfer of permit responsibility coverage and liability between the current and new permittee has been submitted to the permitting authority within ten (10) days following the transfer.

(d) Construction, Start-Up, and Initial Compliance Demonstration Requirements
Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the construction of the equipment described herein, emission points 31-42 in accordance with the terms and conditions of this permit.

1. Construction of any process and/or air pollution control equipment authorized by this permit shall be conducted and completed only in compliance with the conditions of this permit.

2. Within thirty (30) days following commencement of construction and within fifteen (15) days following start-up and attainment of the maximum production rate specified in the permit application, or within fifteen (15) days following the issuance date of this permit, whichever is later, the permittee shall furnish to the Regional Office listed on the front of this permit in writing, with a copy to the Division's Frankfort Central Office, notification of the following:
   a. The date when construction commenced.
   b. The date of start-up of the affected facilities listed in this permit.
   c. The date when the maximum production rate specified in the permit application was achieved.

3. Pursuant to 401 KAR 52:020, Section 3(2), unless construction is commenced within eighteen (18) months after the permit is issued, or begins but is discontinued for a period of eighteen (18) months or is not completed within a reasonable timeframe then the construction and operating authority granted by this permit for those affected facilities for which construction was not completed shall immediately become invalid. Upon written request, the Cabinet may extend these time periods if the source shows good cause.

4. For those affected facilities for which construction is authorized by this permit, a source shall be allowed to construct with the proposed permit. Operational or final permit approval is not granted by this permit until compliance with the applicable standards specified herein has been demonstrated pursuant to 401 KAR 50:055. If compliance is not demonstrated within the prescribed timeframe provided in 401 KAR 50:055, the source shall operate thereafter only for the purpose of demonstrating compliance, unless otherwise authorized by Section I of this permit or order of the Cabinet.

SECTION G - GENERAL PROVISIONS (CONTINUED)

5. This permit shall allow time for the initial start-up, operation, and compliance demonstration of the affected facilities listed herein. However, within sixty (60) days after achieving the maximum production rate at which the affected facilities will be operated but not later than 180 days after initial start-up of such facilities, the permittee shall conduct either a performance demonstration or test as required on the affected facilities in accordance with 401 KAR 50:055, General compliance requirements. These performance tests must also be conducted in accordance with General Provisions G(d)7 of this permit and the permittee must furnish to the Division for Air Quality's Frankfort Central Office a written report of the results of such performance test

(d) Construction, Start-Up, and Initial Compliance Demonstration Requirements (continued)

6. Terms and conditions in this permit established pursuant to the construction authority of 401 KAR 51:017 or 401 KAR 51:052 shall not expire.

7. At least one month prior to the date of the required performance test, the permittee shall complete and return a Compliance Test Protocol using the current approved format, to the Division's Frankfort Central Office. Pursuant to 401 KAR 50:045, Section 5, the Division shall be notified of the actual test date at least ten (10) days prior to the test.

8. Pursuant to 401 KAR 50:045 Section 5 in order to demonstrate that a source is capable of complying with a standard at all times, a performance test shall be conducted under normal conditions that are representative of the source's operations and create the highest rate of emissions. If [When] the maximum production rate represents a source's highest emissions rate and a performance test is conducted at less than the maximum production rate, a source shall be limited to a production rate of no greater than 110 percent of the average production rate during the performance tests. If and when the facility is capable of operation at the rate specified in the application, the source may retest to demonstrate compliance at the new production rate. The Division for Air Quality may waive these requirement on a case-by-case basis if the source demonstrates to the Division's satisfaction that the source is in compliance with all applicable requirements..

(e) Acid Rain Program Requirements

1. If an applicable requirement of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act) is more stringent than an applicable requirement promulgated pursuant to Federal Statute 42 USC 7651 through 7651o (Title IV of the Act), both provisions shall apply, and both shall be state and federally enforceable.

2. The source shall comply with all requirements and conditions of the Title IV, Acid Rain Permit contained in Section J of this document and the Phase II permit application (including the Phase II NO_x compliance plan, if applicable) issued for this source. The source shall also comply with all requirements of any revised or future acid rain permit(s) issued to this source.

SECTION G - GENERAL PROVISIONS (CONTINUED)

(f) Emergency Provisions

1. Pursuant to 401 KAR 52:020 Section 24(1), an emergency shall constitute an affirmative defense to an action brought for the noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or relevant evidence that:
   a. An emergency occurred and the permittee can identify the cause of the emergency;
   b. The permitted facility was at the time being properly operated;
   c. During an emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
   d. Pursuant to 401 KAR 52:020, 401 KAR 50:055, and KRS 224.01-400, the permittee notified the Division as promptly as possible and submitted written notice of the emergency to the Division when emission limitations are exceeded due to an emergency. The notice shall include a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
   e. This requirement does not relieve the source from other local, state or federal notification requirements.

2. Emergency conditions listed in General Condition (f)1 above are in addition to any emergency or upset provision(s) contained in an applicable requirement [401 KAR 52:020, Section 24(3)].

3. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof [401 KAR 52:020, Section 24(2)].

(g) Risk Management Provisions

1. The permittee shall comply with all applicable requirements of 401 KAR Chapter 68, Chemical Accident Prevention, which incorporates by reference 40 CFR 68, Risk Management Plan provisions. If required, the permittee shall comply with the Risk Management Program and submit a Risk Management Plan to:

   RMP Reporting Center
   P.O. Box 1515
   Lanham-Seabrook, Maryland 20703-1515

2. If requested, submit additional relevant information to the Division or the U.S. EPA.

SECTION G - GENERAL PROVISIONS (CONTINUED)

(h) Ozone depleting substances

1. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
   a. Persons opening appliances for maintenance, service, repair, or disposal shall comply with the required practices contained in 40 CFR 82.156.
   b. Equipment used during the maintenance, service, repair, or disposal of appliances shall comply with the standards for recycling and recovery equipment contained in 40 CFR 82.158.
   c. Persons performing maintenance, service, repair, or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.
   d. Persons disposing of small appliances, MVACs, and MVAC-like appliances (as defined at 40 CFR 82.152) shall comply with the recordkeeping requirements pursuant to 40 CFR 82.166

(i) Ozone depleting substances continued

   e. Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156.
   f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.

2. If the permittee performs service on motor (fleet) vehicle air conditioners containing ozone-depleting substances, the source shall comply with all applicable requirements as specified in 40 CFR 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.

SECTION H - ALTERNATE OPERATING SCENARIOS

None

SECTION I - COMPLIANCE SCHEDULE

None

SECTION J – ACID RAIN

TITLE IV PHASE II ACID RAIN

ACID RAIN PERMIT CONTENTS

1) Statement of Basis

2) SO_2 allowances allocated under this permit and NO_x requirements for each affected unit.

3) Comments, notes and justifications regarding permit decisions and changes made to the permit application forms during the review process, and any additional requirements or conditions.

4) The permit application submitted for this source. The owners and operators of the source must comply with the standard requirements and special provisions set forth in the Phase II Application and the Phase II NO_x Compliance Plan.

5) Summary of Actions

- **Statement of Basis:**

Statutory and Regulatory Authorities: In accordance with KRS 224.10-100 and Titles IV and V of the Clean Air Act, the Kentucky Natural Resources and Environmental Protection Cabinet, Division for Air Quality issues this permit pursuant to 401 KAR 52:020, Permits, 401 KAR 52:060, Acid Rain Permit, and Federal Regulation 40 CFR 76. (Unit 1 only)

SECTION J – ACID RAIN (CONTINUED)

PERMIT (Conditions)

Plant Name: Louisville Gas & Electric Company
Affected Units: 1

1. SO_2 Allowance Allocations and NO_x Requirements for the affected unit:

SO_2 Allowances	**Year**				
	2003	2004	2005	2006	2007
Tables 2, 3 or 4 of 40 CFR 73	9,634*	9,634*	9,634*	9,634*	9,634*

NO_x Requirements	
NO_x Limits	Pursuant to 40 CFR 76, the Kentucky Division for Air Quality approves the NO_x Early Reduction Plan for this unit. This plan is effective for calendar year 2003 through 2008. Under this NO_x compliance plan, this unit's annual average NO_x emission rate for each year, determined in accordance with 40 CFR 75, shall not shall not exceed the applicable emission limitation, under 40 CFR 76.5, of 0.45 lb/mmBtu for tangentially fired boiler. If the unit is in compliance with its applicable emission limitation for each year of the plan, then the unit is not subject to the applicable limitation, under 40 CFR 76.7 (a)(1), of 0.40 lb/mmBtu until calendar year 2008. In addition to the described NO_x compliance plan, this unit shall comply with all other applicable requirements of 40 CFR 76, including the duty to reapply for a NO_x compliance plan and requirements covering excess emissions. In accordance with 40 CFR 72.40(b)(2), approval of the averaging plan shall be final only when all affected organizations have also approved this averaging plan.

* The number of allowances allocated to Phase II affected units by U. S. EPA may change under 40 CFR 73. In addition, the number of allowances actually held by an affected source in a unit may differ from the number allocated by U.S.EPA. Neither of the aforementioned condition does not necessitate a revision to the unit SO_2 allowance allocations identified in this permit (See 40 CFR 72.84).

SECTION J – ACID RAIN (CONTINUED)

PERMIT (Conditions)

Plant Name: Louisville Gas and Electric Company
Affected Units: 25- 30 (TC5-TC10)

- **SO_2 Allowance Allocations and NO_x Requirements for the affected unit:**

SO_2 Allowances	**Year**				
	2003	2004	2005	2006	2007
Tables 2, 3 or 4 of 40 CFR 73	0*	0*	0*	0*	0*

NO_x Requirements	
NO_x Limits	N/A**

* For newly constructed units, there are no SO_2 allowances per USEPA Acid Rain Program

** These units currently do not have applicable NO_x limits set by 40 CFR, part 76.

SECTION J – ACID RAIN (CONTINUED)

PERMIT (Conditions)

Plant Name: Louisville Gas and Electric Company
Affected Units: 31 (Unit 2)

- **SO_2 Allowance Allocations and NO_x Requirements for the affected unit:**

SO_2 Allowances	**Year**				
	2005	2006	2007	2008	2009
Tables 2, 3 or 4 of 40 CFR 73	0*	0*	0*	0*	0*

NO_x Requirements	
NO_x Limits	N/A**

* For newly constructed units, there are no SO_2 allowances per USEPA Acid Rain Program

** This unit currently does not have applicable NO_x limits set by 40 CFR, part 76.

SECTION J – ACID RAIN (CONTINUED)

2. Comments, Notes, and Justifications:

1. Affected units are one (1) tangentially fired boiler and six combustion turbines, and one (1) supercritical PC boiler.

2. A revised Phase II NO_x Permit Application was received on June 12, 2001, including the existing unit.

3. All previously issued Acid Rain permits are hereby null and void

4. Nitrogen Oxide Compliance Plan for the facility remains unchanged since September 19, 1996.

5. Initial SO Compliance Plan was submitted with AR-96-007 application.

3. Permit Application: Attached

The Phase II Permit Application, and the Phase II NO_x Early Reduction Plan are part of this permit and the source must comply with the standard requirements and special provisions set forth in the Phase II Application, the revised Phase II NO_x Compliance Plan, and the revise Phase II NO_x Early Reduction Plan.

4. Summary of Actions:

Previous Actions:

1. Draft Phase II Permit (# AR-96-007) including SO_2 compliance was issued for public comments on September 19, 1996.

2. Final Phase II Permit (# AR-96-007) including SO_2 compliance plan was issued on December 19, 1996.

3. Draft Phase II Permit (# A-98-011) was advertised in the 1998 revised SO_2 allowance allocations and NO_x emissions standard for public comment on December 8, 1998.

4. Final Phase II Permit (# A-98-011) was issued with the 1998 revised SO_2 allowance allocations and NO_x emissions standards.

5. Draft Phase II Permit (# V-02-043) has been issued with the revised SO_2 allowance allocations and NO_x Early Reduction Plan. Draft permit relates to the Combustion turbines permitted in June 22, 2001.

6. Final Permit revised with the revised SO_2 allowance allocation and NO_x Early Reduction Plan.

Present Action:

1. Draft Revised Title V with Acid Rain Permit is being advertised for public comments.

SECTION K – NOx BUDGET PERMIT

1) Statement of Basis

Statutory and Regulatory Authorities: In accordance with KRS 224.10-100, the Kentucky Environmental and Public Protection Cabinet issues this permit pursuant to 401 KAR 52:020 Title V permits, 401 KAR 51:160, NO_x requirements for large utility and industrial boilers, and 40 CFR 97, Subpart C.

2) NO_x Budget Permit Application, Form DEP 7007EE

The NO_x Budget Permit application for these electrical generating units was submitted to the Division and received on May 27, 2005. Requirements contained in that application are hereby incorporated into and made part of this NO_x Budget Permit. Pursuant to 401 KAR 52:020, Section 3, the source shall operate in compliance with those requirements.

3) Comments, notes, justifications regarding permit decisions and changes made to the permit application forms during the review process, and any additional requirements or conditions.

Affected units are one (1) Pulverized coal-fired, dry bottom, tangentially fired boiler, six (6) 150-megawatt simple cycle natural gas fired units and one (1) Supercritical Pulverized Coal (SPC) fired boiler. Each unit has a capacity to generate 25 megawatts or more of electricity, which is offered for sale. The units use coal and natural gas as fuel source, and are authorized as base load electric generating units.

4) Summary of Actions

The NO_x Budget Permit is being issued as part of this revised Title V permit for this source. Public, affected state, and U.S. EPA review will follow procedures specified in 401 KAR 52:100.

Exhibit SLD-2 – Ghent Station Title V Operating Permit: V-97-025

Commonwealth of Kentucky
Natural Resources and Environmental Protection Cabinet
Department for Environmental Protection
Division for Air Quality
803 Schenkel Lane
Frankfort, Kentucky 40601
(502) 573-3382

AIR QUALITY PERMIT

Permittee Name:	Kentucky Utilities Company
Mailing Address:	One Quality Street, Lexington, Kentucky 40507

is authorized to operate an electric power generating plant located at Ghent, Kentucky

Source Name:	Ghent Generating Station
Mailing Address:	U.S. Highway 42, Ghent, Kentucky 41045
Source Location:	U.S. Highway 42, Ghent, Kentucky 41045
Permit Type:	Federally-Enforceable
Review Type:	Title V
Permit Number:	V-97-025
Log Number:	E997
Application Complete date:	February 14, 1997
KYEIS #:	079-0580-0010
AFS Plant ID#:	21-041-00010
FINDS Number:	KYD085052751
SIC Code:	4911
Region:	Metropolitan Cincinnati
County:	Carroll
Issuance Date:	**December 8, 1999**
Expiration Date:	**December 8, 2004**

John E. Hornback, Director
Division for Air Quality

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SECTION A - PERMIT AUTHORIZATION

Pursuant to a duly submitted application which was determined to be complete on February 14, 1997, the Kentucky Division for Air Quality hereby authorizes the operation of the processing and air pollution control equipment described herein in accordance with the terms and conditions of this permit. This final permit has been issued under the provisions of Kentucky Revised Statutes Chapter 224 and regulations promulgated pursuant thereto.

The permittee shall not construct, reconstruct, or modify any emission units without first having submitted a complete application and receiving a permit for the planned activity from the permitting authority, except as provided in this permit or in the Regulation 401 KAR 50:035, Permits.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by this Cabinet or any other federal, state, or local agency.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 01 (03) - Unit 1 Indirect Heat Exchanger

Description:

Unit 1 construction commenced before August 17, 1971
Pulverized coal-fired, dry bottom, tangentially-fired unit with electrostatic precipitator, wet limestone forced-oxidation sulfur dioxide scrubber, and low nitrogen oxides burner(s)
Number two fuel oil used for startup and stabilization
Maximum continuous rating: 5500 MMBTU/hour

APPLICABLE REGULATIONS:

Regulation 401 KAR 61:015, Existing indirect heat exchangers (State Effective Date: April 1, 1984) applicable to an emission unit with a capacity of more than 250 mm BTU per hour and commenced before August 17, 1971. This regulation is state-enforceable only until such time as the effective date of an EPA rulemaking, approving this regulation into the federally-approved Kentucky State Implementation Plan. and;

Regulation No. 7, Prevention and control of emissions of particulate matter from combustion of fuel in indirect-heat-exchangers.

1. **Operating Limitations:**
   None

2. **Emission Limitations:**
   a) Pursuant to Regulation 401 KAR 61:015, Section 4 (4), and Regulation No. 7, particulate emissions shall not exceed 0.2 lb/MMBtu based on a three-hour average.

   b) Pursuant to Regulation 401 KAR 61:015, Section 4 (4), and Regulation No. 7, emissions shall not exceed 40 percent opacity based on a six-minute average except that a maximum of sixty (60) percent opacity is allowed for a period or aggregate of periods of not more than six minutes in any sixty minutes during building a new fire, cleaning the firebox, or blowing soot.

   c) Pursuant to Regulation 401 KAR 61:015, Section 5 (1), sulfur dioxide emissions shall not exceed 5.67 lbs/MMBtu based on a twenty-four-hour average.

3. **Testing Requirements:**

   a) The permittee shall submit a schedule within six months from the issuance date of this permit to conduct at least one performance test for particulate within one year following the issuance of this permit.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

b) If no additional stack tests are performed pursuant to Condition 4. d), the permittee shall conduct a performance test for particulate emissions within the third year of the term of this permit to demonstrate compliance with the applicable standard.

c) The permittee shall determine the opacity of emissions from the stack by EPA Reference Method 9 annually, or more frequently if requested by the Division.

4. **Specific Monitoring Requirements:**

a) Pursuant to Regulation 401 KAR 61:005, Section 3 and Regulation 401 KAR 50:035, Section 7(1)(c), continuous emission monitoring systems shall be installed, calibrated, maintained, and operated for measuring sulfur dioxide emissions and either oxygen or carbon dioxide emissions. The continuous emission monitoring systems shall comply with Regulation 401 KAR 61:005, Section 3, particularly, performance specification 2 of Appendix B to 40 CFR 60 or 40 CFR 75, Appendix A.

b) In accordance with Regulation 401 KAR 61:015, Section 6 (1), the sulfur content of solid fuels, as burned shall be determined in accordance with methods specified by the Division.

c) In accordance with Regulation 401 KAR 61:015, Section 6 (3) the rate of each fuel burned shall be measured daily and recorded. The heating value and ash content of fuels shall be ascertained at least once per week and recorded. The average electrical output, and the minimum and maximum hourly generation rate shall be measured and recorded daily.

d) Pursuant to Regulation 401 KAR 50:035, Section 7(1)(c), to meet the periodic monitoring requirement for particulate, the permittee shall use a continuous opacity monitor (COM). Excluding the startup, shut down, and once per hour exemption periods, if any six-minute average opacity value exceeds the opacity standard, the permittee shall, as appropriate, initiate an inspection of the control equipment and/or the COM system and make any necessary repairs. If five (5) percent or greater of COM data (excluding startup, shut down, and malfunction periods, data averaged over six minute period) recorded in a calendar quarter show excursions above the opacity standard, the permittee shall perform a stack test in the following calendar quarter to demonstrate compliance with the particulate standard while operating at representative conditions. The permittee shall submit a compliance test protocol as required by condition Section G(a)(20) of this permit before conducting the test. The Division may waive this testing requirement upon a demonstration that the cause(s) of the excursions have been corrected, or may require stack tests at any time pursuant to Regulation 401 KAR 50:045, Performance tests.

e) Pursuant to Regulation 401 KAR 50:035, Section 7(1)(c), to meet the periodic monitoring requirement for opacity, the permittee shall use a continuous opacity monitor (COM). Excluding the startup, shut down, and once per hour exemption periods, if any six-minute average opacity value exceeds the opacity standard, the permittee shall, as appropriate, initiate an inspection of the control equipment and/or COM system and make any necessary repairs. If visible emissions from the stack are perceived or believed to exceed the applicable standard, the permittee shall determine the opacity of emissions by Reference Method 9. If a Method 9 cannot be performed, the reason for not performing the test shall be documented.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

f) Pursuant to Regulation 401 KAR 50:035, Section 7(1)(c), to meet the periodic monitoring requirement for sulfur dioxide, the permittee shall use a continuous emission monitor (CEM) Excluding the startup and shut down periods, if any 24-hour average sulfur dioxide value exceeds the standard, the permittee shall, as appropriate, initiate an inspection of the control equipment and/or CEM system and make any necessary repairs as soon as practicable.

g) Pursuant to Regulation 401 KAR 61:005, Section 3, a continuous monitoring system for opacity shall conform to requirements of this section which include installing, calibrating, operating, and maintaining the continuous monitoring system for accurate opacity measurement, and demonstrating compliance with the applicable Performance Specification 1 of 40 CFR 60, Appendix B.

h) Pursuant to Regulation 401 KAR 61:005, Section 3(5), the Division may provide a temporary exemption from the monitoring and reporting requirements of Regulation 401 KAR 61:005, Section 3, for the continuous monitoring system during any period of monitoring system malfunction, provided that the source owner or operator shows, to the Division's satisfaction, that the malfunction was unavoidable and is being repaired as expeditiously as practicable.

5. Specific Record Keeping Requirements:

a) Records shall be kept in accordance with Regulations 401 KAR 61:005, Section 3(16) (f) and 61:015, Section 6, with the exception that the records shall be maintained for a period of five (5) years. Percentage of the COM data (excluding startup, shut down, and malfunction data) showing excursions above the opacity standard in each calendar quarter shall be computed and recorded.

b) The permittee shall maintain the results of all compliance tests.

6. Specific Reporting Requirements:

a) Pursuant to Regulation 401 KAR 61:005, Section 3 (16), minimum data requirements which follow shall be maintained and furnished in the format specified by the Division.

1. Owners or operators of facilities required to install continuous monitoring systems for opacity and sulfur dioxide or those utilizing fuel sampling and analysis for sulfur dioxide emissions shall submit for every calendar quarter, a written report of excess emissions and the nature and cause of the excess emissions if known. The averaging period used for data reporting should correspond to the emission standard averaging period which is a twenty-four (24) hour averaging period. All quarterly reports shall be postmarked by the thirtieth (30th) day following the end of each calendar quarter.

2. For opacity measurements, the summary shall consist of the magnitude in actual percent opacity of six (6) minute averages of opacity greater than the opacity standard in the applicable standard for each hour of operation of the facility. Average values may be obtained by integration over the averaging period or by arithmetically averaging a minimum of four (4) equally spaced, instantaneous opacity measurements per minute. Any time period exempted shall be considered before determining the excess average of opacity.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

3. For gaseous measurements the summary shall consist of hourly averages in the units of the applicable standard.

4. The date and time identifying each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of system repairs or adjustments shall be reported. Proof of continuous monitoring system performance is required as specified by the Division whenever system repairs or adjustments have been made.

5. When no excess emissions have occurred and the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be included in the report.

b) The permittee shall report the number of excursions (excluding startup, shut down, malfunction data) above the opacity standard, date and time of excursions, opacity value of the excursions, and percentage of the COM data showing excursions above the opacity standard in each calendar quarter

7. **Specific Control Equipment Operating Conditions:**

a) The electrostatic precipitator and wet limestone forced-oxidation sulfur dioxide scrubber shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance of the electrostatic precipitator and wet limestone forced-oxidation sulfur dioxide scrubber shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 02 (01) - Unit 2 Indirect Heat Exchanger

Description:

Unit 2 construction commenced: prior to September 18, 1978
Pulverized coal-fired, dry bottom, tangentially-fired unit with electrostatic precipitator and low nitrogen oxides burners
Number two fuel oil used for startups and stabilization
Maximum continuous rating: 5500 MMBTU/hour.

Applicable Regulations:

Regulation 401 KAR 59:015, New indirect heat exchangers, incorporating by reference 40 CFR 60, Subpart D, Standards of performance for fossil-fuel-fired steam generators applicable for an emissions unit more than 250 MMBTU/hour and commenced after August 17, 1971

1. **Operating Limitations:**

   None

2. **Emission Limitations:**

   a) Pursuant to Regulation 401 KAR 59:015, Section 4(1)(b), particulate emissions shall not exceed 0.1 lb/MMBTU based on a three-hour average.

   b) Pursuant to Regulation 401 KAR 59:015, Section 4(2), emissions shall not exceed twenty (20) percent opacity based on a six-minute average except a maximum of twenty-seven (27) percent opacity for not more than one (1) six (6) minute period in any sixty (60) consecutive minutes.

   c) Pursuant to Regulation 401 KAR 59:015, Section 5(1)(b), sulfur dioxide emissions shall not exceed 1.2 lbs/MMBTU based on a three-hour average.

   d) Pursuant to Regulation 401 KAR 59:015, Section 6(1)(c), nitrogen oxides emissions expressed as nitrogen dioxide shall not exceed 0.7 lb/MMBTU based on a three-hour average.

3. **Testing Requirements:**

   a) The permittee shall submit a schedule within six months from the issuance date of this permit to conduct at least one performance test for particulate within one year following the issuance of this permit.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

b) If no additional stack tests are performed pursuant to Condition 4. b), the permittee shall conduct a performance test for particulate emissions within the third year of the term of this permit to demonstrate compliance with the applicable standard.

c) The permittee shall determine the opacity of emissions from the stack by EPA Reference Method 9 annually, or more frequently if requested by the Division.

4. **Specific Monitoring Requirements:**

a) Pursuant to Regulation 401 KAR 50:035, Section 7(1)(c), Regulation 401 KAR 59:015, Section 7, and Regulation 401 KAR 59:005, Section 4, continuous emission monitoring systems shall be installed, calibrated, maintained, and operated for measuring the opacity of emissions, sulfur dioxide emissions, nitrogen oxides emissions and either oxygen or carbon dioxide emissions. The owner or operator shall ensure the continuous emission monitoring systems are in compliance with, and the owner or operator shall comply with the requirements of Regulation 401 KAR 59:005, Section 4.

b) Pursuant to Regulation 401 KAR 50:035, Section 7(1)(c), to meet the periodic monitoring requirement for particulate, the permittee shall use a continuous opacity monitor (COM). Excluding the startup, shut down, and once per hour exemption periods, if any six minute average opacity value exceeds the opacity standard, the permittee shall, as appropriate, initiate an inspection of the control equipment and/or the COM system and make any necessary repairs. If five (5) percent or greater of COM data (excluding startup, shut down, and malfunction periods, data averaged over six minute period) recorded in a calendar quarter show excursions above the opacity standard, the permittee shall perform a stack test in the following calendar quarter to demonstrate compliance with the particulate standard while operating at representative conditions. The permittee shall submit a compliance test protocol as required by condition Section G(a)(20) of this permit before conducting the test. The Division may waive this testing requirement upon a demonstration that the cause(s) of the excursions have been corrected, or may require stack tests at any time pursuant to Regulation 401 KAR 50:045, Performance tests.

c) Pursuant to Regulation 401 KAR 50:035, Section 7(1)(c), to meet the periodic monitoring requirement for opacity, the permittee shall use a continuous opacity monitor (COM). Excluding the startup, shut down, and once per hour exemption periods, if any six minute average opacity value exceeds the opacity standard, the permittee shall, as appropriate, initiate an inspection of the control equipment and/or the COM system and make any necessary repairs. If visible emissions from the stack are perceived or believed to exceed the applicable standard, the permittee shall determine the opacity of emissions by Reference Method 9. If a Method 9 test cannot be performed, the reason for not performing the test shall be documented.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

d) Pursuant to Regulation 401 KAR 50:035, Section 7(1)(c), to meet the periodic monitoring requirement for sulfur dioxide, the permittee shall use a continuous emission monitor (CEM) Excluding the startup and shut down periods, if any 3-hour average sulfur dioxide value exceeds the standard, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and/or the CEM system and make any necessary repairs or take corrective actions as soon as practicable.

e) Pursuant to Regulation 401 KAR 50:035, Section 7(1)(c), to meet the periodic monitoring requirement for nitrogen oxide, the permittee shall use a continuous emission monitor (CEM). Excluding the startup and shut down periods, if any 3-hour average nitrogen oxide value exceeds the standard, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and/or the CEM system and make any necessary repairs or take corrective actions as soon as practicable.

f) Pursuant to Regulation 401 KAR 59:015, Section 7(3), for performance evaluations of the sulfur dioxide and nitrogen oxides continuous emission monitoring system as required under Regulation 401 KAR 59:005, Section 4(3) and calibration checks as required under Regulation 401 KAR 59:005, Section 4(4), Reference Methods 6 or 7 shall be used as applicable as described by Regulation 401 KAR 50:015.

g) Pursuant to Regulation 401 KAR 59:015, Section 7(3), sulfur dioxide or nitric oxides (nitrogen oxides), as applicable, shall be used for preparing calibration gas mixtures under Performance Specification 2 of Appendix B to 40 CFR 60, filed by reference in Regulation 401 KAR 50:015.

h) Pursuant to Regulation 401 KAR 59:015, Section 7(3), the span value of all continuous emission monitoring system measuring opacity of emissions shall be eighty (80), ninety (90), or one-hundred (100) percent and the span value for the continuous emission monitoring system measuring sulfur dioxide and nitrogen oxides emissions shall be in accordance with Regulation 401 KAR 59:015, Appendix C or 40 CFR 75, Appendix A.

i) Continuous emission monitoring data shall be converted into the units of applicable standards using the conversion procedure described in Regulation 401 KAR 59:015, Section 7(5).

j) Pursuant to Regulation 401 KAR 59:015, Section 7(3), for an indirect heat exchanger that simultaneously burns fossil fuel and nonfossil fuel, the span value of all continuous monitoring systems shall be subject to the Division's approval.

5. **Specific Record Keeping Requirements:**

a) Pursuant to Regulation 401 KAR 59:005, Section 3 (4), the owner or operator of the indirect heat exchanger shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

or monitoring device calibration checks; adjustments and maintenance performed on these systems and devices; and all other information required by Regulation 401 KAR 59:005 recorded in a permanent form suitable for inspection.

b) Pursuant to Regulation 401 KAR 59:005, Section 3(2), the owner or operator of this unit shall maintain the records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the affected facility, any malfunction of the air pollution control equipment; or any period during which a continuous monitoring system or monitoring device is inoperative.

c) The permittee shall compute and record percentage of the COM data (excluding startup, shut down, and malfunction data) showing excursions above the opacity standard in each calendar quarter.

d) The permittee shall maintain the results of all compliance tests.

6. Specific Reporting Requirements:

a) Pursuant to Regulation 401 KAR 59:005, Section 3 (3), minimum data requirements which follow shall be maintained and furnished in the format specified by the Division. Owners or operators of facilities required to install continuous monitoring systems shall submit for every calendar quarter a written report of excess emissions (as defined in applicable sections) to the Division. All quarterly reports shall be postmarked by the thirtieth (30th) day following the end of each calendar quarter and shall include the following information:

1) The magnitude of the excess emission computed in accordance with the Regulation 401 KAR 59:005, Section 4(8), any conversion factors used, and the date and time of commencement and completion of each time period of excess emissions.

2) All hourly averages shall be reported for sulfur dioxide and nitrogen oxides monitors. The hourly averages shall be made available in the format specified by the Division.

3) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventive measures adopted.

4) The date and time identifying each period during which continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

5) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

b) Pursuant to Regulation 401 KAR 59:015, Section 7(7), for the purposes of reports required under Regulation 401 KAR 59:005, Section 3(3), periods of excess emissions that shall be reported are defined as follows:

1) Excess emissions are defined as any six minute period during which the average opacity of emissions exceeds twenty percent opacity, except that one (1) six (6) minute average per hour of up to twenty-seven (27) percent opacity need not be reported.

2) Excess emissions of sulfur dioxide is defined as any three (3) hour period during which the average emissions (arithmetic average of three contiguous one hour periods) exceed the applicable sulfur dioxide emissions standards.

3) Excess emissions for emissions units using a continuous monitoring system for measuring nitrogen oxides are defined as any three (3) hour period during which the average emissions (arithmetic average of three contiguous one hour periods) exceed the applicable nitrogen oxides emissions standards.

c) The permittee shall report the number of excursions (excluding startup, shut down, malfunction data) above the opacity standard, date and time of excursions, opacity value of the excursions, and percentage of the COM data showing excursions above the opacity standard in each calendar quarter.

7. Specific Control Equipment Operating Conditions:

a) The electrostatic precipitator and low nitrogen oxides burners shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance of the electrostatic precipitator shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 03 (02) - Unit 3 Indirect Heat Exchanger

Description:

Unit 3 construction commenced: prior to September 18, 1978
Pulverized coal-fired unit, dry bottom, wall-fired unit with electrostatic precipitator and low nitrogen oxides burners with overfire air
Number two fuel oil used for startups and stabilization
Maximum continuous rating: 5500 MMBTU/hour.

Applicable Regulations:

Regulation 401 KAR 59:015, New indirect heat exchangers, incorporating by reference 40 CFR 60, Subpart D, Standards of performance for fossil-fuel-fired steam generators applicable for an emissions unit more than 250 MMBTU/hour and commenced after August 17, 1971, and;

Regulation 401 KAR 51:017, Prevention of significant deterioration of air quality.

1. **Operating Limitations:**
   None

2. **Emission Limitations:**
   a) Pursuant to Regulation 401 KAR 59:015, Section 4(1)(b), and Regulation 401 KAR 51:017, particulate emissions shall not exceed 0.1 lb/MMBTU based on a three-hour average.

   b) Pursuant to Regulation 401 KAR 59:015, Section 4(2), emissions shall not exceed twenty (20) percent opacity based on a six-minute average except a maximum of twenty-seven (27) percent opacity for not more than one (1) six (6) minute period in any sixty (60) consecutive minutes.

   c) Pursuant to Regulation 401 KAR 59:015, Section 5(1)(b), and Regulation 401 KAR 51:017, the sulfur dioxide emissions shall not exceed 1.2 lbs/MMBTU based on a three-hour average.

   d) Pursuant to Regulation 401 KAR 59:015, Section 6(1)(c), nitrogen oxides emissions shall not exceed 0.7 lb/MMBTU based on a three-hour average.

3. **Testing Requirements:**
   a) The permittee shall submit a schedule within six months from the issuance date of this permit to conduct at least one performance test for particulate within one year following the issuance of this permit.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

b) If no additional stack tests are performed pursuant to Condition 4. b), the permittee shall conduct a performance test for particulate emissions within the third year of the term of this permit to demonstrate compliance with the applicable standard.

c) The permittee shall determine the opacity of emissions from the stack by EPA Reference Method 9 annually, or more frequently if requested by the Division.

4. **Specific Monitoring Requirements:**

a) Pursuant to Regulation 401 KAR 50:035, Section 7(1)(c), Regulation 401 KAR 59:015, Section 7, and Regulation 401 KAR 59:005, Section 4, continuous emission monitoring systems shall be installed, calibrated, maintained, and operated for measuring the opacity of emissions, sulfur dioxide emissions, nitrogen oxides emissions and either oxygen or carbon dioxide emissions. The owner or operator shall ensure the continuous emission monitoring systems are in compliance with, and the owner or operator shall comply with the requirements of Regulation 401 KAR 59:005, Section 4.

b) Pursuant to Regulation 401 KAR 50:035, Section 7(1)(c), to meet the periodic monitoring requirement for particulate, the permittee shall use a continuous opacity monitor (COM). Excluding the startup, shut down, and once per hour exemption periods, if any six minute average opacity value exceeds the opacity standard, the permittee shall, as appropriate, initiate an inspection of the control equipment and/or the COM system and make any necessary repairs. If five (5) percent or greater of COM data (excluding startup, shut down, and malfunction periods, data averaged over six minute period) recorded in a calendar quarter show excursions above the opacity standard, the permittee shall perform a stack test in the following calendar quarter to demonstrate compliance with the particulate standard while operating at representative conditions. The permittee shall submit a compliance test protocol as required by condition Section G(a)(20) of this permit before conducting the test. The Division may waive this testing requirement upon a demonstration that the cause(s) of the excursions have been corrected, or may require stack tests at any time pursuant to Regulation 401 KAR 50:045, Performance tests.

c) Pursuant to Regulation 401 KAR 50:035, Section 7(1)(c), to meet the periodic monitoring requirement for opacity, the permittee shall use a continuous opacity monitor (COM). Excluding the startup and shut down periods, if any six minute average opacity value exceeds the opacity standard, the permittee shall, as appropriate, initiate an inspection of the control equipment and/or the COM system and make any necessary repairs. If visible emissions from the stack are perceived or believed to exceed the applicable standard, the permittee shall determine the opacity of emissions by Reference Method 9. If a Method 9 test cannot be performed, the reason for not performing the test shall be documented.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

d) Pursuant to Regulation 401 KAR 50:035, Section 7(1)(c), to meet the periodic monitoring requirement for sulfur dioxide, the permittee shall use a continuous emission monitor (CEM) Excluding the startup and shut down periods, if any 3-hour average sulfur dioxide value exceeds the standard, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and/or the CEM system and make any necessary repairs or take corrective actions as soon as practicable.

e) Pursuant to Regulation 401 KAR 50:035, Section 7(1)(c), to meet the periodic monitoring requirement for nitrogen oxide, the permittee shall use a continuous emission monitor (CEM). Excluding the startup and shut down periods, if any 3-hour average nitrogen oxide value exceeds the standard, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and/or the CEM system and make any necessary repairs or take corrective actions as soon as practicable.

f) Pursuant to Regulation 401 KAR 59:015, Section 7(3), for performance evaluations of the sulfur dioxide and nitrogen oxides continuous emission monitoring system as required under Regulation 401 KAR 59:005, Section 4(3) and calibration checks as required under Regulation 401 KAR 59:005, Section 4(4), Reference Methods 6 or 7 shall be used as applicable as described by Regulation 401 KAR 50:015.

g) Pursuant to Regulation 401 KAR 59:015, Section 7(3), sulfur dioxide or nitric oxides (nitrogen oxides), as applicable, shall be used for preparing calibration gas mixtures under Performance Specification 2 of Appendix B to 40 CFR 60, filed by reference in Regulation 401 KAR 50:015.

h) Pursuant to Regulation 401 KAR 59:015, Section 7(3), the span value of all continuous emission monitoring system measuring opacity of emissions shall be eighty (80), ninety (90), or one-hundred (100) percent and the span value for the continuous emission monitoring system measuring sulfur dioxide and nitrogen oxides emissions shall be in accordance with Regulation 401 KAR 59:015, Appendix C or 40 CFR 75, Appendix A.

i) Continuous emission monitoring data shall be converted into the units of applicable standards using the conversion procedure described in Regulation 401 KAR 59:015, Section 7(5).

j) Pursuant to Regulation 401 KAR 59:015, Section 7(3), for an indirect heat exchanger that simultaneously burns fossil fuel and nonfossil fuel, the span value of all continuous monitoring systems shall be subject to the Division's approval.

5. **Specific Record Keeping Requirements:**

a) Pursuant to Regulation 401 KAR 59:005, Section 3 (4), the owner or operator of the indirect heat exchanger shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system

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or monitoring device calibration checks; adjustments and maintenance performed on these systems and devices; and all other information required by Regulation 401 KAR 59:005 recorded in a permanent form suitable for inspection.

b) Pursuant to Regulation 401 KAR 59:005, Section 3(2), the owner or operator of this unit shall maintain the records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the affected facility, any malfunction of the air pollution control equipment; or any period during which a continuous monitoring system or monitoring device is inoperative.

c) The permittee shall compute and record percentage of the COM data (excluding startup, shut down, and malfunction data) showing excursions above the opacity standard in each calendar quarter.

d) The permittee shall maintain the results of all compliance tests.

6. Specific Reporting Requirements:

a) Pursuant to Regulation 401 KAR 59:005, Section 3 (3), minimum data requirements which follow shall be maintained and furnished in the format specified by the Division. Owners or operators of facilities required to install continuous monitoring systems shall submit for every calendar quarter a written report of excess emissions (as defined in applicable sections) to the Division. All quarterly reports shall be postmarked by the thirtieth (30th) day following the end of each calendar quarter and shall include the following information:

1) The magnitude of the excess emission computed in accordance with the Regulation 401 KAR 59:005, Section 4(8), any conversion factors used, and the date and time of commencement and completion of each time period of excess emissions.

2) All hourly averages shall be reported for sulfur dioxide and nitrogen oxides monitors. The hourly averages shall be made available in the format specified by the Division.

3) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventive measures adopted.

4) The date and time identifying each period during which continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

5) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

b) Pursuant to Regulation 401 KAR 59:015, Section 7(7), for the purposes of reports required under Regulation 401 KAR 59:005, Section 3(3), periods of excess emissions that shall be reported are defined as follows:

1) Excess emissions are defined as any six minute period during which the average opacity of emissions exceeds twenty percent opacity, except that one (1) six (6) minute average per hour of up to twenty-seven (27) percent opacity need not be reported.

2) Excess emissions of sulfur dioxide is defined as any three (3) hour period during which the average emissions (arithmetic average of three contiguous one hour periods) exceed the applicable sulfur dioxide emissions standards.

3) Excess emissions for emissions units using a continuous monitoring system for measuring nitrogen oxides are defined as any three (3) hour period during which the average emissions (arithmetic average of three contiguous one hour periods) exceed the applicable nitrogen oxides emissions standards.

c) The permittee shall report the number of excursions (excluding startup, shut down, malfunction data) above the opacity standard, date and time of excursions, opacity value of the excursions, and percentage of the COM data showing excursions above the opacity standard in each calendar quarter.

7. **Specific Control Equipment Operating Conditions:**

a) The electrostatic precipitator and low nitrogen oxides burners shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance of the electrostatic precipitator shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 04 (02) - Unit 4 Indirect Heat Exchanger

Description:

Unit 4 construction commenced: prior to September 18, 1978
Pulverized coal-fired unit, dry bottom, wall-fired unit with electrostatic precipitator and low nitrogen oxides burners with overfire air
Number two fuel oil used for startups and stabilization
Maximum continuous rating: 5500 MMBTU/hour

Applicable Regulations:

Regulation 401 KAR 59:015, New indirect heat exchangers, incorporating by reference 40 CFR 60, Subpart D, Standards of performance for fossil-fuel-fired steam generators applicable for an emissions unit more than 250 MMBTU/hour and commenced after August 17, 1971, and;

Regulation 401 KAR 51:017, Prevention of significant deterioration of air quality.

1. **Operating Limitations:**
   None

2. **Emission Limitations:**

   a) Pursuant to Regulation 401 KAR 59:015, Section 4(1)(b), and Regulation 401 KAR 51:017, particulate emissions shall not exceed 0.1 lb/MMBTU based on a three-hour average.

   b) Pursuant to Regulation 401 KAR 59:015, Section 4(2), emissions shall not exceed twenty (20) percent opacity based on a six-minute average except a maximum of twenty-seven (27) percent opacity for not more than one (1) six (6) minute period in any sixty (60) consecutive minutes.

   c) Pursuant to Regulation 401 KAR 59:015, Section 5(1)(b), and Regulation 401 KAR 51:017, the sulfur dioxide emissions shall not exceed 1.2 lbs/MMBTU based on a three-hour average.

   d) Pursuant to Regulation 401 KAR 59:015, Section 6(1)(c), nitrogen oxides emissions shall not exceed 0.7 lb/MMBTU based on a three-hour average.

3. **Testing Requirements:**
   a) The permittee shall submit a schedule within six months from the issuance date of this permit to conduct at least one performance test for particulate within one year following the issuance of this permit.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

b) If no additional stack tests are performed pursuant to Condition 4. b), the permittee shall conduct a performance test for particulate emissions within the third year of the term of this permit to demonstrate compliance with the applicable standard.

c) The permittee shall determine the opacity of emissions from the stack by EPA Reference Method 9 annually, or more frequently if requested by the Division.

4. **Specific Monitoring Requirements:**

a) Pursuant to Regulation 401 KAR 50:035, Section 7(1)(c), Regulation 401 KAR 59:015, Section 7, and Regulation 401 KAR 59:005, Section 4, continuous emission monitoring systems shall be installed, calibrated, maintained, and operated for measuring the opacity of emissions, sulfur dioxide emissions, nitrogen oxides emissions and either oxygen or carbon dioxide emissions. The owner or operator shall ensure the continuous emission monitoring systems are in compliance with, and the owner or operator shall comply with the requirements of Regulation 401 KAR 59:005, Section 4.

b) Pursuant to Regulation 401 KAR 50:035, Section 7(1)(c), to meet the periodic monitoring requirement for particulate, the permittee shall use a continuous opacity monitor (COM). Excluding the startup, shut down, and once per hour exemption periods, if any six minute average opacity value exceeds the opacity standard, the permittee shall, as appropriate, initiate an inspection of the control equipment and/or the COM system and make any necessary repairs. If five (5) percent or greater of COM data (excluding startup, shut down, and malfunction periods, data averaged over six minute period) recorded in a calendar quarter show excursions above the opacity standard, the permittee shall perform a stack test in the following calendar quarter to demonstrate compliance with the particulate standard while operating at representative conditions. The permittee shall submit a compliance test protocol as required by condition Section G(a)(20) of this permit before conducting the test. The Division may waive this testing requirement upon a demonstration that the cause(s) of the excursions have been corrected, or may require stack tests at any time pursuant to Regulation 401 KAR 50:045, Performance tests.

c) Pursuant to Regulation 401 KAR 50:035, Section 7(1)(c), to meet the periodic monitoring requirement for opacity, the permittee shall use a continuous opacity monitor (COM). Excluding the startup, shut down, and once per hour exemption periods, if any six minute average opacity value exceeds the opacity standard, the permittee shall, as appropriate, initiate an inspection of the control equipment and/or the COM system and make any necessary repairs. If visible emissions from the stack are perceived or believed to exceed the applicable standard, the permittee shall determine the opacity of emissions by Reference Method 9. If a Method 9 test cannot be performed, the reason for not performing the test shall be documented.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

d) Pursuant to Regulation 401 KAR 50:035, Section 7(1)(c), to meet the periodic monitoring requirement for sulfur dioxide, the permittee shall use a continuous emission monitor (CEM) Excluding the startup and shut down periods, if any 3-hour average sulfur dioxide value exceeds the standard, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and/or the CEM system and make any necessary repairs or take corrective actions as soon as practicable.

e) Pursuant to Regulation 401 KAR 50:035, Section 7(1)(c), to meet the periodic monitoring requirement for nitrogen oxide, the permittee shall use a continuous emission monitor (CEM). Excluding the startup and shut down periods, if any 3-hour average nitrogen oxide value exceeds the standard, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and/or the CEM system and make any necessary repairs or take corrective actions as soon as practicable.

f) Pursuant to Regulation 401 KAR 59:015, Section 7(3), for performance evaluations of the sulfur dioxide and nitrogen oxides continuous emission monitoring system as required under Regulation 401 KAR 59:005, Section 4(3) and calibration checks as required under Regulation 401 KAR 59:005, Section 4(4), Reference Methods 6 or 7 shall be used as applicable as described by Regulation 401 KAR 50:015.

g) Pursuant to Regulation 401 KAR 59:015, Section 7(3), sulfur dioxide or nitric oxides (nitrogen oxides), as applicable, shall be used for preparing calibration gas mixtures under Performance Specification 2 of Appendix B to 40 CFR 60, filed by reference in Regulation 401 KAR 50:015.

h) Pursuant to Regulation 401 KAR 59:015, Section 7(3), the span value of all continuous emission monitoring system measuring opacity of emissions shall be eighty (80), ninety (90), or one-hundred (100) percent and the span value for the continuous emission monitoring system measuring sulfur dioxide and nitrogen oxides emissions shall be in accordance with Regulation 401 KAR 59:015, Appendix C or 40 CFR 75, Appendix A.

i) Continuous emission monitoring data shall be converted into the units of applicable standards using the conversion procedure described in Regulation 401 KAR 59:015, Section 7(5).

j) Pursuant to Regulation 401 KAR 59:015, Section 7(3), for an indirect heat exchanger that simultaneously burns fossil fuel and nonfossil fuel, the span value of all continuous monitoring systems shall be subject to the Division's approval.

5. **Specific Record Keeping Requirements:**

a) Pursuant to Regulation 401 KAR 59:005, Section 3 (4), the owner or operator of the indirect heat exchanger shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

or monitoring device calibration checks; adjustments and maintenance performed on these systems and devices; and all other information required by Regulation 401 KAR 59:005 recorded in a permanent form suitable for inspection.

b) Pursuant to Regulation 401 KAR 59:005, Section 3(2), the owner or operator of this unit shall maintain the records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the affected facility, any malfunction of the air pollution control equipment; or any period during which a continuous monitoring system or monitoring device is inoperative.

c) The permittee shall compute and record percentage of the COM data (excluding startup, shut down, and malfunction data) showing excursions above the opacity standard in each calendar quarter.

d) The permittee shall maintain the results of all compliance tests.

6. Specific Reporting Requirements:

a) Pursuant to Regulation 401 KAR 59:005, Section 3 (3), minimum data requirements which follow shall be maintained and furnished in the format specified by the Division. Owners or operators of facilities required to install continuous monitoring systems shall submit for every calendar quarter a written report of excess emissions (as defined in applicable sections) to the Division. All quarterly reports shall be postmarked by the thirtieth (30th) day following the end of each calendar quarter and shall include the following information:

1) The magnitude of the excess emission computed in accordance with the Regulation 401 KAR 59:005, Section 4(8), any conversion factors used, and the date and time of commencement and completion of each time period of excess emissions.

2) All hourly averages shall be reported for sulfur dioxide and nitrogen oxides monitors. The hourly averages shall be made available in the format specified by the Division.

3) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventive measures adopted.

4) The date and time identifying each period during which continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

5) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

b) Pursuant to Regulation 401 KAR 59:015, Section 7(7), for the purposes of reports required under Regulation 401 KAR 59:005, Section 3(3), periods of excess emissions that shall be reported are defined as follows:

1) Excess emissions are defined as any six minute period during which the average opacity of emissions exceeds twenty percent opacity, except that one (1) six (6) minute average per hour of up to twenty-seven (27) percent opacity need not be reported.

2) Excess emissions of sulfur dioxide is defined as any three (3) hour period during which the average emissions (arithmetic average of three contiguous one hour periods) exceed the applicable sulfur dioxide emissions standards.

3) Excess emissions for emissions units using a continuous monitoring system for measuring nitrogen oxides are defined as any three (3) hour period during which the average emissions (arithmetic average of three contiguous one hour periods) exceed the applicable nitrogen oxides emissions standards.

c) The permittee shall report the number of excursions (excluding startup, shut down, malfunction data) above the opacity standard, date and time of excursions, opacity value of the excursions, and percentage of the COM data showing excursions above the opacity standard in each calendar quarter.

7. Specific Control Equipment Operating Conditions:

a) The electrostatic precipitator and low nitrogen oxides burners shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance of the electrostatic precipitator shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 05-01 (06) - Coal Receiving Operations

Description:

Construction commenced: prior to November 15, 1973
Equipment includes: barge unloading operations
(Barge unloader itself is not enclosed)
Maximum Operating Rate: 3600 tons/hour

Applicable Regulations:

Regulation 401 KAR 63:010, Fugitive emissions

Applicable Requirements

a) Pursuant to Regulation 401 KAR 63:010, Section 3, reasonable precautions shall be taken to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, when applicable, but not be limited to the following:

1. application and maintenance of asphalt, application of water, or suitable chemicals on roads, material stockpiles, and other surfaces which can create airborne dusts;

2. installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials, or the use of water sprays or other measures to suppress the dust emissions during handling.

b) Pursuant to Regulation 401 KAR 63:010, Section 3, discharge of visible fugitive dust emissions beyond the property line is prohibited.

1. **Operating Limitations:**
None

2. **Emission Limitations:**
None

3. **Testing Requirements:**
None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

4. Specific Monitoring Requirements:

See Section F.

5. Specific Record Keeping Requirements:

The permittee shall maintain records of the coal received (tonnages).

6. Specific Reporting Requirements:

See Section F.

7. Specific Control Equipment Operating Conditions:

a) The air pollution control equipment (including but not limited to enclosures) shall be used as necessary to maintain compliance with applicable requirements, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance of the air pollution control equipment (including but not limited to enclosures) shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emissions Unit: 05-02 (10) - Limestone Handling and Receiving

Description:

Construction commenced: 1992
Equipment includes: Barge unloading operations
(Barge unloader itself is not enclosed)
Maximum Operating Rate (Receiving): 1800 Tons/hour

Applicable Regulations:

Regulation 401 KAR 63:010, Fugitive emissions

Applicable Requirements:

a) Pursuant to Regulation 401 KAR 63:010, Section 3, reasonable precautions shall be taken to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, when applicable, but not be limited to the following:

1. application and maintenance of asphalt, application of water, or suitable chemicals on roads, material stockpiles, and other surfaces which can create airborne dusts;

2. installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials, or the use of water sprays or other measures to suppress the dust emissions during handling.

b) Pursuant to Regulation 401 KAR 63:010, Section 3, discharge of visible fugitive dust emissions beyond the property line is prohibited.

1. **Operating Limitations:**
None

2. **Emission Limitations:**
None

3. **Testing Requirements:**
None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

4. Specific Monitoring Requirements:

See Section F.

5. Specific Record Keeping Requirements:

The permittee shall maintain records of the limestone received (tonnages).

6. Specific Reporting Requirements:

See Section F.

7. Specific Control Equipment Operating Conditions:

a) The air pollution control equipment (including but not limited to enclosures) shall be used as necessary to maintain compliance with applicable requirements, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance of the air pollution control equipment (including but not limited to enclosures) shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 06 (09) - Coal crushing operations (crusher #1)

Description:

Crusher #1 construction commenced: before October 24, 1974
Equipment includes: one crusher and two surge bins
Maximum Operating Rate: 1800 tons/hour

Applicable Regulations:

Regulation 401 KAR 61:020, Existing process operations, for emissions unit commenced before July 2, 1975

1. **Operating Limitations:**
   None

2. **Emission Limitations:**
   a) Pursuant to Regulation 401 KAR 61:020, Section 3(2), particulate matter emissions into the open air shall not exceed [55 $(P)^{0.11}$ - 40] pounds per hour based on a three-hour average where P is the hourly operating rate in tons per hour.

   b) Pursuant to Regulation 401 KAR 61:020, Section 3(1)(a), any continuous emission(s) into the open air shall not equal or exceed forty (40) percent opacity based on a six-minute average.

3. **Testing Requirements:**

   The permittee shall use EPA Reference Method 9 to determine opacity of emissions from each stack which shall be performed upon the Division's request, but not less frequently than annually.

4. **Specific Monitoring Requirements:**

   a) The permittee shall perform a qualitative visual observation of the opacity of emissions from each stack on a daily basis and maintain a log of the observations. If visible emissions from any stack are perceived or believed to exceed the applicable standard, the permittee shall determine the opacity of emissions by Reference Method 9 and instigate an inspection of the control equipment for any necessary repairs.

   b) The permittee shall monitor the operating rate and hours of operation on a daily basis.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

5. Specific Record Keeping Requirements:

The permittee shall maintain records of the coal processed (tonnages) and hours of operation on a daily basis.

6. Specific Reporting Requirements:

See Section F.

7. Specific Control Equipment Operating Conditions:

a) The enclosures and baghouse shall be used and operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance and operation of the enclosures and baghouse shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emissions Unit: 07 (08 and 07) - Coal handling operations (stockpile and conveying operations)

Description:

Construction commenced: before October 24, 1974
Equipment includes: (below)

Operation	Maximum Operating Rate (Tons/hour)
Stockpile Operations	3600
Conveyors 1D, 1E, 1F and Transfer Points	3600 each
Conveyor 1J, and Transfer Points	900 each
Conveyor 1G, and Transfer Points	1500 each
Conveyors 1H, and Transfer Points	1800 each

Applicable Regulations:

Regulation 401 KAR 63:010, Fugitive emissions

Applicable Requirements

a) Pursuant to Regulation 401 KAR 63:010, Section 3, reasonable precautions shall be taken to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, when applicable, but not be limited to the following:

1. application and maintenance of asphalt, application of water, or suitable chemicals on roads, material stockpiles, and other surfaces which can create airborne dusts;

2. installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials, or the use of water sprays or other measures to suppress the dust emissions during handling.

b) Pursuant to Regulation 401 KAR 63:010, Section 3, discharge of visible fugitive dust emissions beyond the property line is prohibited.

1. **Operating Limitations:**
None

2. **Emission Limitations:**
None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

3. **Testing Requirements:**
None

4. **Specific Monitoring Requirements:**

See Section F.

5. **Specific Record Keeping Requirements:**
The permittee shall maintain records of the coal processed (tonnage).

6. **Specific Reporting Requirements:**

See Section F.

7. **Specific Control Equipment Operating Conditions:**

a) The air pollution control equipment (including but not limited to enclosures, and wet suppression) shall be used as necessary to maintain compliance with the applicable requirements, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance and use of the air pollution control equipment (including but not limited to enclosures, and wet suppression) shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 08-01 (07) - Coal Conveying and Handling Operations

Description:

Construction commenced: before October 24, 1974
Equipment includes: Conveyors 1A, 1B, 1C, and transfer points
Maximum Operating Rate: 3600 tons/hour, each

Applicable Regulations:

Regulation 401 KAR 63:010, Fugitive emissions

Applicable Requirements

a) Pursuant to Regulation 401 KAR 63:010, Section 3, reasonable precautions shall be taken to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, when applicable, but not be limited to the following:

1. application and maintenance of asphalt, application of water, or suitable chemicals on roads, material stockpiles, and other surfaces which can create airborne dusts;

2. installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials, or the use of water sprays or other measures to suppress the dust emissions during handling.

b) Pursuant to Regulation 401 KAR 63:010, Section 3, discharge of visible fugitive dust emissions beyond the property line is prohibited.

1. **Operating Limitations:**
None

2. **Emission Limitations:**
None

3. **Testing Requirements:**
None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

4. Specific Monitoring Requirements:

See Section F.

5. Specific Record Keeping Requirements:

The permittee shall maintain records of the coal processed (tonnage).

6. Specific Reporting Requirements:

See Section F.

7. Specific Control Equipment Operating Conditions:

a) The air pollution control equipment (including but not limited to enclosures) shall be used as necessary to maintain compliance with applicable requirements, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance of the air pollution control equipment (including but not limited to enclosures) shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 08-02 (11) - Limestone Handling and Processing

Description:

Equipment includes: Conveyors 1A, 1B, 1C, and transfer points
Construction commenced: 1992
Maximum Operating Rate: 1800 Tons per hour, each

Applicable Regulations:

Regulation 401 KAR 59:310, New nonmetallic mineral processing plants (40 CFR 60, Subpart OOO as modified by Section 2 of Regulation 401 KAR 59:310), applies to each of the emissions units listed above, commenced after August 31, 1983

1. **Operating Limitations:**
None

2. **Emission Standards:**

a) Pursuant to Regulation 401 KAR 59:310, adopting by reference 40 CFR 60.672(a), no owner or operator shall cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other emissions unit any stack emissions which:

1. Contain particulate matter in excess of 0.05 g/dscm; or

2. Exhibit greater than seven (7) percent opacity.

3. **Testing Requirements:**

a) Pursuant to Regulation 401 KAR 59:310, specifically 40 CFR 60.675(b)(2), the owner and/or operator shall use EPA Reference Method 9 and the procedures in 40 CFR 60.11 to determine opacity, annually.

b) EPA Reference Method 5 or Method 17 shall be performed as required by the Division to determine particulate matter concentration.

4. **Specific Monitoring Requirements:**

The permittee shall perform a qualitative visual observation of the opacity of emissions from each stack on a daily basis and maintain a log of the observations. If visible emissions from any stack are perceived or believed to exceed the applicable standard, the permittee shall determine the opacity of emissions by Reference Method 9 and instigate an inspection of the control equipment for any necessary repairs.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

5. Specific Record Keeping Requirements:

Records of the limestone (tonnages) processed shall be maintained.

6. Specific Reporting Requirements:

Pursuant to Regulation 401 KAR 59:310, specifically 40 CFR 60.676, the owner and/or operator shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards of 40 CFR 60.672, including reports of opacity observations made using EPA Reference Method 9.

7. Specific Control Equipment Operating Conditions:

a) The fabric filter shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance and operation of the fabric filter shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 09-01 (07) - Coal Conveying and Handling Operations

Description:

Equipment includes: Conveyor 2H and transfer points
Construction commenced before 1977 (operational in 1977)
Maximum Operating Rate: 1800 tons/hour

Applicable Regulations:
Regulation 401 KAR 60:005, Section 3(aa), which incorporates by reference 40 CFR 60, Subpart Y, Standards of performance for coal preparation plants, for emission units commenced after October 24, 1974

1. **Operating Limitations:**
   None

2. **Emission Limitations:**

   Pursuant to Regulation 40 CFR 60.252, the owner or operator subject to the provisions of this regulation shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.

3. **Testing Requirements:**
   Pursuant to Regulation 40 CFR 60.254, EPA Reference Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity at least annually, or more frequently if requested by the Division.

4. **Specific Monitoring Requirements:**

   The permittee shall perform a qualitative visual observation of the opacity of emissions from control equipment on a daily basis and maintain a log of the observations. If visible emissions are perceived or believed to exceed the applicable standard, the permittee shall determine the opacity of emissions by Reference Method 9 and instigate an inspection of the control equipment making necessary repairs.

5. **Specific Record Keeping Requirements:**

   The permittee shall maintain records of the coal processed (tonnages).

6. **Specific Reporting Requirements:**

   See Section F.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

7. Specific Control Equipment Operating Conditions:

a) The air pollution control equipment (including but not limited to enclosures) shall be used as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance of the air pollution control equipment (including but not limited to enclosures) shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 09-02 (11) - Limestone Handling and Processing

Description:

Equipment includes: Conveyors 2H and transfer points
Construction commenced: 1992
Operating rate: 1800 Tons per hour

Applicable Regulations:

Regulation 401 KAR 59:310, New nonmetallic mineral processing plants (40 CFR 60, Subpart OOO as modified by Section 2 of Regulation 401 KAR 59:310), applies to each of the emissions units listed above, commenced after August 31, 1983

1. **Operating Limitations:**
None

2. **Emission Standards:**

a) Pursuant to Regulation 401 KAR 59:310, adopting by reference 40 CFR 60.672(a), no owner or operator shall cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other emissions unit any stack emissions which:

1. Contain particulate matter in excess of 0.05 g/dscm; or

2. Exhibit greater than seven (7) percent opacity.

3. **Testing Requirements:**

a) Pursuant to Regulation 401 KAR 59:310, specifically 40 CFR 60.675(b)(2), the owner and/or operator shall use EPA Reference Method 9 and the procedures in 40 CFR 60.11 to determine opacity, annually.

b) EPA Reference Method 5 or Method 17 shall be performed as required by the Division to determine particulate matter concentration.

4. **Specific Monitoring Requirements:**

The permittee shall perform a qualitative visual observation of the opacity of emissions from each stack on a daily basis and maintain a log of the observations. If visible emissions from any stack are perceived or believed to exceed the applicable standard, the permittee shall determine the opacity of emissions by Reference Method 9 and instigate an inspection of the control equipment for any necessary repairs.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

5. Specific Record Keeping Requirements:

The permittee shall maintain records of the limestone processed (tonnages).

6. Specific Reporting Requirements:

Pursuant to Regulation 401 KAR 59:310, specifically 40 CFR 60.676, the owner and/or operator shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards of 40 CFR 60.672, including reports of opacity observations made using EPA Reference Method 9.

7. Specific Control Equipment Operating Conditions:

a) The fabric filter shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance and operation of the fabric filter shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emissions Unit: 10-01 (07) - Coal Handling and Conveying

Description:

Equipment includes: Conveyor 6H and transfer points
Construction commenced before 1981 (operational in 1981)
Maximum Operating Rate: 1800 tons/hour

Applicable Regulations:
Regulation 401 KAR 60:005, Section 3(aa), which incorporates by reference 40 CFR 60, Subpart Y, Standards of performance for coal preparation plants, for emission units commenced after October 24, 1974

1. **Operating Limitations:**
   None

2. **Emission Limitations:**

   Pursuant to Regulation 40 CFR 60.252, the owner or operator subject to the provisions of this regulation shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.

3. **Testing Requirements:**
   Pursuant to Regulation 40 CFR 60.254, EPA Reference Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity at least annually, or more frequently if requested by the Division.

4. **Specific Monitoring Requirements:**

   The permittee shall perform a qualitative visual observation of the opacity of emissions from control equipment on a daily basis and maintain a log of the observations. If visible emissions are perceived or believed to exceed the applicable standard, the permittee shall determine the opacity of emissions by Reference Method 9 and instigate an inspection of the control equipment making necessary repairs.

5. **Specific Record Keeping Requirements:**

   The permittee shall maintain records of the coal processed (tonnages).

6. **Specific Reporting Requirements:**

   See Section F.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

7. Specific Control Equipment Operating Conditions:

a) The air pollution control equipment (including but not limited to enclosures) shall be used as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance of the air pollution control equipment (including but not limited to enclosures) shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 10-02 (11) - Limestone Handling and Processing

Description:

Equipment includes: Conveyors 6H and transfer points
Construction commenced: 1992
Maximum Operating Rate: 1800 Tons per hour

Applicable Regulations:

Regulation 401 KAR 59:310, New nonmetallic mineral processing plants (40 CFR 60, Subpart OOO as modified by Section 2 of Regulation 401 KAR 59:310), applies to each of the emissions units listed above, commenced after August 31, 1983

1. **Operating Limitations:**
None

2. **Emission Standards:**

a) Pursuant to Regulation 401 KAR 59:310, adopting by reference 40 CFR 60.672(a), no owner or operator shall cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other emissions unit any stack emissions which:

1. Contain particulate matter in excess of 0.05 g/dscm; or

2. Exhibit greater than seven (7) percent opacity.

3. **Testing Requirements:**

a) Pursuant to Regulation 401 KAR 59:310, specifically 40 CFR 60.675(b)(2), the owner and/or operator shall use EPA Reference Method 9 and the procedures in 40 CFR 60.11 to determine opacity, annually.

b) EPA Reference Method 5 or Method 17 shall be performed as required by the Division to determine particulate matter concentration.

4. **Specific Monitoring Requirements:**

The permittee shall perform a qualitative visual observation of the opacity of emissions from each stack on a daily basis and maintain a log of the observations. If visible emissions from any stack are perceived or believed to exceed the applicable standard, the permittee shall determine the opacity of emissions by Reference Method 9 and instigate an inspection of the control equipment for any necessary repairs.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

5. Specific Record Keeping Requirements:

The permittee shall maintain records of the limestone processed (tonnages).

6. Specific Reporting Requirements:

Pursuant to Regulation 401 KAR 59:310, specifically 40 CFR 60.676, the owner and/or operator shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards of 40 CFR 60.672, including reports of opacity observations made using EPA Reference Method 9.

7. Specific Control Equipment Operating Conditions:

a) The fabric filter shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance and operation of the fabric filter shall be maintained

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emissions Unit: 11 (07 and 09) - Coal Handling and Conveying

Description:

Construction commenced before 1981 (operational in 1981),
Except, conveyor 2J construction commenced before 1977 (operational in 1977)
Equipment includes: (below)

Operation	Maximum Operating Rate (Tons/hour)
Crusher House #2 (one crusher with two surge bins)	1800
Conveyors 2J, 3J, 4J, 3M, 4M and Transfer Points	900 each
Conveyors 2G, and Transfer Points	1500 each
Conveyors 5G, 6G, 7G, 8G, 3H, 4H, 5H, Coal Silo, and Transfer Points	1800 each
Conveyors 3G, 4G and Transfer Points	2400 each

Applicable Regulations:
Regulation 401 KAR 60:005, Section 3(aa), which incorporates by reference 40 CFR 60, Subpart Y, Standards of performance for coal preparation plants, for emission units commenced after October 24, 1974

1. **Operating Limitations:**
   None

2. **Emission Limitations:**

   Pursuant to Regulation 40 CFR 60.252, the owner or operator subject to the provisions of this regulation shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.

3. **Testing Requirements:**
   Pursuant to Regulation 40 CFR 60.254, EPA Reference Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity at least annually, or more frequently if requested by the Division.

4. **Specific Monitoring Requirements:**
   The permittee shall perform a qualitative visual observation of the opacity of emissions from control equipment on a daily basis and maintain a log of the observations. If visible emissions are perceived or believed to exceed the applicable standard, the permittee shall determine the opacity of emissions by Reference Method 9 and instigate an inspection of the control equipment making necessary repairs.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

5. Specific Record Keeping Requirements:

The permittee shall maintain records of the coal processed (tonnage).

6. Specific Reporting Requirements:

See Section F.

7. Specific Control Equipment Operating Conditions:

a) The air pollution control equipment (including but not limited to enclosures and fabric filters) shall be used as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance of the air pollution control equipment (including but not limited to enclosures) shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 12 (11) - Limestone Handling and Processing

Description:

Construction commenced: 1992
Equipment includes: Conveyor BF1 and transfer points
Maximum Operating Rate: 140 Tons per hour

Applicable Regulations:

Regulation 401 KAR 59:310, New nonmetallic mineral processing plants (40 CFR 60, Subpart OOO as modified by Section 2 of Regulation 401 KAR 59:310), applies to each of the emissions units listed above, commenced after August 31, 1983

1. **Operating Limitations:**
None

2. **Emission Standards:**

a) Pursuant to Regulation 401 KAR 59:310, adopting by reference 40 CFR 60.672(a), no owner or operator shall cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other emissions unit any stack emissions which:

1. Contain particulate matter in excess of 0.05 g/dscm; or

2. Exhibit greater than seven (7) percent opacity.

3. **Testing Requirements:**

a) Pursuant to Regulation 401 KAR 59:310, specifically 40 CFR 60.675(b)(2), the owner and/or operator shall use EPA Reference Method 9 and the procedures in 40 CFR 60.11 to determine opacity, annually.

b) EPA Reference Method 5 or Method 17 shall be performed as required by the Division to determine particulate matter concentration.

4. **Specific Monitoring Requirements:**

The permittee shall perform a qualitative visual observation of the opacity of emissions from each stack on a daily basis and maintain a log of the observations. If visible emissions from any stack are perceived or believed to exceed the applicable standard, the permittee shall determine the opacity of emissions by Reference Method 9 and instigate an inspection of the control equipment for any necessary repairs.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

5. Specific Record Keeping Requirements:

The permittee shall maintain records of the limestone processed (tonnages).

6. Specific Reporting Requirements:

Pursuant to Regulation 401 KAR 59:310, specifically 40 CFR 60.676, the owner and/or operator shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards of 40 CFR 60.672, including reports of opacity observations made using EPA Reference Method 9.

7. Specific Control Equipment Operating Conditions:

a) The fabric filter shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance and operation of the fabric filter shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 13 (14) - Limestone Crushing and Processing

Description:

Construction commenced: 1992
Equipment Includes: Hammermill crushing operations
Maximum Operating Rate: 140 Tons per hour

Applicable Regulations:

Regulation 401 KAR 59:310, New nonmetallic mineral processing plants (40 CFR 60, Subpart OOO as modified by Section 2 of Regulation 401 KAR 59:310), applies to each of the emissions units listed above, commenced after August 31, 1983

1. **Operating Limitations:**
None

2. **Emission Standards:**

a) Pursuant to Regulation 401 KAR 59:310, adopting by reference 40 CFR 60.672(a), no owner or operator shall cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other emissions unit any stack emissions which:

1. Contain particulate matter in excess of 0.05 g/dscm; or

2. Exhibit greater than seven (7) percent opacity.

3. **Testing Requirements:**

a) Pursuant to Regulation 401 KAR 59:310, specifically 40 CFR 60.675(b)(2), the owner and/or operator shall use EPA Reference Method 9 and the procedures in 40 CFR 60.11 to determine opacity, annually.

b) EPA Reference Method 5 or Method 17 shall be performed as required by the Division to determine particulate matter concentration.

4. **Specific Monitoring Requirements:**

The permittee shall perform a qualitative visual observation of the opacity of emissions from each stack on a daily basis and maintain a log of the observations. If visible emissions from any stack are perceived or believed to exceed the applicable standard, the permittee shall determine the opacity of emissions by Reference Method 9 and instigate an inspection of the control equipment for any necessary repairs.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

5. Specific Record Keeping Requirements:

The permittee shall maintain records of the limestone processed (tonnages).

6. Specific Reporting Requirements:

Pursuant to Regulation 401 KAR 59:310, specifically 40 CFR 60.676, the owner and/or operator shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards of 40 CFR 60.672, including reports of opacity observations made using EPA Reference Method 9.

7. Specific Control Equipment Operating Conditions:

a) The fabric filter shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance and operation of the fabric filter shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 14 (11) - Limestone Handling and Conveying

Description:

Construction commenced: 1992
Equipment includes: Conveyor L1 and transfer points
Maximum Operating Rate: 140 Tons per hour

Applicable Regulations:

Regulation 401 KAR 59:310, New nonmetallic mineral processing plants (40 CFR 60, Subpart OOO as modified by Section 2 of Regulation 401 KAR 59:310), applies to each of the emissions units listed above, commenced after August 31, 1983

1. **Operating Limitations:**
None

2. **Emission Standards:**

a) Pursuant to Regulation 401 KAR 59:310, adopting by reference 40 CFR 60.672(a), no owner or operator shall cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other emissions unit any stack emissions which:

1. Contain particulate matter in excess of 0.05 g/dscm; or

2. Exhibit greater than seven (7) percent opacity.

3. **Testing Requirements:**

a) Pursuant to Regulation 401 KAR 59:310, specifically 40 CFR 60.675(b)(2), the owner and/or operator shall use EPA Reference Method 9 and the procedures in 40 CFR 60.11 to determine opacity, annually.

b) EPA Reference Method 5 or Method 17 shall be performed as required by the Division to determine particulate matter concentration.

4. **Specific Monitoring Requirements:**

The permittee shall perform a qualitative visual observation of the opacity of emissions from each stack on a daily basis and maintain a log of the observations. If visible emissions from any stack are perceived or believed to exceed the applicable standard, the permittee shall determine the opacity of emissions by Reference Method 9 and instigate an inspection of the control equipment for any necessary repairs.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

5. Specific Record Keeping Requirements:

The permittee shall maintain records of the limestone processed (tonnages).

6. Specific Reporting Requirements:

Pursuant to Regulation 401 KAR 59:310, specifically 40 CFR 60.676, the owner and/or operator shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards of 40 CFR 60.672, including reports of opacity observations made using EPA Reference Method 9.

7. Specific Control Equipment Operating Conditions:

a) The fabric filter shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance and operation of the fabric filter shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 15 (13) - Limestone Handling Day Silo

Description:

Construction commenced: 1992
Equipment includes: Limestone day silo receiving and processing
Maximum Operating Rate: 140 Tons per hour

Applicable Regulations:

Regulation 401 KAR 59:310, New nonmetallic mineral processing plants (40 CFR 60, Subpart OOO as modified by Section 2 of Regulation 401 KAR 59:310), applies to each of the emissions units listed above, commenced after August 31, 1983

1. **Operating Limitations:**
None

2. **Emission Standards:**

a) Pursuant to Regulation 401 KAR 59:310, adopting by reference 40 CFR 60.672(a), no owner or operator shall cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other emissions unit any stack emissions which:

1. Contain particulate matter in excess of 0.05 g/dscm; or

2. Exhibit greater than seven (7) percent opacity.

3. **Testing Requirements:**

a) Pursuant to Regulation 401 KAR 59:310, specifically 40 CFR 60.675(b)(2), the owner and/or operator shall use EPA Reference Method 9 and the procedures in 40 CFR 60.11 to determine opacity, annually.

b) EPA Reference Method 5 or Method 17 shall be performed as required by the Division to determine particulate matter concentration.

4. **Specific Monitoring Requirements:**

The permittee shall perform a qualitative visual observation of the opacity of emissions from each stack on a daily basis and maintain a log of the observations. If visible emissions from any stack are perceived or believed to exceed the applicable standard, the permittee shall determine the opacity of emissions by Reference Method 9 and instigate an inspection of the control equipment for any necessary repairs.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

5. Specific Record Keeping Requirements:

The permittee shall maintain records of the limestone processed (tonnages).

6. Specific Reporting Requirements:

Pursuant to Regulation 401 KAR 59:310, specifically 40 CFR 60.676, the owner and/or operator shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards of 40 CFR 60.672, including reports of opacity observations made using EPA Reference Method 9.

7. Specific Control Equipment Operating Conditions:

a) The fabric filter shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance and operation of the fabric filter shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 16 (15) - Limestone Secondary Crushing Operations

Description:

Construction commenced: 1992
Equipment includes: two ball mills secondary crushing operations
Maximum Operating Rate: 28.6 Tons per hour, each

Applicable Regulations:

Regulation 401 KAR 59:310, New nonmetallic mineral processing plants (40 CFR 60, Subpart OOO as modified by Section 2 of Regulation 401 KAR 59:310), applies to each of the emissions units listed above, commenced after August 31, 1983

1. **Operating Limitations:**
   None

2. **Emission Standards:**

   Pursuant to Regulation 401 KAR 59:310, adopting by reference 40 CFR 60.672(b), no owner or operator shall cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other emissions unit any fugitive emissions which exhibit greater than ten (10) percent opacity.

3. **Testing Requirements:**

   Pursuant to Regulation 401 KAR 59:310, specifically 40 CFR 60.675(c), the owner and/or operator shall use EPA Reference Method 9 and the procedures in 40 CFR 60.11 to determine opacity, annually. As appropriate, additions for Method 9 testing procedures from 40 CFR 60.675 (c) shall be followed.

4. **Specific Monitoring Requirements:**

   The permittee shall perform a qualitative visual observation of the opacity of emissions from control equipment on a daily basis and maintain a log of the observations. If visible emissions are perceived or believed to exceed the applicable standard, the permittee shall determine the opacity of emissions by Reference Method 9 and instigate an inspection of the control equipment making necessary repairs.

5. **Specific Record Keeping Requirements:**
   The permittee shall maintain records of the limestone processed (tonnages).

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

6. Specific Reporting Requirements:

Pursuant to Regulation 401 KAR 59:310, specifically 40 CFR 60.676, the owner and/or operator shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards of 40 CFR 60.672 and Regulation 401 KAR 59:310, including reports of opacity observations made using EPA Reference Method 9.

7. Specific Control Equipment Operating Conditions:

a) The air pollution control equipment (including but not limited to enclosures) shall be used as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance of the air pollution control equipment (including but not limited to enclosures) shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emissions Unit: 17 (12) - Limestone Handling Stockpile Operations

Description:

Construction commenced: 1992
Maximum Operating Rate: 1800 Tons/hour

Applicable Regulations:

Regulation 401 KAR 63:010, Fugitive emissions

Applicable Requirements:

a) Pursuant to Regulation 401 KAR 63:010, Section 3, reasonable precautions shall be taken to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, when applicable, but not be limited to the following:

1. application and maintenance of asphalt, application of water, or suitable chemicals on roads, material stockpiles, and other surfaces which can create airborne dusts;

2. installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials, or the use of water sprays or other measures to suppress the dust emissions during handling.

b) Pursuant to Regulation 401 KAR 63:010, Section 3, discharge of visible fugitive dust emissions beyond the property line is prohibited.

1. **Operating Limitations:**
None

2. **Emission Limitations:**
None

3. **Testing Requirements:**
None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

4. Specific Monitoring Requirements:

See Section F.

5. Specific Record Keeping Requirements:

The permittee shall maintain records of the limestone processed (tonnages).

6. Specific Reporting Requirements:

See Section F.

7. Specific Control Equipment Operating Conditions:

a) The air pollution control measures (including but not limited to wet suppression) shall be used as necessary to maintain compliance with applicable requirements, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance and use of the air pollution control measures (including but not limited to wet suppression) shall be maintained

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 20 (05) - Dry Fly Ash Handling

Description:
Construction commenced: 1981
Equipment includes: Dry flyash collection system, with a flyash silo, and pulse jet fabric filter dust collector
Maximum Operating Rate: 35 Tons/hour

Applicable Regulations:

Regulation 401 KAR 59:010, New process operations

1. **Operating Limitations:**
   None

2. **Emission Limitations:**

   a) Pursuant to Regulation 401 KAR 59:010, Section 3(2), particulate matter emissions into the open air shall not exceed $[17.31\ (P)^{0.16}]$ pounds per hour based on a three hour average where P is the hourly operating rate in tons per hour.

   b) Pursuant to Regulation 401 KAR 59:010, Section 3(1)(a), any continuous emission(s) into the open air shall not equal or exceed twenty (20) percent opacity based on a six-minute average.

3. **Testing Requirements:**

   The permittee shall use EPA Reference Method 9 to determine opacity of emissions from each stack which shall be performed upon the Division's request, but not less frequently than annually.

4. **Specific Monitoring Requirements:**

   a) The permittee shall perform a qualitative visual observation of the opacity of emissions from each stack on a daily basis, when the unit is operating, and maintain a log of the observations. If visible emissions from any stack are perceived or believed to exceed the applicable standard, the permittee shall determine the opacity of emissions by Reference Method 9 and instigate an inspection of the control equipment for any necessary repairs.

   b) The permittee shall monitor the operating rate and hours of operation on a daily basis.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

5. Specific Record Keeping Requirements:

The permittee shall maintain the records of material processed (tonnage) and hours of operation on a daily basis.

6. Specific Reporting Requirements:

See Section F.

7. Specific Control Equipment Operating Conditions:

a) The fabric filter shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance and operation of the fabric filter shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 22 (-) - Two Cooling Towers

Description:

Construction commenced: prior to 1992

Tower Number	Maximum Operating Rate (Gallons per Minute)
3	172,000
4	172,000

Applicable Regulations:

Regulation 401 KAR 63:010, Fugitive emissions

Applicable Requirements:

Pursuant to Regulation 401 KAR 63:010, Section 3, reasonable precautions shall be taken to prevent particulate matter from becoming airborne.

1. **Operating Limitations:**
   None

2. **Emission Limitations:**
   None

3. **Testing Requirements:**
   None

4. **Specific Monitoring Requirements:**

   See Section F.

5. **Specific Record Keeping Requirements:**

   Records of the water circulation rates shall be maintained for emissions inventory purposes.

6. **Specific Reporting Requirements:**

   See Section F.

7. **Specific Control Equipment Operating Conditions:**

   NA

SECTION C - INSIGNIFICANT ACTIVITIES

The following listed activities have been determined to be insignificant activities for this source pursuant to Regulation 401 KAR 50:035, Section 5(4). While these activities are designated as insignificant the permittee must comply with the applicable regulation(s). Process and emission control equipment at each insignificant activity subject to a generally applicable regulation shall be inspected monthly and a qualitative visible emissions evaluation made. The results of the inspections and observations shall be recorded in a log, noting color, duration, density (heavy or light), cause and any corrective actions taken for any abnormal visible emissions.

Description	Generally Applicable Regulation
1. The following fuel oil storage tanks: 525,000 gallons 100,000 gallons 20,000 gallons 1000 gallons three 500 gallon tanks two 150 gallon tanks.	None
2. 1000 gallon unleaded gasoline storage tank	401 KAR 59:050
3. The following lubricating oil storage tanks: four 15,000 gallon tanks four 11,500 gallon tanks.	None
4. Emergency electrical generator.	None
5. Sodium sulfate injection system	401 KAR 61:020 or 401 KAR 59:010
6. Infrequent evaporation of boiler cleaning solutions.	
7. Paved and unpaved roadways	401 KAR 63:010
8. Infrequent burning of deminimis quantities of used oil for energy recovery.	
9. Cooling towers 1 and 2 subject	401 KAR 63:010

Tower Number	Maximum Operating Rate (Gallons per Minute)
1	191,000
2	197,000

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS

1. Particulate, sulfur dioxide, nitrogen oxides, and visible (opacity) emissions, as measured by methods referenced in Regulation 401 KAR 50:015, Section 1, shall not exceed the respective limitations specified herein. Compliance with the visible emission limitations for the indirect heat exchanger (emissions unit 01) shall be determined using continuous opacity monitoring data.

SECTION E - SOURCE CONTROL EQUIPMENT OPERATING REQUIREMENTS

1. Pursuant to Regulation 401 KAR 50:055, Section 2(5), at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any emissions unit including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS

1. When continuing compliance is demonstrated by periodic testing or instrumental monitoring, the permittee shall compile records of required monitoring information that include:
   a. Date, place as defined in this permit, and time of sampling or measurements.
   b. Analyses performance dates;
   c. Company or entity that performed analyses;
   d. Analytical techniques or methods used;
   e. Analyses results; and
   f. Operating conditions during time of sampling or measurement;

2. Records of all required monitoring data and support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all reports required by the Division for Air Quality, shall be retained by the permittee for a period of five years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality. [401 KAR 50:035, Permits, Section 7(1)(d)2 and 401 KAR 50:035, Permits, Section 7(2)(c)]

3. In accordance with the requirements of Regulation 401 KAR 50:035, Permits, Section 7(2)(c) the permittee shall allow the Cabinet or authorized representatives to perform the following:
   a. Enter upon the premises where a source is located or emissions-related activity is conducted, or where records are kept;
   b. Have access to and copy, at reasonable times, any records required by the permit:
      i. During normal office hours, and
      ii. During periods of emergency when prompt access to records is essential to proper assessment by the Cabinet;
   c. Inspect, at reasonable times, any facilities, equipment (including monitoring and pollution control equipment), practices, or operations required by the permit. Reasonable times shall include, but are not limited to the following:
      i. During all hours of operation at the source,
      ii. For all sources operated intermittently, during all hours of operation at the source and the hours between 8:00 a.m. and 4:30 p.m., Monday through Friday, excluding holidays, and
      iii. During an emergency; and
   d. Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements. Reasonable times shall include, but are not limited to the following:
      i. During all hours of operation at the source,
      ii. For all sources operated intermittently, during all hours of operation at the source and the hours between 8:00 a.m. and 4:30 p.m., Monday through Friday, excluding holidays, and
      iii. During an emergency.

4. No person shall obstruct, hamper, or interfere with any Cabinet employee or authorized representative while in the process of carrying out official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

5. Summary reports of any monitoring required by this permit, other than continuous emission or opacity monitors, shall be submitted to the Division's Florence Regional Office at least every six (6) months during the life of this permit, unless otherwise stated in this permit. The reports are due within 30 days after the end of each six month reporting period which commences on the initial issuance date of this permit. The permittee may shift to semi-annual reporting on a calendar year basis upon approval of the regional office. If calendar year reporting is approved, the semi-annual reports are due January 30th and July 30th of each year. Data from the continuous emission and opacity monitors shall be reported to the Technical Services Branch in accordance with the requirements of Regulation 401 KAR 59:005, General Provisions, Section 3(3). All reports shall be certified by a responsible official pursuant to Section 6(1) of Regulation 401 KAR 50:035, Permits. All deviations from permit requirements shall be clearly identified in the reports.

6. a. In accordance with the provisions of Regulation 401 KAR 50:055, Section 1 the owner or operator shall notify the Division for Air Quality's Florence Regional Office concerning startups, shutdowns, or malfunctions as follows:
    1. When emissions during any planned shutdowns and ensuing startups will exceed the standards notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.
    2. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards notification shall be made as promptly as possible by telephone (or other electronic media) and shall cause written notice upon request.

   b. In accordance with the provisions of Regulation 401 KAR 50:035, Section 7(1)(e)2, the owner or operator shall promptly report deviations from permit requirements including those attributed to upset conditions to the Division for Air Quality's Florence Regional Office. Prompt reporting shall be defined as quarterly for any deviation related to emission standards (other than emission exceedances covered by condition 6(a) above) and semi-annually for all other deviations from the permit requirements if not otherwise specified in the permit.

7. Pursuant to Regulation 401 KAR 50:035, Permits, Section 7(2)(b), the permittee shall certify compliance with the terms and conditions contained in this permit, annually on the permit issuance anniversary date or by January 30th of each year if calendar year reporting is approved by the regional office, by completing and returning a Compliance Certification Form (DEP 7007CC) (or an approved alternative) to the Division for Air Quality's Florence Regional Office and the U.S. EPA in accordance with the following requirements:
    a. Identification of each term or condition of the permit that is the basis of the certification;
    b. The compliance status regarding each term or condition of the permit;
    c. Whether compliance was continuous or intermittent; and
    d. The method used for determining the compliance status for the source, currently and over the reporting period, pursuant to 401 KAR 50:035, Section 7(1)(c),(d), and (e).

SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

e.. The certification shall be postmarked by the thirtieth (30) day following the applicable permit issuance anniversary date, or by January 30th of each year if calendar year reporting is approved by the regional office. **Annual compliance certifications should be mailed to the following addresses:**

Division for Air Quality
Florence Regional Office
8020 Ewing Boulevard, Suite 110
Florence, KY 41042

U.S. EPA Region IV
Air Enforcement Branch
Atlanta Federal Center
61 Forsyth St.
Atlanta, GA 30303-8960

Division for Air Quality
Central Files
803 Schenkel Lane
Frankfort, KY 40601

8. In accordance with Regulation 401 KAR 50:035, Section 23, the permittee shall provide the division with all information necessary to determine its subject emissions within thirty (30) days of the date the KEIS emission report is mailed to the permittee.

9. Pursuant to Section VII.3 of the policy manual of the Division for Air Quality as referenced by Regulation 401 KAR 50:016, Section 1(1), results of performance test(s) required by the permit shall be submitted to the division by the source or its representative within forty-five days after the completion of the fieldwork.

SECTION G - GENERAL CONDITIONS

a) General Compliance Requirements

1. The permittee shall comply with all conditions of this permit. Noncompliance shall be (a) violation(s) of State Regulation 401 KAR 50:035, Permits, Section 7(3)(d) and for federally enforceable permits is also a violation of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act) and are grounds for enforcement action including but not limited to the termination, revocation and reissuance, or revision of this permit.

2. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance, shall not stay any permit condition.

3. This permit may be revised, revoked, reopened and reissued, or terminated for cause. The permit will be reopened for cause and revised accordingly under the following circumstances:
   a) If additional applicable requirements become applicable to the source and the remaining permit term is three (3) years or longer. In this case, the reopening shall be completed no later than eighteen (18) months after promulgation of the applicable requirement. A reopening shall not be required if compliance with the applicable requirement is not required until after the date on which the permit is due to expire, unless this permit or any of its terms and conditions have been extended pursuant to Regulation 401 KAR 50:035, Section 12(2)(c);
   b) If any additional applicable requirements of the Acid Rain Program become applicable to the source;
   c) The Division or the U. S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or
   d) The Division or the U. S. EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

   Proceedings to reopen and reissue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Reopenings shall be made as expeditiously as practicable. Reopenings shall not be initiated before a notice of intent to reopen is provided to the source by the Division, at least thirty (30) days in advance of the date the permit is to be reopened, except that the Division may provide a shorter time period in the case of an emergency.

4. The permittee shall furnish to the Division, in writing, information that the Division may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit, or to determine compliance with the permit.

5. The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to the permitting authority.

SECTION G - GENERAL CONDITIONS (CONTINUED)

6. Any condition or portion of this permit which becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this permit.

7. The permittee shall not use as a defense in an enforcement action the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance. [401 KAR 50:035, Permits, Section 7(3)(e)]

8. Except as identified as state-origin requirements in this permit, all terms and conditions contained herein shall be enforceable by the United States Environmental Protection Agency and citizens of the United States.

9. This permit shall be subject to suspension if the permittee fails to pay all emissions fees within ninety (90) days after the date of notice as specified in Regulation 401 KAR 50:038, Section 3(6).

10. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance.

11. This permit shall not convey property rights or exclusive privileges.

12. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by the Kentucky Cabinet for Natural Resources and Environmental Protection or any other federal, state, or local agency.

13. Nothing in this permit shall alter or affect the authority of the U.S. EPA to obtain information pursuant to Federal Statute 42 USC 7414, Inspections, monitoring, and entry.

14. Nothing in this permit shall alter or affect the authority of the U.S. EPA to impose emergency orders pursuant to Federal Statute 42 USC 7603, Emergency orders.

15. Permit shield: Except as provided in State Regulation 401 KAR 50:035, Permits, compliance by the emissions units listed herein with the conditions of this permit shall be deemed to be compliance with all applicable requirements identified in this permit as of the date of the issuance of this permit.

16. The permittee may conduct test burns of materials other than those listed in the permit without a construction permit or a reopening of this permit provided that:
    a) Notification is provided to the Division at least thirty (30) days prior to initiation of the test burning of the material;
    b) The source complies with all applicable regulations and emission limitations;
    c) The permittee agrees to perform such additional testing as may be required by the Division.

SECTION G - GENERAL CONDITIONS (CONTINUED)

17. The permanent burning of any material (addressed in above condition) shall be allowed upon completion of testing provided that:
    a) The Division determines that a permit is not required. Such determination shall be made within sixty (60) days of the application receipt along with the test results;
    b) The permittee keeps records of the date and time of burn;
    c) The permittee keeps records of analysis and feed rate of material;
    d) Burning any of those materials shall not be subject to any new applicable regulation and the source shall comply with all applicable regulation and emission limitations.

18. Fugitive emissions shall be controlled in accordance with Regulation 401 KAR 63:010.

19. Emission limitations listed in this permit shall apply at all times except during periods of startup, shutdown, or malfunctions in accordance with Regulation 401 KAR 50:055, as long as the permittee follows the requirements of Regulation 401 KAR 50:055.

20. Pursuant to Section VII 2.(1) of the policy manual of the Division for Air Quality as referenced by Regulation 401 KAR 50:016, Section 1(1), at least one month prior to the date of the required performance test, the permittee shall complete and return a Compliance Test Protocol (Form DEP 6027) to the Division's Frankfort Central Office. Pursuant to Regulation 401 KAR 50:045, Section 5, the Division shall be notified of the actual test date at least ten (10) days prior to the test.

21. All previously issued construction and operating permits are hereby subsumed into this permit.

b) Permit Expiration and Reapplication Requirements

1. This permit shall remain in effect for a fixed term of five (5) years following the original date of issue. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted to the Division at least six months prior to the expiration date of the permit. Upon a timely and complete application submittal, the authorization to operate within the terms and conditions of this permit, including any permit shield, shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the Division.

c) Permit Revisions

1. A minor permit revision procedure may be used for permit revisions involving the use of economic incentive, marketable permit, emission trading, and other similar approaches, to the extent that these minor permit revision procedures are explicitly provided for in the State Implementation Plan or in applicable requirements and meet the relevant requirements of Regulation 401 KAR 50:035, Section 15.

SECTION G - GENERAL CONDITIONS (CONTINUED)

2. This permit is not transferable by the permittee. Future owners and operators shall obtain a new permit from the Division for Air Quality. The new permit may be processed as an administrative amendment if no other change in this permit is necessary, and provided that a written agreement containing a specific date for transfer of permit responsibility coverage and liability between the current and new permittee has been submitted to the permitting authority thirty (30) days in advance of the transfer.

d) Acid Rain Program Requirements

1. If an applicable requirement of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act) is more stringent than an applicable requirement promulgated pursuant to Federal Statute 42 USC 7651 through 7651o (Title IV of the Act), both provisions shall apply, and both shall be state and federally enforceable.

2. The permittee shall comply with all requirements and conditions of the Title IV, Acid Rain Permit (A-98-016, ATTACHMENT C) and the Phase II permit application (including the Phase II NO_x compliance plan and averaging plan, if applicable) issued for this source. The source shall also comply with all requirements of any revised or future acid rain permit(s) issued to this source..

e) Emergency Provisions

1. An emergency shall constitute an affirmative defense to an action brought for noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or other relevant evidence that:
   a) An emergency occurred and the permittee can identify the cause of the emergency;
   b) The permitted facility was at the time being properly operated;
   c) During an emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and,
   d) The permittee notified the Division as promptly as possible and submitted written notice of the emergency to the Division within two working days after the time when emission limitations were exceeded due to the emergency. The notice shall meet the requirements of Regulation 401 KAR 50:035, Permits, Section 7(1)(e)2, and include a description of the emergency, steps taken to mitigate emissions, and the corrective actions taken. This requirement does not relieve the source of any other local, state or federal notification requirements.

2. Emergency conditions listed in General Condition (e)1., above, are in addition to any emergency or upset provision(s) contained in an applicable requirement.

3. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof.

SECTION G - GENERAL CONDITIONS (CONTINUED)

f) Risk Management Provisions under CAA 112(r)

1. The permittee shall comply with all applicable requirements of 40 CFR Part 68, Risk Management Plan provisions. If required, the permittee shall comply with the Risk Management Program and submit a Risk Management Plan to:

   RMP Reporting Center
   P.O. Box 3346
   Merrifield, VA, 22116-3346

2. If requested, submit additional relevant information by the division or the U.S. EPA.

g) Ozone Depleting Substances

1. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provide for Motor Vehicle Air Conditioners (MVACs) in Subpart B:

   a. Persons opening appliances for maintenance, service, repair, or disposal shall comply with the required practices contained in 40 CFR 82.156.

   b. Equipment used during the maintenance, service, repair, or disposal of appliances shall comply with the standards of recycling and recovery equipments contained in 40 CFR 82.158.

   c. Persons performing maintenance, service, repair, or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.

   d. Persons disposing of small appliances, MVACs, and MVAC-like appliances (as defined in 40 CFR 82.152) shall comply with the record keeping requirements pursuant to 40 CFR 82.166.

   e. Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156.

   f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.

2. If the permittee performs service on motor (fleet) vehicle air conditioners containing ozone-depleting substances, the source shall comply with all applicable requirements as specified in 40 CFR 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.

SECTION H - ALTERNATE OPERATING SCENARIOS

None

SECTION I - COMPLIANCE SCHEDULE

None

Exhibit SLD-3 – Company's Letter to KYDAQ on SO_3 Mitigation

e·on | U.S.

May 12, 2006

E.ON U.S. LLC
Environmental Affairs
220 West Main Street
Louisville, Kentucky 40202
www.eon-us.com

Sharon Dodson
Director Environmental Affairs
T 502-627-2940
F 502-627-2550
sharon.dodson@eon-us.com

John Lyons, Director
Division For Air Quality
803 Schenkel Lane
Frankfort, Kentucky 40601

RE: SO_3 Mitigation Projects

Dear Mr. Lyons:

We appreciate your willingness to meet with us yesterday to discuss the status of our SO_3 mitigation efforts and obtain further clarification on the Cabinet's position on the issue of regulation and control of SO_3 emissions. As you know, as utilities have proceeded to install Selective Catalytic Reduction (SCR) controls in recent years to meet the NO_x reduction requirements of the NO_x SIP Call and Clean Air Interstate Rule (CAIR), there has been increasing scrutiny of SO_3 emissions associated with installation of SCR controls. We understand that the Division For Air Quality has been monitoring developments both at the federal level and in other states with respect to control of SO_3 emissions. Last year DAQ staff contacted E.ON U.S. and a number of other utilities in Kentucky to gather information on SO_3 emissions in an effort to identify instances where mitigation of SO_3 emissions may be required to protect human health and the environment.

As a follow up to those inquiries from DAQ, E.ON U.S. has assessed SO_3 emissions from its plants, undertaken studies to determine effective SO_3 mitigation options, and initiated planning for potential SO_3 mitigation projects at selected plants.

Based on our discussions with you and your staff, we understand that the Division interprets the general duty provisions of KRS Chapter 224 to require necessary and appropriate action on a case by case basis to mitigate SO_3 emissions that could potentially impact human health and the environment. In short, we understand that if a permittee fails to address SO_3 emissions that may

potentially impact human health or the environment, DAQ reserves the right to take appropriate action under KRS Chapter 224 to compel compliance with this requirement. We would appreciate it if you would confirm our understanding of DAQ's interpretation of its authority to control SO_3 emissions as necessary to prevent or mitigate impacts on human health and the environment.

We are committed to working with the Division For Air Quality in a responsible manner to meet the air quality requirements of KRS Chapter 224 and applicable regulations. We will continue to keep you and your staff informed on the status of our SO_3 mitigation efforts.

Sincerely,

Sharon L. Dodson, Director
Environmental Affairs

cc: Diana Andrews, Assistant Director

Exhibit SLD-4 – KYDAQ SO_3 Mitigation Response Letter

ERNIE FLETCHER
GOVERNOR

LAJUANA S. WILCHER
SECRETARY

COMMONWEALTH OF KENTUCKY
ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION FOR AIR QUALITY
803 SCHENKEL LN
FRANKFORT, KY 40601-1403

May 19, 2006

Ms. Sharon L Dodson, Director
Environmental Affairs
E.ON U.S. LLC
220 West Main Street
Louisville, Kentucky 40202

Dear Ms. Dodson:

In response to your letter of May 12, 2006, the Division for Air Quality wishes to confirm the position taken by the Division at our meeting on May 11, 2006, with regard to SO_3 emissions from electric generating units in general and Trimble County Unit 1 in particular. Your letter accurately characterizes the concern we have regarding the potential health and environmental impacts that such emissions may pose. KRS 224.10-100, Powers and duties of cabinet, requires that we provide for the prevention, abatement, and control of air pollution. The emissions of SO_3 that may subsequently be converted to a fine acidic mist certainly falls within the purview of this statute. This is especially true given the fact that the stack plumes containing this acid mist have been shown to reach ground level in areas near the affected units. Therefore, it is necessary and appropriate that such emission be controlled.

The Division appreciated the efforts undertaken by E.ON U.S. to address this very significant issue in a proactive manner which will further the prevention or mitigation of impacts on human health and the environment. Please do keep the Division apprised of the status of these SO_3 mitigation projects as they progress.

Sincerely,

Diana J. Andrews
Assistant Director

DJA/cam

Exhibit SLD-5 – E.W. Brown Station Title V Operating Permit: V-03-034

Commonwealth of Kentucky
Environmental and Public Protection Cabinet
Department for Environmental Protection
Division for Air Quality
803 Schenkel Lane
Frankfort, Kentucky 40601
(502) 573-3382

Title V
AIR QUALITY PERMIT
Issued under 401 KAR 52:020

Permittee Name:	Kentucky Utilities Company
Mailing Address:	One Quality Street, Lexington, Kentucky 40507
Source Name:	E. W. Brown Generating Station
Mailing Address:	815 Dix Dam Road, Harrodsburg, Kentucky 40330
Source Location:	815 Dix Dam Road, Burgin, Kentucky 40310
Permit Number:	V-03-034
Log Number:	50118 (E992)
Review Type:	Title V, Operating, PSD
Source ID #:	21-167-00001
ORIS Code:	1355
Regional Office:	Frankfort Regional Office 643 Teton Trail, Suite #B Frankfort, KY 40601 (502) 564-3358
County:	Mercer
Application Complete Date:	February 14, 1997
Issuance Date:	March 1, 2005
Expiration Date:	March 1, 2010

for **John S. Lyons, Director**
Division for Air Quality

Revised 12/09/02

TABLE OF CONTENTS

SECTION A - PERMIT AUTHORIZATION

Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit has been issued under the provisions of Kentucky Revised Statutes Chapter 224 and regulations promulgated pursuant thereto.

The permittee shall not construct, reconstruct, or modify any affected facilities without first having submitted a complete application and received a permit for the planned activity from the permitting authority, except as provided in this permit or in 401 KAR 52:020, Title V Permits.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by this Cabinet or any other federal, state, or local agency

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 01 (01) - Unit 1 Indirect Heat Exchanger

Description:
Constructed commenced before: 1957
Pulverized coal-fired, dry bottom, wall-fired unit equipped with an electrostatic precipitator and low nitrogen oxides burners
Number two fuel oil used for startup and stabilization
Maximum continuous rating: 1260 mmBtu/hr

Applicable Regulations:
401 KAR 61:015, Existing indirect heat exchangers applicable to an emission unit greater than 250 mmBtu/hr and commenced before August 17, 1971, and
Regulation 7, Prevention and Control of Emissions of Particulate Matter from Combustion of Fuel in Indirect Heat Exchangers

1. **Operating Limitations:**
   None

2. **Emission Limitations:**
   a) Pursuant to 401 KAR 61:015, Section 4 (4), and Regulation No. 7, particulate emissions shall not exceed 0.254 lb/mmBtu based on a three-hour average.

   b) Pursuant to 401 KAR 61:015, Section 4 (4), and Regulation No. 7, emissions shall not exceed forty (40) percent opacity based on a six-minute average except that a maximum of sixty (60) percent opacity is allowed for a period or aggregate of periods of not more than six minutes in any sixty (60) minutes during building a new fire, cleaning the firebox, or blowing soot.

   c) Pursuant to 401 KAR 61:015, Section 5 (1), sulfur dioxide emissions shall not exceed 5.15 lb/mmBtu based on a twenty-four-hour average.

3. **Testing Requirements:**
   a) The permittee shall submit a schedule within six months from the issuance date of this permit to conduct at least one performance test for particulate within one year following the issuance of this permit. Opacity data from the Continuous Opacity Monitor (COM) obtained during the performance test shall be correlated with the particulate emission rate to establish an average opacity level pursuant to Condition 4.d below.

   b) If no additional stack tests are performed pursuant to Condition 4.d below, the permittee shall conduct one performance test for particulate emissions within the third year of the term of this permit to demonstrate compliance with the allowable standard.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

4. **Specific Monitoring Requirements:**

a) Pursuant to 401 KAR 61:005, Section 3 and material incorporated by reference in 401 KAR 52:020, Section 10, continuous emission monitoring systems shall be installed, calibrated, maintained, and operated for measuring sulfur dioxide emissions and either oxygen or carbon dioxide emissions. The continuous emission monitoring systems shall comply with 401 KAR 61:005, Section 3, particularly, performance specification 2 of Appendix B to 40 CFR 60 or 40 CFR 75, Appendix A.

b) In accordance with 401 KAR 61:015, Section 6 (1), the sulfur content of solid fuels, as burned shall be determined in accordance with methods specified by the Division.

c) In accordance with 401 KAR 61:015, Section 6 (3) the rate of each fuel burned shall be measured daily and recorded. The heating value and ash content of fuels shall be ascertained at least once per week and recorded. The average electrical output, and the minimum and maximum hourly generation rate shall be measured and recorded daily.

d) Pursuant to 401 KAR 52:020, Section 10, to meet the periodic monitoring requirement for particulate, the permittee shall use a continuous opacity monitor (COM). The average opacity level, determined pursuant to condition 3.a above, plus 5% opacity, will become the opacity trigger level. Excluding the startup, shut down, and once per hour exemption periods, if any six-minute average opacity (averaged over a period of three hours) value exceeds the opacity trigger level, the permittee shall, as appropriate, initiate an inspection of the control equipment and/or the COM system and make any necessary repairs. If five (5) percent or greater of COM data (excluding startup, shut down, and malfunction periods, data averaged over six minute period) recorded in a calendar quarter show excursions above the opacity trigger level, the permittee shall perform a stack test in the following calendar quarter to demonstrate compliance with the particulate standard while operating at representative conditions. The permittee shall submit a compliance test protocol as required by condition Section G (a) (17) of this permit before conducting the test. The Division may waive this testing requirement upon a demonstration that the cause(s) of the excursions have been corrected, or may require stack tests at any time pursuant to 401 KAR 50:045, Performance tests.

e) Pursuant to material incorporated by reference by 401 KAR 52:020, Section 10, to meet the periodic monitoring requirement for opacity, the permittee shall use a continuous opacity monitor (COM). Excluding the startup, shut down, and once per hour exemption periods, if any six-minute average opacity value exceeds the opacity standard, the permittee shall, as appropriate, initiate an inspection of the control equipment and/or COM system and make any necessary repairs. If any visible emissions are seen, then opacity must be determined using Reference Method 9, or by accepting the concurrent readout from the COM and the permittee shall perform an inspection of the control equipment and make any necessary repairs. If a Method 9 cannot be performed, the reason for not performing the test shall be documented.

f) Pursuant to material incorporated by reference by 401 KAR 52:020, Section 10, to meet the periodic monitoring requirement for sulfur dioxide, the permittee shall use a continuous emission monitor (CEM) Excluding the startup and shut down periods, if any 24-hour average sulfur dioxide value exceeds the standard, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and/or the CEM system and make any necessary repairs or take corrective actions as soon as practicable.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

g) Pursuant to 401 KAR 61:005, Section 3, a continuous monitoring system for opacity shall conform to requirements of this section which include installing, calibrating, operating, and maintaining the continuous monitoring system for accurate opacity measurement, and demonstrating compliance with the applicable Performance Specification 1 of 40 CFR 60, Appendix B.

h) Pursuant to 401 KAR 61:005, Section 3 (5), the Division may provide a temporary exemption from the monitoring and reporting requirements of 401 KAR 61:005, Section 3, for the continuous opacity monitoring system during any period of monitoring system malfunction, provided that the source owner or operator shows, to the Division's satisfaction, that the malfunction was unavoidable and is being repaired as expeditiously as practicable.

5. **Specific Record Keeping Requirements:**

a) Records shall be kept in accordance with 401 KAR 61:005, Section 3(16)(f) and 401 KAR 61:015, Section 6. Percentage of the COM data (excluding startup, shut down, and malfunction data) showing excursions above the opacity standard in each calendar quarter shall be computed and recorded.

b) The permittee shall maintain records of the COM data on a three-hour rolling average basis, the number of excursions above the trigger level, time and date of excursions, opacity value of the excursions, and percentage of the COM data showing excursions from the trigger level in each calendar quarter.

c) The permittee shall maintain the results of all compliance tests.

6. **Specific Reporting Requirements:**

a) Pursuant to 401 KAR 61:005, Section 3 (16), minimum data requirements which follow shall be maintained and furnished in the format specified by the Division:

1. Owners or operators of facilities required to install continuous monitoring systems for sulfur dioxide emissions shall submit for every calendar quarter, a written report of excess emissions and the nature and cause of the excess emissions if known. The averaging period used for data reporting should correspond to the emissions standard averaging period which is a twenty-four (24) hour averaging period. All quarterly reports shall be postmarked by the thirtieth (30th) day following the end of each calendar quarter.

2. For opacity measurements, the summary shall consist of the magnitude in actual percent opacity of six (6) minute averages of opacity greater than the opacity standard in the applicable standard for each hour of operation of the facility. Average values may be obtained by integration over the averaging period or by arithmetically averaging a minimum of four (4) equally spaced, instantaneous opacity measurements per minute. Any time period exempted shall be considered before determining the excess average of opacity.

3. For gaseous measurements the summary shall consist of hourly averages in the units of the applicable standard.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

4. The date and time identifying each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of system repairs or adjustments shall be reported. Proof of continuous monitoring system performance is required as specified by the Division whenever system repairs or adjustments have been made.

5. When no excess emissions have occurred and the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be included in the report.

b) The permittee shall report the number of excursions above the trigger level, date and time of excursions, opacity value of the excursions, and percentage of the COM data showing excursions from the trigger level in each calendar quarter.

7. **Specific Control Equipment Operating Conditions:**

a) The electrostatic precipitator shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance of the electrostatic precipitator shall be maintained.

c) See Section E for further requirements.

SECTION B -EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 02 (02) - Unit 2 Indirect Heat Exchanger

Description:
Construction commenced before: 1963
Pulverized coal-fired, dry bottom, tangentially-fired, equipped with an electrostatic precipitator and low nitrogen oxides burners
Number two fuel oil used for startups and stabilization
Maximum continuous rating: 1733 mmBtu/hr

Applicable Regulations:
401 KAR 61:015, Existing indirect heat exchangers applicable to an emission unit greater than 250 mmBtu/hr and commenced before August 17, 1971

1. **Operating Limitations:**
None

2. **Emission Limitations:**
a) Pursuant to 401 KAR 61:015, Section 4 (1), particulate emissions shall not exceed 0.162 lb/mmBtu based on a three-hour average.

b) Pursuant to 401 KAR 61:015, Section 4 (3), emissions shall not exceed forty (40) percent opacity based on a six-minute average except that a maximum of sixty (60) percent opacity shall be permissible for not more than one (1) six (6) minute period in any sixty (60) consecutive minutes.

c) Pursuant to 401 KAR 61:015, Section 5 (1), sulfur dioxide emissions shall not exceed 5.15 lb/mmBtu based on a twenty-four-hour average.

3. **Testing Requirements:**
a) The permittee shall submit a schedule within six months from the issuance date of this permit to conduct at least one performance test for particulate within one year following the issuance of this permit. Opacity data from the Continuous Opacity Monitor (COM) obtained during the performance test shall be correlated with the particulate emission rate to establish an average opacity level pursuant to Condition 4.d below.

b) If no additional stack tests are performed pursuant to Condition 4.d below, the permittee shall conduct one performance test for particulate emissions within the third year of the term of this permit to demonstrate compliance with the allowable standard.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

4. **Specific Monitoring Requirements:**

a) Pursuant to 401 KAR 61:005, Section 3 and material incorporated by reference in 401 KAR 52:020, Section 10, continuous emission monitoring systems shall be installed, calibrated, maintained, and operated for measuring sulfur dioxide emissions and either oxygen or carbon dioxide emissions. The continuous emission monitoring systems shall comply with 401 KAR 61:005, Section 3, particularly, performance specification 2 of Appendix B to 40 CFR 60 or 40 CFR 75, Appendix A.

b) In accordance with 401 KAR 61:015, Section 6 (1), the sulfur content of solid fuels, as burned shall be determined in accordance with methods specified by the Division.

c) In accordance with 401 KAR 61:015, Section 6 (3) the rate of each fuel burned shall be measured daily and recorded. The heating value and ash content of fuels shall be ascertained at least once per week and recorded. The average electrical output, and the minimum and maximum hourly generation rate shall be measured and recorded daily.

d) Pursuant to 401 KAR 52:020, Section 10, to meet the periodic monitoring requirement for particulate, the permittee shall use a continuous opacity monitor (COM). The average opacity level, determined pursuant to condition 3.a above, plus 5% opacity, will become the opacity trigger level. Excluding the startup, shut down, and once per hour exemption periods, if any six-minute average opacity (averaged over a period of three hours) value exceeds the opacity trigger level, the permittee shall, as appropriate, initiate an inspection of the control equipment and/or the COM system and make any necessary repairs. If five (5) percent or greater of COM data (excluding startup, shut down, and malfunction periods, data averaged over six minute period) recorded in a calendar quarter show excursions above the opacity trigger level, the permittee shall perform a stack test in the following calendar quarter to demonstrate compliance with the particulate standard while operating at representative conditions. The permittee shall submit a compliance test protocol as required by condition Section G (a) (17) of this permit before conducting the test. The Division may waive this testing requirement upon a demonstration that the cause(s) of the excursions have been corrected, or may require stack tests at any time pursuant to 401 KAR 50:045, Performance tests.

e) Pursuant to material incorporated by reference by 401 KAR 52:020, Section 10, to meet the periodic monitoring requirement for opacity, the permittee shall use a continuous opacity monitor (COM). Excluding the startup, shut down, and once per hour exemption periods, if any six-minute average opacity value exceeds the opacity standard, the permittee shall, as appropriate, initiate an inspection of the control equipment and/or COM system and make any necessary repairs. If any visible emissions are seen, then opacity must be determined using Reference Method 9, or by accepting the concurrent readout from the COM and the permittee shall perform an inspection of the control equipment and make any necessary repairs. If a Method 9 cannot be performed, the reason for not performing the test shall be documented.

f) Pursuant to material incorporated by reference by 401 KAR 52:020, Section 10, to meet the periodic monitoring requirement for sulfur dioxide, the permittee shall use a continuous emission monitor (CEM) Excluding the startup and shut down periods, if any 24-hour average sulfur dioxide value exceeds the standard, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and/or the CEM system and make any necessary repairs or take corrective actions as soon as practicable.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

g) Pursuant to 401 KAR 61:005, Section 3, a continuous monitoring system for opacity shall conform to requirements of this section which include installing, calibrating, operating, and maintaining the continuous monitoring system for accurate opacity measurement, and demonstrating compliance with the applicable Performance Specification 1 of 40 CFR 60, Appendix B.

h) Pursuant to 401 KAR 61:005, Section 3 (5), the Division may provide a temporary exemption from the monitoring and reporting requirements of 401 KAR 61:005, Section 3, for the continuous opacity monitoring system during any period of monitoring system malfunction, provided that the source owner or operator shows, to the Division's satisfaction, that the malfunction was unavoidable and is being repaired as expeditiously as practicable.

5. **Specific Record Keeping Requirements:**

a) Records shall be kept in accordance with 401 KAR 61:005, Section 3(16)(f) and 401 KAR 61:015, Section 6. Percentage of the COM data (excluding startup, shut down, and malfunction data) showing excursions above the opacity standard in each calendar quarter shall be computed and recorded.

b) The permittee shall maintain records of the COM data on a three-hour rolling average basis, the number of excursions above the trigger level, time and date of excursions, opacity value of the excursions, and percentage of the COM data showing excursions from the trigger level in each calendar quarter.

c) The permittee shall maintain the results of all compliance tests.

6. **Specific Reporting Requirements:**

a) Pursuant to 401 KAR 61:005, Section 3 (16), minimum data requirements which follow shall be maintained and furnished in the format specified by the Division:

1. Owners or operators of facilities required to install continuous monitoring systems for sulfur dioxide emissions shall submit for every calendar quarter, a written report of excess emissions and the nature and cause of the excess emissions if known. The averaging period used for data reporting should correspond to the emissions standard averaging period which is a twenty-four (24) hour averaging period. All quarterly reports shall be postmarked by the thirtieth (30th) day following the end of each calendar quarter.

2. For opacity measurements, the summary shall consist of the magnitude in actual percent opacity of six (6) minute averages of opacity greater than the opacity standard in the applicable standard for each hour of operation of the facility. Average values may be obtained by integration over the averaging period or by arithmetically averaging a minimum of four (4) equally spaced, instantaneous opacity measurements per minute. Any time period exempted shall be considered before determining the excess average of opacity.

3. For gaseous measurements the summary shall consist of hourly averages in the units of the applicable standard.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

4. The date and time identifying each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of system repairs or adjustments shall be reported. Proof of continuous monitoring system performance is required as specified by the Division whenever system repairs or adjustments have been made.

5. When no excess emissions have occurred and the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be included in the report.

b) The permittee shall report the number of excursions above the trigger level, date and time of excursions, opacity value of the excursions, and percentage of the COM data showing excursions from the trigger level in each calendar quarter.

7. **Specific Control Equipment Operating Conditions:**

a) The electrostatic precipitator shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance of the electrostatic precipitator shall be maintained.

c) See Section E for further requirements.

SECTION B -EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 03 (03) - Unit 3 Indirect Heat Exchanger

Description:
Construction commenced before: July 19, 1971
Pulverized coal-fired unit, dry bottom, tangentially-fired equipped with an electrostatic precipitator and low nitrogen oxides burners
Number two fuel oil used for startups and stabilization
Maximum continuous rating: 4128 mmBtu/hr

Applicable Regulations:
401 KAR 61:015, Existing indirect heat exchangers applicable to an emission unit greater than 250 mmBtu/hr and commenced before August 17, 1971, and
Regulation 7, Prevention and Control of Emissions of Particulate Matter from Combustion of Fuel in Indirect Heat Exchangers

1. **Operating Limitations:**
   None

2. **Emission Limitations:**
   a) Pursuant to 401 KAR 61:015, Section 4 (4), and Regulation No. 7, particulate emissions shall not exceed 0.254 lb/mmBtu based on a three-hour average.

   b) Pursuant to 401 KAR 61:015, Section 4 (4), and Regulation No. 7, emissions shall not exceed forty (40) percent opacity based on a six-minute average except that a maximum of sixty (60) percent opacity is allowed for a period or aggregate of periods of not more than six minutes in any sixty (60) minutes during building a new fire, cleaning the firebox, or blowing soot.

   c) Pursuant to 401 KAR 61:015, Section 5 (1), sulfur dioxide emissions shall not exceed 5.15 lb/mmBtu based on a twenty-four-hour average.

3. **Testing Requirements:**
   a) The permittee shall submit a schedule within six months from the issuance date of this permit to conduct at least one performance test for particulate within one year following the issuance of this permit. Opacity data from the Continuous Opacity Monitor (COM) obtained during the performance test shall be correlated with the particulate emission rate to establish an average opacity level pursuant to Condition 4.d below.

   b) If no additional stack tests are performed pursuant to Condition 4.d below, the permittee shall conduct one performance test for particulate emissions within the third year of the term of this permit to demonstrate compliance with the allowable standard.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

4. Specific Monitoring Requirements:

a) Pursuant to 401 KAR 61:005, Section 3 and material incorporated by reference in 401 KAR 52:020, Section 10, continuous emission monitoring systems shall be installed, calibrated, maintained, and operated for measuring sulfur dioxide emissions and either oxygen or carbon dioxide emissions. The continuous emission monitoring systems shall comply with 401 KAR 61:005, Section 3, particularly, performance specification 2 of Appendix B to 40 CFR 60 or 40 CFR 75, Appendix A.

b) In accordance with 401 KAR 61:015, Section 6 (1), the sulfur content of solid fuels, as burned shall be determined in accordance with methods specified by the Division.

c) In accordance with 401 KAR 61:015, Section 6 (3) the rate of each fuel burned shall be measured daily and recorded. The heating value and ash content of fuels shall be ascertained at least once per week and recorded. The average electrical output, and the minimum and maximum hourly generation rate shall be measured and recorded daily.

d) Pursuant to 401 KAR 52:020, Section 10, to meet the periodic monitoring requirement for particulate, the permittee shall use a continuous opacity monitor (COM). The average opacity level, determined pursuant to condition 3.a above, plus 5% opacity, will become the opacity trigger level. Excluding the startup, shut down, and once per hour exemption periods, if any six-minute average opacity (averaged over a period of three hours) value exceeds the opacity trigger level, the permittee shall, as appropriate, initiate an inspection of the control equipment and/or the COM system and make any necessary repairs. If five (5) percent or greater of COM data (excluding startup, shut down, and malfunction periods, data averaged over six minute period) recorded in a calendar quarter show excursions above the opacity trigger level, the permittee shall perform a stack test in the following calendar quarter to demonstrate compliance with the particulate standard while operating at representative conditions. The permittee shall submit a compliance test protocol as required by condition Section G (a) (17) of this permit before conducting the test. The Division may waive this testing requirement upon a demonstration that the cause(s) of the excursions have been corrected, or may require stack tests at any time pursuant to 401 KAR 50:045, Performance tests.

e) Pursuant to material incorporated by reference by 401 KAR 52:020, Section 10, to meet the periodic monitoring requirement for opacity, the permittee shall use a continuous opacity monitor (COM). Excluding the startup, shut down, and once per hour exemption periods, if any six-minute average opacity value exceeds the opacity standard, the permittee shall, as appropriate, initiate an inspection of the control equipment and/or COM system and make any necessary repairs. If any visible emissions are seen, then opacity must be determined using Reference Method 9, or by accepting the concurrent readout from the COM and the permittee shall perform an inspection of the control equipment and make any necessary repairs. If a Method 9 cannot be performed, the reason for not performing the test shall be documented.

f) Pursuant to material incorporated by reference by 401 KAR 52:020, Section 10, to meet the periodic monitoring requirement for sulfur dioxide, the permittee shall use a continuous emission monitor (CEM) Excluding the startup and shut down periods, if any 24-hour average sulfur dioxide value exceeds the standard, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and/or the CEM system and make any necessary repairs or take corrective actions as soon as practicable.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

g) Pursuant to 401 KAR 61:005, Section 3, a continuous monitoring system for opacity shall conform to requirements of this section which include installing, calibrating, operating, and maintaining the continuous monitoring system for accurate opacity measurement, and demonstrating compliance with the applicable Performance Specification 1 of 40 CFR 60, Appendix B.

h) Pursuant to 401 KAR 61:005, Section 3 (5), the Division may provide a temporary exemption from the monitoring and reporting requirements of 401 KAR 61:005, Section 3, for the continuous opacity monitoring system during any period of monitoring system malfunction, provided that the source owner or operator shows, to the Division's satisfaction, that the malfunction was unavoidable and is being repaired as expeditiously as practicable.

5. **Specific Record Keeping Requirements:**

a) Records shall be kept in accordance with 401 KAR 61:005, Section 3(16)(f) and 401 KAR 61:015, Section 6. Percentage of the COM data (excluding startup, shut down, and malfunction data) showing excursions above the opacity standard in each calendar quarter shall be computed and recorded.

b) The permittee shall maintain records of the COM data on a three-hour rolling average basis, the number of excursions above the trigger level, time and data of excursions, opacity value of the excursions, and percentage of the COM data showing excursions from the trigger level in each calendar quarter.

c) The permittee shall maintain the results of all compliance tests.

6. **Specific Reporting Requirements:**

a) Pursuant to 401 KAR 61:005, Section 3 (16), minimum data requirements which follow shall be maintained and furnished in the format specified by the Division:

1. Owners or operators of facilities required to install continuous monitoring systems for sulfur dioxide emissions shall submit for every calendar quarter, a written report of excess emissions and the nature and cause of the excess emissions if known. The averaging period used for data reporting should correspond to the emissions standard averaging period which is a twenty-four (24) hour averaging period. All quarterly reports shall be postmarked by the thirtieth (30th) day following the end of each calendar quarter.

2. For opacity measurements, the summary shall consist of the magnitude in actual percent opacity of six (6) minute averages of opacity greater than the opacity standard in the applicable standard for each hour of operation of the facility. Average values may be obtained by integration over the averaging period or by arithmetically averaging a minimum of four (4) equally spaced, instantaneous opacity measurements per minute. Any time period exempted shall be considered before determining the excess average of opacity.

3. For gaseous measurements the summary shall consist of hourly averages in the units of the applicable standard.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

4. The date and time identifying each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of system repairs or adjustments shall be reported. Proof of continuous monitoring system performance is required as specified by the Division whenever system repairs or adjustments have been made.

5. When no excess emissions have occurred and the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be included in the report.

b) The permittee shall report the number of excursions above the trigger level, date and time of excursions, opacity value of the excursions, and percentage of the COM data showing excursions from the trigger level range in each calendar quarter.

7. **Specific Control Equipment Operating Conditions:**

a) The electrostatic precipitator shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance of the electrostatic precipitator shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 07 (12, 14, 15) - Coal Handling Operations

Description:
Construction commenced before: 1971

Equipment includes:	Maximum Operating Rate (Tons/hour)
West track hopper operations;	820
Conveyors A-1, E, F, G, and H, and transfer points;	820, each
Conveyors B and J, and transfer points;	1640, each
Control Equipment: equipped with enclosures	
Stockpile	1640

Applicable Regulations:
401 KAR 63:010, Fugitive emissions

1. **Operating Limitations:**

a) Pursuant to 401 KAR 63:010, Section 3, reasonable precautions shall be taken to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, when applicable, but not be limited to the following:

1. Application and maintenance of asphalt, water, or suitable chemicals on roads, material stockpiles, and other surfaces, which can create airborne dusts;

2. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials, or the use of water sprays or other measures to suppress the dust emissions during handling;

b) Pursuant to 401 KAR 63:010, Section 3, discharge of visible fugitive dust emissions beyond the property line is prohibited.

2. **Emission Limitations:**

Pursuant to 401 KAR 63:010, Section 3, reasonable precautions shall be taken to prevent particulate matter from becoming airborne.

3. **Testing Requirements:**

None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

4. **Specific Monitoring Requirements:**
See Section F.

5. **Specific Record Keeping Requirements:**
Records of the coal received and processed (tonnages) shall be maintained.

6. **Specific Reporting Requirements:**
See Section F.

7. **Specific Control Equipment Operating Conditions:**
a) The air pollution control equipment (including but not limited to enclosures for the west track hopper operations, conveyors A-1, E, F, G, H, and transfer points; and including but not limited to compaction and wet suppression for stockpile operations) shall be used as necessary to maintain compliance with applicable requirements, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance and use of the air pollution control equipment (including but not limited to enclosures for the west track hopper operations, conveyors A-1, E, F, G, H, and transfer points; and including but not limited to compaction and wet suppression for stockpile operations) shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emissions Unit: 09 (12, 14) - Coal Handling Operations

Description:
Construction commenced before 1957 and reconstructed in 1993
Equipment includes: coal receiving operations including east track hopper operations and coal conveying and handling operations including conveyors A and transfer points
Construction commenced before 1957
Equipment includes: coal conveying and handling operations including conveyors B, C, and J and transfer points
Control Equipment: equipped with enclosures
Coal stockpile operations include stockpile equipped with measures for compaction and wet suppression.
Maximum Operating Rate: 820 tons/hour, each

Applicable Regulations:
401 KAR 60:005, Standards of performance for coal preparation plants, incorporating by reference 40 CFR 60, Subpart Y for emissions units commenced after October 24, 1974

1. **Operating Limitations:**
   None

2. **Emission Limitations:**
   Pursuant to 401 KAR 60:005, incorporating by reference 40 CFR 60.252, the owner or operator subject to the provisions of this regulation shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.

3. **Testing Requirements:**
   Pursuant to 401 KAR 60:005, incorporating by reference 40 CFR 60.254, EPA Reference Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity at least quarterly.

4. **Specific Monitoring Requirements:**
   The permittee shall inspect the partial enclosures control equipment weekly and make necessary repairs to assure compliance.

5. **Specific Record Keeping Requirements:**
   a) Records of the coal received and processed (tonnages) shall be maintained.

   b) Records of routine and non-routine maintenance shall be maintained.

   c) Records regarding the maintenance and use of the air pollution control equipment (including but not limited to enclosures) shall be maintained.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

6. **Specific Reporting Requirements:**
See Section F.

7. **Specific Control Equipment Operating Conditions:**
a) The air pollution control equipment (enclosures for the east track hopper operations, conveyors A, B, C, J, and transfer points; compaction and wet suppression for stockpile operations) shall be used as necessary to maintain compliance with applicable requirements, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance and use of the air pollution control equipment (enclosures for the east track hopper operations, conveyors A, B, C, J, and transfer points; and compaction and wet suppression for stockpile operations) shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Units: 13 (14) - Coal Handling Operations

Description:
Construction commenced: conveyor D before 1957, conveyors K & K-1 before 1971
Equipment includes:

Point 13 (14) - conveyor D - traveling tripper, and coal bunkers for Units 1 & 2, and transfer points

- conveyor K-1 - upper traveling tripper for Unit 3, Unit 3 coal bunker, and transfer points

- conveyor K - lower traveling tripper for Unit 3, Unit 3 coal bunker, and transfer points

Control equipment: Rotoclone, baghouse, and partial enclosures
Maximum Operating Rate: 820 tons/hour, each point

Applicable Regulations:
401 KAR 61:020, Existing process operations, for emissions unit commenced before July 2, 1975

1. **Operating Limitations:**
None

2. **Emission Limitations:**
a) Pursuant to 401 KAR 61:020, Section 3(2), particulate matter emissions into the open air shall not exceed $[55 (P)^{0.11} - 40]$ pounds per hour based on three-hour average where P is the operating rate in tons per hour.

b) Pursuant to 401 KAR 61:020, Section 3(1)(a), any continuous emission(s) into the open air shall not equal or exceed forty (40) percent opacity based on a six-minute average.

3. **Testing Requirements:**
None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

4. **Specific Monitoring Requirements:**

a) The permittee shall perform a qualitative visual observation of the opacity of emissions from each stack on a weekly basis and maintain a log of the observations. If visible emissions from any stack are seen, the permittee shall determine the opacity of emissions by Reference Method 9 and initiate an inspection of the control equipment for any necessary repairs.

b) The permittee shall monitor the operating rate and hours of operation on a daily basis.

5. **Specific Record Keeping Requirements:**

a) Records of the daily coal processed/burned and hours of operation shall be maintained.

b) Records regarding the maintenance of the rotoclone and baghouse shall be maintained.

6. **Specific Reporting Requirements:**

See Section F.

7. **Specific Control Equipment Operating Conditions:**

a) The rotoclone and baghouse shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 16 (13) - Coal Crushing and Processing

Description:
Construction commenced before: 1957
Equipment includes: four crushers and the crusher house
Control equipment: Enclosures / Filters
Maximum Operating Rate: 1640 tons/hour, total

Applicable Regulations:
401 KAR 61:020, Existing process operations, for emissions unit commenced before July 2, 1975

1. **Operating Limitations:**
None

2. **Emission Limitations:**
a) Pursuant to 401 KAR 61:020, Section 3(2), particulate matter emissions into the open air shall not exceed [55 $(P)^{0.11}$ - 40] pounds per hour based on three-hour average where P is the operating rate in tons per hour.

b) Pursuant to 401 KAR 61:020, Section 3(1)(a), any continuous emission(s) into the open air shall not equal or exceed forty (40) percent opacity based on a six-minute average.

3. **Testing Requirements:**
None

4. **Specific Monitoring Requirements:**
a) The permittee shall perform a qualitative visual observation of the opacity of emissions from each stack on a weekly basis and maintain a log of the observations. If visible emissions from any stack are seen, the permittee shall determine the opacity of emissions by Reference Method 9 and initiate an inspection of the control equipment for any necessary repairs.

b) The permittee shall monitor the operating rate and hours of operation on a daily basis.

5. **Specific Record Keeping Requirements:**
Records of the daily coal processed/burned and hours of operation shall be maintained.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

6. **Specific Reporting Requirements:**
See Section F.

7. **Specific Control Equipment Operating Conditions:**
a) The dust collector shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance of the dust collector shall be maintained.

c) See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 21 (16) - Dry Fly Ash Handling

Description:
Construction commenced: 1982
Equipment includes: Dry fly ash collection system, with a fly ash silo, and pulse jet fabric filter dust collector
Control Equipment: Enclosures / Baghouse
Maximum Operating Rate: 79.5 Tons/hour

APPLICABLE REGULATIONS:
401 KAR 59:010, New process operations, applicable for emissions units commenced on or after July 2, 1975

1. **Operating Limitations:**
   None

2. **Emission Limitations:**
   a) Pursuant to 401 KAR 59:010, Section 3 (2), particulate matter emissions into the open air shall not exceed $[17.31(P)^{0.16}]$ pounds per hour based on a three-hour average where P is the operating rate in tons per hour.

   b) Pursuant to 401 KAR 59:010, Section 3(1)(a), any continuous emission(s) into the open air shall not equal or exceed twenty (20) percent opacity based on a six-minute average.

3. **Testing Requirements:**
   None

4. **Specific Monitoring Requirements:**
   a) The permittee shall perform a qualitative visual observation of the opacity of emissions from each stack on a weekly basis when the unit is operating and maintain a log of the observations. If visible emissions from any stack are seen, the permittee shall determine the opacity of emissions by Reference Method 9 and initiate an inspection of the control equipment for any necessary repairs.

   b) The permittee shall monitor the operating rate and hours of operation on a daily basis.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

5. **Specific Record Keeping Requirements:**
Records of the daily ash processed and hours of operation shall be maintained.

6. **Specific Reporting Requirements:**
See Section F.

7. **Specific Control Equipment Operating Conditions:**
a) The baghouse shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) Records regarding the maintenance of the baghouse shall be maintained.

c) See Section E for further requirements.

SECTION B -EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 23(09), 24(10), 25(08), 26(11) and 29(05) - Oil/Natural Gas-Fired Turbines (Units 5,8,9,10 & 11)

Description:

Construction commenced before: Unit 5 before 2001 (note-this unit only uses natural gas)
Unit 8 before 1995, Unit 9 before 1994, Unit 10 before 1995 & Unit 11 before 1996.

1368 mmBtu/hr rated heat input capacity
ABB GT 11N2 no. two fuel oil/natural gas-fired (natural gas only for unit 5), simple cycle, combustion turbines for electricity generation equipped with water injection for nitrogen oxides emissions control

Applicable Regulations:

401 KAR 60:005, incorporating by reference 40 CFR 60, Subpart GG, Standards of Performance for Stationary Gas Turbines, for emissions unit with a heat input at peak load equal to or greater than 10 mmBtu/hr for which construction commenced after October 3, 1977, and 40 CFR 60, Subpart A, General Provisions.
401 KAR 51:017, Prevention of Significant Deterioration of Air Quality
401 KAR 52:060, incorporating by reference 40 CFR 75, "Continuous Emission Monitoring", as published in the Code of Federal Regulations, 40 CFR Parts 72 to 80, July1, 1999.

1. **Operating Limitations:**

a) The rated capacity at ISO standard conditions, shall not exceed 1368 mmBtu/hr for each turbine in accordance with 401 KAR 51:017. The rated capacity shall be calculated from the fuel usage rate at ISO standard conditions, and corresponding fuel heating value characteristic of the fuel to be combusted. Monthly records of the rated capacity shall be maintained.

b) The maximum annual hours of operation for each turbine shall not exceed 2500 hours, in accordance with Regulation 401 KAR 51:017. The permittee shall maintain a monthly log of all hours of operation of the turbine, for any consecutive twelve (12) month period.

2. **Emission Limitations:**

a) 1. Pursuant to 401 KAR 60:005 incorporating by reference 40 CFR 60.332, and 401 KAR 51:017, nitrogen oxide emissions from each turbine shall not exceed 65 ppm by volume at 15 percent oxygen and on a dry basis when burning number two fuel oil. (Except unit 5 see table). Compliance shall be assured by following the alternate method approved in 40 CFR 75, in lieu of the water-to-fuel monitoring system or using a CEMS. Compliance with 40 CFR 75 Appendix E shall assure compliance with 40 CFR 60 Subpart GG.

2. Pursuant to 401 KAR 60:005 incorporating by reference 40 CFR 60.332, and 401 KAR 51:017, nitrogen oxide emissions from each turbine shall not exceed 42 ppm by volume at 15 percent oxygen and on a dry basis when burning natural gas. (Except unit 5; see table). Compliance shall be assured by following the alternate method approved in 40 CFR 75, in lieu of the water-to-fuel monitoring system or using a CEMS. Compliance with 40 CFR 75 Appendix E shall assure compliance with 40 CFR 60 Subpart GG.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

2. Emission Limitations continued:

KU Unit#	Limit for NOx (NG)	Limit for NOx (Fuel Oil
Unit 5	25 ppm	NA
Unit 8	42 ppm	65 ppm
Unit 9	42 ppm	65 ppm
Unit 10	42 ppm	65 ppm
Unit 11	42 ppm	65 ppm

b) Pursuant to 401 KAR 60:005 incorporating by reference 40 CFR 60.333, and 401 KAR 51:017 the fuel sulfur content and corresponding sulfur dioxide emissions shall not exceed the standards set forth below:

Number of Turbines Operational	Maximum Allowable Percent by Weight Sulfur in the Fuel	Maximum Allowable Sulfur Dioxide Emissions
6 or less	0.30	444 pounds per hour per turbine
7	0.26	444 pounds per hour per turbine

The permittee may assure compliance with the corresponding sulfur dioxide allowable emission rate by calculation using representative fuel analysis, and hourly fuel consumption data from the continuous monitoring system. Formula: Pounds (lbs) per hour sulfur dioxide when combusting number two fuel oil = gallons per hour fuel oil x density in pounds per gallon (about 7.05 lb/gallon) x percent sulfur/100 x 2.00 lbs sulfur dioxide per lb sulfur (emission factor from ABB Vendor); or lbs per hour sulfur dioxide when combusting natural gas = million cubic feet (MMCF) natural gas per hour x 0.6 lb/MMCF (AP-42).

c) Pursuant to 401 KAR 51:017, the carbon monoxide emissions for each turbine shall not exceed 75 pounds per hour and 93.8 tons per year. Formula: lbs per hour carbon monoxide emissions when combusting number two fuel oil = gallons per hour fuel oil x 0.00715 lbs/gallon (emission factor from ABB Vendor); or lbs per hour carbon monoxide emissions when combusting natural gas = MMCF natural gas per hour x 43 lb/MMCF (AP-42). (Tons per year = lbs per hour x hours of operation per year divided by 2000 lbs/ton). Excluding the startup and shut down periods, if any 3-hour rolling average carbon monoxide value exceeds the permit limit, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and complete necessary process repairs or take corrective action as soon as practicable.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

2. Emission Limitations continued:

d) Pursuant to 401 KAR 51:017, particulate emissions for each turbine shall not exceed 67 pounds per hour and 83.8 tons per year. Formula: lbs per hour particulate emissions when combusting number two fuel oil = gallons per hour fuel x 0.00638 lbs/gallon (emission factor from ABB Vendor); or lbs per hour particulate emissions when combusting natural gas = MMCF natural gas per hour x 20.3 lbs/MMCF (AP-42). (Tons per year = lbs per hour x hours of operation per year divided by 2000 lbs/ton)

e) Pursuant to 401 KAR 51:017, volatile organic compound emissions for each turbine shall not exceed 20.4 pounds per hour and 25.5 tons per year. Formula: lbs per hour volatile organic compound emissions when combusting number two fuel oil = gallons per hour fuel x 0.00194 lbs/gallon (emission factor from ABB Vendor); or lbs per hour volatile organic compound emissions when combusting natural gas = MMCF natural gas per hour x 12.6 lbs/MMCF (KYEIS factor; no data given in 10/96 AP-42). (Tons per year = lbs per hour x hours of operation per year divided by 2000 lbs/ton)

f) Pursuant to 401 KAR 51:017, beryllium emissions for each turbine shall not exceed 3.37E-03 pound per hour and 4.21E-03 ton per year. Formula: lbs per hour beryllium emissions when combusting number two fuel oil = gallons per hour fuel x 3.22E-07 lbs/gallon (emission factor from EPA document on Toxic Air Pollutants number EPA450/2-88-006a); no emission factor available for beryllium when combusting natural gas - beryllium emissions when combusting natural gas are not expected to be significant.

3. Testing Requirements:

a) Pursuant to 401 KAR 60:005, incorporating by reference 40 CFR 60.8(b)3, the owner or operator shall compute the NOx and SO2 emissions of the fuel being fired by Division approved alternate procedures as listed in Appendix D and E of 40 CFR 75.

b) Pursuant to 401 KAR 60:005, incorporating by reference 40 CFR 60.335(b), in conducting performance tests required by 40 CFR 60.8, the owner or operator shall use the Administrator approved alternate procedures as provided for in 40 CFR 60.8(b)3.

c) The owner or operator shall determine compliance with the nitrogen oxides and sulfur dioxide standards in accordance with Appendix D and E of 40 CFR 75.

d) Pursuant to 401 KAR 60:005, incorporating 40 CFR 60.335(d), the owner or operator shall determine compliance with the sulfur content standard as follows: ASTM D 2880-71 shall be used to determine the sulfur content of liquid fuels and ASTM D 1072-80, D 3031-81, D 4084-82, or D 3246-81 shall be used for the sulfur content of gaseous fuels. The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel gases. Therefore, dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the approval of the Division.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

e) To meet the requirements of 40 CFR 60.334(b), the owner or operator shall use the methods specified in 40 CFR 60.335(a) and (d) to determine the nitrogen and sulfur contents of the fuel being burned. The analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency.

f) The permittee shall conduct at least one performance test for nitrogen oxides by the start of the fourth year of this permit. Also, see General Condition G(a)17.

4. **Specific Monitoring Requirements:**

a) Pursuant to 401 KAR 59:005, Section 4(9)(b) and in accordance with 401 KAR 52:020, Section 10, and 401 KAR 52:060, Acid Rain, incorporating by reference 40 CFR 75, the Division has approved an alternate procedure which shall be used in lieu of Continuous Emissions Monitors (CEM) to determine NOx, SO2, and CO2 emissions. The nitrogen oxides alternate shall be used as the indicator of continuous compliance with the nitrogen oxides emission limit. Excluding the startup and shut down periods, if any 3-hour rolling average exceeds the nitrogen oxides emission limitation, the permittee shall initiate an investigation of the cause of the exceedance and complete the necessary control device or process repairs or take corrective action as soon as practicable. If a unit's operations exceed the level required to be a peaking unit, install and certify a continuous NOx emission monitoring system no later than December 31 of the following calendar year. [40 CFR 75: 12 (d) (2)]

b) The alternate method for CEMS approved in 40 CFR 75, Appendix E, shall be used in lieu of the water-to-fuel monitoring system to monitor nitrogen oxide emissions. Compliance with 40 CFR 75, Appendix E, shall assure compliance with 40 CFR 60, Subpart GG.

c) The Division approved alternate system for measuring oxygen levels shall be installed, calibrated, maintained, and operated in accordance with manufacturer's instructions.

d) The owner or operator shall install, calibrate, operate, test, and monitor all monitoring systems and monitoring devices in accordance with all of the requirements of 40 CFR 75.

e) Pursuant to 401 KAR 52:020, Section 10, the permittee shall monitor the fuel consumption, the hours of operation and power output (in MW) daily for each emission unit.

f) Pursuant to 401 KAR 52:060, Acid Rain, incorporating 40 CFR 75, Appendix D, the owner or operator of any stationary turbine shall monitor sulfur content of the fuel being fired in the turbine. The frequency of determination of these values shall be as specified in 40 CFR 75 Appendix D. (Custom fuel monitoring schedule Appendix D, Tables D-4 & D-5) If pipeline natural gas is being used, vendor certification of sulfur content shall be accepted as fulfilling this requirement.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

g) Pursuant to 401 KAR 52:020, Section 10, incorporating 40 CFR 75, to meet the periodic monitoring requirement for carbon dioxide the permittee shall use the approved alternate procedure of 40 CFR 75, Appendix G in lieu of a continuous emission monitor (CEM).

5. **Specific Record Keeping Requirements:**

a) Pursuant to 401 KAR 59:005, Section 3, the owner or operator of the gas turbine shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems and devices; and all other information required by 401 KAR 59:005 recorded in a permanent form suitable for inspection.

b) Records, including those documenting the results of each compliance test, and all other records and reports required by this permit shall be maintained.

c) Pursuant to 401 KAR 59:005, Section 3, the owner or operator of the unit shall maintain the records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the emissions unit, any malfunction of the air pollution control equipment; or any period during which a continuous monitoring system or monitoring device is inoperative.

d) The permittee shall maintain a log of all sulfur content measurements as required in the approved custom fuel sulfur-monitoring plan (Condition 4(f) above).

e) Records of the daily natural gas (million standard cubic feet) and/or number two fuel oil (gallons) combusted shall be maintained for any consecutive twelve (12) month period.

f) The permittee shall maintain a daily log of all hours of operation and power output (in MW) for each combustion turbine, for any consecutive twelve (12) month period.

g) Records regarding the maintenance and operation/use of the water injection control system for nitrogen oxides emissions shall be maintained.

6. **Specific Reporting Requirements:**

a) Pursuant to 401 KAR 59:005, Section 3, minimum data requirements which follow shall be maintained and furnished in the format specified by the Division. Owners or operators of facilities required to install continuous monitoring systems or employ Division approved alternate procedures which shall be used in lieu of Continuous Emissions Monitor (CEMs) shall submit for every calendar quarter a written report of excess emissions (as defined in applicable sections) to the Division. All quarterly reports shall be postmarked by the thirtieth (30th) day following the end of each calendar quarter and shall include the following information:

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

1) The magnitude of the excess emissions computed in accordance with 401 KAR 59:005, Section 4(8), any conversion factors used, and the date and time of commencement and completion of each time period of excess emissions.

2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the emissions unit. The nature and cause of any malfunction (if known), the corrective action taken or preventive measures adopted.

3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

4) When no excess emissions have occurred or the CEMs or the alternate emissions procedure used in lieu of CEMs have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

b) The alternate method for CEMs approved in 40 CFR 75, Appendix E, shall be used for reporting excess emissions of nitrogen oxides. Compliance with 40 CFR 75, Appendix E, shall assure compliance with 40 CFR 60, Subpart GG.

c) Pursuant to 401 KAR 60:005, incorporating by reference 40 CFR 60.334(c), excess emissions of sulfur dioxide are defined as any daily period during which the sulfur content of the fuel being fired in the gas turbine(s) exceeds the limitations set forth in Subsection 2, Emission Limitations.

7. **Specific Control Equipment Operating Conditions:**

a) The water injection control system for nitrogen oxides emissions shall be used/operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) See Section E for further requirements.

SECTION B -EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emissions Unit: 27 (06), and 28 (07) - Oil/Natural Gas-Fired Turbines (Units 06, & 07)

Description:
Construction commenced before: Unit 6 before 1999
Unit 7 before 1999
1678 mmBtu/hr rated heat input capacity
ABB GT 24 number two fuel oil/natural gas-fired, simple cycle, combustion turbines for electricity generation equipped with water injection for nitrogen oxides emissions control

Applicable Regulations:
401 KAR 60:005, incorporating by reference 40 CFR 60, Subpart GG, Standards of Performance for Stationary Gas Turbines, for emissions unit with a heat input at peak load equal to or greater than 10 mmBtu/hr for which construction commenced after October 3, 1977, and 40 CFR 60, Subpart A, General Provisions.
401 KAR 51:017, Prevention of significant deterioration of air quality
401 KAR 52:060, incorporating by reference 40 CFR 75, "Continuous Emission Monitoring", as published in the Code of Federal Regulations, 40 CFR Parts 72 to 80, July1, 1999.

1. **Operating Limitations:**

a) The rated capacity at ISO standard conditions, shall not exceed 1678 mmBtu/hr for each turbine in accordance with 401 KAR 51:017. The rated capacity shall be calculated from the fuel usage rate at ISO standard conditions, and corresponding fuel heating value characteristic of the fuel to be combusted. Monthly records of the rated capacity shall be maintained.

b) The maximum annual hours of operation for each turbine shall not exceed 2500 hours, in accordance with 401 KAR 51:017. The permittee shall maintain a monthly log of all hours of operation of the turbine, for any consecutive twelve (12) month period.

2. **Emission Limitations:**

a) 1. Pursuant to 401 KAR 60:005 incorporating by reference 40 CFR 60.332, and 401 KAR 51:017, nitrogen oxide emissions from each turbine shall not exceed 42 ppm by volume at 15 percent oxygen and on a dry basis when burning number two fuel oil. Compliance shall be assured by following the alternate method approved in 40 CFR 75, in lieu of the water-to-fuel monitoring system or using a CEMS. Compliance with 40 CFR 75 Appendix E shall assure compliance with 40 CFR 60 Subpart GG.

2. Pursuant to 401 KAR 60:005 incorporating by reference 40 CFR 60.332, and 401 KAR 51:017, nitrogen oxide emissions from each turbine shall not exceed 25 ppm by volume at 15 percent oxygen and on a dry basis when burning natural gas. Compliance shall be assured by following the alternate method approved in 40 CFR 75, in lieu of the water-to-fuel monitoing system or using a CEMS. Compliance with 40 CFR 75 Appendix E shall assure compliance with 40 CFR 60 Subpart GG.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

2. **Emission Limitations continued:**

b) Pursuant to 401 KAR 60:005 incorporating by reference 40 CFR 60.333, and 401 KAR 51:017 the fuel sulfur content and corresponding sulfur dioxide emissions shall not exceed the standards set forth below:

Number of Turbines Operational	Maximum Allowable Percent by Weight Sulfur in the Fuel	Maximum Allowable Sulfur Dioxide Emissions
6 or less	0.26	666 pounds per hour per turbine
7	0.23	666 pounds per hour per turbine

The permittee may assure compliance with the corresponding sulfur dioxide allowable emission rate by calculation using representative fuel analysis, and hourly fuel consumption data from the continuous monitoring system. Formula: Pounds (lbs) per hour sulfur dioxide when combusting number two fuel oil = gallons per hour fuel oil x density in pounds per gallon (about 7.05 lb/gallon) x percent sulfur/100 x 2.00 lbs sulfur dioxide per lb sulfur (emission factor from ABB Vendor); or lbs per hour sulfur dioxide when combusting natural gas = million cubic feet (MMCF) natural gas per hour x 0.6 lb/MMCF (AP-42).

c) Pursuant to 401 KAR 51:017, the carbon monoxide emissions for each turbine shall not exceed 112.5 pounds per hour and 140.63 tons per year. Formula: lbs per hour carbon monoxide emissions when combusting number two fuel oil = gallons per hour fuel oil x 0.00715 lbs/gallon (emission factor from ABB Vendor); or lbs per hour carbon monoxide emissions when combusting natural gas = MMCF natural gas per hour x 43 lb/MMCF (AP-42). (Tons per year = lbs per hour x hours of operation per year divided by 2000 lbs/ton). Excluding the startup and shut down periods, if any 3-hour rolling average carbon monoxide value exceeds the permit limit, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and complete necessary process repairs or take corrective action as soon as practicable.

d) Pursuant to 401 KAR 51:017, particulate emissions for each turbine shall not exceed 100.5 pounds per hour and 125.63 tons per year. Formula: lbs per hour particulate emissions when combusting number two fuel oil = gallons per hour fuel x 0.00638 lbs/gallon (emission factor from ABB Vendor); or lbs per hour particulate emissions when combusting natural gas = MMCF natural gas per hour x 20.3 lbs/MMCF (AP-42). (Tons per year = lbs per hour x hours of operation per year divided by 2000 lbs/ton)

e) Pursuant to 401 KAR 51:017, volatile organic compound emissions for each turbine shall not exceed 30.6 pounds per hour and 38.25 tons per year. Formula: lbs per hour volatile organic compound emissions when combusting number two fuel oil = gallons per hour fuel x 0.00194 lbs/gallon (emission factor from ABB Vendor); or lbs per hour volatile organic compound emissions when combusting natural gas = MMCF natural gas per hour x 12.6 lbs/MMCF (KYEIS factor; no data given in 10/96 AP-42). (Tons per year = lbs per hour x hours of operation per year divided by 2000 lbs/ton)

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

2. **Emission Limitations continued:**

f) Pursuant to 401 KAR 51:017, beryllium emissions shall not exceed 5.057E-03 pound per hour and 6.35E-03 ton per year. Formula: lbs per hour beryllium emissions when combusting number two fuel oil = gallons per hour fuel x 3.22E-07 lbs/gallon (emission factor from EPA document on Toxic Air Pollutants number EPA450/2-88-006a); no emission factor available for beryllium when combusting natural gas - beryllium emissions when combusting natural gas are not expected to be significant.

3. **Testing Requirements:**

a) Pursuant to 401 KAR 60:005, incorporating by reference 40 CFR 60.8(b)3, the owner or operator shall compute the NOx and SO2 emissions of the fuel being fired by Division approved alternate procedures as listed in Appendix D and E of 40 CFR 75.

b) Pursuant to 401 KAR 60:005, incorporating by reference 40 CFR 60.335(b), in conducting performance tests required by 40 CFR 60.8, the owner or operator shall use the Administrator approved alternate procedures as provided for in 40 CFR 60.8(b)3.

c) The owner or operator shall determine compliance with the nitrogen oxides and sulfur dioxide standards in accordance with Appendix D and E of 40 CFR 75.

d) Pursuant to 401 KAR 60:005, incorporating 40 CFR 60.335(d), the owner or operator shall determine compliance with the sulfur content standard as follows: ASTM D 2880-71 shall be used to determine the sulfur content of liquid fuels and ASTM D 1072-80, D 3031-81, D 4084-82, or D 3246-81 shall be used for the sulfur content of gaseous fuels. The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel gases. Therefore, dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the approval of the Division.

e) To meet the requirements of 40 CFR 60.334(b), the owner or operator shall use the methods specified in 40 CFR 60.335(a) and (d) to determine the nitrogen and sulfur contents of the fuel being burned. The analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency.

f) The permittee shall conduct at least one performance test for nitrogen oxides by the start of the fourth year of this permit. Also, see General Condition G(a)17.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

4. **Specific Monitoring Requirements:**

a) Pursuant to 401 KAR 59:005, Section 4(9)(b) and in accordance with 401 KAR 52:020, Section 10, and 401 KAR 52:060, Acid Rain, incorporating by reference 40 CFR 75, the Division has approved an alternate procedure which shall be used in lieu of Continuous Emissions Monitors (CEM) to determine NOx, SO2, and CO2 emissions. The nitrogen oxides alternate shall be used as the indicator of continuous compliance with the nitrogen oxides emission limit. Excluding the startup and shut down periods, if any 3-hour rolling average exceeds the nitrogen oxides emission limitation, the permittee shall initiate an investigation of the cause of the exceedance and complete the necessary control device or process repairs or take corrective action as soon as practicable. If a unit's operations exceed the level required to be a peaking unit, install and certify a continuous NOx emission monitoring system no later than December 31 of the following calendar year. [40 CFR 75: 12 (d) (2)]

b) The alternate method for CEMS approved in 40 CFR 75, Appendix E, shall be used in lieu of the water-to-fuel monitoring system to monitor nitrogen oxide emissions. Compliance with 40 CFR 75, Appendix E, shall assure compliance with 40 CFR 60, Subpart GG.

c) The Division approved alternate system for measuring oxygen levels shall be installed, calibrated, maintained, and operated in accordance with manufacturer's instructions.

d) The owner or operator shall install, calibrate, operate, test, and monitor all monitoring systems and monitoring devices in accordance with all of the requirements of 40 CFR 75.

e) Pursuant to 401 KAR 52:020, Section 10, the permittee shall monitor the fuel consumption, the hours of operation and power output (in MW) daily for each emission unit.

f) Pursuant to 401 KAR 52:060, Acid Rain, incorporating 40 CFR 75, Appendix D, the owner or operator of any stationary turbine shall monitor sulfur content of the fuel being fired in the turbine. The frequency of determination of these values shall be as specified in 40 CFR 75 Appendix D. (Custom fuel monitoring schedule Appendix D, Tables D-4 & D-5) If pipeline natural gas is being used, vendor certification of sulfur content shall be accepted as fulfilling this requirement.

g) Pursuant to 401 KAR 52:020, Section 10, incorporating 40 CFR 75, to meet the periodic monitoring requirement for carbon dioxide the permittee shall use the approved alternate procedure of 40 CFR 75, Appendix G in lieu of a continuous emission monitor (CEM).

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

5. Specific Record Keeping Requirements:

a) Pursuant to 401 KAR 59:005, Section 3, the owner or operator of the gas turbine shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems and devices; and all other information required by 401 KAR 59:005 recorded in a permanent form suitable for inspection.

b) Records, including those documenting the results of each compliance test, and all other records and reports required by this permit shall be maintained.

c) Pursuant to 401 KAR 59:005, Section 3, the owner or operator of the unit shall maintain the records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the emissions unit, any malfunction of the air pollution control equipment; or any period during which a continuous monitoring system or monitoring device is inoperative.

d) The permittee shall maintain a log of all sulfur content measurements as required in the approved custom fuel sulfur-monitoring plan (Condition 4(f) above).

e) Records of the daily natural gas (million standard cubic feet) and/or number two fuel oil (gallons) combusted shall be maintained for any consecutive twelve (12) month period.

f) The permittee shall maintain a daily log of all hours of operation and power output (in MW) for each combustion turbine, for any consecutive twelve (12) month period.

g) Records regarding the maintenance and operation/use of the water injection control system for nitrogen oxides emissions shall be maintained.

6. Specific Reporting Requirements:

a) Pursuant to 401 KAR 59:005, Section 3, minimum data requirements which follow shall be maintained and furnished in the format specified by the Division. Owners or operators of facilities required to install continuous monitoring systems or employ Division approved alternate procedures which shall be used in lieu of Continuous Emissions Monitor (CEMs) shall submit for every calendar quarter a written report of excess emissions (as defined in applicable sections) to the Division. All quarterly reports shall be postmarked by the thirtieth (30th) day following the end of each calendar quarter and shall include the following information:

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

1) The magnitude of the excess emissions computed in accordance with the Regulation 401 KAR 59:005, Section 4(8), any conversion factors used, and the date and time of commencement and completion of each time period of excess emissions.

2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the emissions unit. The nature and cause of any malfunction (if known), the corrective action taken or preventive measures adopted.

3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

b) The alternate method for CEMs approved in 40 CFR 75, Appendix E, shall be used for reporting excess emissions of nitrogen oxides. Compliance with 40 CFR 75, Appendix E, shall assure compliance with 40 CFR 60, Subpart GG.

c) Pursuant to 401 KAR 60:005, incorporating by reference 40 CFR 60.334(c), excess emissions of sulfur dioxide are defined as any daily period during which the sulfur content of the fuel being fired in the gas turbine(s) exceeds the limitations set forth in Subsection 2, Emission Limitations.

7. **Specific Control Equipment Operating Conditions:**

a) The water injection control system for nitrogen oxides emissions shall be used/operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

b) See Section E for further requirements.

SECTION C - INSIGNIFICANT ACTIVITIES

The following listed activities have been determined to be insignificant activities for this source pursuant to 401 KAR 52:020, Section 6. While these activities are designated as insignificant the permittee must comply with the applicable regulation and some minimal level of periodic monitoring may be necessary.

	Description	Generally Applicable Regulation
1.	Station fuel-oil tanks (2 with capacity 1,100,000 gal/each)	401 KAR 59:010
2.	Fuel-oil tanks (various installed before 1973)	401 KAR 61:020
3.	Lubricating-oil tanks (2 with capacity 9000 gal/each)	401 KAR 61:020
4.	Unleaded gasoline storage tanks	401 KAR 63:010
5.	Lubricating-oil tank (1 with capacity 6500 gal/each)	401 KAR 61:020
6.	Lubricating-oil tanks (2 with capacity 3600 gal/each)	401 KAR 61:020
7.	Lubricating-oil tanks (4 with capacity 3500 gal/each)	401 KAR 61:020
8.	Lubricating-oil tanks (2 with capacity 3000 gal/each)	401 KAR 61:020
9.	Cooling Towers	401 KAR 63:010
10.	SO_3, sulfur trioxide, injection system	401 KAR 61:020
11.	Thermal evaporation of boiler cleaning wastes	401 KAR 61:020
12.	Off-specification used oil fuel burned for energy recovery	401 KAR 61:020
13.	Paved and unpaved roadways and parking areas	401 KAR 63:010
14.	Natural gas-fired fuel heaters (less than 7mmBtu/hr each)	401 KAR 59:010
15.	Emergency generators	401 KAR 59:010
16.	Kerosene tank (1 with capacity 500 gal/each)	401 KAR 61:020
17.	Distillate oil and/or propane coal belt heaters	401 KAR 59:010

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS

1. Particulate, sulfur dioxide, nitrogen oxides, carbon monoxide, volatile organic compounds, beryllium, and visible (opacity) emissions, as measured by methods referenced in Regulation 401 KAR 50:015, Section 1, shall not exceed the respective limitations specified herein.

2. As required by Section 1b of the Cabinet Provisions and Procedures for Issuing Title V Permits incorporated by reference in 401 KAR 52:020, Section 26; compliance with annual emissions and processing limitations contained in this permit, shall be based on emissions and processing rates for any twelve (12) consecutive months.

SECTION E - CONTROL EQUIPMENT CONDITIONS

Pursuant to Regulation 401 KAR 50:055, Section 2(5), at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any emissions unit including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS

1. Pursuant to Section 1b (IV)1 of the Cabinet Provisions and Procedures for Issuing Title V Permits incorporated by reference in 401 KAR 52:020, Section 26, when continuing compliance is demonstrated by periodic testing or instrumental monitoring, the permittee shall compile records of required monitoring information that include:
   a. Date, place as defined in this permit, and time of sampling or measurements;
   b. Analyses performance dates;
   c. Company or entity that performed analyses;
   d. Analytical techniques or methods used;
   e. Analyses results; and
   f. Operating conditions during time of sampling or measurement.

2. Records of all required monitoring data and support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all reports required by the Division for Air Quality, shall be retained by the permittee for a period of five years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality [Sections 1b(IV) 2 and 1a(8) of the Cabinet Provisions and Procedures for Issuing Title V Permits incorporated by reference in 401 KAR 52:020, Section 26].

3. In accordance with the requirements of 401 KAR 52:020 Section 3(1)h the permittee shall allow authorized representatives of the Cabinet to perform the following during reasonable times:
   a. Enter upon the premises to inspect any facility, equipment (including air pollution control equipment), practice, or operation;
   b. To access and copy any records required by the permit:
   c. Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements.
   d. Reasonable times are defined as during all hours of operation, during normal office hours; or during an emergency.

4. No person shall obstruct, hamper, or interfere with any Cabinet employee or authorized representative while in the process of carrying out official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

5. Summary reports of any monitoring required by this permit, other than continuous emission or opacity monitors, shall be submitted to the Regional Office listed on the front of this permit at least every six (6) months during the life of this permit, unless otherwise stated in this permit. For emission units that were still under construction or which had not commenced operation at the end of the 6-month period covered by the report and are subject to monitoring requirements in this permit, the report shall indicate that no monitoring was performed during the previous six months because the emission unit was not in operation [Section 1b (V)1 of the Cabinet Provisions and Procedures for Issuing Title V Permits incorporated by reference in 401 KAR 52:020, Section 26].

SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

6. The semi-annual reports are due by January 30th and July 30th of each year. Data from the continuous emission and opacity monitors shall be reported to the Technical Services Branch in accordance with the requirements of 401 KAR 59:005, General Provisions, Section 3(3). All reports shall be certified by a responsible official pursuant to 401 KAR 52:020 Section 23. All deviations from permit requirements shall be clearly identified in the reports.

7. In accordance with the provisions of 401 KAR 50:055, Section 1 the owner or operator shall notify the Regional Office listed on the front of this permit concerning startups, shutdowns, or malfunctions as follows:
   a. When emissions during any planned shutdowns and ensuing startups will exceed the standards notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.
   b. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards notification shall be made as promptly as possible by telephone (or other electronic media) and shall submit written notice upon request.

8. The owner or operator shall report emission related exceedances from permit requirements including those attributed to upset conditions (other than emission exceedances covered by Section F.7. above) to the Regional Office listed on the front of this permit within 30 days. Other deviations from permit requirements shall be included in the semiannual report required by Section F.6 [Section 1b (V) 3, 4. of the Cabinet Provisions and Procedures for Issuing Title V Permits incorporated by reference in 401 KAR 52:020, Section 26].

9. Pursuant to 401 KAR 52:020, Permits, Section 21, the permittee shall annually certify compliance with the terms and conditions contained in this permit, by completing and returning a Compliance Certification Form (DEP 7007CC) (or an alternative approved by the regional office) to the Regional Office listed on the front of this permit and the U.S. EPA in accordance with the following requirements:
   a. Identification of the term or condition;
   b. Compliance status of each term or condition of the permit;
   c. Whether compliance was continuous or intermittent;
   d. The method used for determining the compliance status for the source, currently and over the reporting period.
   e. For an emissions unit that was still under construction or which has not commenced operation at the end of the 12-month period covered by the annual compliance certification, the permittee shall indicate that the unit is under construction and that compliance with any applicable requirements will be demonstrated within the timeframes specified in the permit.

SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

f. The certification shall be postmarked by January 30th of each year. Annual compliance certifications should be mailed to the following addresses:

Division for Air Quality
Frankfort Regional Office
643 Teton Trail, Suite B
Frankfort, KY 40601

U.S. EPA Region IV
Air Enforcement Branch
Atlanta Federal Center
61 Forsyth St.
Atlanta, GA 30303-8960

Division for Air Quality
Central Files
803 Schenkel Lane
Frankfort, KY 40601

10. In accordance with 401 KAR 52:020, Section 22, the permittee shall provide the Division with all information necessary to determine its subject emissions within thirty (30) days of the date the KYEIS emission survey is mailed to the permittee.

11. Pursuant to Section VII (3) of the policy manual of the Division for Air Quality as referenced in 401 KAR 50:016, Section 1(1), results of performance test(s) required by the permit shall be submitted to the Division by the source or its representative within forty-five days after the completion of the fieldwork.

SECTION G - GENERAL CONDITIONS

(a) General Compliance Requirements

1. The permittee shall comply with all conditions of this permit. Noncompliance shall be a violation of 401 KAR 52:020 and of the Clean Air Act and is grounds for enforcement action including but not limited to termination, revocation and reissuance, revision or denial of a permit [Section 1a, 3 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

2. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance, shall not stay any permit condition [Section 1a, 6 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

3. This permit may be revised, revoked, reopened and reissued, or terminated for cause in accordance with 401 KAR 52:020, Section 19. The permit will be reopened for cause and revised accordingly under the following circumstances:
   a. If additional applicable requirements become applicable to the source and the remaining permit term is three (3) years or longer. In this case, the reopening shall be completed no later than eighteen (18) months after promulgation of the applicable requirement. A reopening shall not be required if compliance with the applicable requirement is not required until after the date on which the permit is due to expire, unless this permit or any of its terms and conditions have been extended pursuant to 401 KAR 52:020, Section 12;
   b. The Cabinet or the U. S. EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements;
   c. The Cabinet or the U. S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit;
   d. If any additional applicable requirements of the Acid Rain Program become applicable to the source.

   Proceedings to reopen and reissue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Reopenings shall be made as expeditiously as practicable. Reopenings shall not be initiated before a notice of intent to reopen is provided to the source by the Division, at least thirty (30) days in advance of the date the permit is to be reopened, except that the Division may provide a shorter time period in the case of an emergency.

4. The permittee shall furnish information upon request of the Cabinet to determine if cause exists for modifying, revoking and reissuing, or terminating the permit; or compliance with the conditions of this permit [Section 1a, 7,8 of the Cabinet Provisions and Procedures for Issuing Title V Permits incorporated by reference in 401 KAR 52:020, Section 26].

5. The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such facts or corrected information to the permitting authority [401 KAR 52:020, Section 7(1)].

SECTION G - GENERAL CONDITIONS (CONTINUED)

6. Any condition or portion of this permit which becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this permit [Section 1a, 14 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

7. The permittee shall not use as a defense in an enforcement action the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance [Section 1a, 4 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

8. Except for requirements identified in this permit as state-origin requirements, all terms and conditions shall be enforceable by the United States Environmental Protection Agency and citizens of the United States [Section 1a, 15 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

9. This permit shall be subject to suspension if the permittee fails to pay all emissions fees within 90 days after the date of notice as specified in 401 KAR 50:038, Section 3(6) [Section 1a, 10 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

10. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance [401 KAR 52:020, Section 11(3)(b)].

11. This permit does not convey property rights or exclusive privileges [Section 1a, 9 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

12. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by the Kentucky Cabinet for Natural Resources and Environmental Protection or any other federal, state, or local agency.

13. Nothing in this permit shall alter or affect the authority of U.S. EPA to obtain information pursuant to Federal Statute 42 USC 7414, Inspections, monitoring, and entry [401 KAR 52:020, Section 11(3)(d)].

14. Nothing in this permit shall alter or affect the authority of U.S. EPA to impose emergency orders pursuant to Federal Statute 42 USC 7603, Emergency orders [401 KAR 52:020, Section 11(3)(a)].

15. This permit consolidates the authority of any previously issued PSD, NSR, or Synthetic minor source preconstruction permit terms and conditions for various emission units and incorporates all requirements of those existing permits into one single permit for this source.

SECTION G - GENERAL CONDITIONS (CONTINUED)

16. Pursuant to 401 KAR 52:020, Section 11, a permit shield shall not protect the owner or operator from enforcement actions for violating an applicable requirement prior to or at the time of issuance. Compliance with the conditions of a permit shall be considered compliance with:
    (a) Applicable requirements that are included and specifically identified in the permit and
    (b) Non-applicable requirements expressly identified in this permit.

17. Pursuant to Section VII 2.(1) of the policy manual of the Division for Air Quality as referenced by 401 KAR 50:016, Section 1.(1), at least one month prior to the date of the required performance test, the permittee shall complete and return a Compliance Test Protocol (Form DEP 6027) to the Division's Frankfort Central Office. Pursuant to 401 KAR 50:045, Section 5, the Division shall be notified of the actual test date at least ten (10) days prior to the test.

(b) Permit Expiration and Reapplication Requirements

1. This permit shall remain in effect for a fixed term of five (5) years following the original date of issue. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted to the Division at least six months prior to the expiration date of the permit. Upon a timely and complete submittal, the authorization to operate within the terms and conditions of this permit, including any permit shield, shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the Division [401 KAR 52:020, Section 12].

2. The authority to operate granted shall cease to apply if the source fails to submit additional information requested by the Division after the completeness determination has been made on any application, by whatever deadline the Division sets [401 KAR 52:020 Section 8(2)].

(c) Permit Revisions

1. A minor permit revision procedure may be used for permit revisions involving the use of economic incentive, marketable permit, emission trading, and other similar approaches, to the extent that these minor permit revision procedures are explicitly provided for in the SIP or in applicable requirements and meet the relevant requirements of 401 KAR 52:020, Section 14(2).

2. This permit is not transferable by the permittee. Future owners and operators shall obtain a new permit from the Division for Air Quality. The new permit may be processed as an administrative amendment if no other change in this permit is necessary, and provided that a written agreement containing a specific date for transfer of permit responsibility coverage and liability between the current and new permittee has been submitted to the permitting authority within ten (10) days following the transfer.

SECTION G - GENERAL CONDITIONS (CONTINUED)

(d) Construction, Start-Up, and Initial Compliance Demonstration Requirements

N/A

(e) Acid Rain Program Requirements

1. If an applicable requirement of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act) is more stringent than an applicable requirement promulgated pursuant to Federal Statute 42 USC 7651 through 7651o (Title IV of the Act), both provisions shall apply, and both shall be state and federally enforceable.

2. The source shall comply with all requirements and conditions of the Title IV, Acid Rain Permit issued for this source. The source shall also comply with all requirements of any revised or future acid rain permit(s) issued to this source.

(f) Emergency Provisions

1. Pursuant to 401 KAR 52:020 Section 24(1), an emergency shall constitute an affirmative defense to an action brought for the noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or relevant evidence that:
   a. An emergency occurred and the permittee can identify the cause of the emergency;
   b. The permitted facility was at the time being properly operated;
   c. During an emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
   d. Pursuant to 401 KAR 52:020, 401 KAR 50:055, and KRS 224.01-400, the permittee notified the Division as promptly as possible and submitted written notice of the emergency to the Division when emission limitations were exceeded due to an emergency. The notice shall include a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
   e. This requirement does not relieve the source of other local, state or federal notification requirements.

2. Emergency conditions listed in General Condition (f)1 above are in addition to any emergency or upset provision(s) contained in an applicable requirement [401 KAR 52:020, Section 24(3)].

3. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof [401 KAR 52:020, Section 24(2)].

SECTION G - GENERAL CONDITIONS (CONTINUED)

(g) Risk Management Provisions

1. The permittee shall comply with all applicable requirements of 401 KAR Chapter 68, Chemical Accident Prevention, which incorporates by reference 40 CFR Part 68, Risk Management Plan provisions. If required, the permittee shall comply with the Risk Management Program and submit a Risk Management Plan to:

   RMP Reporting Center
   P.O. Box 3346
   Merrifield, VA, 22116-3346

2. If requested, submit additional relevant information to the Division or the U.S. EPA.

(h) Ozone depleting substances

1. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
   a. Persons opening appliances for maintenance, service, repair, or disposal shall comply with the required practices contained in 40 CFR 82.156.
   b. Equipment used during the maintenance, service, repair, or disposal of appliances shall comply with the standards for recycling and recovery equipment contained in 40 CFR 82.158.
   c. Persons performing maintenance, service, repair, or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.
   d. Persons disposing of small appliances, MVACs, and MVAC-like appliances (as defined at 40 CFR 82.152) shall comply with the recordkeeping requirements pursuant to 40 CFR 82.166
   e. Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156.
   f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.

2. If the permittee performs service on motor (fleet) vehicle air conditioners containing ozone-depleting substances, the source shall comply with all applicable requirements as specified in 40 CFR 82, Subpart B, *Servicing of Motor Vehicle Air Conditioners*.

SECTION H - ALTERNATE OPERATING SCENARIOS

None

SECTION I - COMPLIANCE SCHEDULE

None

SECTION J -ACID RAIN PERMIT

ACID RAIN PERMIT CONTENTS

1) Statement of Basis

2) SO_2 allowances allocated under this permit and NOx requirements for each affected unit.

3) Comments, notes and justifications regarding permit decisions and changes made to the permit application forms during the review process, and any additional requirements or conditions.

4) The permit application submitted for this source. The owners and operators of the source must comply with the standard requirements and special provisions set forth in the Phase II Application and the Phase II NO_x Compliance Plan.

5) Summary of Actions

1) Statement of Basis:

Statutory and Regulatory Authorities: In accordance with KRS 224.10-100 and Titles IV and V of the Clean Air Act, the Kentucky Environmental and Public Protection Cabinet, Division for Air Quality issues this permit pursuant to Regulations 401 KAR 52:020, Permits, 401 KAR 52:060, Acid Rain Permit, and Federal Regulation 40 CFR Part 76.

PERMIT (Conditions)

Plant Name: E. W. Brown Station
Affected Unit: 1

➢ **SO_2 Allowance Allocations and NO_x Requirements for the affected unit:**

SO_2 Allowances	**Year**				
	2003	2004	2005	2006	2007
Tables 2, 3 or 4 of 40 CFR Part 73	3,066*	3,066*	3,066*	3,066*	3,066*

NO_x Requirements	
NO_x Limits	(i) Pursuant to 40 CFR Part 76, the Kentucky Division for Air Quality approves the NOx emissions averaging plan for this unit. This plan is effective for calendar year 2003 through 2007. Under this plan, this unit's NOx emissions shall not exceed the annual average alternative contemporaneous emissions limitation (ACEL) of 0.50 lb/mmBtu. (ii) Under this plan, the actual Btu-weighted annual average NOx emissions rate for the units in the plan shall be less than or equal to the Btu-weighted annual average NOx emissions rate for the same units had they each been operated, during the same period of time, in compliance with the applicable emissions limitations under 40 CFR Part 76.5, 76.6, or 76.7. If the designated representative demonstrates that the requirement of condition (ii) (as set forth in 40 CFR 76.11(d)(1)(ii)(A)) is met for a year under the plan, then this unit shall be deemed to be in compliance for that year with its alternative contemporaneous annual emissions limitation set in condition (i). In addition to the described NOx compliance plan, this unit shall comply with all other applicable requirements of 40 CFR Part 76, including the duty to reapply for a NOx compliance plan and requirements covering excess emissions.

* The number of allowances allocated to Phase II affected units by the U.S. EPA may change under 40 CFR part 73. In addition, the number of allowances actually held by an affected source in a unit account may differ from the number allocated by U. S. EPA. Neither of the aforementioned conditions necessitate a revision to the unit SO_2 allowance allocations identified in this permit (See 40 CFR 72.84).

PERMIT (Conditions)

Plant Name: E. W. Brown Station
Affected Unit: 2

➢ **SO_2 Allowance Allocations and NO_x Requirements for the affected unit:**

SO_2 Allowances	**Year**				
	2003	2004	2005	2006	2007
Tables 2, 3 or 4 of 40 CFR Part 73	5,807*	5,807*	5,807*	5,807*	5,807*

NO_x Requirements	
NO_x Limits	(i) Pursuant to 40 CFR Part 76, the Kentucky Division for Air Quality approves the NOx emissions averaging plan for this unit. This plan is effective for calendar year 2003 through 2007. Under this plan, this unit's NOx emissions shall not exceed the annual average alternative contemporaneous emissions limitation (ACEL) of 0.45 lb/mmBtu. (ii) Under this plan, the actual Btu-weighted annual average NOx emissions rate for the units in the plan shall be less than or equal to the Btu-weighted annual average NOx emissions rate for the same units had they each been operated, during the same period of time, in compliance with the applicable emissions limitations under 40 CFR Part 76.5, 76.6, or 76.7. If the designated representative demonstrates that the requirement of condition (ii) (as set forth in 40 CFR 76.11(d)(1)(ii)(A)) is met for a year under the plan, then this unit shall be deemed to be in compliance for that year with its alternative contemporaneous annual emissions limitation set in condition (i). In addition to the described NOx compliance plan, this unit shall comply with all other applicable requirements of 40 CFR Part 76, including the duty to reapply for a NOx compliance plan and requirements covering excess emissions.

* The number of allowances allocated to Phase II affected units by the U.S. EPA may change under 40 CFR part 73. In addition, the number of allowances actually held by an affected source in a unit account may differ from the number allocated by U. S. EPA. Neither of the aforementioned conditions necessitate a revision to the unit SO_2 allowance allocations identified in this permit (See 40 CFR 72.84).

PERMIT (Conditions)

Plant Name: E. W. Brown Station
Affected Unit: 3

➢ **SO_2 Allowance Allocations and NO_x Requirements for the affected unit:**

SO_2 Allowances	**Year**				
	2003	2004	2005	2006	2007
Tables 2, 3 or 4 of 40 CFR Part 73	11,254*	11,254*	11,254*	11,254*	11,254*

NO_x Requirements	
NO_x Limits	(i) Pursuant to 40 CFR Part 76, the Kentucky Division for Air Quality approves the NOx emissions averaging plan for this unit. This plan is effective for calendar year 2003 through 2007. Under this plan, this unit's NOx emissions shall not exceed the annual average alternative contemporaneous emissions limitation (ACEL) of 0.45 lb/mmBtu. (ii) Under this plan, the actual Btu-weighted annual average NOx emissions rate for the units in the plan shall be less than or equal to the Btu-weighted annual average NOx emissions rate for the same units had they each been operated, during the same period of time, in compliance with the applicable emissions limitations under 40 CFR Part 76.5, 76.6, or 76.7. If the designated representative demonstrates that the requirement of condition (ii) (as set forth in 40 CFR 76.11(d)(1)(ii)(A)) is met for a year under the plan, then this unit shall be deemed to be in compliance for that year with its alternative contemporaneous annual emissions limitation set in condition (i). In addition to the described NOx compliance plan, this unit shall comply with all other applicable requirements of 40 CFR Part 76, including the duty to reapply for a NOx compliance plan and requirements covering excess emissions.

* The number of allowances allocated to Phase II affected units by the U.S. EPA may change under 40 CFR part 73. In addition, the number of allowances actually held by an affected source in a unit account may differ from the number allocated by U. S. EPA. Neither of the aforementioned conditions necessitate a revision to the unit SO_2 allowance allocations identified in this permit (See 40 CFR 72.84).

PERMIT (Conditions)

Plant Name: E. W. Brown Station
Affected Unit: 5, 6, 7, 8, 9, 10, & 11

➢ **SO_2 Allowance Allocations and NO_x Requirements for the affected unit:**

SO_2 Allowances	**Year**				
	2003	2004	2005	2006	2007
Tables 2, 3 or 4 of 40 CFR Part 73	0*	0*	0*	0*	0*

NO_x Requirements	
NO_x Limits	N/A**

* For newly constructed units there are no SO_2 allowances allocations per USEPA Acid Rain Program.

** This unit currently does not have applicable NO_x limits set by 40 CFR, part 76.

PERMIT (Conditions)

➢ **Comments, Notes, and Justifications:**

Affected units are one (1) dry bottom wall-fired and two (2) tangentially fired boilers.

The seven (7) combustion turbines, units 5, 6, 7, 8, 9, 10, and 11, currently have no SO_2 allowances allocated by U.S. EPA.

The seven (7) combustion turbines, units 5, 6, 7, 8, 9, 10, and 11, do not have applicable NO_x limits set by 40 CFR part 76.

➢ **Permit Application:**
The Phase II Permit Application, the Phase II NO_x Compliance Plan, and the Phase II NO_x Averaging Plan are all part of this permit and the source must comply with the standard requirements and special provisions set forth in the Phase II Application, the Phase II NO_x Compliance Plan, and the Phase II NO_x Averaging Plan.

➢ **Summary of Actions:**

Previous Actions:

1. Draft Phase II Permit (# AR-96-13) including SO_2 compliance was issued for public comments on September 19, 1996.

2. Final Phase II Permit (# AR-96-13) including SO_2 compliance plan was issued on December 16, 1996.

3. Draft Phase II Permit (# A-98-019) was issued with the 1998 revised SO_2 allowance allocations and NO_x emissions standard for public comment on December 14, 1998.

4. Final Phase II Permit (# A-98-019) that has been issued with the 1998 revised SO_2 allowance allocations and NO_x emissions standard shall become null and void when Proposed Permit Number V-03-034 is issued.

5. Phase II Permit (# A-96-13) is hereby null and void.

Previous Action

Draft Title V with Section J Acid Rain Permit has been advertised for public comment.

Present Action:

Proposed Title V with Acid Rain Permit being issued.

SECTION K – NOx BUDGET PERMIT

1) Statement of Basis

Statutory and Regulatory Authorities: In accordance with KRS 224.10-100, the Kentucky Natural Resources and Environmental Protection Cabinet issues this permit pursuant to 401 KAR 52:020 Title V permits, 401 KAR 51:160, NOx requirements for large utility and industrial boilers, and 40 CFR 97, Subpart C.

2) NO_x Budget Permit Application, Form DEP 7007EE

The NOx Budget Permit application for these electrical generating units was submitted to the Division and received on November 24, 2003. Requirements contained in that application are hereby incorporated into and made part of this NOx Budget Permit. Pursuant to 401 KAR 52:020, Section 3, the source shall operate in compliance with those requirements.

3) Comments, notes, justifications regarding permit decisions and changes made to the permit application forms during the review process, and any additional requirements or conditions.

Affected units are one (1) dry bottom wall fired boiler, two (2) tangentially fired boilers, and seven (7) combustion turbines. Each unit has a capacity to generate 25 megawatts or more of electricity, which is offered for sale. The units use coal, fuel oil, and natural gas as fuel source, and are used as base load and peaking electric generating units.

4) Summary of Actions

The NOx Budget Permit is being issued as part of the initial Title V permit for this source. Public, affected state, and U.S. EPA review will follow procedures specified in 401 KAR 52:100.

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

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	)))))))	CASE NO. 2006-00206

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

Filed: June 23, 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 Case Nos. 2004-00421[1] and 2004-00426[2], the Companies' most recent Environmental Cost Recovery (ECR) applications.

Q. Are you sponsoring any exhibits?

A. Yes. I am sponsoring the following five exhibits:

Exhibit JPM-1	Kentucky Utilities Company's 2006 Environmental Compliance Plan
Exhibit JPM-2	*2006 NO_x Compliance Strategy for E.ON U.S Subsidiaries Kentucky Utilities and Louisville Gas and Electric*
Exhibit JPM-3	Component Cost of Trimble County Unit 2 Air Quality Control System Equipment

[1] In the Matter of: *The Application of Louisville Gas and Electric Company for Approval if 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 Flue Gas Desulfurization Systems and Approval of its 2004 Compliance Plan for Recovery by Environmental Surcharge*

Exhibit JPM-4 *Sargent & Lundy SO_3 Mitigation Study dated March 29, 2006*

Exhibit JPM-5 *2006 SO_3 Mitigation Strategy for Kentucky Utilities and Louisville Gas and Electric*

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to describe the new and additional pollution control projects contained in KU's 2006 Environmental Surcharge Compliance Plan ("2006 Plan"). The 2006 Plan is attached as Exhibit JPM-1 to my testimony and sets forth each new pollution control project for which KU is seeking environmental surcharge recovery. These projects are required to comply with the Clean Air Act as amended ("CAAA"), the Clean Air Interstate Rule ("CAIR"), the Clean Air Mercury Rule ("CAMR"), the Clean Air Visibility Rule ("CAVR") and other environmental requirements that apply to KU facilities used for the production of energy from coal as identified in the testimony of Ms. Dodson. I will outline the planning process and methodologies used in determining the most cost-effective means for meeting these environmental requirements and provide the timeframe for construction as well as the estimated cost of the projects. Additionally, I will present the analysis supporting KU's recommendation to build a selective catalytic reduction system on Ghent Unit 2 for purposes of supporting its request for a certificate of public convenience and necessity

CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY

Q. Is KU requesting a Certificate of Public Convenience and Necessity ("CCN")?

A. Yes. As discussed in the testimony of Mr. Blake, KU is requesting a CCN for Project 26 in Exhibit JPM-1 for the construction of a selective catalytic reduction ("SCR") system on Ghent Unit 2. This project is part of the recommended NO_x compliance plan as outlined in the Companies' *2006 NO_x Compliance Strategy for E.ON U.S. Subsidiaries Kentucky Utilities and Louisville Gas and Electric ("2006 NO_x Compliance Strategy")* attached as Exhibit JPM-2.

Q. What is the 2006 NO_x Compliance Strategy?

A. The Companies have developed a cost-effective strategy for achieving compliance with the environmental regulations restricting NOx emissions through a detailed analysis of various compliance methods.

Q. Please describe the process and methodology used in preparing the 2006 NO_x Compliance Strategy study.

A. The analysis contained in the *2006 NO_x Compliance Strategy* is a result of the Companies' continual environmental compliance review process. The study identifies the least cost present value revenue requirement approach for complying with CAIR which was finalized by the United States Environmental Protection Agency ("USEPA") on March 10, 2005. The study shows that while a combined bank of 6,727 ozone-season NO_x allowances existed as of December 31, 2005, this bank will begin to decline beginning in 2006 and become fully depleted in 2013. Additionally, as a result of CAIR, the Companies will have insufficient annual NO_x allowances beginning in 2009. As identified in the Companies' 2005 Integrated Resource Plan

("IRP") (Case No. 2005-00162[3]) in a report titled *2005 NO_x Compliance Strategy Update for Kentucky Utilities and Louisville Gas and Electric (January 2005)*, the Companies anticipated a declining bank of NO_x allowances that would soon require the addition of new control technologies or the purchase of NO_x allowances or a combination of both.

The *2006 NO_x Compliance Strategy* study identified the construction of an SCR on Ghent Unit 2 as the next step in continued least cost compliance with CAIR. The study utilized 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 to analyze numerous approaches to environmental compliance. The analysis included a multi-year evaluation of various strategies utilizing SCR systems at Ghent Unit 2 and Brown Unit 3 along with purchasing allowances to determine the least cost revenue requirement alternative to mitigate the expected NO_x allowance shortfall. Ghent Unit 2 and Brown Unit 3 were selected as they are the only large coal-fired generating units on the Companies' generation system operating without SCR systems and together account for 27% of the Companies' annual NO_x emissions through 2015.

Q. Is this project required to comply with environmental regulations and permits?

A. Yes. The testimony of Ms. Dotson shows this project is required to comply with CAAA, CAIR and the Ghent Title V Operating permit V-97-025.

[3] In the Matter of: *The 2005 Joint Integrated Resource Plan of Louisville Gas and Electric Company and Kentucky Utilities Company*

Q. What impact has the volatility of the NO_x allowance market had on the decision to purchase allowances?

A. In 2005, the market price for 2006 vintage NO_x allowance ranged from a low of $2,558/ton to a high of $3,658/ton, which represents an increase of 43%. Therefore, complete reliance on the NO_x allowance market significantly exposes the Companies to a volatile and uncertain allowance market. This in turn creates significant price risk to the Companies and their customers. Additionally, the Companies may not be able to purchase allowances from the market. This potential illiquid market, coupled with its price volatility, continues to support the Companies analysis for construction of an SCR.

Q. Please summarize the recommendation in the *2006 NO_x Compliance Strategy* study.

A. The ***2006 NO_x Compliance Strategy* study demonstrates the** least cost alternative to address the 2009 shortfall in NO_x allowances and to comply with CAIR is construction of an SCR at Ghent 2 in 2009. Construction of the SCR will provide the following ratepayer benefits through 2035:

(1) Decreases the present value revenue requirements associated with NO_x compliance by more than $59 million when compared to purchasing allowances;

(2) Reduces, by half, the exposure associated with the historically volatile NO_x allowance market by reducing the anticipated allowance shortfall to approximately 123,000 tons from over 260,000 tons;

(3) Delays the depletion of the Companies' annual NO_x allowance bank by six years (from 2009 to 2015) and thereby reduces ratepayer's exposure to the NO_x allowance market for the same period;

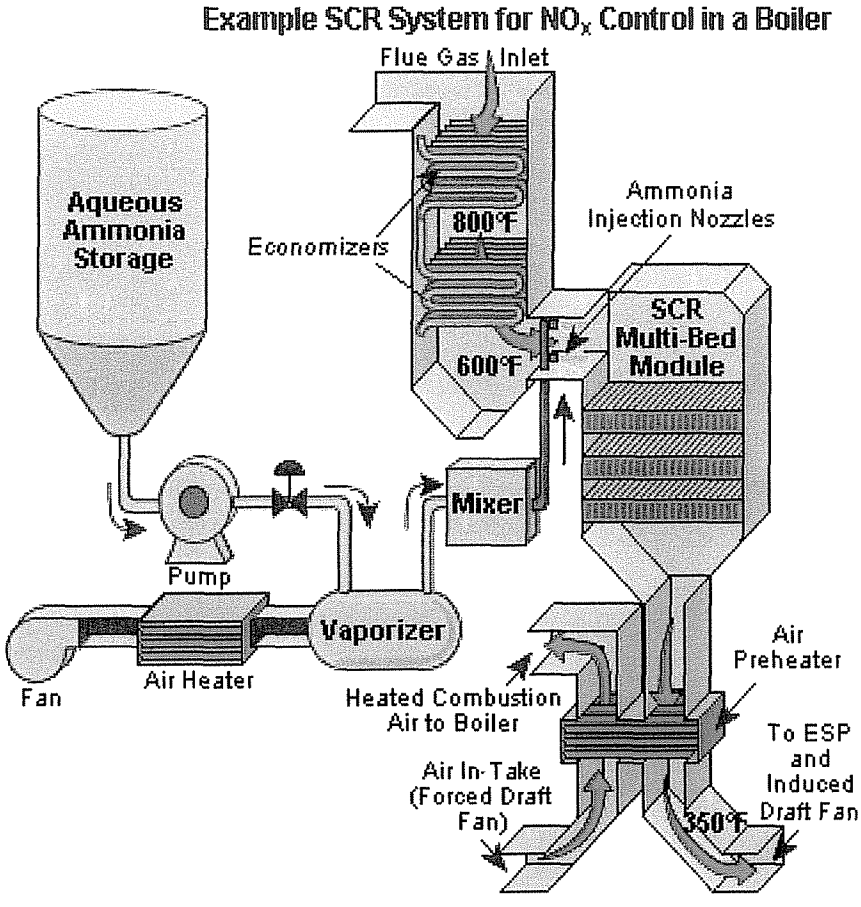
(4) Delays the depletion of the Companies' ozone season NO_x allowance bank from 2014 to 2033 and thereby reduces the ratepayer's exposure to the NO_x allowance market for the same period.

(5) Allows more time and flexibility to evaluate next steps in future NO_x compliance technologies; and

(6) Allows observation of how the NO_x allowance market responds to CAIR.

Q. Please provide a general description of the SCR technology.

A. The purpose of the SCR technology is to reduce emissions of nitrogen oxides or NO_x. Reduction of NO_x on the order of 90% is obtainable via SCR technology. The SCR reduction technology is a process in which ammonia reacts with nitrogen oxides to form molecular nitrogen and water. The catalyst enhances the reactions between the NO_x and ammonia and is usually composed of tungsten and vanadium configured in a plate arrangement. Combustion gases pass through the channels of the honeycomb configuration. Usually there are two or three separate catalyst beds in sequence. As part of the SCR project, low conversion catalyst and sorbent injection technology will be installed to mitigate the high SO_2 to SO_3 conversion problems associated with SCR operation. Generally the best location in a typical boiler is upstream of the air heater and downstream of the economizer, as this offers the best temperature window. An example for illustrative purposes is shown below:



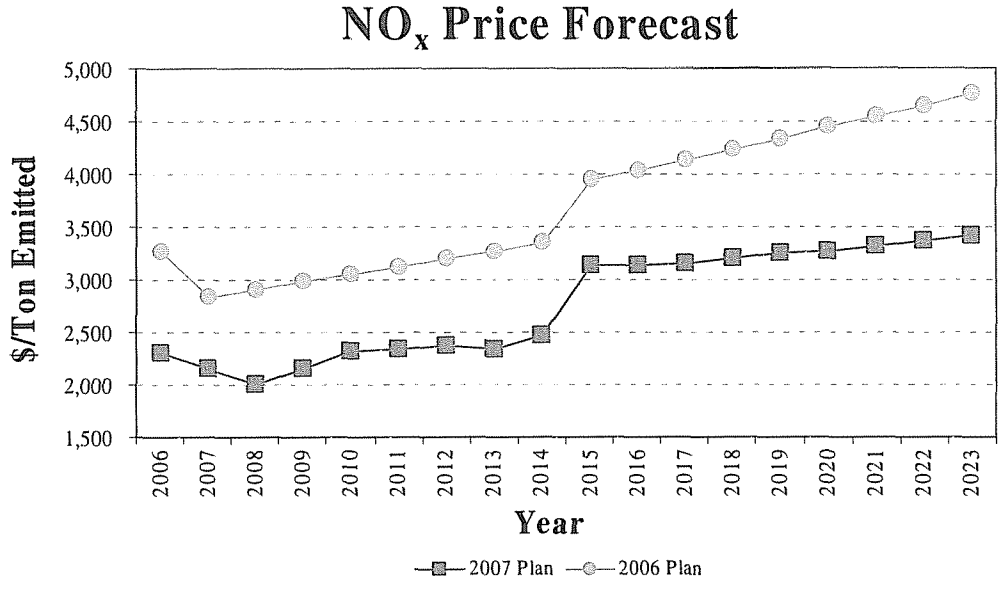
Graphic Source:
www.epa.gov

Q. Please summarize KU's experience with the SCR technology.

A. KU currently has SCRs in operation on Ghent Unit 1, Ghent Unit 3 and Ghent Unit 4. The technology has been an effective and reliable means of removing NO_x emissions on the above KU generating units. For example, during the 2005 ozone season the SCRs on Ghent Unit 1, Ghent Unit 3 and Ghent Unit 4 maintained a 95% or greater availability and removed 0.008, 0.014 and 0.015 (respectively) more pounds of NO_x per mmBtu than was targeted over the same period.

Q. What has changed since this analysis was completed?

A. On May 24, 2006, the Companies adopted a new NO_x forward price curve. A comparison of the 2005 to the newly adopted forward price curve is reflected in the graph below.



Following the NO_x implementation of the CAIR in 2009, "annual" and "ozone season" allowances will be tracked and surrendered separately to the EPA. Due to the relative uncertainty of the annual allowance market, both annual and ozone season allowances are forecasted at parity.

Q. What materially changed in the market to alter the NO_x forward price curve?

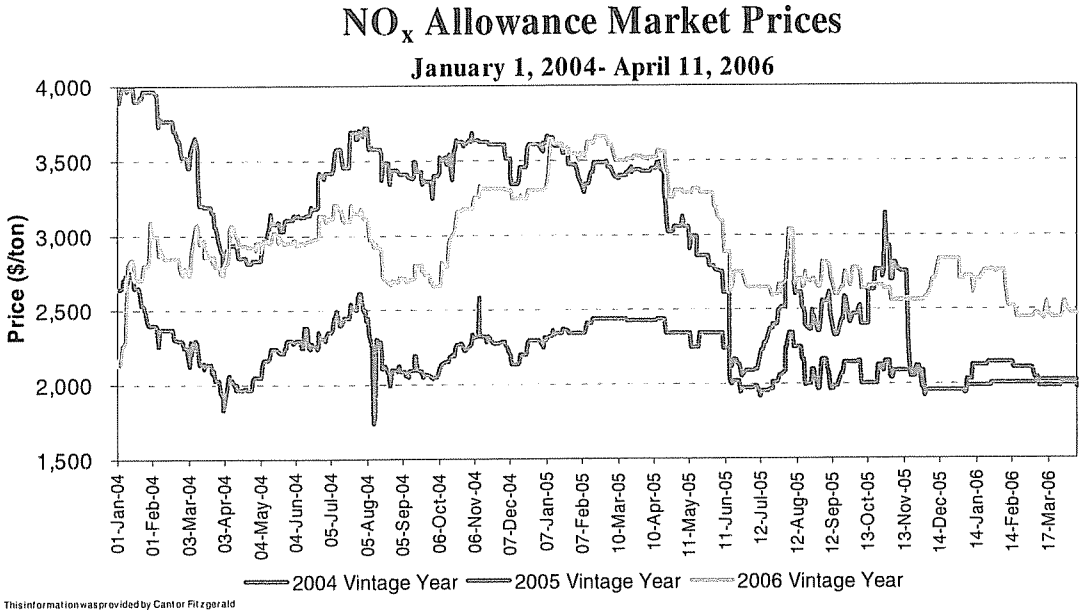
A. An increase in the efficiency of SCR technology constitutes the major assumption change in this year's forecast. Last years forecast assumed 80-85% SCR operational efficiency rates throughout the forecast where the forecast this year increased this assumption to 85-90%. This increase was based on research by Hill & Associate through inquiries with their clients who have installed SCR equipment.

Q. How does the recently adopted NO_x forward price curve impact the Companies *2006 NO_x Compliance Strategy*?

A. The new NO_x forward prices do not impact the least cost recommendation of the 2006 NO_x Compliance Strategy. A NO_x allowance price sensitivity analysis was completed and is contained in the study. The new forecasted NO_x prices remain well above the level required for the "purchase NO_x allowances only" case to be least cost as presented in Exhibit JPM-2. Additionally, the certainty of self-compliance versus the uncertainty of continued market exposure continues to support the construction of the Ghent Unit 2 SCR and minimizes the financial impact to the customer.

Q. What has been the historical volatility of the NO_x allowance market?

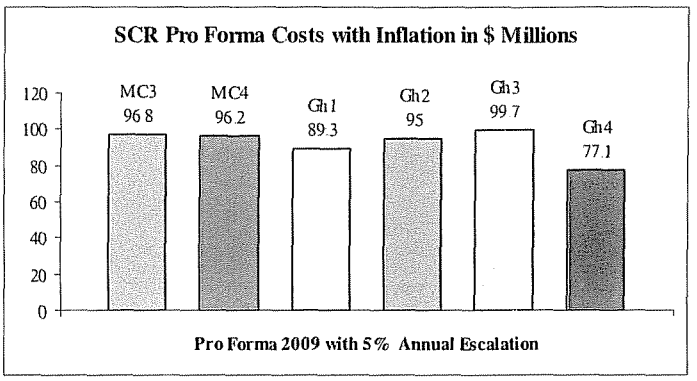
A. In 2005, the market price of a single 2006 vintage ozone season NO_x allowance ranged from a low of $2,558/ton to a high of $3,658/ton, representing an increase of 143%. The graph below clearly displays the historical volatility associated with the NO_x allowance market.



Q. Please summarize the project for which KU is seeking a CCN along with the anticipated costs and expected completion dates.

A. KU is requesting a CCN for the construction of an SCR at Ghent Unit 2 as previously discussed. The anticipated cost of the Ghent Unit 2 SCR is $95 million with an expected in-service date of 2009.

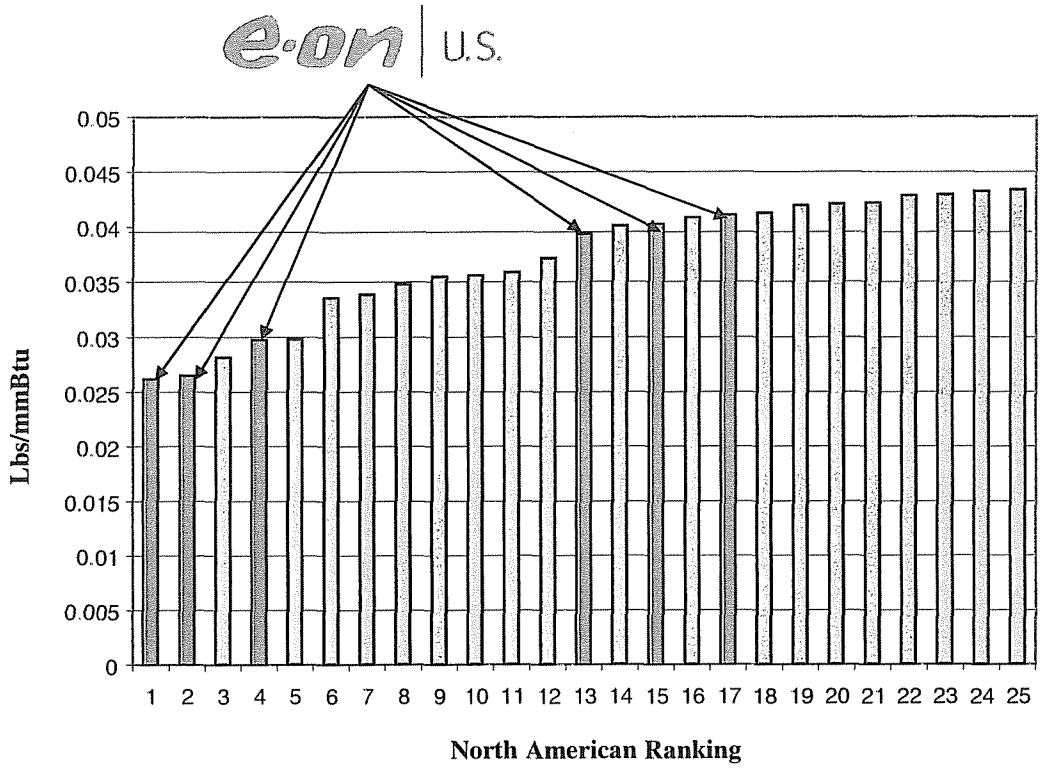
The table below compares the actual cost of the 2000 NO_x compliance plan (including SCR's and supporting systems) constructed from 2000 – 2004 escalated at 5% annually until 2009. The Ghent Unit 2 SCR estimate lies in the range of the escalated cost for the other previously constructed SCRs.



While KU constructed identical SCRs on Ghent Unit 3 and Ghent Unit 4, Ghent Unit 3 was the first SCR constructed and thus accounted for the common ammonia storage system, initial site mobilization, utility relocations, and conceptual engineering.

Q. Describe KU's experience with SCR construction and operation.

A. A Babcock Power Inc. survey of the North American SCRs in operation in the 2005 NO_x Ozone season reflects KU's and LG&E's excellent SCR performance. As measured by the SCR outlet NO_x, KU and LG&E had collectively three out of the top four performing SCRs and all six in the top seventeen. The table below graphically reflects the performance of the top twenty-five SCRs in North America.



2006 ENVIRONMENTAL COMPLIANCE PLAN

Q. Please provide an overview of the projects in KU's 2006 Environmental Compliance Plan.

A. The five projects contained in Exhibit JPM-1 and identified as KU Projects 23 through 27, are required in order for KU to comply with the CAAA, CAIR, CAMR, CAVR (also known as the Regional Haze Rule) and other environmental regulations applicable to KU power plants. The total capital cost of the new and additional projects in the 2006 Plan is estimated to be approximately $325 million.

Q. Please describe KU's 2006 Environmental Compliance Plan as shown in Exhibit JPM-1.

A. The new and additional pollution control projects in KU's Environmental Compliance Plan are shown in Exhibit JPM-1.

Column 1 assigns a number to each project for identification purposes in sequence with the projects from Case No. 93-465[4] (1 through 15), Case No. 2000-439[5] (16 and 17), No. 2002-00146[6] (18) and Case No. 2004-00426[7] (19 through 22).

Column 2 describes the air pollutant or waste / byproduct to be controlled.

Column 3 identifies the pollution control facility that KU plans to upgrade/construct to comply with the environmental regulations identified in Column 5.

Column 4 identifies the specific location of the pollution control facility.

Column 5 identifies the environmental regulation that requires KU to act on the associated project. Ms. Dodson's testimony describes in detail the environmental regulations creating the need for the new project.

Column 6 identifies the environmental permit that demonstrates KU's project satisfies the environmental regulation. Ms. Dodson's testimony describes these environmental permits in further detail.

Column 7 shows anticipated completion date of the specific project.

Column 8 displays the estimated cost of the project.

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[4] In the Mater of: *The Application of Kentucky Utilities Company to Assess a Surcharge Under KRS 278.183 to Recover Cost of Compliance with Environmental Requirements for Coal Combustion Wastes and By-Products*

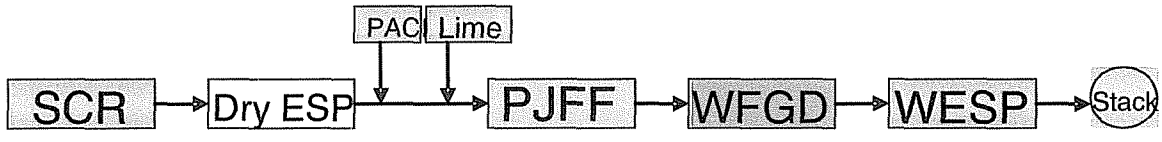
[5] In the Matter of: *The Application of Kentucky Utilities Company for Approval of an Amended Compliance Plan for Purposes of Recovering the Costs of New and Additional Pollution Control Facilities and to Amend Its Environmental Surcharge Tariff*

[6] In the Matter of: *The Application of Kentucky Utilities Company for Approval of Its 2002 Compliance Plan for Recovery by Environmental Surcharges*

[7] 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 if its 2004 Compliance Plan for Recovery by Environmental Surcharge*

Q. Please describe Project 23 in the KU 2006 Environmental Compliance Plan.

A. Project 23 is comprised of the Air Quality Control System ("AQCS") equipment necessary to operate Trimble County Unit 2 within the environmental limitations as set forth in the USEPA Title V Operating Permit: V-02-043. Trimble County Unit 2 was granted a CCN on November 1, 2005 in Case No. 2004-00507[8]. The proposed AQCS equipment for the unit consists of a Selective Catalytic Reduction System ("SCR"), a Dry Electrostatic Precipitator ("DESP"), a pulverized activated carbon ("PAC") injection system for mercury control, a hydrated lime injection system, a Pulse Jet Fabric Filter ("PJFF"), a Limestone Forced Oxidation Wet Flue Gas Desulfurization System ("WFGD"), and a Wet Electrostatic Precipitator ("WESP"). The following provides a brief description of each component of the AQCS associated with Project 23:



Selective Catalytic Reduction System

The SCR is being installed to ensure compliance with NO_x limitations. Situated between the economizer outlet and the air pre-heater inlet, the SCR converts NO_x and ammonia to water and nitrogen. As part of the SCR project, low conversion catalyst and sorbent injection technology will be installed to mitigate the high SO_2 to SO_3 conversion problems associated with SCR operation.

Dry Electrostatic Precipitator

[8] 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*

The DESP is guaranteed to remove 90% of the particulate matter in the flue gas stream. The DESP uses electrical current to charge particles contained in the flue gas by passing them over discharge electrodes. The charged particles are then placed in an electrostatic field that drives them to collection plates (or curtains). After an increment of build-up, the collection surface plates are rapped to knock the particles into a hopper below for final byproduct disposal.

Pulverized Activated Carbon Injection

An activated carbon injection system will be installed to ensure Trimble Co. Unit 2 meets the mercury emission permit limitations across a full range of specified fuels. The PAC will be injected between the DESP and the PJFF. The PAC system is guaranteed to remove 90% of the total mercury and meet the permitted mercury emission limitation of 13×10^{-6} Lb/MWH.

Hydrated Lime Injection

Due to the range of fuels and operating parameters specified there are conditions in which condensation of sulfur trioxide (SO_3) may occur in the PJFF. To address the corrosion and operational issues related to sulfuric acid mist (H_2SO_4) in the PJFF and comply with relevant regulatory obligations, a hydrated lime injection system will be installed. The sorbent will be directly injected in the flue gas stream upstream of the baghouse to chemically react with SO_3 and H_2SO_4 to produce filterable compounds which are then efficiently collected in a baghouse.

Pulse Jet Fabric Filter

Trimble County Unit 2 will be supplied with one PJFF system to control particulate matter and mercury emissions. The PJFF is comprised of two fields each

containing six compartments. Each compartment contains 1,140 bags for a total of 13,680 bags in the PJFF. Flue gas with boiler fly ash, PAC and hydrated lime enter an inlet plenum and is distributed to each of the individual compartments. Flue gas enters the compartments and is evenly distributed via a baffle to the filter bag socks. The particle laden flue gas flows through the sides of the filters (where the particles collect and form a filter cake on the outside of the bags) and clean flue gas exits the top of the filter. In order to clean the filters, a pulse of air is directed into the top of the filters, causing a pressure change and dislodging the cake from the filter so that it falls into the collection hopper for disposal. Each filter bag is supported on a wire cage; the bags and cages are independently suspended from the top of each compartment.

There are numerous filter bag material alternatives for a baghouse. However, due to the high sulfur content of the coal to be burned, a degradation resistant fabric filter material will be required for this particular application.

The PJFF is designed and guaranteed for a filterable particulate matter emission rate of 0.015 lbs/mmBtu. This is tested at the outlet of the PJFF.

Wet Flue Gas Desulphurization

A WFGD system will be installed to ensure permitted sulfur dioxide emission limitations are met. The WFGD is designed to remove 99% of the SO_2 in the flue gas without the added costs of reaction enhancing chemicals. The WFGD is also effective in removing particulate matter, fluorides and oxidized mercury.

The WFGD consists of one absorber tower with two dual flow trays designed to treat 100% of the flue gas generated from the boiler. The absorber contains six

limestone slurry spray levels and is designed to achieve 99% SO_2 removal with five spray levels in service; the sixth spray level is a spare. The WFGD system is designed for 5.5 lbs SO_2/mmBtu loading and 99% SO_2 removal.

Wet Electrostatic Precipitator

A WESP will be installed to ensure compliance with permitted particulate matter emission limitations. The WESP is designed to meet the permitted level of 0.0036 lbs/mmBtu of sulfuric acid at the stack. The WESP is also effective in removing many types of particulates, including acid mist, oil and tar based condensed aerosols, filterable particulates, and oxidized mercury.

A WESP charges particles in the flue gas by passing the particles over energized electrodes. The electrostatically charged particles then flow through an electrostatic field that drives them to oppositely charged collecting plates. The collection plates are continuously irrigated by an overhead washing system to eliminate concerns relating to contaminant build-up. The particle saturated water flows down the plates to the bottom of the WESP and to the reaction tank of the WFGD system.

The WESP is anticipated to have a removal impact on all particulate matter, both filterable and condensable. From the WESP, the flue gas flows to the stack and exits into the atmosphere. At the stack, the guaranteed total (filterable and condensable) particulate matter emission rate is 0.015 lbs/mmBtu.

Exhibit JPM-3 shows the capital costs of each of these components.

Q. Is this project required to comply with environmental regulations and permits?

A. Yes. As shown in the testimony of Ms. Dodson, the project is required to comply with the environmental regulations 401 KAR 51:017, 401 KAR 52:020 and Federal Regulation 40 CFR Part 52.21 to determine the best available emission controls under Prevention of Significant Deterioration requirements. The requirements of the CAAA, CAIR, CAMR and CAVR also necessitate this project as described in Ms. Dodson's testimony.

Q. Is this project a cost-effective means of complying with environmental regulations and permits?

A. Yes, as demonstrated in Case No. 2004-00507[9], the cost associated with Trimble County Unit 2, inclusive of cost associated with the above listed AQCS, is cost-effective.

Unlike previous environmental compliance projects which consisted of retrofits/modifications to existing units, the environmental project for TC2 was evaluated with the cost of the entire facility. Each prospective bidder on the TC2 project was required to construct a unit to meet the environmental requirements mandated by the USEPA. The Title 5 operating permit requirements cannot be met by purchasing allowances since the permit sets a maximum emission rate on the unit. In addition, the requirements are such that there is no fuel switch option other than Gas or Oil which would allow the unit to meet the SO_2 limitations in the permit. Therefore the required back-end environmental technologies were selected by each

[9] 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*

bidder on the TC2 project to most cost effectively comply with the permitting restrictions.

Q. Please describe Project 24 in the KU 2006 Environmental Compliance Plan.

A. Project 24 pertains to the mitigation of SO_3 on generating units where high sulfur coal is burned and NO_x emissions are controlled using an SCR during the ozone season: Ghent 1, Ghent 3, and Ghent 4.

As a result of NO_x mitigation using the SCRs, SO_3 emissions have increased. With the addition of a third layer of SCR catalyst to maintain NO_x emission compliance, SO_3 emission levels further increased.

This unforeseen consequence of NO_x control can cause:

1) Increased air heater fouling and pluggage

2) Sulfuric acid accelerated corrosion in the duct work and balance of pollution control equipment post the SCR and increased levels of sulfuric acid in plant emissions.

3) Highly visible "blue plume" from the chimney discharge

To meet NO_x compliance requirements as set forth in Title V permits and the general duty provisions of KRS Chapter 224 which require the company to mitigate emissions that could potentially impact human health or the environment, the Company has three alternatives:

1) Remove the SCR from service and purchase NO_x allowances

2) Remove the generating unit from service and purchase energy from the market to meet native load obligation

3) Install low SO_2 to SO_3 conversion catalyst and sorbent injection technology.

The installation of low SO_2 to SO_3 conversion catalyst and sorbent injection technology provides the lowest cost and least risk operational alternative for effective NO_x compliance.

As discussed in Exhibit JPM-4 *Sargent & Lundy SO_3 Mitigation Study* and Exhibit JPM-5 *2006 SO_3 Mitigation Strategy for Kentucky Utilities and Louisville Gas and Electric*, sorbent injection is required at Ghent Unit 1, Ghent Unit 3 and Ghent Unit 4 in 2007, 2007 and 2008 respectively. The dates associated with Ghent Units 3-4 correspond with when those units would be switched from the low sulfur fuel currently being burned to a lower cost high sulfur fuel and placing an FGD in-service.

Q. Is this project required to comply with environmental regulations and permits?

A. Yes. The project is required to comply with Ghent Title V Operating Permit V-97-025 and the general duty provisions of KRS Chapter 224 as discussed in Ms. Dodson's testimony.

Q. Is this project a cost-effective means of complying with environmental regulations and permits?

A. Yes. As shown in Exhibit JPM-4 *Sargent & Lundy SO_3 Mitigation Study* and Exhibit JPM-5 *2006 SO_3 Mitigation Strategy for Kentucky Utilities and Louisville Gas and Electric*, the project provides the least cost alternative to mitigate emissions.

Secondly, the reliance on market purchases of energy and/or NO_x allowances to meet Title V operating permit requirements is subject to volatile market conditions and eliminates the Company's ability to be self-compliant to environmental laws and regulations.

Q. Please describe Project 25 in the KU 2006 Environmental Compliance Plan.

A. The USEPA has enacted regulations requiring continuous monitoring of mercury emissions from US power plants. In compliance with the CAMR, mercury monitors are required to be installed and certified prior to January 1, 2009 to facilitate establishment of a full year baseline before January 1, 2010. In order to add mercury monitors, the data loggers and software must be upgraded. This replacement must take place in 2006 to accommodate new recordkeeping and reporting software in 2007 and to be able to certify monitors for mercury in 2008. The new recordkeeping and reporting software also supports the new format changes that the USEPA has instituted for Electronic Data Reporting ("EDR").

Q. Is this project required to comply with environmental regulations and permits?

A. Yes. The project is required to comply with the environmental regulations as set forth in the CAMR and detailed in Ms. Dodson's testimony.

Q. Is this project a cost-effective means of complying with environmental regulations and permits?

A. Yes. Project 25 provides the only means of compliance with the CAMR which requires monitoring, tracking, and reporting of mercury emissions.

Q. Please describe Project 26 in the KU 2006 Environmental Compliance Plan.

A. Project 26 consists of an SCR at Ghent Unit 2 as identified in the document *2006 NO_x Compliance Strategy for E.ON U.S Subsidiaries Kentucky Utilities and Louisville Gas and Electric* and included as Exhibit JPM-2 as discussed previously in the CCN portion of my testimony.

Q. Is this project required to comply with environmental regulations and permits?

A. Yes. The project is required to comply with CAAA and CAIR regulations and Ghent's Title V Operating Permit V-97-025 as sponsored in Ms. Dodson's testimony.

Q. Is this project a cost-effective means of complying with environmental regulations and permits?

A. Yes, addition of an SCR at Ghent Unit 2 is the least cost approach to environmental compliance as the option reduces the present value of revenue requirements by $59 million when compared to purchasing allowances alone.

Q. Please describe Project 27 in the KU 2006 Environmental Compliance Plan.

A. This collection of projects consist of a multi-year plan (2006 – 2008) to maintain the structural integrity of the existing flue gas duct work systems and to maintain the functional operation of the existing DESP. Through normal operation of the units,

the duct work is subject to thinning from corrosion and erosion. Additionally, the DESP's are subject to the same operational effects as the duct work.

Specifically, E.W. Brown Unit 1 DESP inlet duct will be replaced in 2007. E.W. Brown Unit 2 DESP plates and electrodes will be replaced in 2007. E.W. Brown Unit 3 will replace the DESP key interlock system and the induced draft fan inlet duct to the stack.

Q. Is this project required to comply with environmental regulations and permits?

A. Yes. The project is required to comply with E.W. Brown Title V Operating Permit V-03-034 as sponsored in Ms. Dodson's testimony.

Q. Is this project a cost-effective means of complying with environmental regulations and permits?

A. Yes. Maintaining the useful life of existing assets provides a lower cost alternative to complete asset replacement. Therefore, Project 27 provides the least-cost viable approach for the management of flue gas emissions and the collection of flyash.

Q. Describe the changes to the combined Companies' emission allowance positions as it relates to the implementation of CAIR.

A. The SO_2 position is consistent with the 2004 ECR filing (Case No. 2004-00426[10]) which considered the implementation of CAIR and sought approval for the construction of flue gas desulfurization systems at E.W. Brown Units 1-3 and Ghent

[10] 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 if its 2004 Compliance Plan for Recovery by Environmental Surcharge*

Units 2-4 and the purchase (including the inter-company transfer from LG&E) of emission allowances as required to meet Title V operating Permit surrender requirements (KU-Project 22).

The combined Companies' NO_x allowance compliance strategy provides for seeking approval to construct an SCR on Ghent Unit 2 through this filing. The purchase of NO_x allowances, either inter-company from LG&E or market, will fall under the same project as identified above. Inter-company transfers of NO_x allowances will be handled consistent with the KPSC order in Case No. 2004-00426[11] which requires transfers at the weighted average cost. Currently, the combined Companies' NO_x allowance inventory consists solely of USEPA allocated allowances and therefore the cost basis is $0.00.

Q. Does this conclude your testimony?

A. Yes.

[11] 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 if its 2004 Compliance Plan for Recovery by Environmental Surcharge*

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 23rd day of June 2006.

Notary Public (SEAL)

My Commission Expires:

TAMMY J. ELZY
NOTARY PUBLIC
STATE AT LARGE
KENTUCKY
My Commission Expires Nov. 9, 2006

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

KENTUCKY UTILITIES COMPANY

2006 ENVIRONMENTAL COMPLIANCE PLAN

Project	Air Pollutant or Waste/By-Product To Be Controlled	Control Facility	Generating Station	Environmental Regulation*	Environmental Permit*	Actual or Scheduled Completion	Actual (A) or Estimated (E) Project Cost
23	Fly Ash, NO_x, SO_2, SO_3, Hg and Particulate	Selective Catalytic Reduction, Dry Electrostatic Precipitator, Pulverized Activated Carbon Injection, Hydrated Lime Injection, Fabric Filter Bag House, Wet Flue Gas Desulfurization, Wet Electrostatic Precipitator	Trimble Co. Unit 2	Clean Air Act Amendments (1990), Clean Air Interstate Rule (2005), Clean Air Mercury Rule (2005), Clean Air Visibility Rule (2005)	Title V Permit V-02-043 rev. 2	2010	$185.29 M (E)
24	NO_x/SO_3	Sorbent Injection	Ghent Unit 1, Ghent Unit 3, Ghent Unit 4	KRS Chapter 224, General Duty Provisions, Clean Air Interstate Rule (2005)	Title V Permit V-97-025	2008	$39.59 M (E)
25	Mercury	Mercury Monitors	All Plants	Clean Air Mercury Rule (2005)	to be incorporated into Title V Operating Permits before 2009	2007	$2.97 M (E)
26	NO_x	Selective Catalytic Reduction	Ghent Unit 2	Clean Air Act Amendments (1990), Clean Air Interstate Rule (2005)	Title V Permit V-97-025	2009	$95.00 M (E)
27	Fly Ash and Particulate	Electrostatic Precipitators	Brown Plant	401 KAR: 50:055	Title V Permit V-03-034	2008	$2.23 M (E)
							$325.08

**Sponsored by witness Dodson*

Exhibit JPM-2 – *2006 NO_x Compliance Strategy for E.ON U.S. Subsidiaries*
Kentucky Utilities and Louisville Gas and Electric

2006 NO_x Compliance Strategy For

Subsidiaries Kentucky Utilities and Louisville Gas and Electric

May 2006

Nitrogen Oxides Compliance Strategy

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Nitrogen Oxides Compliance Strategy

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Executive Summary

In March of 2005, the USEPA finalized emission reduction requirements of the Clean Air Interstate Rule ("CAIR"). This regulation will require significant additional reductions/limits for SO_2 and NO_x emissions beginning in 2010 and 2009 respectively. Generally, CAIR will reduce the Companies allowable SO_2 emissions by around 50% in 2010 and 65% in 2015. Allowable annual NO_x emissions will be reduced by approximately 40% in 2009 and 50% by 2015, compared to 2004 levels.

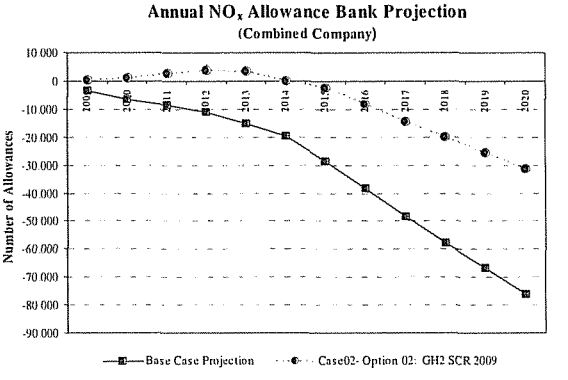
As of December 31, 2005, the Companies had a combined bank of 6,727 ozone season NO_x allowances. However, beginning with the year 2006, the Companies will begin drawing allowances from this bank in order to maintain compliance with United States Environmental Protection Agency ("USEPA") regulations. By year-end 2009, the number of credits will decrease to fewer than 5,000 and the ozone season NO_x allowance bank is expected to be fully depleted in 2013. The Companies will have insufficient annual allowances to comply with the first year (2009) NO_x emission reduction limits established by the Clean Air Interstate Rule ("CAIR"). In absence of constructing additional NO_x control technologies, the Companies project to have to purchase from the allowance market 218,000 annual NO_x allowances and 42,000 ozone season NO_x allowances thru 2035.

Construction of a selective catalytic reduction unit on Ghent 2 by January 2009 is the least cost present value revenue requirement alternative for compliance with CAIR. While the addition of the SCR does not eliminate the need to purchase future NO_x allowances, the installation is the first step in continued economical compliance with the environmental regulations.

Alternatives evaluated consisted of SCR systems at Ghent 2 and Brown 3 along with purchasing allowances. The Ghent 2 and Brown 3 locations account for over 27% of the Companies' NOx emissions through 2016 and thus were selected for analysis. These are the only large coal-fired generating units on the Companies' generation system currently operating without SCR systems.

Compared to purchasing NO_x allowances, the construction of an SCR system at Ghent 2 in 2009 is the least cost plan with the following benefits over the 2006-2035 time period:

(1) Decreases the present value revenue requirements associated with NO_x compliance by more than $59 million when compared to purchasing allowances.
(2) Reduces, by half, the exposure associated with the historically volatile NO_x allowance market by reducing the anticipated allowance shortfall to approximately 123,000 tons from over 260,000 tons.
(3) Delays the depletion of the Companies' annual NO_x allowance bank by six years (from 2009 to 2015) and thereby reduces the ratepayer's exposure to the NO_x allowance market for the same period.
(4) Delays the depletion of the Companies' ozone season NO_x allowance bank from 2014 to 2033 and thereby reduces the ratepayer's exposure to the NO_x allowance market for the same period.



(5) Allows more time to evaluate next steps in future NO_x compliance technologies.
(6) Allows observation of how the NO_x allowance market responds to CAIR.

Background

The NO_x State Implementation Plan ("SIP") Call was promulgated under Title I of the Clean Air Act Amendments ("CAAA") of 1990. Title IV of the CAAA sought to reduce the effects of acid deposition through a reduction of SO_2 and NO_x emissions from 1980 levels in the 48 contiguous states. In response to Title IV of the CAAA, Kentucky Utilities ("KU") and Louisville Gas and Electric ("LG&E") Companies (the "Companies") completed a number of major emission reduction projects aimed at reducing the amount of SO_2, NO_x and other effluents emitted from its coal generating facilities. With implementation of the CAAA via the NO_x SIP Call, the United States Environmental Protection Agency ("USEPA") limited ozone season (May-September) NO_x emissions. Effective with the 2004 ozone season the USEPA limited NO_x emissions from electric generating units to approximately 0.15 lbs of NO_x per mmBtu of historic heat input. The Companies achieved the required NO_x reductions through the construction of Selective Catalytic Reduction ("SCR") systems and other NO_x control technologies (such as advanced low-NO_x burners, overfire air systems, and neural networks) on many of its generating units. The Companies first of six SCRs was constructed and put into service in 2002 while the most recent SCR went in service in 2004. To date SCRs have been constructed on six of the Companies' coal-fired generating units (Trimble County Unit 1, Mill Creek Units 3 and 4; and Ghent Units 1, 3 and 4).

In March of 2005, the USEPA finalized emission reduction requirements of the Clean Air Interstate Rule ("CAIR"). This regulation requires significant additional reductions/limits for SO_2 and NO_x emissions beginning in 2010 and 2009 respectively. Generally, CAIR will reduce the Companies allowable SO_2 emissions by around 50% in 2010 and 65% in 2015. Allowable annual NO_x emissions will be reduced by approximately 40% in 2009 and 50% by 2015, compared to 2004 levels. More information in regards to CAIR can be found in **Appendix 3** to this document.

The Companies' joint planning process assumes that allowances banked by either utility can be utilized by either Company. The joint planning methodology utilizes the combined resources of both utilities to meet the regulatory requirements in a least cost manner. The current study reviewed all economically viable alternatives as part of the Companies' on-going development of a least cost environmental compliance strategy.

Current Ozone Season and Annual NO_x Allowance Position

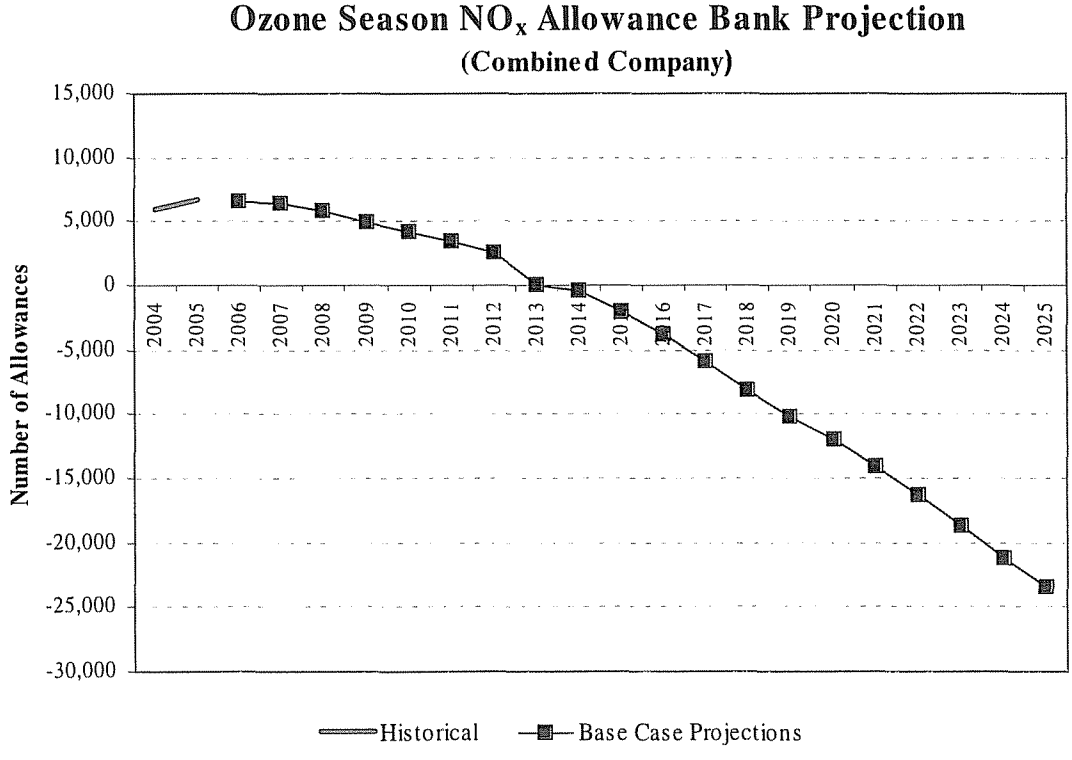
Allowances are a limited authorization for a utility's generating unit to emit, during a calendar year and/or ozone season, one ton of a specified effluent (i.e. NO_x, SO_2). All affected generating units are required to hold, and subsequently surrender to the USEPA, sufficient allowances to cover their annual and ozone season level of NO_x and annual level of SO_2 emissions. Once allocated, allowances can be used to cover actual emissions, banked for future use, or sold. Allowances may not be used prior to the calendar year or ozone season for which they are allocated. Allowances retained for future use are commonly referred to as "banked" allowances.

Beginning January 1, 2009 KU and LG&E must comply with both annual NO_x limits and ozone season NO_x (May through September) limits. Ozone season NO_x limits began in 2004 and continue with the implementation of additional NO_x limits on an annual basis beginning in 2009.

In 2009, NO_x tons emitted during the months of May through September require surrendering of one ozone season allowance and one annual allowance. NO_x tons emitted in the months of January through April and October to December require surrendering of only one annual allowance. Therefore, it is necessary to determine the Companies' position in regard to both the ozone season emissions limits established by the NOx SIP Call and, starting in 2009, the annual emissions limits imposed by CAIR. More information regarding CAIR can be found in **Appendix 3.**

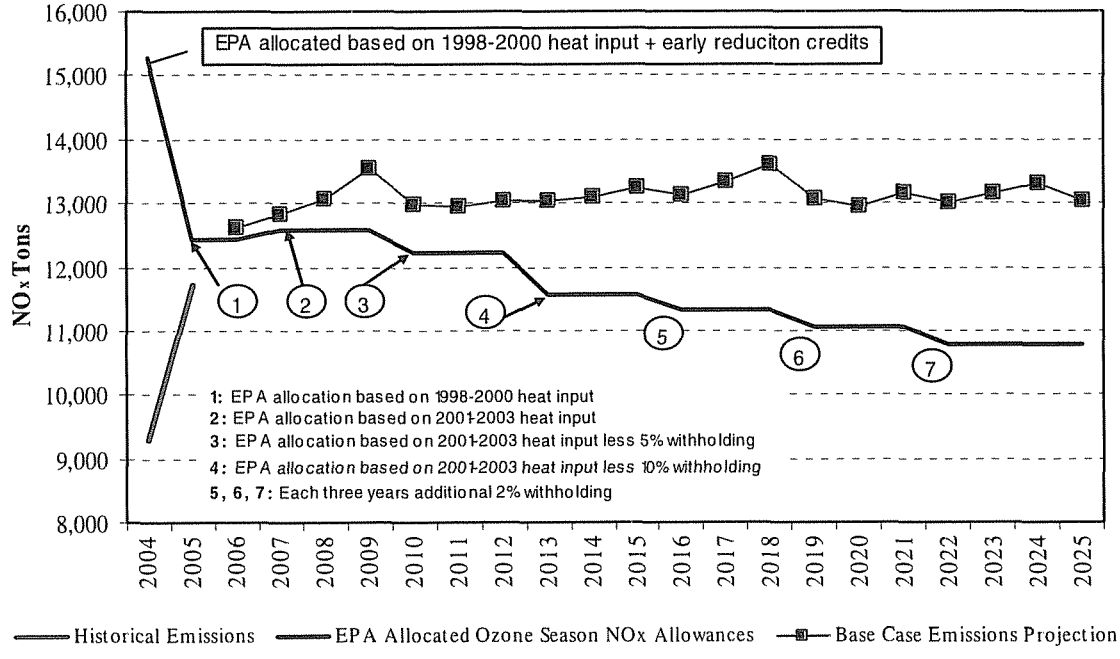
Ozone Season NO_x Position

As of December 31, 2005, the Companies had a combined bank of 6,727 ozone season NO_x allowances since the implementation of seasonal NO_x emission limits on May 31, 2004. However, beginning with the year 2006, the Companies will begin drawing allowances from the ozone season allowance bank in order to maintain compliance with EPA's NO_x SIP Call regulations. By year-end 2009, the number of credits will decrease to fewer than 5,000 and the ozone season NO_x allowance bank is expected to be fully depleted in 2013. The following chart illustrates the Companies' cumulative ozone season NO_x allowance bank through time and the dependence on banked ozone season NO_x allowances starting in 2006 and the depletion of the allowance bank in 2013.

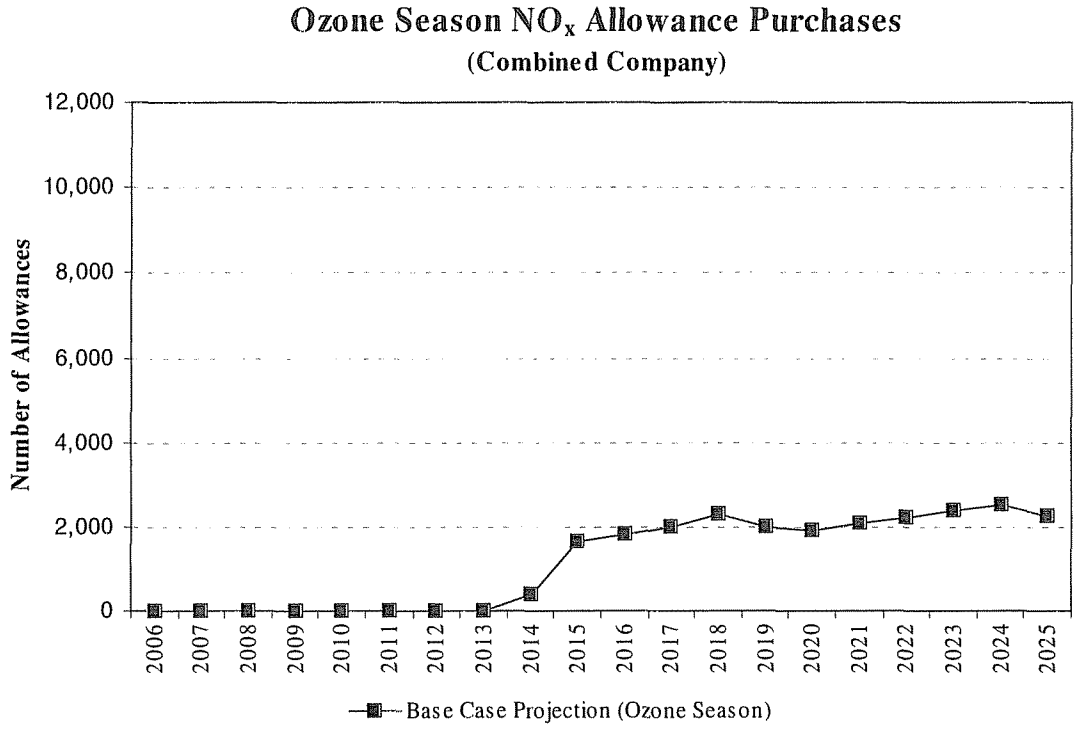


Reliance on ozone season banked NO_x allowance for compliance, starting in 2006, is necessary due to both a reduction in the Companies' USEPA allocated ozone season NO_x allowances and increased load growth. As an example, in the year 2009, the Companies anticipate emitting almost 1,000 tons more of NO_x emissions than the Companies' ozone season USEPA NO_x allocation of 12,599 allowances. The following chart illustrates the difference between projected ozone season NO_x allowance emissions and USEPA allocated ozone season NO_x allowance allocations. All ozone season allocations through 2008 are known values while ozone season allowance allocations in 2009 and beyond are estimated. The chart indicates that the Companies' allocation of ozone season allowances will decline through time. The USEPA gives a fixed amount of allocations to the state-these allocations do not change from year to year. Therefore, new generating units constructed in Kentucky will share in the fixed state allowance allocation, thereby reducing the allocations available for all other generating units.

Ozone Season NO_x Emissions and Allowance Allocations
(Combined Company)



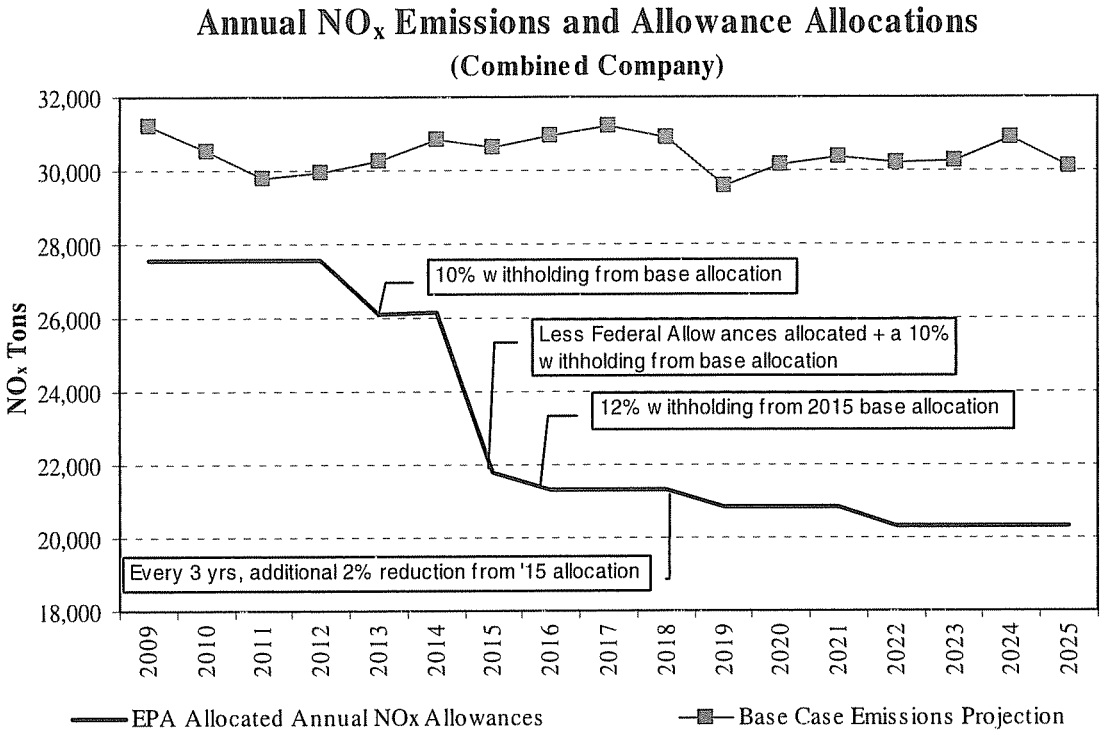
Once the Companies' combined NO_x allowance bank is depleted, the Companies must, in order to comply in future years, either reduce NO_x emissions during the May-September period, purchase NO_x allowances from the NO_x allowance market or a combination of both. The graph below illustrates the total number of allowances projected to be purchased through 2025, in absence of implementing additional NO_x controls.



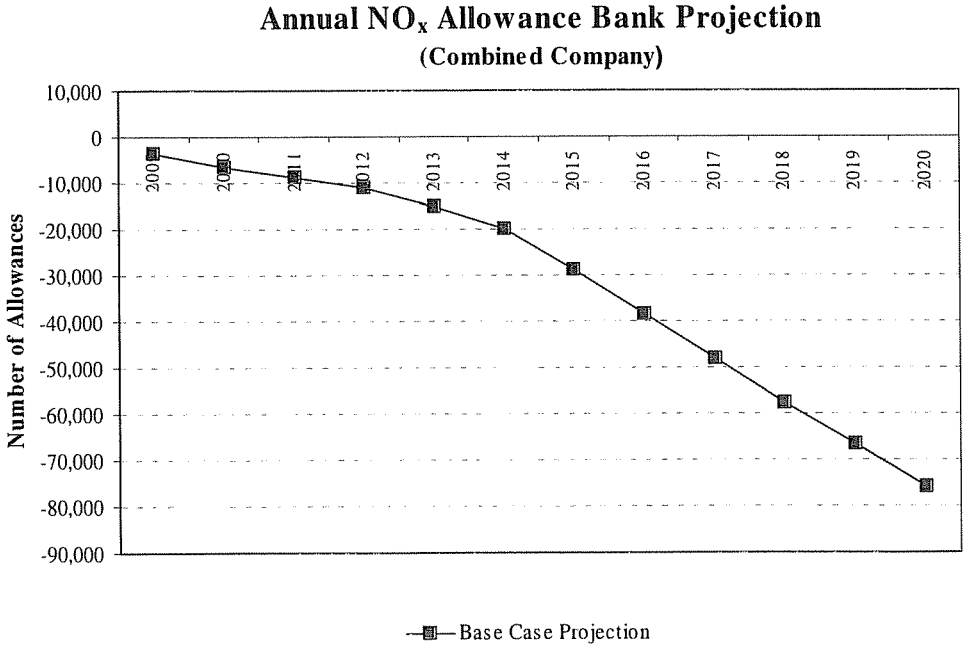
Therefore, in regards to ozone season NO_x compliance, the Companies project to begin utilizing banked allowances for compliance starting in 2006. In the absence of adding additional NO_x controls, the ozone season NO_x allowance bank will become depleted in 2013 and the Companies would become dependent on purchasing ozone season allowances from the market for compliance starting in 2014, with the total market exposure totaling over 42,000 allowances through the study period (until 2035).

Annual NO_x Position

Beginning in 2009, the Companies will have an annual NO_x emission limitation or cap imposed with the commencement of CAIR. Since annual NO_x allowances do not exist prior to 2009, there are no annual NO_x allowances in the annual NO_x allowance bank as of January 2009 (i.e. no annual allowances are carried over from 2008 into 2009). Therefore, the only annual NO_x allowances the Companies will have available for compliance are the allocations given by the USEPA (via the State) in 2009. The following graph illustrates the Companies' projected annual NO_x emission levels and the estimated number of USEPA allocated annual NO_x allowances starting with the onset of CAIR in 2009 (approximately a 40% reduction from 2002 levels) and in 2015 (approximately a 50% reduction from 2003 levels).



Projections are that the Companies will have over 3,600 more NO_x emissions during CAIR's first full year of implementation (calendar year 2009) than annual NO_x emission allowances. In the absence of adding additional NO_x emission controls and with future reductions in the allocation of annual NO_x allowances, the shortfall is expected to increase to over 4,120 tons by 2013 and 8,800 tons by 2015. By 2025, the Companies are projected to have an annual NO_x allowance shortfall of over 9,700 allowances.

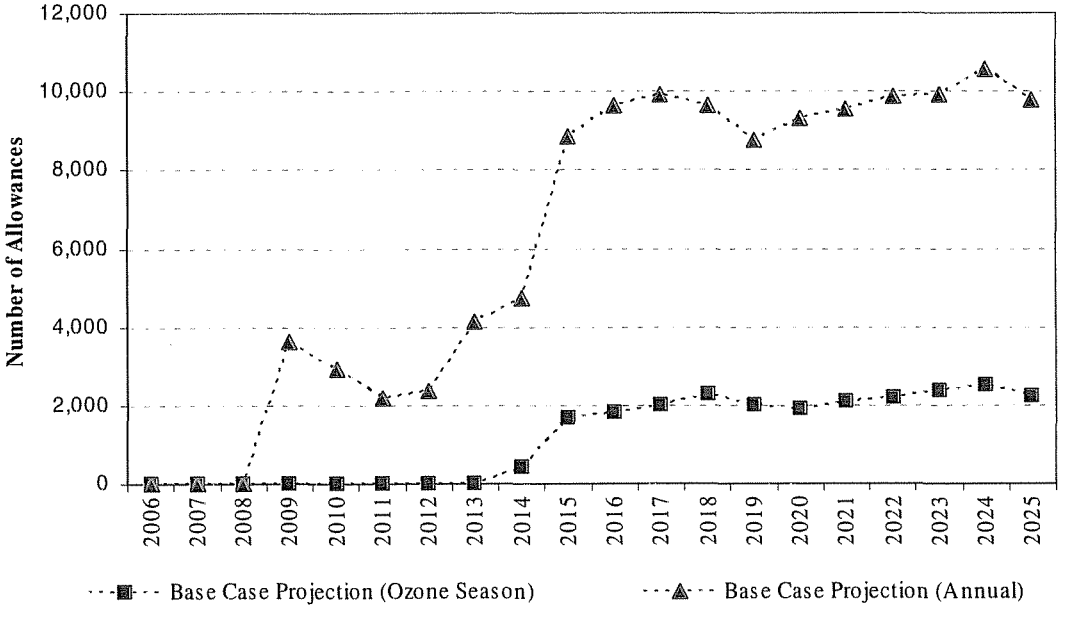


Therefore, in regards to annual NO_x compliance, the Companies project to be dependent on the NO_x allowance market for compliance starting in 2009, the first year CAIR takes effect. With projected reductions in the Companies' allocation of annual NO_x allowances in 2013, 2015 etc, the shortfall is expected to increase through time, with the total market exposure totaling over 125,000 allowances through 2025 and over 218,000 allowances through the study period.

The following summarizes the Companies' current position in regards to compliance with both ozone season and annual NO_x emissions limitations.

NO_x Compliance Period	Draw from Banked Allowances Beginning	Bank Becomes Depleted	Total Number Allowances Purchased Thru 2025
Ozone-Season	2006	2014	23,458
Annual	Non-Existent Bank	2009	125,658

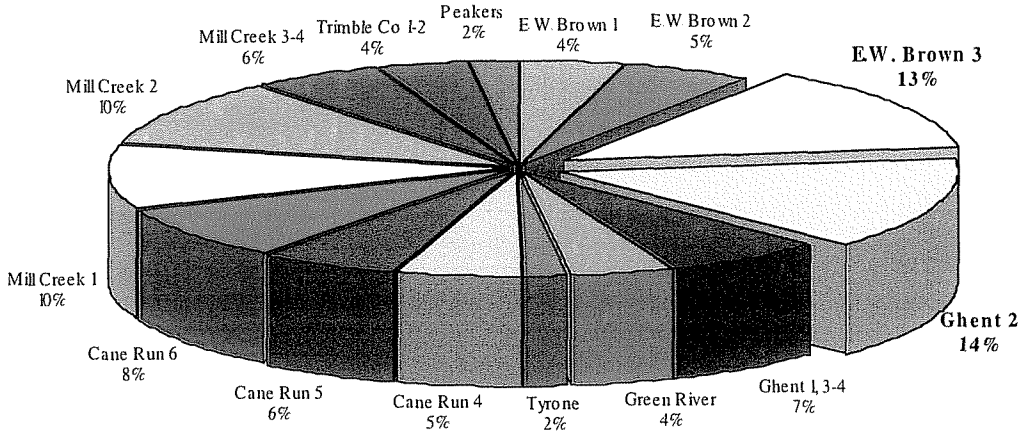
Annual and Ozone Season NO_x Allowance Purchases
(Combined Company)



Projected Unit NO_x Emissions

Logically, NO_x control technologies should be constructed on those units which are projected to be the major contributors to the Companies' NO_x allowance shortfall.

Percent of Total Annual NO_x Emissions By Generating Unit (2006-2015)



The most significant contributors to the Companies' NO_x emissions are Ghent 2 and Brown 3. These units are the largest coal-fired generating units on the Companies' generation system currently operating without SCRs (484 $MW_{Net\text{-}summer}$/429 $MW_{Net\text{-}summer}$ respectively). These two generating units alone are projected to account for 27% of the Companies' future NO_x emissions through 2015. In 2009, the annual NO_x emission from Ghent 2 and Brown 3 is projected to be 4,400 and 4,100 tons respectively or almost 1,000 more tons than any other unit on the Companies' generation system. Any long-term NO_x compliance strategy must, at a minimum, address the emissions from these two generating units. **Appendix 6** and **Appendix 7** of this report provide annual and ozone season NO_x emissions projections for each unit in the Companies' generating system.

NO_x Compliance Alternatives

Sargent & Lundy ("S&L") was engaged to perform a site-specific technical and economic evaluation of each KU and LG&E generating unit[1]. S&L's scope of work included performing unit-specific feasibility analysis of NO_x reduction alternatives, analysis of the lowest cost compliance strategies, quantification of capital and operation/maintenance costs, and identification of plant operational impacts. The technologies considered by S&L included

- Selective Catalytic Reduction ("SCR")
- Selective Non-catalytic Reduction ("SNCR")
- neural networks
- combustion modifications (such as overfire air and advanced burner systems)
- fuel re-burning and
- burner modifications and replacement.

[1] See 1999 Sargent & Lundy report SL-5281 submitted as LEB Exhibit 1 in Kentucky Public Service Commission Case 2000-439

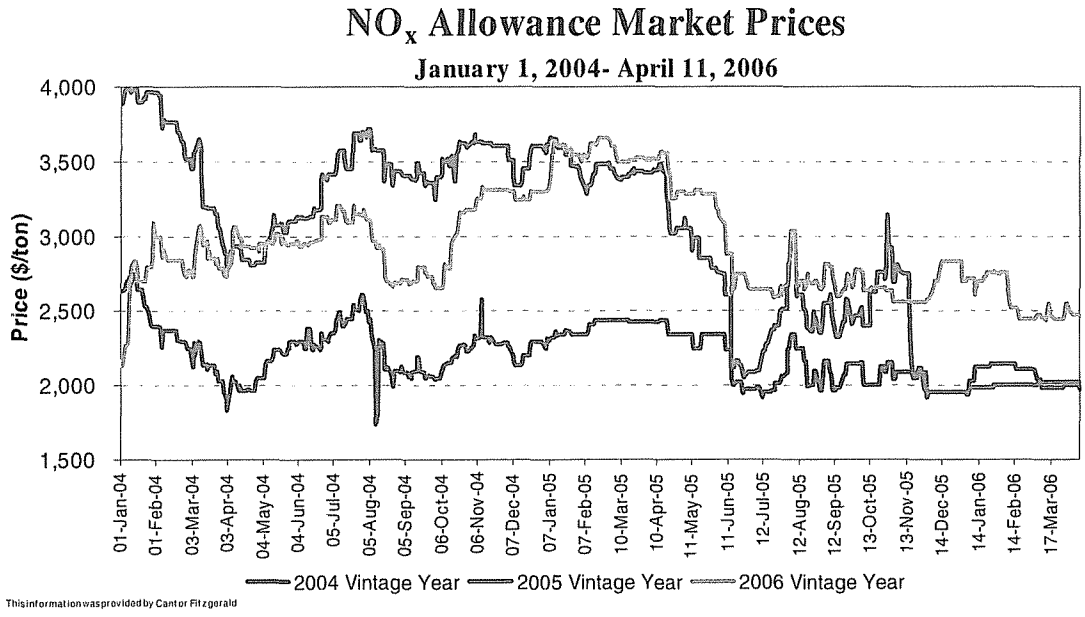
The NO_x reduction efficiencies of the last four alternatives in the above list: neural networks, combustion modifications, fuel re-burning and burner modifications as well as fuel switching were not considered in this analysis as they each fail to achieve the volume of NO_x reduction requirements necessary to comply with both future NO_x SIP Call limitations and the additional limitations imposed by CAIR.

The large NO_x allowance shortfall projected by the Companies in the absence of additional controls during the ozone season and the impending commencement of additional annual limits imposed by CAIR necessitate that commercially proven technologies capable of significant NO_x reductions on large coal-fired units be considered. SNCR technology continues to be a questionable technology on units approaching 500 MW. The varied requirement for ammonia during load changes and the shifting temperature profiles makes it difficult to maintain the desired NO_x emission reduction level and to limit the negative impacts of ammonia slip in the system. Ammonia slipping through the system without reacting with the NO_x creates sodium bisulfate which adheres to the air heater baskets, thus causing an increase in pressure drop, a decrease in heat transfer, and possibly a forced unit outage for air heater cleaning. Based on the reasons above, the Companies eliminated SNCR as a viable technology at this time after re-considering the lack of proven success and the Companies near term need for significant reduction in NO_x emissions.

Purchase Allowances:
Complete dependence on the NO_x allowance market results in the Companies being completely exposed to a potentially volatile allowance market representing significant price risk. However the purchasing of allowances from the allowance market can be beneficial in maintaining a low cost environmental compliance plan. As such, this analysis assumes the allowance market to be an available alternative for any shortfall in NO_x allowances that the Companies' may have.

The Companies have accumulated a great deal of operational experience in successfully complying with ozone season NO_x emissions limitation through operation of the existing SCRs at Trimble County 1, Ghent 1, Ghent 3, Ghent 4 and Mill Creek 3 and 4. Therefore, the Companies' have considered SCR technology along with the purchasing of allowances on an as-needed basis from the allowance market as the most appropriate alternatives for consideration in this analysis. **Appendix 1** provides a general description of the SCR technology.

Allowance Price Uncertainty
In 2005, the market price of a single 2006 vintage ozone season NO_x allowance ranged from a low of $2,558/ton to a high of $3,658/ton, representing an increase of 143%. The graph below clearly displays the historical volatility associated with the NO_x allowance market.



Cost of NO_x Control Alternatives

Location-specific SCR construction and operation cost estimates were developed for use in this analysis in cooperation with outside architectural and engineering firms, such as Sargent & Lundy, and the Companies' experience with constructing and operating existing SCRs. Specifically, cost estimates were developed for constructing and operating its SCRs at both Ghent 2 and Brown 3 in 2009, the first year in which the Companies would not have sufficient NO_x allowances to offset NO_x emissions. Cost estimates were also developed for accelerating and delaying the SCRs at both locations by one year, in recognition that revenue requirements may be reduced by slightly accelerating or delaying the construction schedule. The 2008 alternatives allow construction of the next SCR as soon as possible given the current regulatory and construction lead times. The table below enumerates the initial six options considered for construction during 2008-2010 and includes, as Option 0, an option which models the Companies' system as it exists today. Note that alternatives at the same location (i.e., Unit) are mutually exclusive, meaning that implementing Option 1 and Option 2 simultaneously would not be valid. Base annual capital cost cash flows associated with each of the options can be found in **Appendix 2**. The SCRs are assumed to remove 90% of the NO_x when operating, but do not do so during those hours in which the units are run at low generation levels; i.e. the SCRs do not operate 100% of the time.

Individual NO_x Control Alternatives

Option #	NO_x Control Technology	Unit	In-Service Date	Installed Cost[1] (Millions $)	Incremental Fixed O&M[2] ($/yr)	Incremental Variable O&M[3] ($/MWh)	NO_x Emiss Rate (#/Mbtu) Before	NO_x Emiss Rate (#/Mbtu) After	NO_x Removal (%)	Net Derate (MW)
0	Base				Basecase with Environmental Dispatch					
1	SCR	Ghent 2	May-08	$90.48	$416,000	0.2955	0.27	0.035	87%	2
2	SCR	Ghent 2	Jan-09	$95.00	$424,320	0.3014	0.27	0.035	87%	2
3	SCR	Ghent 2	Jan-10	$99.75	$432,806	0.3074	0.27	0.035	87%	2
4	SCR	Brown 3	May-08	$90.97	$470,588	0.2403	0.29	0.042	86%	2
5	SCR	Brown 3	Jan-09	$95.52	$480,000	0.2451	0.29	0.042	86%	2
6	SCR	Brown 3	Jan-10	$100.29	$489,600	0.2500	0.29	0.042	86%	2

Notes:
[1] Installed Costs are the sum of annual (nominal dollars) construction expenditures.
[2] Fixed costs are expressed in "in-service year" (nominal) dollars. Cost for SCRs with In-Service Date prior to Jan 1, 2009 are for Ozone Season only, while installations for 2009 and later are based on full year of operation.
[3] Variable O&M includes ammonia and is expressed in "in-service year" (nominal) dollars.

Least Cost Evaluation

Consistent with recent evaluations of this type, the Companies evaluated the above alternatives using the PROSYM™ detailed hourly production costing computer model and the Strategist Capital Expenditure and Recovery ("CER") module. Used together, these tools have the capability of simulating the hourly production costs (fuel, fixed and variable operation and maintenance, emissions, etc.) and quantifying the revenue requirements impact associated with each capital project. **Appendix 4** contains economic and forward looking assumptions used in this analysis. Each Option was independently evaluated within PROSYM™ using the above estimates for capital construction costs and the Companies' base price forecast for SO_2 and NO_x allowances.

Each of the six alternatives were modeled with any shortfall in SO_2 or NO_x allowances made up by purchasing the required number of allowances from the allowance market on an as-needed basis. The first year that the Companies would have to purchase any NO_x allowances and the volume of annual and ozone season NO_x allowances purchased over the period can also be observed in the Case Summary Table below or in **Appendices 5-7**. Some cases rely heavily on allowance purchases for compliance and presume an unlimited number of allowances are available at the projected allowance price. The total present value revenue requirement ("PVRR") of each case has been categorized into four areas:

1. *Production Costs:* represent the revenue requirements associated with fuel, fixed and variable operation and maintenance expenses, and purchased power expenses.
2. *NO_x Allowance Costs:* represent the revenue requirements associated with the purchasing of the total number of (annual + ozone season) NO_x allowances.
3. *SO_2 Allowance Costs:* represent the revenue requirements associated with the purchasing of any SO_2 allowances. Note that SO_2 emission levels are quantified because the construction of a NO_x control technology impacts how that unit is dispatched, which in turn, affects both SO_2 and NO_x tonnage emissions.
4. *Capital Costs:* represent the revenue requirements associated with any capital expenditures for the case.

The table below is a summary of the annual data contained in **Appendices 5, 6 and 7** for each case. **Appendix 5** presents the annual cost results of all Cases evaluated and

compares them to the Base Case while **Appendices 6 and 7** detail the annual and ozone season NO_x emissions associated with each case.

Case Summary

(Assuming: Base Capital Costs, Base NOx & SO2 Emissions Price Forecasts)
(All Costs in 2006 PVRR $1000)

ALL CASES COMPARED TO Case00- Do Nothing (with NOx Dispatch Adder)

Case	Production Cost	NOx Allowance Cost	SO2 Allowance Cost	Capital Cost	Total PVRR	Incremental Cost over Base	First Year of NOx Allowance Purchase	Total Ozone Season NOx Allowances Purchased	Total Annual NOx Allowances Purchased
Case00- Option 0: Do Nothing (with Env Dispatch)	15,684,338	338,518	209,236	-	16,232,092	Base	2009	42,731	218,097
Case02- Option 02: GH2 SCR 2009	**15,708,307**	**148,124**	**208,821**	**107,163**	**16,172,415**	**(59,677)**	**2015**	**2,626**	**120,992**
Case01- Option 01: GH2 SCR 2008	15,709,313	147,030	208,830	110,294	16,175,467	(56,626)	2015	1,126	120,992
Case03- Option 03: GH2 SCR 2010	15,706,433	158,448	208,833	103,953	16,177,667	(54,426)	2009	4,394	124,757
Case05- Option 05: BR3 SCR 2009	15,728,735	146,711	207,425	107,743	16,190,614	(41,479)	2015	784	122,136
Case04- Option 04: BR3 SCR 2008	15,729,895	146,181	208,082	110,889	16,195,046	(37,046)	2015	-	122,136
Case06- Option 06: BR3 SCR 2010	15,726,328	156,840	207,082	109,127	16,199,377	(32,715)	2009	2,489	125,912
Case00- Option 0: Do Nothing (No NOx Dispatch)	15,775,690	558,085	244,960	-	16,578,735	346,642	2009	103,166	331,274

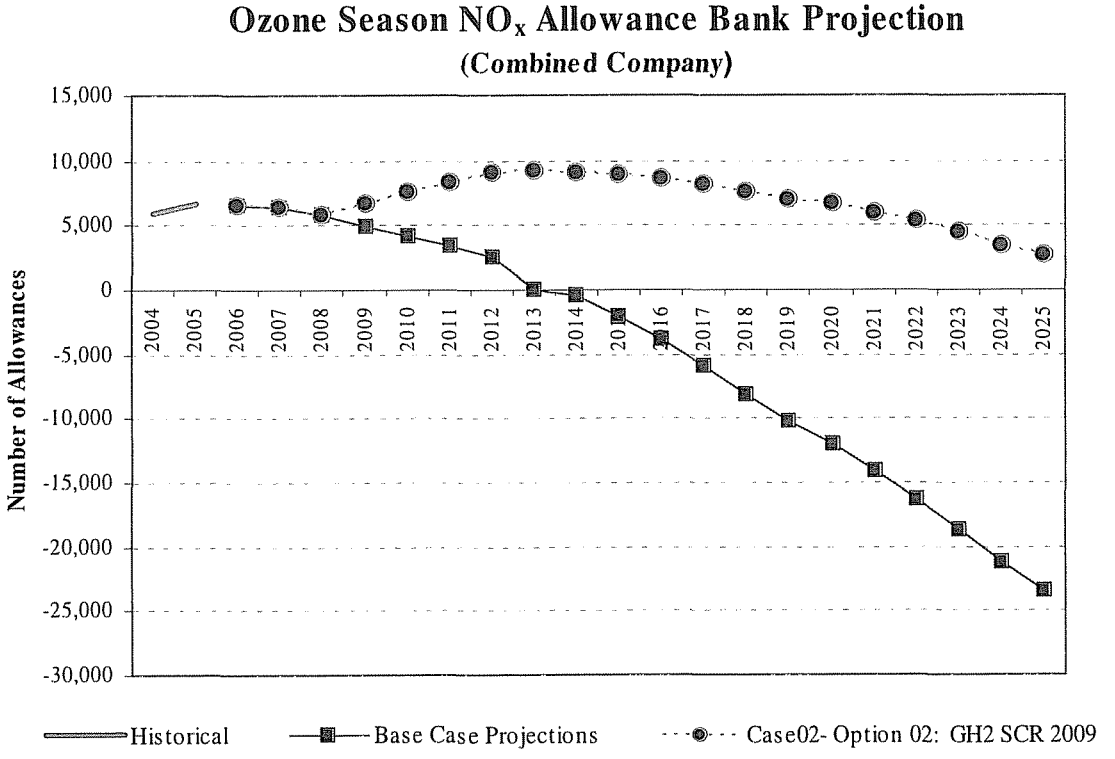
The Base Case is the first case listed in the above table-- Case-00 Do Nothing (with Environmental Dispatch). All other cases follow in increasing order of PVRR. The PVRR of each case is compared to that of the Base Case. Results indicate that an SCR at either Ghent 2 or Brown 3 in 2008, 2009 or 2010 are all favored over purchasing allowances only as each Case (Case01-Case06) reduces the PVRR by $32.7 million - $59.7 million. However, as can be observed in the above table, the addition of a SCR system on Ghent 2 in 2009 (Case02-Option 02) is the best single alternative and results in the greatest revenue requirements savings as the PVRR decreases by $59.7 million from the Base Case.

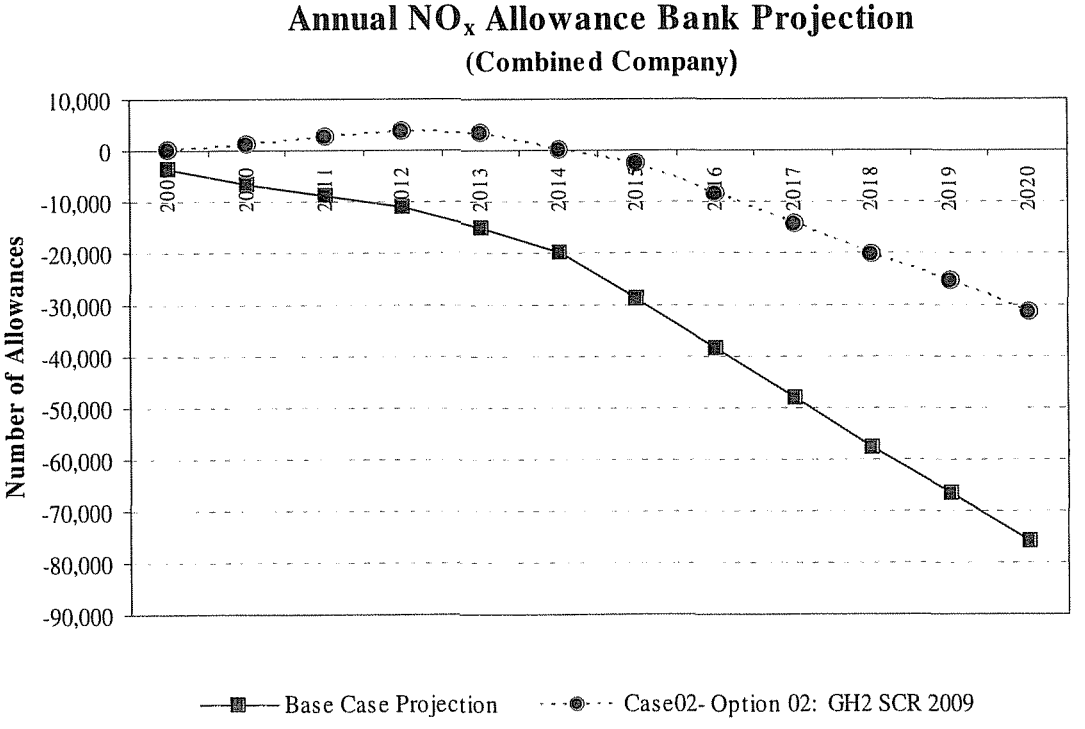
Acceleration of the Ghent 2 SCR in service date by a year from 2009 to 2008 increases the capital revenue requirement by $3.1 million, but does not delay annual NO_x allowance shortfall in 2015 and delays by only two years (from 2033 to 2035) the need to purchase ozone season NO_X allowances. Given the base set of assumptions for capital costs and forward allowance prices, the most economical in-service date for the Ghent 2 SCR is January 1, 2009.

As with the Ghent 2 SCR, the most favorable installation date for the Brown 3 SCR is 2009 (Case05). Construction of the Brown 3 SCR in 2009 is $4.4 million less costly than constructing the Brown 3 SCR in 2008 and $8.7 million less than delaying the SCR one year until 2010. However, even the lowest cost Brown 3 SCR Case (Case05) is more than $18 million more than construction of an SCR at Ghent 2 in 2009. Therefore, giving the base set of assumptions, constructing an SCR at Ghent 2 SCR in 2009 is the least cost next step in continued compliance with environmental regulations.

The table above also indicates that no single alternative provides 100% of the NO_x reductions required to comply through the study period without purchasing allowances from the allowance market. With the Ghent 2 SCR installed in 2009 annual NO_x allowance purchases are delayed six years; from 2009 (in Case 00) to 2015 (in Case02) and the need for ozone season NO_x allowance purchases are delayed from 2014 (Case00) to 2033 (Case09). Total purchases of over 2,600 ozone season NO_x allowances and over 120,000 annual NO_x allowances are; however, still required over the study period. Graphs depicting the impact the Ghent 2 SCR has to the Base Case are as follows. As

mentioned, detailed annual totals for production costs, allowance costs, ozone and calendar year NO_x emissions detail can be found in **Appendices 7 and 8**.





With the Ghent 2 SCR in service January 2009, the issue remains of the least cost means to address the shortfall in the Companies' annual NO_x allowance bank starting in 2015. Therefore, the Brown 3 SCR, having been shown to be more costly than the Ghent 2 SCR for construction in 2009, should be evaluated in and around the time the Companies' annual NO_x allowance bank is projected to expire--2015. The "Individual NO_x Control Alternative Table" has been replicated below, but with the additional in-service dates for the Brown 3 SCR added as options in 2013-2015 timeframe.

Individual NO_x Control Alternatives- Expanded Brown Alternatives

Option #	NO_x Control Technology	Unit	In-Service Date	Installed Cost[1] (Millions $)	Incremental Fixed O&M[2] ($/yr)	Incremental Variable O&M[3] ($/MWh)	NO_x Emiss Rate (#/Mbtu) Before	After	NO_x Removal (%)	Net Derate (MW)
0	Base				Basecase with Environmental Dispatch					
1	SCR	Ghent 2	May-08	$90.48	$416,000	0.2955	0.27	0.035	87%	2
2	SCR	Ghent 2	Jan-09	$95.00	$424,320	0.3014	0.27	0.035	87%	2
3	SCR	Ghent 2	Jan-10	$99.75	$432,806	0.3074	0.27	0.035	87%	2
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5	SCR	Brown 3	Jan-09	$95.52	$480,000	0.2451	0.29	0.042	86%	2
6	SCR	Brown 3	Jan-10	$100.29	$489,600	0.2500	0.29	0.042	86%	2
7	SCR	Brown 3	Jan-14	$121.90	$529,959	0.2706	0.29	0.042	86%	2
8	SCR	Brown 3	Jan-15	$128.00	$540,558	0.2760	0.29	0.042	86%	2
9	SCR	Brown 3	Jan-16	$134.40	$551,369	0.2815	0.29	0.042	86%	2
10	SCR	Brown 3	Jan-13	$116.10	$519,567	0.2653	0.29	0.042	86%	2

Notes:

[1] Installed Costs are the sum of annual (nominal dollars) construction expenditures.

[2] Fixed costs are expressed in "in-service year" (nominal) dollars. Cost for SCRs with In-Service Date prior to Jan 1, 2009 are for Ozone Season only, while installations for 2009 and later are based on full year of operation.

[3] Variable O&M includes ammonia and is expressed in "in-service year" (nominal) dollars.

Using the new alternatives (Options 7-10) for the Brown 3 SCR in 2013-2015, in conjunction with the Ghent 2 SCR in 2009 (Option 2), allows a robust economic evaluation of the Companies' long-term NO_x compliance strategy by adding four additional cases to the evaluation. The table below summarizes the results after simulating these additional cases in the identical manner as before. As with the previous cases, **Appendices 5-7** contain the annual costs, annual NO_x emissions and ozone season NO_x emissions by year respectively. Case00 thru Case06 have been included for ease of reference.

Case Summary

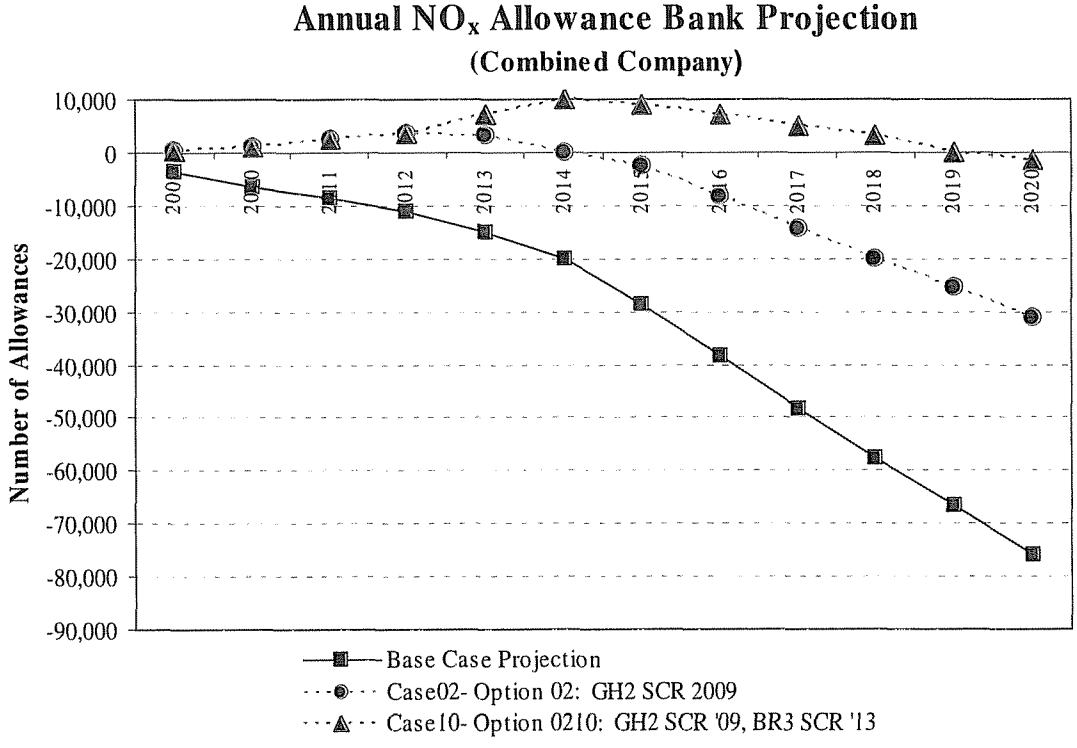
(Assuming: Base Capital Costs, Base NOx & SO2 Emissions Price Forecasts)

(All Costs in 2006 PVRR $1000)

ALL CASES COMPARED TO Case00- Do Nothing (with NOx Dispatch Adder)

Case	Production Cost	NOx Allowance Cost	SO2 Allowance Cost	Capital Cost	Total PVRR	Incremental Cost over Base	First Year of NOx Allowance Purchase	Total Ozone Season NOx Allowances Purchased	Total Annual NOx Allowances Purchased
Case00- Option 0: Do Nothing (with Env Dispatch)	15,684,338	338,518	209,236	-	16,232,092	Base	2009	42,731	218,097
Case02- Option 02: GH2 SCR 2009	15,708,307	148,124	208,821	107,163	16,172,415	(59,677)	2015	2,626	120,992
Case01- Option 01: GH2 SCR 2008	15,709,313	147,030	208,830	110,294	16,175,467	(56,626)	2015	1,126	120,992
Case03- Option 03: GH2 SCR 2010	15,706,433	158,448	208,833	103,953	16,177,667	(54,426)	2009	4,394	124,757
Case05- Option 05: BR3 SCR 2009	15,728,735	146,711	207,425	107,743	16,190,614	(41,479)	2015	784	122,136
Case04- Option 04: BR3 SCR 2008	15,729,895	146,181	208,082	110,889	16,195,046	(37,046)	2015	-	122,136
Case06- Option 06: BR3 SCR 2010	15,726,328	156,840	207,082	109,127	16,199,377	(32,715)	2009	2,489	125,912
Case10- Option 0210: GH2 SCR 2009, BR3 SCR 2013	**15,742,713**	**44,437**	**206,704**	**206,480**	**16,200,334**	**(31,759)**	**2020**	**-**	**43,538**
Case07- Option 0207: GH2 SCR 2009, BR3 SCR 2014	15,740,991	50,661	206,926	203,276	16,201,854	(30,239)	2018	-	47,390
Case08- Option 0208: GH2 SCR 2009, BR3 SCR 2015	15,739,253	57,581	207,035	200,103	16,203,972	(28,120)	2016	-	51,268
Case09- Option 0209: GH2 SCR 2009, BR3 SCR 2016	15,737,814	65,241	207,177	196,951	16,207,182	(24,911)	2015	-	55,167
Case00- Option 0: Do Nothing (No NOx Dispatch)	15,775,690	558,085	244,960	-	16,578,735	346,642	2009	103,166	331,274

Results indicate that with Ghent 2 SCR installed in 2009 the acceleration of the Brown 3 SCR into 2013 would be preferred to the Brown 3 SCR in-service in 2015-the year the Companies' annual NO_x allowance bank would expire. While the revenue requirements associated with both capital and production costs would increase, the decrease in the revenue requirements associated with allowance purchases are projected to be of greater impact and would lower the total revenue requirements by $3.7 million (compare the "Total Cost" of Case10 to the "Total Cost" of Case08 in the table above). Purchase of ozone season NO_x allowances are eliminated through the study period, while a purchase need still exists for compliance with annual NO_x emission limitations. With the Ghent 2 SCR in 2009 and the Brown 3 SCR in 2013, projections indicate the annual NO_x emission bank would be become deficient very late in the study period--beginning in 2020.



Discussion of Base Results

The stand-alone alternative of constructing an SCR at Ghent 2 with an in-service date of January 2009 (Case02- Gh2 SCR 2009) and purchasing allowances as needed is the lowest cost case with a PVRR of $16.172 billion; $59.7 million lower than the PVRR of the Base Case (Case00: Do Nothing w/ Environmental Dispatch). The second least cost case is also an SCR at Ghent 2, but with an accelerated in-service date of May 2008 and has a PVRR $56.6 million lower than the Base Case. The lowest PVRR associated with an SCR constructed at Brown 3 is Case05 (BR3 SCR 2009) with a PVRR of $41.5 million lower than the Base Case, but $18.2 million higher than the PVRR of the Ghent 2

SCR in 2009.

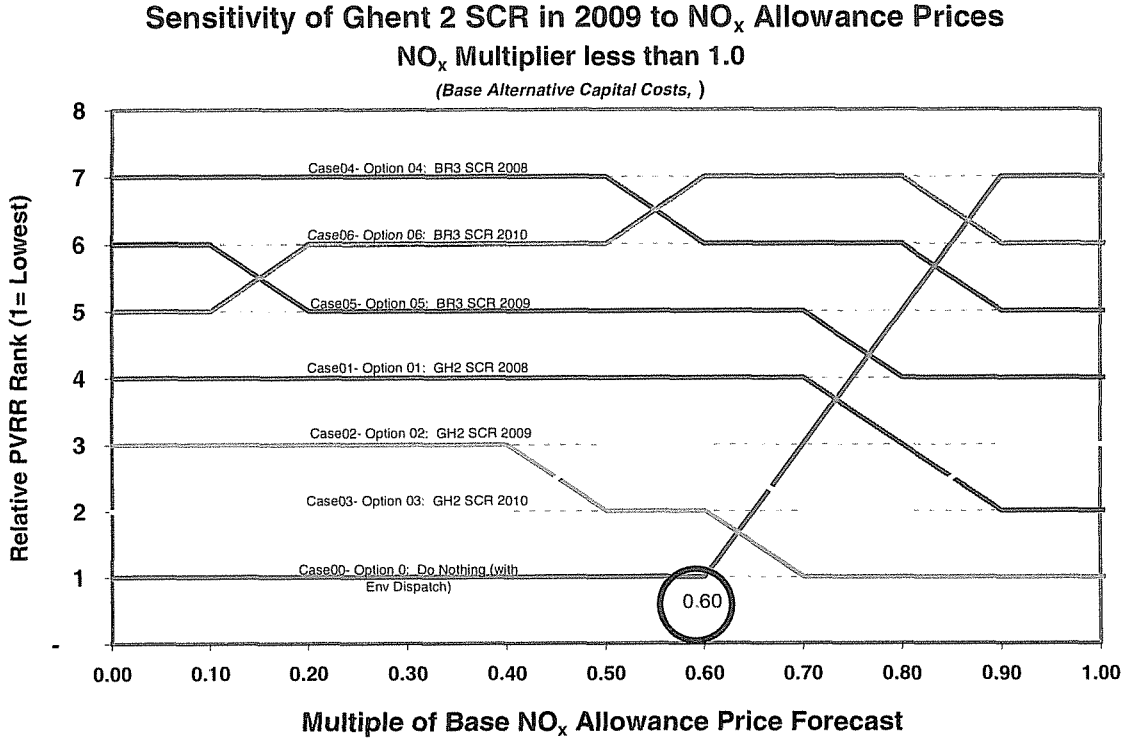
With only the Ghent 2 SCR in 2009, the annual NO_x allowance market is heavily relied on requiring the purchase of almost 121,000 annual NO_x allowances with purchases beginning in 2015. Reducing NO_x emissions at Ghent 2 alone in 2009, without reducing emission at Brown 3 exposes the ratepayer to the purchase of a significant number of NO_x allowances whose availability is uncertain and whose price is potentially volatile. Case08 (Gh2 SCR 2009, BR3 SCR 2015) results in reduced NO_x allowance market exposure. Case08 combines the least cost 2009 SCR alternative (Ghent 2 in 2009) and the Brown 3 SCR in the first year that the purchase of NO_x allowances from the market would have otherwise occurred--2015. The resulting impact is elimination of ozone season NO_x allowance purchases and reduced dependence on the annual NO_x allowance market by 57% (from 120,992 total annual allowances to 51,268) of what would have been required in the absence of the Brown 3 SCR in 2015. Acceleration of the Brown 3 SCR into 2013 (simulated Case10 GH2 SCR 2009, BR3 SCR 2013) further decreases PVRR by reducing NO_x allowance purchase expense by $13.1 million (compared to Case09- Gh2 SCDR 2009, BR3 SCR 2015). Case10 projects the Companies would need to begin purchasing annual NO_x allowances from the NO_x allowance market in 2020 and would need to purchase over 43,000 total annual NO_x allowances before the end of the study period.

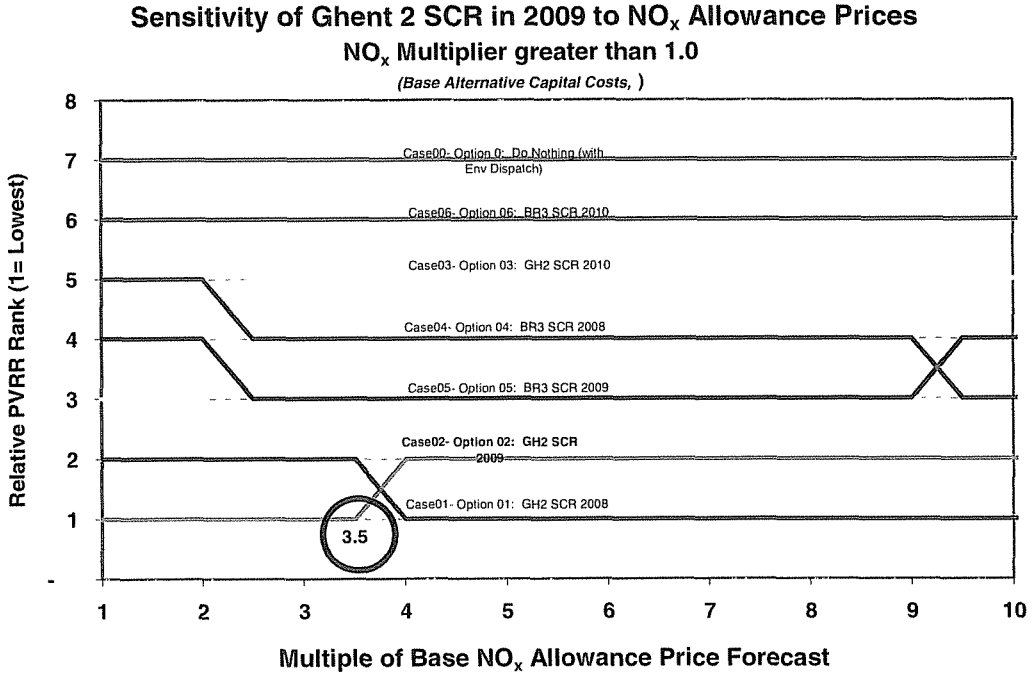
Sensitivities Evaluated

Sensitivity: Market Price of NO_x

Due to the volatility of the historic allowance market, it is prudent to address the question of how much the NO_x allowance market would have to change in order for the Ghent 2 SCR in 2009 not to be the least cost alternative. To determine how sensitive the economics of the Ghent 2 SCR in 2009 is to NO_x market prices, the PVRR of each of the six alternatives and the Base Case was quantified, assuming the NO_x allowance market was a multiple of the base NO_x allowance price projection (as shown in **Appendix 4**). The NO_x multiplier is applied to each year of the NO_x allowance market price curve to determine the price at which NO_x allowances would be purchased if required by the Case. This sensitivity makes the simplifying assumption that the new NO_x market prices would not make significant changes in the dispatch of the Companies' generating units.

The following graphs depict the relative rank of each of the alternative's PVRR for multiples of the base NO_x allowance price curve. In order to more clearly identify crossover points, two graphs have been developed: one for multipliers of the NO_x forward price curve that are less than 1.0 and one for multipliers greater than 1.0. On both graphs, the lowest ranked case at a particular multiple of the NO_x allowance forward price curve represents the least cost alternative.





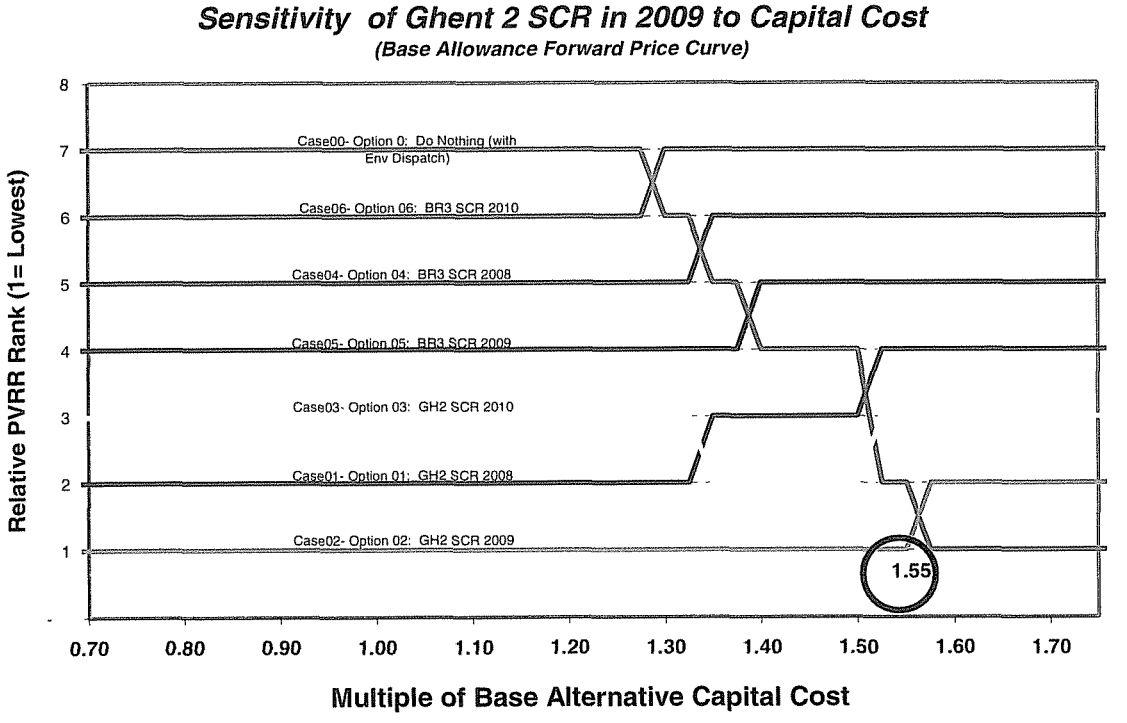
The NO_x market price sensitivity analysis is summarized by the two graphs above and indicates that no additional SCRs (Case00-Do nothing) would be preferred if, in each year of the study period, the NO_x allowance market had NO_x allowances available at or below 0.60x the Base NO_x allowance price projections. For any value above 0.60x Base NO_x allowance price projections (up to 10x the Base NO_x allowance price projections),

the Ghent 2 SCR is least cost. From 0.60-3.5x the Base NO_x allowance price projections, the construction of the Ghent 2 SCR in 2009 (Case02) is least cost while at NO_x market prices above 3.5x the Base NO_x allowance price projections, construction of the SCR one year earlier- in 2008 (Case01)- would be the least cost alternative case.

Construction of an SCR at Ghent 2 is the least cost PVRR alternative over a wide range of multiples of pricing in the NO_x allowance market. Only at the extremely low multiple of 0.60x times the NO_x forward price curve is construction of an SCR at Ghent 2 not the preferred alternative. In summary, the NO_x market price sensitivity supports construction of Ghent 2 SCR by 2009.

Sensitivity: Capital Cost

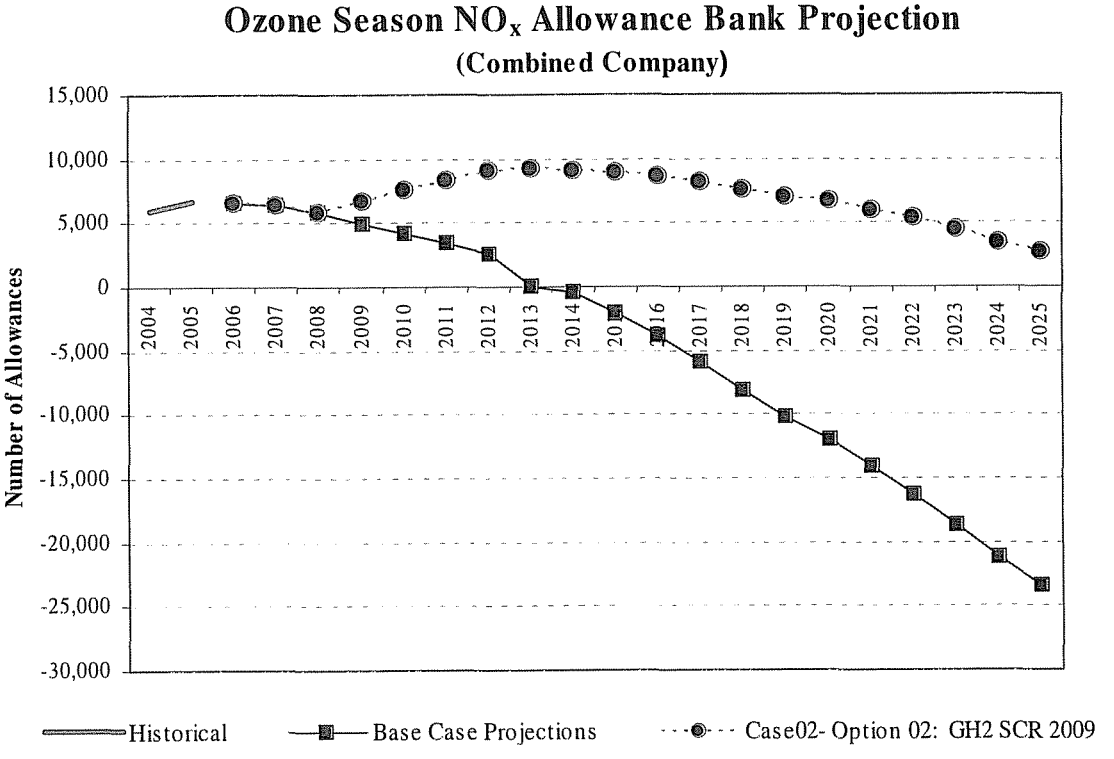
Similar in method to the above sensitivity, a capital cost sensitivity was also conducted in order to quantify how sensitive the construction of an SCR at Ghent 2 in 2009 is to a wide range of capital costs. The graphical results of that effort are shown below.



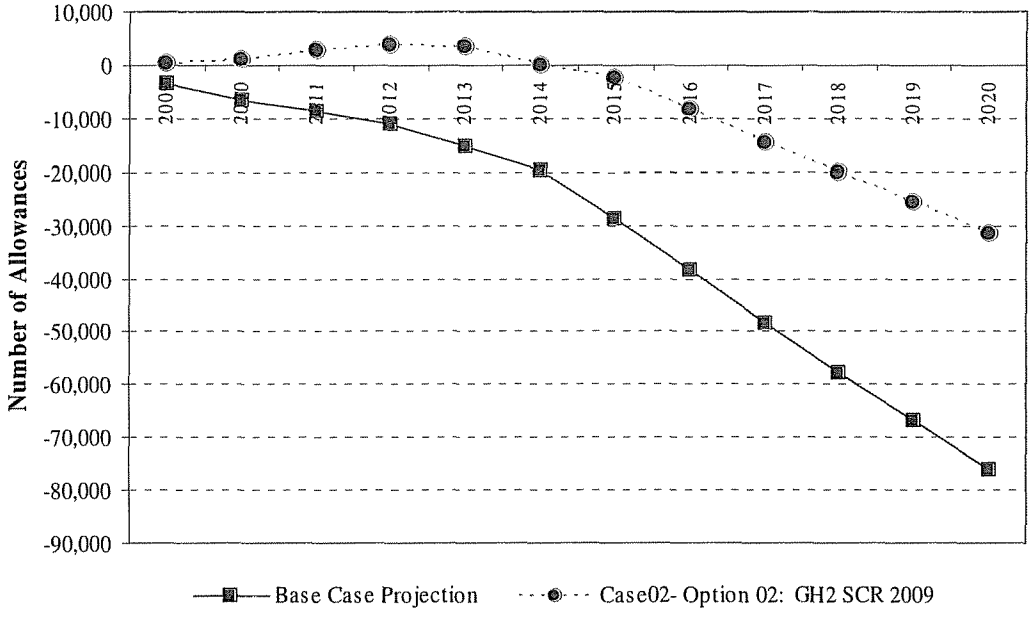
As with the NO_x allowance market price sensitivity, the capital cost sensitivity confirms the preference of a Ghent 2 SCR in 2009. The 2009 construction of an SCR at Ghent 2 is the least cost alternative over a large range of capital costs up to and including a capital cost multiplier of 1.55x the base capital costs. At capital costs above 1.55x the base costs, Case00 is least cost, but has associated with it a large amount of risk by the Companies' complete dependence on the NO_x allowance market in order to comply with NO_x emission limitations.

Conclusions and Recommendation

Without the construction of additional NO_x emission reduction technologies, the Companies are unable to cost effectively comply with the environmental restrictions associated with the CAIR. The Companies face a significant NO_x allowance shortfall, totaling over 218,000 annual NO_x allowances and over 42,000 ozone season NO_x allowances, throughout the study period. The least cost alternative to address the 2009 shortfall in NO_x allowances and to comply with CAIR is construction of an SCR at Ghent 2 in 2009. While substantially reducing the Companies' dependence on NO_x allowance purchases, future purchases of 121,000 annual NO_x allowances beginning in 2015 and 2,600 ozone season allowances (very late in the study period) are still projected. The construction of the Ghent 2 SCR in 2009 provides additional time for the NO_x allowance market and technology impacts of CAIR to be better understood and evaluated before implementing additional compliance alternatives.



Annual NO_x Allowance Bank Projection
(Combined Company)



Construction of an SCR at Ghent 2 in 2009 is the least cost plan with the following benefits over the analysis period:

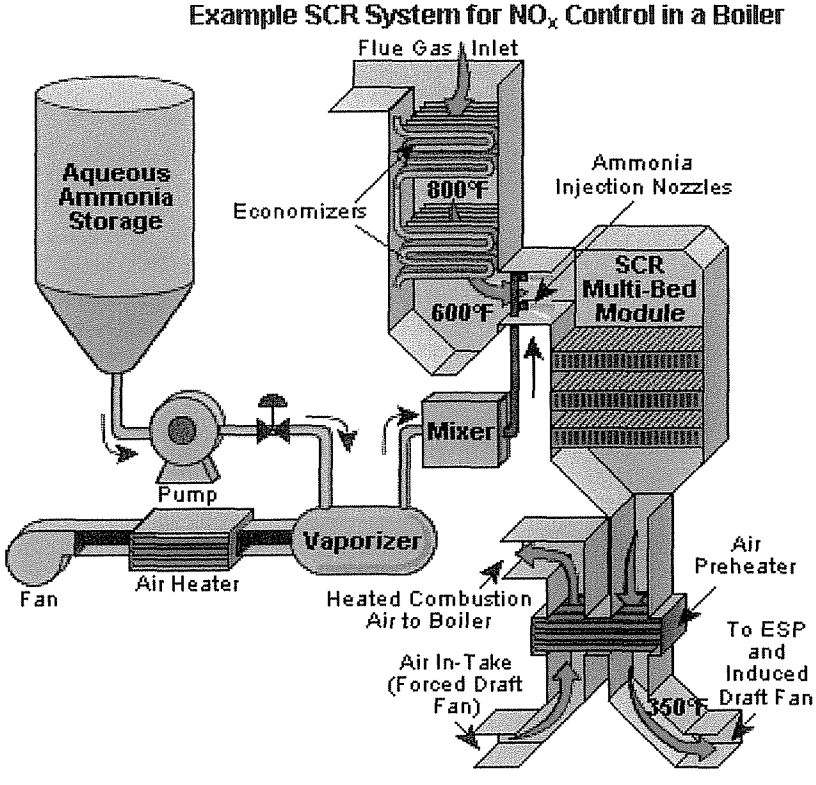
(1) Decreases the present value revenue requirements associated with NO_x compliance by more than $59 million when compared to purchasing allowances.
(2) Reduces, by half, the exposure associated with the historically volatile NO_x allowance market by reducing the anticipated allowance shortfall to approximately 123,000 tons from over 260,000 tons.
(3) Delays the depletion of the Companies' annual NO_x allowance bank by six years (from 2009 to 2015) and thereby reduces the ratepayer's exposure to the NO_x allowance market for the same period.
(4) Delays the depletion of the Companies' ozone season NO_x allowance bank from 2014 to 2033 and thereby reduces the ratepayer's exposure to the NO_x allowance market for the same period.
(5) Allows more time to evaluate next steps in future NO_x compliance technologies.
(6) Allows observation of how the NO_x allowance market responds to CAIR.

Therefore, it is the recommendation of this analysis that the Companies proceed with the least cost alternative of near term compliance with the CAIR regulations and construct a selective catalytic reduction system on Ghent 2 with an in-service date January 1, 2009. The Companies should continue to monitor the post-CAIR NO_x allowance market and applicable NO_x emission reduction technologies to insure that the least cost alternative associated with the projected 2015 shortfall in NO_x allowances is selected. The Companies should also continue the practice of environmental dispatch of its generating units.

Appendix 1

Selective Catalytic Reduction

Selective catalytic reduction (SCR) technology is a process in which ammonia or urea reacts with nitrogen oxides to form molecular nitrogen and water. The catalyst enhances the reactions between NO_x and ammonia and is usually composed of tungsten and vanadium configured in a honeycomb arrangement. The gas stream passes through the channels in the honeycomb. There are usually two or three separate catalyst beds in sequence. Generally, the best temperature window for this process in a typical boiler is upstream of the air heater and downstream of the economizer. Reduction of nitrogen oxides on the order of 75 to 90% is possible.



Graphic Source: www.epa.gov

Appendix 2

Total Annual Construction Expenditures[1] ($000)

Option #	Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total ($000)
0	Base													$0
1	Ghent 2 SCR-2008	$27,619	$33,333	$29,524										$90,476
2	Ghent 2 SCR-2009	$1,000	$28,000	$35,000	$31,000	$0	$0	$0	$0	$0	$0	$0	$0	$95,000
3	Ghent 2 SCR-2010		$1,050	$29,400	$36,750	$32,550								$99,750
4	Brown 3 SCR-2008	$27,769	$33,514	$29,684										$90,967
5	Brown 3 SCR-2009	$1,005	$28,152	$35,190	$31,168									$95,516
6	Brown 3 SCR-2010	$2,351	$7,835	$31,341	$47,012	$11,753								$100,291
7	Brown 3 SCR-2014					$2,857	$9,524	$38,095	$57,143	$14,286				$121,905
8	Brown 3 SCR-2015	$0	$0	$0	$0	$0	$3,000	$10,000	$40,000	$60,000	$15,000	$0	$0	$128,000
9	Brown 3 SCR-2016							$3,150	$10,500	$42,000	$63,000	$15,750		$134,400
10	Brown 3 SCR-2013				$2,721	$9,070	$36,281	$54,422	$13,605					$116,100

[1] Annual Construction Expenditures are expressed in nominal dollars.

Appendix 3

Environmental Affairs White Paper
Final "Clear Air Interstate Rule (CAIR)" Regulations

Glenn Gibian (Environmental Affairs)
July 18, 2005

Summary and Impact:

On **March 10, 2005**, USEPA finalized CAIR regulations requiring significant SO_2 and/or NO_x reductions in 28 eastern states including Kentucky.

Generally, it will reduce LG&E's allowable SO_2 emissions by around 50% in **2010** and 65% in **2015**. Allowable annual NO_x will be reduced by approximately 40% in **2009** and 50% by **2015**, compared to 2004 levels.

Compliance will require:
- Addition of six Flue Gas Desulfurization (on Ghent Units 2, 3, & 4 and Brown Units 1, 2, & 3),
- Operation of existing SCRs year-round (rather than only during the summer ozone season), and
- Installation of two additional SCRs (at Ghent 2 and Brown 3).

Update: The rules are intended to further reduce ozone (by requiring further reductions in NO_x during the summer) and to reduce fine particulates or $PM_{2.5}$ (by reducing SO_2 and NO_x on an annual basis).

It requires the following reductions from electric utilities compared to their 2003 levels*:

	Applies during:	**28-states**	**Kentucky**
Annual NO_x	2009-2014	53%	42%
Annual NO_x	2015 and beyond	61%	58%
Annual SO_2	2010-2014	45%	36%
Annual SO_2	2015 and beyond	57%	49%

*(assumes all reductions are achieved at electric utilities, as USEPA envisions)

Ozone Season NO_x: It replaces the current NO_x SIP Call (which caps NO_x emissions during May-September) with CAIR NO_x caps, also during May-September. For Kentucky, the new cap is identical to the NO_x SIP Call for 2009-2014 and is reduced by about 15% for 2015 and beyond.

Therefore, beginning in 2009, there will be two overlapping restrictions on NO_x emissions and the Companies must comply with both. The Companies must emit less than a given amount during the ozone season and emit less than another given amount on an annual basis.

The company anticipated these types of requirements (based on a similar proposed regulation) and:

- is installing additional scrubbers on six units to reduce SO_2,
- is planning to install two additional SCRs and to operate all SCRs year-round.

The rule requires states to submit a plan to USEPA on how it will achieve the reductions, either by participating in a regional "cap-and-trade program" (similar to the Acid Rain and NO_x SIP Call programs) or by an alternative of the states choosing. States must submit their plans for achieving the reductions within 18 months, around September 2006.

It is likely that Kentucky and most states will choose the cap-and-trade approach. Under a cap-and-trade program, each combustion unit is awarded a set number of "allowances." Historically, the unit would surrender allowances in an amount equal to its emissions to be in compliance; this rule modifies the surrender ratio for SO_2, explained later. Each allowance has an associated vintage year and cannot be used for compliance before its vintage. Allowances can be traded between units, plants, companies, and so on (subject to PSC conditions).

The allowance programs will be complicated since different states are subject to different combinations of the Acid Rain program, the NO_x SIP Call, CAIR ozone-season reductions, and CAIR SO_2/NO_x reductions.

The following is a simplified summary, based on EPA's model rule. Because each state will determine how to allocate its finite number of allowances to individual units/companies, LG&E's allocation is unknown. Appendix A of this paper shows an estimate.

Sulfur Dioxide

Existing Acid Rain allowances would be used. Allowances with vintage 2009 and earlier would be surrendered on a "one-for-one" basis throughout the CAIR program. Vintages 2010 through 2014 would be surrendered on a "two-for-one" basis (surrender two allowances for each ton of emissions) and vintages 2015 and beyond would be surrendered on a "2.86-for-one" basis. USEPA noted that states may want to require utilities to surrender on a 3 for 1 basis, to provide the state with discretionary allowances (e.g. for new sources or other uses).

This increases incentive to reduce emissions and bank SO_2 allowances before 2010.

NO_x

LG&E/KU's allocation will not be known until the state develops an in-state allocation process. A range of estimates will be provided below.

USEPA will allocate predetermined numbers of NO_x allowances to each state and the individual states determine how to allocate these to individual units, similar to the current process under the NO_x SIP Call. Because Kentucky is required to reduce NO_x for both ozone and $PM_{2.5}$, there will ozone season allowances and annual allowances.

For ozone-season control, Kentucky's allocation is same as under the NO_x SIP Call for 2009-2014. For 2015 and beyond, Kentucky's ozone season cap is about 15% lower (nominally based on 0.125 lb/mmBtu vs. 0,15 lb/mmBtu).

For $PM_{2.5}$ control, Kentucky's annual NO_x allocation is 83,205 tons during 2009-2014 and 69,337 tons for 2015 and beyond. These are about 7% higher than in the proposed regulations, largely because USEPA applied a weighting factor that allocates more allowances to coal-fired generation than to oil and gas; thus, Kentucky's allocation increased because of its high percentage of coal-fired generation. A number of states have challenged this fuel adjustment.

The final regulations include a new Compliance Supplement Pool of 200,000 NO_x allowances for utilities that achieve early reductions or demonstrate need. Kentucky would receive 15,000 tons of these. Under the NO_x SIP Call, Kentucky made these all available for Early Reductions. It is unknown how Kentucky will determine what constitutes early reductions and how these will be awarded.

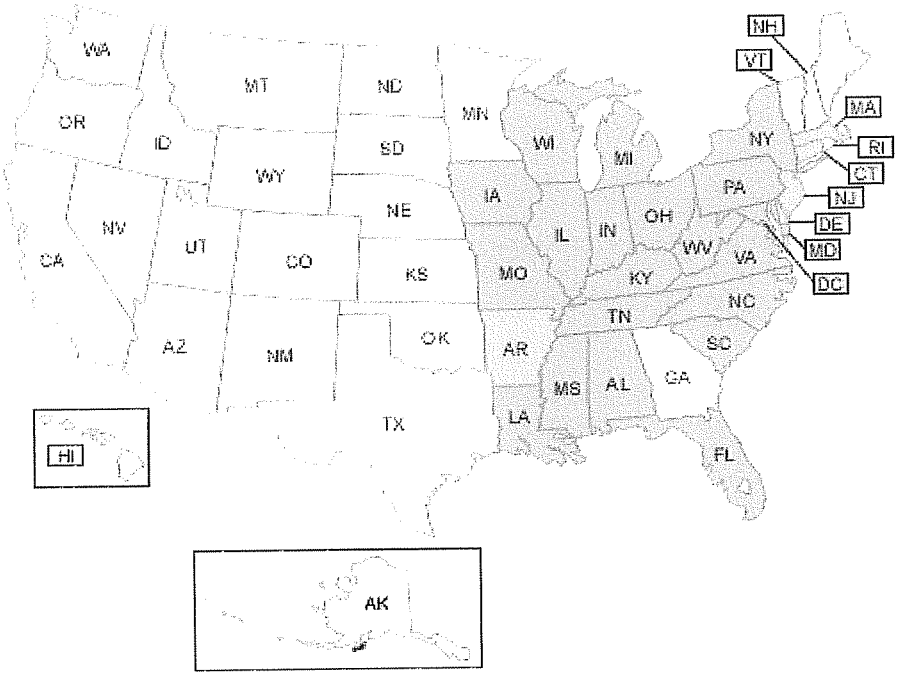
USEPA Estimated Benefits in Kentucky

- USEPA's revised modeling indicates that the reductions will not quite bring Jefferson County into attainment with the $PM_{2.5}$ standard whereas the previous modeling indicated it would.

- USEPA predicts the reductions will reduce Jefferson County's concentration from a Base Case of 16.61 to 15.13 (compared to the standard of 15ug/m3). Otherwise, USEPA estimates the reductions will bring all other areas of Kentucky into attainment for both ozone and $PM_{2.5}$.

States Covered by the Interstate Air Quality Rule (from USEPA Fact Sheet)
(States listed are controlling for both particle pollution and ozone unless otherwise noted.)

Alabama
Arkansas
Connecticut (ozone only)
Delaware
Florida (particle pollution only)
Georgia
Illinois
Indiana
Iowa
Kansas (particle pollution only)
Kentucky
Louisiana
Maryland
Massachusetts
Michigan
Minnesota (particle pollution only)
Mississippi
Missouri
New Jersey
New York
North Carolina
Ohio
Pennsylvania
South Carolina
Tennessee
Texas (particle pollution only)
Virginia
West Virginia
Wisconsin
District of Columbia



See http://www.epa.gov/cair/

Appendix A

Ballpark Estimates of Allowance Allocations under Clean Air Interstate Rule
Columns B & C are for calcuation/informational purposes only
[LGE values assume 75% of Trimble County 1]
LGE values do not include possible allocations to TC2 from New Source Set-Aside or when rolled into 'existing' source pool.
See Assumptions for further information

Annual NOx

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
KU	na	na	na	14,635	14,635	14,635	14,635	13,665	13,865	11,554	11,297	11,297	11,297	11,040	11,040	11,040	10,784	10,784
LGE	na	na	na	12,966	12,966	12,966	12,966	12,284	12,284	10,236	10,009	10,009	10,009	9,782	9,782	9,782	9,554	9,554
OMU	na	na	na	2,415	2,415	2,415	2,415	2,288	2,288	1,906	1,864	1,864	1,864	1,822	1,822	1,822	1,779	1,779

Ozone Season NOx

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
KU	6,764	6,607	6,607	6,607	6,405	6,405	6,405	6,068	6,068	6,068	5,933	5,933	5,933	5,798	5,798	5,798	5,663	5,663
LGE	5,683	5,992	5,992	5,992	5,808	5,808	5,808	5,502	5,502	5,502	5,380	5,380	5,380	5,258	5,258	5,258	5,136	5,136
OMU	1,121	1,151	1,151	1,151	1,116	1,116	1,116	1,057	1,057	1,057	1,034	1,034	1,034	1,010	1,010	1,010	987	987

CAIR SO2

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
KU	83,343	83,343	83,343	83,343	36,746	36,746	36,746	36,746	36,746	25,759	25,759	25,759	25,759	25,759	25,759	25,759	25,759	25,759
LGE	62,456	62,456	62,456	62,456	28,420	28,420	28,420	28,420	28,420	19,922	19,922	19,922	19,922	19,922	19,922	19,922	19,922	19,922
OMU	9,018	9,018	9,018	9,018	4,282	4,282	4,282	4,282	4,282	3,001	3,001	3,001	3,001	3,001	3,001	3,001	3,001	3,001

Assumptions:

General
These are ballpark estimates, based on the assumptions below, which include guessing how the Kentucky Division for Air Quality will allocate state-wide pools of allowances, the amount of new generation in the state, and other unknowns.

Allocations based on Btu consumption, average of highest two years selected from 2002-2004.

Ozone Season NOx
NOx SIP Call:
2004-2006 actual allocations
2007-2009 latest proposed from KYDAQ (which includes a 2% set-aside)

Will have to re-write regs for CAIR ozone season
2010-2012 assume 5%.
2013-2015 assume 10%
2016-2018 assume 12%
Each three years, additional 2% (e.g. 14% for 2019-2021, 16% for 2022-2024, etc)

CAIR Annual NOx:
Assumes Kentucky does not apply a fuel-type factor that reduces allowances awarded to non-coal units, which is slightly conservative; while Kentucky might apply this factor (being a coal state), non-coal utilities will argue against it as it hurts them more than it helps coal units
2009-2012: Assume KYDAQ allocates 4 years of allowances to get in sync with NOx SIP Call. Assume 5% set-aside.
2013-2015: Assume 10% withheld (combo of NSSA and roll-ins).
(note: in 2013-2014, this applies to the 2009 unratchetted allocation. In 2015, this applies to the 2015 unratchetted allocation)
2016-2018 assume 12% reduction from the 2015 unratchetted allocation
Each three years, additional 2% reduction from the 2015 unratchetted allocation.

CAIR SO2:
Assumes that a surrender ratio (e.g. surrendering 2 for 1) equates to receiving that fraction (e.g. half) of Acid Rain allowances, technically, we will still receive the same number of allowances but will have to surrender multiple allowances for each ton of emissions.
2010-2014: assume surrender 2.11 for 1 to provide KYDAQ with a 5% set-aside
2015+ : assume 3.01 for 1 to provide KYDAQ with a 5% set-aside
Calculation:
Assume unit received 100 A.R. allowances
DAQ wants to receive 5 (5%)
For 2:1 surrender:
Unit is allowed to emit (100 - 5)/2 = 47.5
100/47.5 = 2.11
For 2.86:1 surrender:
Unit is allowed to emit (100 - 5)/2.86 = 33.22
100/33.22 =3.01

Appendix 4

General Assumptions

- Study Period: 30-year period for Production Cost impacts (2006-2035)
  30-year period for Capital Costs impacts (2006-2035)

  The production costs include items such as fuel, O&M, purchase power etc and are estimated using the PROSYM production model. The model was run for the 2006-2035 time period.

  The revenue requirements associated with capital costs are determined via the Capital Expenditure and Recovery module of the Strategist production and capital costing software.

- KU/LGE continues as a regulated entity subject to the oversight of the Kentucky Public Service Commission and that the Commission continues the requirement of the Companies implementing the least cost strategy to the benefit of the native load ratepayers.

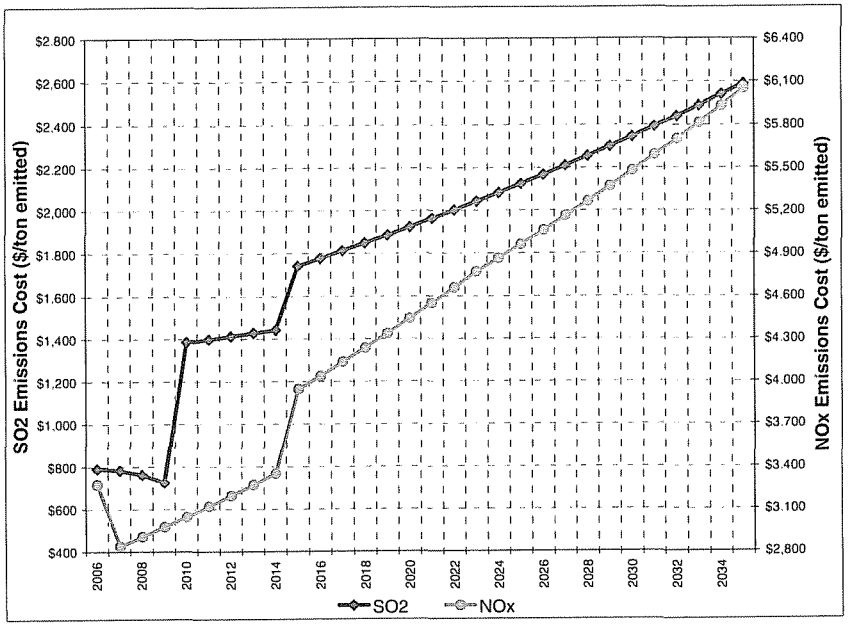
- The capital costs, O&M costs and the costs of increased emissions (both NO_x and SO_2) associated with the addition of new environmental projects will be subject to recovery through the Environmental Cost Recovery mechanism.

- Financial Data
  - Discount Rate (%): 7.85 %
  - Federal Income Tax Rate (%) 39.55 %
  - AFUDC Rate (%): 7.85 %
  - Insurance Rate (%): 0.07 %
  - Property Tax Rate (%): 0.15 %
  - Percentage of Debt in Capital Structure (%): 43.94 %
  - Debt Interest Rate/Weighted Cost of Debt (%): 4.48 %
  - Desired Return on Rate base (%): 7.85 %
  - Capitalized Interest Debt Rate (%): 4.48 %
  - Environmental Projects Book Life (years): 34 years
  - Environmental Projects Tax Life (years): 20 years
  - Annual capital cost escalation rate (%): 5.0%
  - Annual Fixed O&M escalation rate (%): 2.0%
  - Annual Variable O&M escalation rate (%): 2.0%

- No unit retirements occur on the Companies' generating system within the study period.

- SO_2 and NO_x Emission Costs (Base Assumptions)
  Note that the effects of CAIR can be seen in the forecast price of NO_x in 2009 and beyond and SO_2 in 2010 and beyond.

Maket Price per Ton Emitted	SO_2	NO_x
Year	($/ton emitted)	($/ton emitted)
2006	$790	$3,275
2007	$782	$2,838
2008	$761	$2,906
2009	$725	$2,976
2010	$1,385	$3,047
2011	$1,398	$3,120
2012	$1,412	$3,195
2013	$1,427	$3,272
2014	$1,441	$3,351
2015	$1,741	$3,946
2016	$1,776	$4,040
2017	$1,812	$4,137
2018	$1,849	$4,237
2019	$1,885	$4,338
2020	$1,923	$4,442
2021	$1,962	$4,549
2022	$2,001	$4,658
2023	$2,041	$4,770
2024	$2,082	$4,865
2025	$2,123	$4,963
2026	$2,166	$5,062
2027	$2,209	$5,163
2028	$2,253	$5,266
2029	$2,298	$5,372
2030	$2,344	$5,479
2031	$2,391	$5,589
2032	$2,439	$5,701
2033	$2,488	$5,815
2034	$2,538	$5,931
2035	$2,588	$6,050



- Fuel Forecast (Base Assumptions)
  - Any and all fuel cost savings associated with serving native load will be returned to the ratepayer though the Fuel Adjustment Clause mechanism.

Appendix 5

Cost Comparison of Alternative NO_x Compliance Plans

All Costs in 2006 PVRR $ x1000

Case00- Option 0: Do Nothing (No NOx Dispatch)

Fuel Forecast: Base — Capital Cost Sensitivity:
Load Forecast: Base
SO2 Price Forecast: Base X 1
NOX Price Forecast: None X 1
Other Description: No NOx Dispatch, TC2 '10, GFCU1 '19, GFCU2 '25
No SCR @ GH2 or BR3

Environmental Controls:

Unit	SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost (MS)
Brown 3	98%	FS HS+Wet FGD	2009	LNCFS III (1992)	0	
Ghent 2	98%	FS HS+Wet FGD	2008	LNCFS III (2000)	0	

SO_2 Allowances Purchased: 487,112 — SO_2 Tons Emitted: 2,521,638
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 63%
Annual NO_x Allow Purch: 331,274 — Annual NO_x Tons Emit: 926,882

Case00- Option 0: Do Nothing (with Env Dispatch)

Fuel Forecast: Base — Capital Cost Sensitivity:
Load Forecast: Base
SO2 Price Forecast: Base X 1
NOX Price Forecast: Base X 1
Other Description: SO2 & NOx Dispatch, TC2 '10, GFCU1 '19, GFCU2 '25
No SCR @ GH2 or BR3

Environmental Controls:

SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost (MS)
98%	FS HS+Wet FGD	2009	LNCFS III (1992)	0	
98%	FS HS+Wet FGD	2008	LNCFS III (2000)	0	

SO_2 Allowances Purchased: 429,009 — SO_2 Tons Emitted: 2,463,537
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 57%
Annual NO_x Allow Purch: 218,097 — Annual NO_x Tons Emit: 813,705

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 $
2006	0	790	[redacted]	-	-	-	[redacted]	3275	790	[redacted]	-	-	-	[redacted]	(106)	(106)
2007	0	782		-	-	-		2838	782		-	-	-		402	296
2008	0	761		-	-	-		2906	761		-	-	-		(177)	119
2009	0	725		10,547	-	-		2976	725		8,557	-	-		2,942	3,061
2010	0	1385		10,579	-	-		3047	1385		6,593	-	-		4,391	7,452
2011	0	1398		12,724	-	-		3120	1398		4,679	-	-		11,455	18,907
2012	0	1412		14,997	-	-		3195	1412		4,804	-	-		14,813	33,720
2013	0	1427		20,085	-	-		3272	1427		7,950	-	-		16,084	49,804
2014	0	1441		19,619	-	-		3351	1441		9,385	-	-		13,302	63,106
2015	0	1741		30,422	-	-		3946	1741		20,993	-	-		12,888	75,994
2016	0	1776		29,925	-	-		4040	1776		21,689	-	-		10,629	86,622
2017	0	1812		28,112	21,225	-		4137	1812		21,484	958	-		29,219	115,842
2018	0	1849		26,742	21,510	-		4237	1849		20,368	19,524	-		11,419	127,261
2019	0	1885		26,383	19,129	-		4338	1885		17,458	17,553	-		13,980	141,241
2020	0	1923		27,111	17,400	-		4442	1923		17,288	16,650	-		14,941	156,182
2021	0	1962		27,062	15,829	-		4549	1962		17,047	15,056	-		14,019	170,202
2022	0	2001		26,205	15,288	-		4658	2001		16,757	14,164	-		14,753	184,955
2023	0	2041		25,849	14,578	-		4770	2041		16,208	13,551	-		16,825	201,780
2024	0	2082		24,448	14,550	-		4865	2082		16,311	13,619	-		14,472	216,252
2025	0	2123		23,869	12,728	-		4963	2123		14,184	12,137	-		15,137	231,388
2026	0	2166		20,592	10,495	-		5062	2166		10,073	9,994	-		14,339	245,727
2027	0	2209		20,598	10,317	-		5163	2209		10,654	9,836	-		14,321	260,047
2028	0	2253		19,085	9,987	-		5267	2253		10,114	9,256	-		13,601	273,648
2029	0	2298		18,266	9,473	-		5372	2299		10,235	8,838	-		12,202	285,850
2030	0	2344		17,744	9,199	-		5479	2344		10,066	8,503	-		11,738	297,587
2031	0	2391		16,828	9,166	-		5589	2391		9,706	8,483	-		11,041	308,629
2032	0	2439		16,560	8,990	-		5700	2439		9,393	8,219	-		11,506	320,135
2033	0	2488		14,990	8,736	-		5815	2488		8,956	8,018	-		8,823	328,957
2034	0	2538		14,778	8,328	-		5931	2538		8,796	7,580	-		9,654	338,611
2035	0	2588		13,964	8,031	-		6049	2588		8,771	7,297	-		8,031	346,642
Totals			15,775,690	558,085	244,960	-	16,578,735			15,684,338	338,518	209,236	-	16,232,092	346,642	

Cost Comparison of Alternative NO_x Compliance Plans

All Costs in 2006 PVRR $ x1000

Case01- Option 01: GH2 SCR 2008

Fuel Forecast: Base — Capital Cost Sensitivity:
Load Forecast: Base
SO2 Price Forecast: Base X 1
NOX Price Forecast: Base X 1
Other Description: SO2 & NOx Dispatch, TC2 '10, GFCU1 '19, GFCU2 '25 GH2 SCR '08

Environmental Controls:

Unit	SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost (MS)
Brown 3	98%	FS HS+Wet FGD	2009	LNCFS III (1992)	0	
Ghent 2	98%	FS HS+Wet FGD	2008	LNCFS III (2000)	2008	$90.48

SO_2 Allowances Purchased: 428,296 — SO_2 Tons Emitted: 2,462,827
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 57%
Annual NO_x Allow Purch: 120,992 — Annual NO_x Tons Emit: 716,600

Case00- Option 0: Do Nothing (with Env Dispatch)

Fuel Forecast: Base — Capital Cost Sensitivity:
Load Forecast: Base
SO2 Price Forecast: Base X 1
NOX Price Forecast: Base X 1
Other Description: SO2 & NOx Dispatch, TC2 '10, GFCU1 '19, GFCU2 '25 No SCR @ GH2 or BR3

Environmental Controls:

SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost (MS)
98%	FS HS+Wet FGD	2009	LNCFS III (1992)	0	
98%	FS HS+Wet FGD	2008	LNCFS III (2000)	0	

SO_2 Allowances Purchased: 429,009 — SO_2 Tons Emitted: 2,463,537
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 57%
Annual NO_x Allow Purch: 218,097 — Annual NO_x Tons Emit: 813,705

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 $
2006	3275	790	[redacted]	-	-	3,161	[redacted]	3275	790	[redacted]	-	-	-	[redacted]	3,161	3,161
2007	2838	782	[redacted]	-	-	6,468	[redacted]	2838	782	[redacted]	-	-	-	[redacted]	6,468	9,629
2008	2906	761	[redacted]	-	-	11,614	[redacted]	2906	761	[redacted]	-	-	-	[redacted]	12,620	22,249
2009	2976	725	[redacted]	-	-	10,351	[redacted]	2976	725	[redacted]	8,557	-	-	[redacted]	3,206	25,454
2010	3047	1385	[redacted]	-	-	9,227	[redacted]	3047	1385	[redacted]	6,593	-	-	[redacted]	3,965	29,419
2011	3120	1398	[redacted]	-	-	8,226	[redacted]	3120	1398	[redacted]	4,679	-	-	[redacted]	4,662	34,081
2012	3195	1412	[redacted]	-	-	7,335	[redacted]	3195	1412	[redacted]	4,804	-	-	[redacted]	3,672	37,753
2013	3272	1427	[redacted]	-	-	6,542	[redacted]	3272	1427	[redacted]	7,950	-	-	[redacted]	(286)	37,467
2014	3351	1441	[redacted]	-	-	5,834	[redacted]	3351	1441	[redacted]	9,385	-	-	[redacted]	(2,578)	34,889
2015	3946	1741	[redacted]	5,161	-	5,202	[redacted]	3946	1741	[redacted]	20,993	-	-	[redacted]	(9,631)	25,258
2016	4040	1776	[redacted]	10,961	-	4,633	[redacted]	4040	1776	[redacted]	21,689	-	-	[redacted]	(5,214)	20,044
2017	4137	1812	[redacted]	10,939	867	4,119	[redacted]	4137	1812	[redacted]	21,484	958	-	[redacted]	(5,563)	14,482
2018	4237	1849	[redacted]	9,871	19,509	3,655	[redacted]	4237	1849	[redacted]	20,368	19,524	-	[redacted]	(5,963)	8,519
2019	4338	1885	[redacted]	8,862	17,519	3,237	[redacted]	4338	1885	[redacted]	17,458	17,553	-	[redacted]	(4,613)	3,906
2020	4442	1923	[redacted]	8,801	16,646	2,861	[redacted]	4442	1923	[redacted]	17,288	16,650	-	[redacted]	(4,808)	(902)
2021	4549	1962	[redacted]	8,633	15,068	2,522	[redacted]	4549	1962	[redacted]	17,047	15,056	-	[redacted]	(5,066)	(5,969)
2022	4658	2001	[redacted]	8,557	14,108	2,217	[redacted]	4658	2001	[redacted]	16,757	14,164	-	[redacted]	(5,274)	(11,243)
2023	4770	2041	[redacted]	8,244	13,530	1,944	[redacted]	4770	2041	[redacted]	16,208	13,551	-	[redacted]	(5,007)	(16,250)
2024	4865	2082	[redacted]	8,557	13,610	1,698	[redacted]	4865	2082	[redacted]	16,311	13,619	-	[redacted]	(5,247)	(21,497)
2025	4962	2123	[redacted]	7,395	12,107	1,478	[redacted]	4963	2123	[redacted]	14,184	12,137	-	[redacted]	(4,577)	(26,074)
2026	5062	2166	[redacted]	5,123	9,939	1,281	[redacted]	5062	2166	[redacted]	10,073	9,994	-	[redacted]	(3,111)	(29,185)
2027	5163	2209	[redacted]	5,406	9,790	1,105	[redacted]	5163	2209	[redacted]	10,654	9,836	-	[redacted]	(3,492)	(32,677)
2028	5267	2253	[redacted]	5,301	9,219	965	[redacted]	5267	2253	[redacted]	10,114	9,256	-	[redacted]	(3,262)	(35,938)
2029	5372	2298	[redacted]	5,108	8,817	858	[redacted]	5372	2299	[redacted]	10,235	8,838	-	[redacted]	(3,564)	(39,502)
2030	5479	2344	[redacted]	5,167	8,486	760	[redacted]	5479	2344	[redacted]	10,066	8,503	-	[redacted]	(3,419)	(42,921)
2031	5589	2391	[redacted]	5,162	8,466	673	[redacted]	5589	2391	[redacted]	9,706	8,483	-	[redacted]	(3,133)	(46,054)
2032	5700	2439	[redacted]	4,878	8,205	594	[redacted]	5700	2439	[redacted]	9,393	8,219	-	[redacted]	(3,154)	(49,209)
2033	5815	2488	[redacted]	4,840	8,041	523	[redacted]	5815	2488	[redacted]	8,956	8,018	-	[redacted]	(2,799)	(52,008)
2034	5931	2538	[redacted]	4,628	7,612	459	[redacted]	5931	2538	[redacted]	8,796	7,580	-	[redacted]	(2,786)	(54,794)
2035	6049	2588	[redacted]	5,435	7,289	402	[redacted]	6049	2588	[redacted]	8,771	7,297	-	[redacted]	(2,181)	(56,976)
Totals			15,709,313	147,030	208,830	110,294	**16,175,467**			15,684,338	338,518	209,236	-	**16,232,092**	**(56,626)**	

Cost Comparison of Alternative NO_x Compliance Plans

All Costs in 2006 PVRR $ x1000

Case02- Option 02: GH2 SCR 2009

Fuel Forecast: Base — Capital Cost Sensitivity:
Load Forecast: Base
SO2 Price Forecast: Base X 1
NOX Price Forecast: Base X 1
Other Description: SO2 & NOx Dispatch, TC2 '10, GFCU1 '19, GFCU2 '25 GH2 SCR '09

Environmental Controls:

Unit	SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost (MS)
Brown 3	98%	FS HS+Wet FGD	2009	LNCFS III (1992)	0	
Ghent 2	98%	FS HS+Wet FGD	2008	LNCFS III (2000)	2009	$95.00

SO_2 Allowances Purchased: 428,286 — SO_2 Tons Emitted: 2,462,814
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 57%
Annual NO_x Allow Purch: 120,992 — Annual NO_x Tons Emit: 716,600

Case00- Option 0: Do Nothing (with Env Dispatch)

Fuel Forecast: Base — Capital Cost Sensitivity:
Load Forecast: Base
SO2 Price Forecast: Base X 1
NOX Price Forecast: Base X 1
Other Description: SO2 & NOx Dispatch, TC2 '10, GFCU1 '19, GFCU2 '25 No SCR @ GH2 or BR3

Environmental Controls:

SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost (MS)
98%	FS HS+Wet FGD	2009	LNCFS III (1992)	0	
98%	FS HS+Wet FGD	2008	LNCFS III (2000)	0	

SO_2 Allowances Purchased: 429,009 — SO_2 Tons Emitted: 2,463,537
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 57%
Annual NO_x Allow Purch: 218,097 — Annual NO_x Tons Emit: 813,705

Price Curve Multipliers
SO_2 1.00
NO_x 1.00

DIFFERENCE CALCULATIONS

Year	Case02 Emission Price (Nominal $/ton emit) NOx	Case02 Emission Price (Nominal $/ton emit) SO2	Case02 Production $	Case02 Combined Company Allow. Purchases NOx $	Case02 Combined Company Allow. Purchases SO2 $	Case02 Capital $	Case02 PVRR Total $	Case00 Emission Price (Nominal $/ton emit) NOx	Case00 Emission Price (Nominal $/ton emit) SO2	Case00 Production $	Case00 Combined Company Allow. Purchases NOx $	Case00 Combined Company Allow. Purchases SO2 $	Case00 Capital $	Case00 PVRR Total $	Difference Total $	Cumulative Total $
2006	3275	790	[redacted]	-	-	114	[redacted]	3275	790	[redacted]	-	-	-	[redacted]	114	114
2007	2838	782	[redacted]	-	-	3,077	[redacted]	2838	782	[redacted]	-	-	-	[redacted]	3,077	3,191
2008	2906	761	[redacted]	-	-	6,297	[redacted]	2906	761	[redacted]	-	-	-	[redacted]	6,297	9,488
2009	2976	725	[redacted]	-	-	11,309	[redacted]	2976	725	[redacted]	8,557	-	-	[redacted]	4,164	13,652
2010	3047	1385	[redacted]	-	-	10,079	[redacted]	3047	1385	[redacted]	6,593	-	-	[redacted]	4,817	18,468
2011	3120	1398	[redacted]	-	-	8,984	[redacted]	3120	1398	[redacted]	4,679	-	-	[redacted]	5,420	23,889
2012	3195	1412	[redacted]	-	-	8,010	[redacted]	3195	1412	[redacted]	4,804	-	-	[redacted]	4,347	28,236
2013	3272	1427	[redacted]	-	-	7,143	[redacted]	3272	1427	[redacted]	7,950	-	-	[redacted]	315	28,550
2014	3351	1441	[redacted]	-	-	6,370	[redacted]	3351	1441	[redacted]	9,385	-	-	[redacted]	(2,042)	26,508
2015	3946	1741	[redacted]	5,161	-	5,680	[redacted]	3946	1741	[redacted]	20,993	-	-	[redacted]	(9,153)	17,355
2016	4040	1776	[redacted]	10,961	-	5,065	[redacted]	4040	1776	[redacted]	21,689	-	-	[redacted]	(4,782)	12,574
2017	4137	1812	[redacted]	10,939	858	4,511	[redacted]	4137	1812	[redacted]	21,484	958	-	[redacted]	(5,179)	7,394
2018	4237	1849	[redacted]	9,871	19,509	4,011	[redacted]	4237	1849	[redacted]	20,368	19,524	-	[redacted]	(5,607)	1,787
2019	4338	1885	[redacted]	8,862	17,519	3,559	[redacted]	4338	1885	[redacted]	17,458	17,553	-	[redacted]	(4,291)	(2,503)
2020	4442	1923	[redacted]	8,801	16,646	3,152	[redacted]	4442	1923	[redacted]	17,288	16,650	-	[redacted]	(4,517)	(7,020)
2021	4549	1962	[redacted]	8,633	15,068	2,786	[redacted]	4549	1962	[redacted]	17,047	15,056	-	[redacted]	(4,802)	(11,823)
2022	4658	2001	[redacted]	8,557	14,108	2,456	[redacted]	4658	2001	[redacted]	16,757	14,164	-	[redacted]	(5,035)	(16,858)
2023	4770	2041	[redacted]	8,244	13,530	2,159	[redacted]	4770	2041	[redacted]	16,208	13,551	-	[redacted]	(4,792)	(21,650)
2024	4865	2082	[redacted]	8,557	13,610	1,892	[redacted]	4865	2082	[redacted]	16,311	13,619	-	[redacted]	(5,053)	(26,703)
2025	4962	2123	[redacted]	7,395	12,107	1,653	[redacted]	4963	2123	[redacted]	14,184	12,137	-	[redacted]	(4,402)	(31,105)
2026	5062	2166	[redacted]	5,123	9,939	1,439	[redacted]	5062	2166	[redacted]	10,073	9,994	-	[redacted]	(2,953)	(34,058)
2027	5163	2209	[redacted]	5,406	9,790	1,247	[redacted]	5163	2209	[redacted]	10,654	9,836	-	[redacted]	(3,350)	(37,408)
2028	5267	2253	[redacted]	5,301	9,219	1,075	[redacted]	5267	2253	[redacted]	10,114	9,256	-	[redacted]	(3,152)	(40,560)
2029	5372	2298	[redacted]	5,108	8,817	940	[redacted]	5372	2299	[redacted]	10,235	8,838	-	[redacted]	(3,482)	(44,041)
2030	5479	2344	[redacted]	5,167	8,486	835	[redacted]	5479	2344	[redacted]	10,066	8,503	-	[redacted]	(3,344)	(47,385)
2031	5589	2391	[redacted]	5,162	8,466	740	[redacted]	5589	2391	[redacted]	9,706	8,483	-	[redacted]	(3,066)	(50,451)
2032	5700	2439	[redacted]	4,878	8,205	655	[redacted]	5700	2439	[redacted]	9,393	8,219	-	[redacted]	(3,094)	(53,545)
2033	5815	2488	[redacted]	5,265	8,041	578	[redacted]	5815	2488	[redacted]	8,956	8,018	-	[redacted]	(2,320)	(55,865)
2034	5931	2538	[redacted]	5,276	7,612	509	[redacted]	5931	2538	[redacted]	8,796	7,580	-	[redacted]	(2,089)	(57,953)
2035	6049	2588	[redacted]	5,456	7,289	447	[redacted]	6049	2588	[redacted]	8,771	7,297	-	[redacted]	(2,115)	(60,068)
Totals			15,708,307	148,124	208,821	107,163	**16,172,415**			15,684,338	338,518	209,236	-	**16,232,092**	**(59,677)**	

Cost Comparison of Alternative NO_x Compliance Plans

All Costs in 2006 PVRR $ x1000

Case03- Option 03: GH2 SCR 2010

Fuel Forecast: Base — Capital Cost Sensitivity:
Load Forecast: Base
SO2 Price Forecast: Base X 1
NOX Price Forecast: Base X 1
Other Description: SO2 & NOx Dispatch, TC2 '10, GFCU1 '19, GFCU2 '25
GH2 SCR '10

Environmental Controls:

Unit	SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost ($/MS)
Brown 3	98%	FS HS+Wet FGD	2009	LNCFS III (1992)	0	
Ghent 2	98%	FS HS+Wet FGD	2008	LNCFS III (2000)	2010	$99.75

SO_2 Allowances Purchased: 428,300 — SO_2 Tons Emitted: 2,462,827
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 57%
Annual NO_x Allow Purch: 124,757 — Annual NO_x Tons Emit: 720,365

Case00- Option 0: Do Nothing (with Env Dispatch)

Fuel Forecast: Base — Capital Cost Sensitivity:
Load Forecast: Base
SO2 Price Forecast: Base X 1
NOX Price Forecast: Base X 1
Other Description: SO2 & NOx Dispatch, TC2 '10, GFCU1 '19, GFCU2 '25
No SCR @ GH2 or BR3

Environmental Controls:

SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost ($/MS)
98%	FS HS+Wet FGD	2009	LNCFS III (1992)	0	
98%	FS HS+Wet FGD	2008	LNCFS III (2000)	0	

SO_2 Allowances Purchased: 429,009 — SO_2 Tons Emitted: 2,463,537
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 57%
Annual NO_x Allow Purch: 218,097 — Annual NO_x Tons Emit: 813,705

Price Curve Multipliers
SO_2 1.00
NO_x 1.00

DIFFERENCE CALCULATIONS

Year	Case03 Emission Price (Nominal $/ton emit) NOx	Case03 Emission Price (Nominal $/ton emit) SO2	Case03 Production $	Case03 Combined Company Allow. Purchases NOx $	Case03 Combined Company Allow. Purchases SO2 $	Case03 Capital $	Case03 PVRR Total $	Case00 Emission Price (Nominal $/ton emit) NOx	Case00 Emission Price (Nominal $/ton emit) SO2	Case00 Production $	Case00 Combined Company Allow. Purchases NOx $	Case00 Combined Company Allow. Purchases SO2 $	Case00 Capital $	Case00 PVRR Total $	Difference Calculations Total $	Difference Calculations Cumulative Total $
2006	3275	790	[redacted]	-	-	-	[redacted]	3275	790	[redacted]	-	-	-	[redacted]	-	-
2007	2838	782	[redacted]	-	-	111	[redacted]	2838	782	[redacted]	-	-	-	[redacted]	111	111
2008	2906	761	[redacted]	-	-	2,996	[redacted]	2906	761	[redacted]	-	-	-	[redacted]	2,996	3,107
2009	2976	725	[redacted]	8,557	-	6,130	[redacted]	2976	725	[redacted]	8,557	-	-	[redacted]	6,130	9,237
2010	3047	1385	[redacted]	-	-	11,010	[redacted]	3047	1385	[redacted]	6,593	-	-	[redacted]	5,287	14,524
2011	3120	1398	[redacted]	-	-	9,812	[redacted]	3120	1398	[redacted]	4,679	-	-	[redacted]	6,248	20,772
2012	3195	1412	[redacted]	-	-	8,747	[redacted]	3195	1412	[redacted]	4,804	-	-	[redacted]	5,084	25,856
2013	3272	1427	[redacted]	-	-	7,799	[redacted]	3272	1427	[redacted]	7,950	-	-	[redacted]	970	26,826
2014	3351	1441	[redacted]	-	-	6,954	[redacted]	3351	1441	[redacted]	9,385	-	-	[redacted]	(1,458)	25,368
2015	3946	1741	[redacted]	5,477	-	6,201	[redacted]	3946	1741	[redacted]	20,993	-	-	[redacted]	(8,316)	17,052
2016	4040	1776	[redacted]	10,961	-	5,530	[redacted]	4040	1776	[redacted]	21,689	-	-	[redacted]	(4,317)	12,736
2017	4137	1812	[redacted]	10,939	870	4,932	[redacted]	4137	1812	[redacted]	21,484	958	-	[redacted]	(4,747)	7,988
2018	4237	1849	[redacted]	9,871	19,509	4,392	[redacted]	4237	1849	[redacted]	20,368	19,524	-	[redacted]	(5,226)	2,762
2019	4338	1885	[redacted]	8,862	17,519	3,905	[redacted]	4338	1885	[redacted]	17,458	17,553	-	[redacted]	(3,945)	(1,183)
2020	4442	1923	[redacted]	8,801	16,646	3,465	[redacted]	4442	1923	[redacted]	17,288	16,650	-	[redacted]	(4,204)	(5,387)
2021	4549	1962	[redacted]	8,633	15,068	3,069	[redacted]	4549	1962	[redacted]	17,047	15,056	-	[redacted]	(4,519)	(9,906)
2022	4658	2001	[redacted]	8,557	14,108	2,712	[redacted]	4658	2001	[redacted]	16,757	14,164	-	[redacted]	(4,779)	(14,685)
2023	4770	2041	[redacted]	8,244	13,530	2,391	[redacted]	4770	2041	[redacted]	16,208	13,551	-	[redacted]	(4,560)	(19,246)
2024	4865	2082	[redacted]	8,557	13,610	2,102	[redacted]	4865	2082	[redacted]	16,311	13,619	-	[redacted]	(4,843)	(24,089)
2025	4962	2123	[redacted]	7,395	12,107	1,842	[redacted]	4963	2123	[redacted]	14,184	12,137	-	[redacted]	(4,213)	(28,302)
2026	5062	2166	[redacted]	5,123	9,939	1,610	[redacted]	5062	2166	[redacted]	10,073	9,994	-	[redacted]	(2,782)	(31,084)
2027	5163	2209	[redacted]	5,406	9,790	1,401	[redacted]	5163	2209	[redacted]	10,654	9,836	-	[redacted]	(3,196)	(34,280)
2028	5267	2253	[redacted]	5,301	9,219	1,214	[redacted]	5267	2253	[redacted]	10,114	9,256	-	[redacted]	(3,013)	(37,292)
2029	5372	2298	[redacted]	5,108	8,817	1,047	[redacted]	5372	2299	[redacted]	10,235	8,838	-	[redacted]	(3,375)	(40,667)
2030	5479	2344	[redacted]	5,460	8,486	915	[redacted]	5479	2344	[redacted]	10,066	8,503	-	[redacted]	(2,971)	(43,638)
2031	5589	2391	[redacted]	5,552	8,466	813	[redacted]	5589	2391	[redacted]	9,706	8,483	-	[redacted]	(2,603)	(46,241)
2032	5700	2439	[redacted]	5,425	8,205	721	[redacted]	5700	2439	[redacted]	9,393	8,219	-	[redacted]	(2,481)	(48,722)
2033	5815	2488	[redacted]	5,487	8,041	638	[redacted]	5815	2488	[redacted]	8,956	8,018	-	[redacted]	(2,038)	(50,760)
2034	5931	2538	[redacted]	5,276	7,612	563	[redacted]	5931	2538	[redacted]	8,796	7,580	-	[redacted]	(2,035)	(52,795)
2035	6049	2588	[redacted]	5,456	7,289	496	[redacted]	6049	2588	[redacted]	8,771	7,297	-	[redacted]	(2,066)	(54,861)
Totals			15,706,433	158,448	208,833	103,953	**16,177,667**			15,684,338	338,518	209,236	-	**16,232,092**	**(54,426)**	

Cost Comparison of Alternative NO_x Compliance Plans

All Costs in 2006 PVRR $ x1000

Case04- Option 04: BR3 SCR 2008

Fuel Forecast: Base — Capital Cost Sensitivity:
Load Forecast: Base
SO2 Price Forecast: Base X 1
NOX Price Forecast: Base X 1
Other Description: SO2 & NOx Dispatch, TC2 '10, GFCU1 '19, GFCU2 '25 BR3 SCR '08

Environmental Controls:

Unit	SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost ($/MS)
Brown 3	98%	FS HS+Wet FGD	2009	LNCFS III (1992)	2008	$90.97
Ghent 2	98%	FS HS+Wet FGD	2008	LNCFS III (2000)	0	

SO_2 Allowances Purchased: 427,082 — SO_2 Tons Emitted: 2,461,611
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 57%
Annual NO_x Allow Purch: 122,136 — Annual NO_x Tons Emit: 717,744

Case00- Option 0: Do Nothing (with Env Dispatch)

Fuel Forecast: Base — Capital Cost Sensitivity:
Load Forecast: Base
SO2 Price Forecast: Base X 1
NOX Price Forecast: Base X 1
Other Description: SO2 & NOx Dispatch, TC2 '10, GFCU1 '19, GFCU2 '25 No SCR @ GH2 or BR3

Environmental Controls:

SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost ($/MS)
98%	FS HS+Wet FGD	2009	LNCFS III (1992)	0	
98%	FS HS+Wet FGD	2008	LNCFS III (2000)	0	

SO_2 Allowances Purchased: 429,009 — SO_2 Tons Emitted: 2,463,537
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 57%
Annual NO_x Allow Purch: 218,097 — Annual NO_x Tons Emit: 813,705

Price Curve Multipliers
SO_2 1.00
NO_x 1.00

DIFFERENCE CALCULATIONS

Year	Case04 Emission Price (Nominal $/ton emit) NOx	Case04 Emission Price (Nominal $/ton emit) SO2	Case04 Production $	Case04 Combined Company Allow. Purchases NOx $	Case04 Combined Company Allow. Purchases SO2 $	Case04 Capital $	Case04 PVRR Total $	Case00 Emission Price (Nominal $/ton emit) NOx	Case00 Emission Price (Nominal $/ton emit) SO2	Case00 Production $	Case00 Combined Company Allow. Purchases NOx $	Case00 Combined Company Allow. Purchases SO2 $	Case00 Capital $	Case00 PVRR Total $	Difference Total $	Difference Cumulative Total $
2006	3275	790	[redacted]	-	-	3,178	[redacted]	3275	790	[redacted]	-	-	-	[redacted]	3,178	3,178
2007	2838	782	[redacted]	-	-	6,503	[redacted]	2838	782	[redacted]	-	-	-	[redacted]	6,503	9,681
2008	2906	761	[redacted]	-	-	11,677	[redacted]	2906	761	[redacted]	-	-	-	[redacted]	12,837	22,518
2009	2976	725	[redacted]	-	-	10,407	[redacted]	2976	725	[redacted]	8,557	-	-	[redacted]	4,257	26,775
2010	3047	1385	[redacted]	-	-	9,277	[redacted]	3047	1385	[redacted]	6,593	-	-	[redacted]	4,785	31,559
2011	3120	1398	[redacted]	-	-	8,271	[redacted]	3120	1398	[redacted]	4,679	-	-	[redacted]	5,703	37,263
2012	3195	1412	[redacted]	-	-	7,375	[redacted]	3195	1412	[redacted]	4,804	-	-	[redacted]	4,479	41,742
2013	3272	1427	[redacted]	-	-	6,577	[redacted]	3272	1427	[redacted]	7,950	-	-	[redacted]	413	42,155
2014	3351	1441	[redacted]	-	-	5,865	[redacted]	3351	1441	[redacted]	9,385	-	-	[redacted]	(1,809)	40,346
2015	3946	1741	[redacted]	3,636	-	5,230	[redacted]	3946	1741	[redacted]	20,993	-	-	[redacted]	(10,578)	29,768
2016	4040	1776	[redacted]	10,665	-	4,658	[redacted]	4040	1776	[redacted]	21,689	-	-	[redacted]	(4,742)	25,027
2017	4137	1812	[redacted]	10,659	610	4,141	[redacted]	4137	1812	[redacted]	21,484	958	-	[redacted]	(5,382)	19,644
2018	4237	1849	[redacted]	9,685	19,412	3,675	[redacted]	4237	1849	[redacted]	20,368	19,524	-	[redacted]	(5,214)	14,431
2019	4338	1885	[redacted]	8,884	17,458	3,255	[redacted]	4338	1885	[redacted]	17,458	17,553	-	[redacted]	(3,698)	10,732
2020	4442	1923	[redacted]	9,006	16,554	2,876	[redacted]	4442	1923	[redacted]	17,288	16,650	-	[redacted]	(3,613)	7,119
2021	4549	1962	[redacted]	8,611	15,026	2,536	[redacted]	4549	1962	[redacted]	17,047	15,056	-	[redacted]	(4,390)	2,729
2022	4658	2001	[redacted]	8,569	14,088	2,229	[redacted]	4658	2001	[redacted]	16,757	14,164	-	[redacted]	(4,335)	(1,607)
2023	4770	2041	[redacted]	8,300	13,507	1,954	[redacted]	4770	2041	[redacted]	16,208	13,551	-	[redacted]	(4,189)	(5,796)
2024	4865	2082	[redacted]	8,658	13,582	1,707	[redacted]	4865	2082	[redacted]	16,311	13,619	-	[redacted]	(4,127)	(9,923)
2025	4963	2123	[redacted]	7,462	12,095	1,486	[redacted]	4963	2123	[redacted]	14,184	12,137	-	[redacted]	(3,668)	(13,591)
2026	5062	2166	[redacted]	5,341	9,936	1,288	[redacted]	5062	2166	[redacted]	10,073	9,994	-	[redacted]	(2,219)	(15,810)
2027	5163	2209	[redacted]	5,581	9,777	1,111	[redacted]	5163	2209	[redacted]	10,654	9,836	-	[redacted]	(2,503)	(18,313)
2028	5267	2253	[redacted]	5,528	9,215	971	[redacted]	5267	2253	[redacted]	10,114	9,256	-	[redacted]	(2,003)	(20,316)
2029	5372	2298	[redacted]	5,303	8,790	862	[redacted]	5372	2299	[redacted]	10,235	8,838	-	[redacted]	(2,546)	(22,862)
2030	5479	2344	[redacted]	5,341	8,485	764	[redacted]	5479	2344	[redacted]	10,066	8,503	-	[redacted]	(2,446)	(25,308)
2031	5589	2391	[redacted]	5,304	8,464	676	[redacted]	5589	2391	[redacted]	9,706	8,483	-	[redacted]	(2,344)	(27,652)
2032	5700	2439	[redacted]	5,052	8,154	597	[redacted]	5700	2439	[redacted]	9,393	8,219	-	[redacted]	(2,482)	(30,134)
2033	5815	2488	[redacted]	5,015	8,046	526	[redacted]	5815	2488	[redacted]	8,956	8,018	-	[redacted]	(2,265)	(32,399)
2034	5931	2538	[redacted]	4,767	7,594	461	[redacted]	5931	2538	[redacted]	8,796	7,580	-	[redacted]	(2,422)	(34,821)
2035	6049	2588	[redacted]	4,813	7,289	404	[redacted]	6049	2588	[redacted]	8,771	7,297	-	[redacted]	(2,577)	(37,398)
Totals			15,729,895	146,181	208,082	110,889	16,195,046			15,684,338	338,518	209,236	-	16,232,092	(37,046)	

Cost Comparison of Alternative NO_x Compliance Plans

All Costs in 2006 PVRR $ x1000

Case05- Option 05: BR3 SCR 2009

Fuel Forecast: Base — Capital Cost Sensitivity:
Load Forecast: Base
SO2 Price Forecast: Base X 1
NOX Price Forecast: Base X 1
Other Description: SO2 & NOx Dispatch, TC2 '10, GFCU1 '19, GFCU2 '25
BR3 SCR '09

Environmental Controls:

Unit	SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost (MS)
Brown 3	98%	FS HS+Wet FGD	2009	LNCFS III (1992)	2009	$95.52
Ghent 2	98%	FS HS+Wet FGD	2008	LNCFS III (2000)	0	

SO_2 Allowances Purchased: 426,247 — SO_2 Tons Emitted: 2,460,774
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 57%
Annual NO_x Allow Purch: 122,136 — Annual NO_x Tons Emit: 717,744

Case00- Option 0: Do Nothing (with Env Dispatch)

Fuel Forecast: Base — Capital Cost Sensitivity:
Load Forecast: Base
SO2 Price Forecast: Base X 1
NOX Price Forecast: Base X 1
Other Description: SO2 & NOx Dispatch, TC2 '10, GFCU1 '19, GFCU2 '25
No SCR @ GH2 or BR3

Environmental Controls:

SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost (MS)
98%	FS HS+Wet FGD	2009	LNCFS III (1992)	0	
98%	FS HS+Wet FGD	2008	LNCFS III (2000)	0	

SO_2 Allowances Purchased: 429,009 — SO_2 Tons Emitted: 2,463,537
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 57%
Annual NO_x Allow Purch: 218,097 — Annual NO_x Tons Emit: 813,705

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 $
2006	3275	790	[redacted]	-	-	115	[redacted]	3275	790	[redacted]	-	-	-	[redacted]	115	115
2007	2838	782	[redacted]	-	-	3,094	[redacted]	2838	782	[redacted]	-	-	-	[redacted]	3,094	3,209
2008	2906	761	[redacted]	-	-	6,331	[redacted]	2906	761	[redacted]	-	-	-	[redacted]	6,331	9,540
2009	2976	725	[redacted]	-	-	11,370	[redacted]	2976	725	[redacted]	8,557	-	-	[redacted]	5,220	14,760
2010	3047	1385	[redacted]	-	-	10,133	[redacted]	3047	1385	[redacted]	6,593	-	-	[redacted]	5,641	20,401
2011	3120	1398	[redacted]	-	-	9,033	[redacted]	3120	1398	[redacted]	4,679	-	-	[redacted]	6,465	26,866
2012	3195	1412	[redacted]	-	-	8,054	[redacted]	3195	1412	[redacted]	4,804	-	-	[redacted]	5,158	32,024
2013	3272	1427	[redacted]	-	-	7,181	[redacted]	3272	1427	[redacted]	7,950	-	-	[redacted]	1,017	33,042
2014	3351	1441	[redacted]	-	-	6,404	[redacted]	3351	1441	[redacted]	9,385	-	-	[redacted]	(1,270)	31,772
2015	3946	1741	[redacted]	3,636	-	5,711	[redacted]	3946	1741	[redacted]	20,993	-	-	[redacted]	(10,097)	21,675
2016	4040	1776	[redacted]	10,665	-	5,093	[redacted]	4040	1776	[redacted]	21,689	-	-	[redacted]	(4,307)	17,368
2017	4137	1812	[redacted]	10,659	-	4,536	[redacted]	4137	1812	[redacted]	21,484	958	-	[redacted]	(5,598)	11,770
2018	4237	1849	[redacted]	9,685	19,366	4,032	[redacted]	4237	1849	[redacted]	20,368	19,524	-	[redacted]	(4,903)	6,867
2019	4338	1885	[redacted]	8,884	17,458	3,578	[redacted]	4338	1885	[redacted]	17,458	17,553	-	[redacted]	(3,375)	3,492
2020	4442	1923	[redacted]	9,006	16,554	3,169	[redacted]	4442	1923	[redacted]	17,288	16,650	-	[redacted]	(3,320)	171
2021	4549	1962	[redacted]	8,611	15,026	2,801	[redacted]	4549	1962	[redacted]	17,047	15,056	-	[redacted]	(4,125)	(3,954)
2022	4658	2001	[redacted]	8,569	14,088	2,469	[redacted]	4658	2001	[redacted]	16,757	14,164	-	[redacted]	(4,095)	(8,049)
2023	4770	2041	[redacted]	8,300	13,507	2,171	[redacted]	4770	2041	[redacted]	16,208	13,551	-	[redacted]	(3,972)	(12,022)
2024	4865	2082	[redacted]	8,658	13,582	1,903	[redacted]	4865	2082	[redacted]	16,311	13,619	-	[redacted]	(3,931)	(15,952)
2025	4963	2123	[redacted]	7,462	12,095	1,662	[redacted]	4963	2123	[redacted]	14,184	12,137	-	[redacted]	(3,492)	(19,445)
2026	5062	2166	[redacted]	5,341	9,936	1,447	[redacted]	5062	2166	[redacted]	10,073	9,994	-	[redacted]	(2,060)	(21,504)
2027	5163	2209	[redacted]	5,581	9,777	1,254	[redacted]	5163	2209	[redacted]	10,654	9,836	-	[redacted]	(2,360)	(23,865)
2028	5267	2253	[redacted]	5,528	9,215	1,081	[redacted]	5267	2253	[redacted]	10,114	9,256	-	[redacted]	(1,893)	(25,757)
2029	5372	2298	[redacted]	5,303	8,790	945	[redacted]	5372	2299	[redacted]	10,235	8,838	-	[redacted]	(2,463)	(28,221)
2030	5479	2344	[redacted]	5,341	8,485	839	[redacted]	5479	2344	[redacted]	10,066	8,503	-	[redacted]	(2,371)	(30,591)
2031	5589	2391	[redacted]	5,304	8,464	744	[redacted]	5589	2391	[redacted]	9,706	8,483	-	[redacted]	(2,276)	(32,867)
2032	5700	2439	[redacted]	5,052	8,154	658	[redacted]	5700	2439	[redacted]	9,393	8,219	-	[redacted]	(2,421)	(35,289)
2033	5815	2488	[redacted]	5,015	8,046	581	[redacted]	5815	2488	[redacted]	8,956	8,018	-	[redacted]	(2,210)	(37,498)
2034	5931	2538	[redacted]	4,767	7,594	512	[redacted]	5931	2538	[redacted]	8,796	7,580	-	[redacted]	(2,371)	(39,870)
2035	6049	2588	[redacted]	5,343	7,289	449	[redacted]	6049	2588	[redacted]	8,771	7,297	-	[redacted]	(2,002)	(41,872)
Totals			15,728,735	146,711	207,425	107,743	16,190,614			15,684,338	338,518	209,236	-	16,232,092	(41,479)	

Cost Comparison of Alternative NO_x Compliance Plans

All Costs in 2006 PVRR $ x1000

Case06- Option 06: BR3 SCR 2010

Fuel Forecast: Base — Capital Cost Sensitivity:
Load Forecast: Base
SO2 Price Forecast: Base X 1
NOX Price Forecast: Base X 1
Other Description: SO2 & NOx Dispatch, TC2 '10, GFCU1 '19, GFCU2 '25 BR3 SCR '10

Environmental Controls:

Unit	SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost ($M)
Brown 3	98%	FS HS+Wet FGD	2009	LNCFS III (1992)	2010	$100.29
Ghent 2	98%	FS HS+Wet FGD	2008	LNCFS III (2000)	0	

SO_2 Allowances Purchased: 425,788 — SO_2 Tons Emitted: 2,460,315
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 56%
Annual NO_x Allow Purch: 125,912 — Annual NO_x Tons Emit: 721,520

Case00- Option 0: Do Nothing (with Env Dispatch)

Fuel Forecast: Base — Capital Cost Sensitivity:
Load Forecast: Base
SO2 Price Forecast: Base X 1
NOX Price Forecast: Base X 1
Other Description: SO2 & NOx Dispatch, TC2 '10, GFCU1 '19, GFCU2 '25 No SCR @ GH2 or BR3

Environmental Controls:

SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost ($M)
98%	FS HS+Wet FGD	2009	LNCFS III (1992)	0	
98%	FS HS+Wet FGD	2008	LNCFS III (2000)	0	

SO_2 Allowances Purchased: 429,009 — SO_2 Tons Emitted: 2,463,537
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 57%
Annual NO_x Allow Purch: 218,097 — Annual NO_x Tons Emit: 813,705

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 $
2006	3275	790	[redacted]	-	-	269	[redacted]	3275	790	[redacted]	-	-	-	[redacted]	269	269
2007	2838	782		-	-	1,081		2838	782		-	-	-		1,081	1,350
2008	2906	761		-	-	4,086		2906	761		-	-	-		4,086	5,436
2009	2976	725		8,557	-	8,077		2976	725		8,557	-	-		8,077	13,513
2010	3047	1385		-	-	11,127		3047	1385		6,593	-	-		6,635	20,148
2011	3120	1398		-	-	9,915		3120	1398		4,679	-	-		7,347	27,495
2012	3195	1412		-	-	8,837		3195	1412		4,804	-	-		5,941	33,436
2013	3272	1427		-	-	7,878		3272	1427		7,950	-	-		1,714	35,151
2014	3351	1441		-	-	7,023		3351	1441		9,385	-	-		(651)	34,500
2015	3946	1741		3,973	-	6,262		3946	1741		20,993	-	-		(9,209)	25,291
2016	4040	1776		10,665	-	5,584		4040	1776		21,689	-	-		(3,816)	21,475
2017	4137	1812		10,659	-	4,979		4137	1812		21,484	958	-		(5,155)	16,321
2018	4237	1849		9,685	19,023	4,433		4237	1849		20,368	19,524	-		(4,845)	11,476
2019	4338	1885		8,884	17,458	3,941		4338	1885		17,458	17,553	-		(3,012)	8,464
2020	4442	1923		9,006	16,554	3,497		4442	1923		17,288	16,650	-		(2,992)	5,471
2021	4549	1962		8,611	15,026	3,096		4549	1962		17,047	15,056	-		(3,830)	1,641
2022	4658	2001		8,569	14,088	2,736		4658	2001		16,757	14,164	-		(3,828)	(2,187)
2023	4770	2041		8,300	13,507	2,411		4770	2041		16,208	13,551	-		(3,732)	(5,920)
2024	4865	2082		8,658	13,582	2,119		4865	2082		16,311	13,619	-		(3,715)	(9,635)
2025	4963	2123		7,462	12,095	1,857		4963	2123		14,184	12,137	-		(3,297)	(12,932)
2026	5062	2166		5,341	9,936	1,622		5062	2166		10,073	9,994	-		(1,885)	(14,817)
2027	5163	2209		5,581	9,777	1,411		5163	2209		10,654	9,836	-		(2,203)	(17,020)
2028	5267	2253		5,528	9,215	1,223		5267	2253		10,114	9,256	-		(1,751)	(18,771)
2029	5372	2298		5,303	8,790	1,054		5372	2299		10,235	8,838	-		(2,354)	(21,125)
2030	5479	2344		5,341	8,485	921		5479	2344		10,066	8,503	-		(2,289)	(23,414)
2031	5589	2391		5,304	8,464	818		5589	2391		9,706	8,483	-		(2,202)	(25,616)
2032	5700	2439		5,052	8,154	725		5700	2439		9,393	8,219	-		(2,354)	(27,970)
2033	5815	2488		5,487	8,046	642		5815	2488		8,956	8,018	-		(1,677)	(29,647)
2034	5931	2538		5,370	7,594	566		5931	2538		8,796	7,580	-		(1,715)	(31,362)
2035	6049	2588		5,504	7,289	499		6049	2588		8,771	7,297	-		(1,791)	(33,153)
Totals			15,726,328	156,840	207,082	109,127	16,199,377			15,684,338	338,518	209,236	-	16,232,092	(32,715)	

Cost Comparison of Alternative NO_x Compliance Plans

All Costs in 2006 PVRR $ x1000

Case07- Option 0207: GH2 SCR 2009, BR3 SCR 2014

Fuel Forecast: Base — Capital Cost Sensitivity:
Load Forecast: Base
SO2 Price Forecast: Base X 1
NOX Price Forecast: Base X 1
Other Description: SO2 & NOx Dispatch, TC2 '10, GFCU1 '19, GFCU2 '25 GH2 SCR '09, BR3 SCR '14

Environmental Controls:

Unit	SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost ($/MS)
Brown 3	98%	FS HS+Wet FGD	2009	LNCFS III (1992)	2014	$121.91
Ghent 2	98%	FS HS+Wet FGD	2008	LNCFS III (2000)	2009	$95.00

SO_2 Allowances Purchased: 424,925 — SO_2 Tons Emitted: 2,459,453
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 57%
Annual NO_x Allow Purch: 47,390 — Annual NO_x Tons Emit: 642,998

Case00- Option 0: Do Nothing (with Env Dispatch)

Fuel Forecast: Base — Capital Cost Sensitivity:
Load Forecast: Base
SO2 Price Forecast: Base X 1
NOX Price Forecast: Base X 1
Other Description: SO2 & NOx Dispatch, TC2 '10, GFCU1 '19, GFCU2 '25 No SCR @ GH2 or BR3

Environmental Controls:

SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost ($/MS)
98%	FS HS+Wet FGD	2009	LNCFS III (1992)	0	
98%	FS HS+Wet FGD	2008	LNCFS III (2000)	0	

SO_2 Allowances Purchased: 429,009 — SO_2 Tons Emitted: 2,463,537
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 57%
Annual NO_x Allow Purch: 218,097 — Annual NO_x Tons Emit: 813,705

Price Curve Multipliers
SO_2 1.00
NO_x 1.00

DIFFERENCE CALCULATIONS

Year	Case07 Emission Price (Nominal $/ton emit) NOx	Case07 Emission Price (Nominal $/ton emit) SO2	Case07 Production $	Case07 Combined Company Allow. Purchases NOx $	Case07 Combined Company Allow. Purchases SO2 $	Case07 Capital $	Case07 PVRR Total $	Case00 Emission Price (Nominal $/ton emit) NOx	Case00 Emission Price (Nominal $/ton emit) SO2	Case00 Production $	Case00 Combined Company Allow. Purchases NOx $	Case00 Combined Company Allow. Purchases SO2 $	Case00 Capital $	Case00 PVRR Total $	DIFFERENCE CALCULATIONS Total $	DIFFERENCE CALCULATIONS Cumulative Total $
2006	3275	790	[redacted]	-	-	114	[redacted]	3275	790	[redacted]	-	-	-	[redacted]	114	114
2007	2838	782	[redacted]	-	-	3,077	[redacted]	2838	782	[redacted]	-	-	-	[redacted]	3,077	3,191
2008	2906	761	[redacted]	-	-	6,297	[redacted]	2906	761	[redacted]	-	-	-	[redacted]	6,297	9,488
2009	2976	725	[redacted]	-	-	11,309	[redacted]	2976	725	[redacted]	8,557	-	-	[redacted]	4,164	13,652
2010	3047	1385	[redacted]	-	-	10,320	[redacted]	3047	1385	[redacted]	6,593	-	-	[redacted]	5,058	18,709
2011	3120	1398	[redacted]	-	-	9,955	[redacted]	3120	1398	[redacted]	4,679	-	-	[redacted]	6,392	25,101
2012	3195	1412	[redacted]	-	-	11,681	[redacted]	3195	1412	[redacted]	4,804	-	-	[redacted]	8,018	33,119
2013	3272	1427	[redacted]	-	-	14,399	[redacted]	3272	1427	[redacted]	7,950	-	-	[redacted]	7,571	40,690
2014	3351	1441	[redacted]	-	-	16,366	[redacted]	3351	1441	[redacted]	9,385	-	-	[redacted]	9,693	50,383
2015	3946	1741	[redacted]	-	-	14,588	[redacted]	3946	1741	[redacted]	20,993	-	-	[redacted]	(3,968)	46,415
2016	4040	1776	[redacted]	-	-	13,005	[redacted]	4040	1776	[redacted]	21,689	-	-	[redacted]	(6,263)	40,152
2017	4137	1812	[redacted]	-	196	11,588	[redacted]	4137	1812	[redacted]	21,484	958	-	[redacted]	(8,062)	32,090
2018	4237	1849	[redacted]	1,019	19,395	10,321	[redacted]	4237	1849	[redacted]	20,368	19,524	-	[redacted]	(6,420)	25,670
2019	4338	1885	[redacted]	3,651	17,417	9,185	[redacted]	4338	1885	[redacted]	17,458	17,553	-	[redacted]	(2,268)	23,402
2020	4442	1923	[redacted]	3,564	16,522	8,169	[redacted]	4442	1923	[redacted]	17,288	16,650	-	[redacted]	(3,003)	20,399
2021	4549	1962	[redacted]	3,469	14,971	7,259	[redacted]	4549	1962	[redacted]	17,047	15,056	-	[redacted]	(4,129)	16,270
2022	4658	2001	[redacted]	3,678	14,046	6,439	[redacted]	4658	2001	[redacted]	16,757	14,164	-	[redacted]	(4,305)	11,964
2023	4770	2041	[redacted]	3,655	13,487	5,699	[redacted]	4770	2041	[redacted]	16,208	13,551	-	[redacted]	(4,193)	7,771
2024	4865	2082	[redacted]	4,203	13,538	5,034	[redacted]	4865	2082	[redacted]	16,311	13,619	-	[redacted]	(4,587)	3,184
2025	4963	2123	[redacted]	3,524	12,035	4,435	[redacted]	4963	2123	[redacted]	14,184	12,137	-	[redacted]	(4,002)	(818)
2026	5062	2166	[redacted]	2,166	9,867	3,897	[redacted]	5062	2166	[redacted]	10,073	9,994	-	[redacted]	(2,343)	(3,161)
2027	5163	2209	[redacted]	2,200	9,703	3,413	[redacted]	5163	2209	[redacted]	10,654	9,836	-	[redacted]	(3,047)	(6,208)
2028	5267	2253	[redacted]	2,314	9,182	2,979	[redacted]	5267	2253	[redacted]	10,114	9,256	-	[redacted]	(2,653)	(8,860)
2029	5372	2298	[redacted]	2,210	8,729	2,608	[redacted]	5372	2299	[redacted]	10,235	8,838	-	[redacted]	(3,373)	(12,234)
2030	5479	2344	[redacted]	2,396	8,444	2,292	[redacted]	5479	2344	[redacted]	10,066	8,503	-	[redacted]	(3,292)	(15,525)
2031	5589	2391	[redacted]	2,519	8,420	2,008	[redacted]	5589	2391	[redacted]	9,706	8,483	-	[redacted]	(3,127)	(18,652)
2032	5700	2439	[redacted]	2,430	8,130	1,753	[redacted]	5700	2439	[redacted]	9,393	8,219	-	[redacted]	(3,256)	(21,908)
2033	5815	2488	[redacted]	2,730	7,992	1,525	[redacted]	5815	2488	[redacted]	8,956	8,018	-	[redacted]	(2,954)	(24,862)
2034	5931	2538	[redacted]	2,409	7,591	1,336	[redacted]	5931	2538	[redacted]	8,796	7,580	-	[redacted]	(3,064)	(27,926)
2035	6049	2588	[redacted]	2,523	7,260	1,182	[redacted]	6049	2588	[redacted]	8,771	7,297	-	[redacted]	(3,356)	(31,282)
Totals			15,740,991	50,661	206,926	203,276	16,201,854			15,684,338	338,518	209,236	-	16,232,092	(30,239)	

Cost Comparison of Alternative NO_x Compliance Plans

All Costs in 2006 PVRR $ x1000

Case08- Option 0208: GH2 SCR 2009, BR3 SCR 2015

Fuel Forecast: Base — Capital Cost Sensitivity:
Load Forecast: Base
SO2 Price Forecast: Base X 1
NOX Price Forecast: Base X 1
Other Description: SO2 & NOx Dispatch, TC2 '10, GFCU1 '19, GFCU2 '25 GH2 SCR '09, BR3 SCR '15

Environmental Controls:

Unit	SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost (MS)
Brown 3	98%	FS HS+Wet FGD	2009	LNCFS III (1992)	2015	$128.00
Ghent 2	98%	FS HS+Wet FGD	2008	LNCFS III (2000)	2009	$95.00

SO_2 Allowances Purchased: 425,063 — SO_2 Tons Emitted: 2,459,591
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 57%
Annual NO_x Allow Purch: 51,268 — Annual NO_x Tons Emit: 646,876

Case00- Option 0: Do Nothing (with Env Dispatch)

Fuel Forecast: Base — Capital Cost Sensitivity:
Load Forecast: Base
SO2 Price Forecast: Base X 1
NOX Price Forecast: Base X 1
Other Description: SO2 & NOx Dispatch, TC2 '10, GFCU1 '19, GFCU2 '25 No SCR @ GH2 or BR3

Environmental Controls:

SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost (MS)
98%	FS HS+Wet FGD	2009	LNCFS III (1992)	0	
98%	FS HS+Wet FGD	2008	LNCFS III (2000)	0	

SO_2 Allowances Purchased: 429,009 — SO_2 Tons Emitted: 2,463,537
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 57%
Annual NO_x Allow Purch: 218,097 — Annual NO_x Tons Emit: 813,705

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 $
2006	3275	790		-	-	114		3275	790		-	-	-		114	114
2007	2838	782		-	-	3,077		2838	782		-	-	-		3,077	3,191
2008	2906	761		-	-	6,297		2906	761		-	-	-		6,297	9,488
2009	2976	725		-	-	11,309		2976	725		8,557	-	-		4,164	13,652
2010	3047	1385		-	-	10,079		3047	1385		6,593	-	-		4,817	18,468
2011	3120	1398		-	-	9,220		3120	1398		4,679	-	-		5,657	24,125
2012	3195	1412		-	-	8,956		3195	1412		4,804	-	-		5,293	29,418
2013	3272	1427		-	-	10,716		3272	1427		7,950	-	-		3,888	33,306
2014	3351	1441		-	-	13,434		3351	1441		9,385	-	-		5,022	38,328
2015	3946	1741		-	-	15,413		3946	1741		20,993	-	-		(3,143)	35,185
2016	4040	1776		949	-	13,738		4040	1776		21,689	-	-		(4,582)	30,604
2017	4137	1812		3,803	305	12,240		4137	1812		21,484	958	-		(3,497)	27,107
2018	4237	1849		3,188	19,395	10,901		4237	1849		20,368	19,524	-		(3,671)	23,436
2019	4338	1885		3,651	17,417	9,702		4338	1885		17,458	17,553	-		(1,751)	21,684
2020	4442	1923		3,564	16,522	8,630		4442	1923		17,288	16,650	-		(2,542)	19,142
2021	4549	1962		3,469	14,971	7,670		4549	1962		17,047	15,056	-		(3,718)	15,424
2022	4658	2001		3,678	14,046	6,810		4658	2001		16,757	14,164	-		(3,934)	11,490
2023	4770	2041		3,655	13,487	6,037		4770	2041		16,208	13,551	-		(3,855)	7,634
2024	4865	2082		4,203	13,538	5,339		4865	2082		16,311	13,619	-		(4,282)	3,352
2025	4963	2123		3,524	12,035	4,712		4963	2123		14,184	12,137	-		(3,725)	(373)
2026	5062	2166		2,166	9,867	4,147		5062	2166		10,073	9,994	-		(2,093)	(2,466)
2027	5163	2209		2,200	9,703	3,640		5163	2209		10,654	9,836	-		(2,820)	(5,285)
2028	5267	2253		2,314	9,182	3,184		5267	2253		10,114	9,256	-		(2,448)	(7,733)
2029	5372	2298		2,210	8,729	2,794		5372	2299		10,235	8,838	-		(3,187)	(10,920)
2030	5479	2344		2,396	8,444	2,459		5479	2344		10,066	8,503	-		(3,125)	(14,045)
2031	5589	2391		2,519	8,420	2,159		5589	2391		9,706	8,483	-		(2,976)	(17,021)
2032	5700	2439		2,430	8,130	1,889		5700	2439		9,393	8,219	-		(3,120)	(20,141)
2033	5815	2488		2,730	7,992	1,647		5815	2488		8,956	8,018	-		(2,832)	(22,972)
2034	5931	2538		2,409	7,591	1,431		5931	2538		8,796	7,580	-		(2,969)	(25,941)
2035	6049	2588		2,523	7,260	1,252		6049	2588		8,771	7,297	-		(3,286)	(29,227)
Totals			15,739,253	57,581	207,035	200,103	16,203,972			15,684,338	338,518	209,236	-	16,232,092	(28,120)	

Cost Comparison of Alternative NO_x Compliance Plans

All Costs in 2006 PVRR $ x1000

Case09- Option 0209: GH2 SCR 2009, BR3 SCR 2016

Fuel Forecast: Base — Capital Cost Sensitivity:
Load Forecast: Base
SO2 Price Forecast: Base X 1
NOX Price Forecast: Base X 1
Other Description: SO2 & NOx Dispatch, TC2 '10, GFCU1 '19, GFCU2 '25 GH2 SCR '09, BR3 SCR '16

Environmental Controls:

Unit	SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost ($/MS)
Brown 3	98%	FS HS+Wet FGD	2009	LNCFS III (1992)	2016	$134.40
Ghent 2	98%	FS HS+Wet FGD	2008	LNCFS III (2000)	2009	$95.00

SO_2 Allowances Purchased: 425,243 — SO_2 Tons Emitted: 2,459,771
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 57%
Annual NO_x Allow Purch: 55,167 — Annual NO_x Tons Emit: 650,775

Case00- Option 0: Do Nothing (with Env Dispatch)

Fuel Forecast: Base — Capital Cost Sensitivity:
Load Forecast: Base
SO2 Price Forecast: Base X 1
NOX Price Forecast: Base X 1
Other Description: SO2 & NOx Dispatch, TC2 '10, GFCU1 '19, GFCU2 '25 No SCR @ GH2 or BR3

Environmental Controls:

SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost ($/MS)
98%	FS HS+Wet FGD	2009	LNCFS III (1992)	0	
98%	FS HS+Wet FGD	2008	LNCFS III (2000)	0	

SO_2 Allowances Purchased: 429,009 — SO_2 Tons Emitted: 2,463,537
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 57%
Annual NO_x Allow Purch: 218,097 — Annual NO_x Tons Emit: 813,705

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 $
2006	3275	790	[redacted]	-	-	114	[redacted]	3275	790	[redacted]	-	-	-	[redacted]	114	114
2007	2838	782	[redacted]	-	-	3,077	[redacted]	2838	782	[redacted]	-	-	-	[redacted]	3,077	3,191
2008	2906	761	[redacted]	-	-	6,297	[redacted]	2906	761	[redacted]	-	-	-	[redacted]	6,297	9,488
2009	2976	725	[redacted]	-	-	11,309	[redacted]	2976	725	[redacted]	8,557	-	-	[redacted]	4,164	13,652
2010	3047	1385	[redacted]	-	-	10,079	[redacted]	3047	1385	[redacted]	6,593	-	-	[redacted]	4,817	18,468
2011	3120	1398	[redacted]	-	-	8,984	[redacted]	3120	1398	[redacted]	4,679	-	-	[redacted]	5,421	23,889
2012	3195	1412	[redacted]	-	-	8,239	[redacted]	3195	1412	[redacted]	4,804	-	-	[redacted]	4,576	28,465
2013	3272	1427	[redacted]	-	-	8,063	[redacted]	3272	1427	[redacted]	7,950	-	-	[redacted]	1,235	29,700
2014	3351	1441	[redacted]	-	-	9,849	[redacted]	3351	1441	[redacted]	9,385	-	-	[redacted]	1,437	31,137
2015	3946	1741	[redacted]	5,161	-	12,558	[redacted]	3946	1741	[redacted]	20,993	-	-	[redacted]	(2,275)	28,862
2016	4040	1776	[redacted]	3,446	-	14,541	[redacted]	4040	1776	[redacted]	21,689	-	-	[redacted]	(1,281)	27,581
2017	4137	1812	[redacted]	3,803	447	12,954	[redacted]	4137	1812	[redacted]	21,484	958	-	[redacted]	(2,641)	24,940
2018	4237	1849	[redacted]	3,188	19,395	11,536	[redacted]	4237	1849	[redacted]	20,368	19,524	-	[redacted]	(3,036)	21,904
2019	4338	1885	[redacted]	3,651	17,417	10,267	[redacted]	4338	1885	[redacted]	17,458	17,553	-	[redacted]	(1,187)	20,717
2020	4442	1923	[redacted]	3,564	16,522	9,133	[redacted]	4442	1923	[redacted]	17,288	16,650	-	[redacted]	(2,039)	18,678
2021	4549	1962	[redacted]	3,469	14,971	8,118	[redacted]	4549	1962	[redacted]	17,047	15,056	-	[redacted]	(3,270)	15,408
2022	4658	2001	[redacted]	3,678	14,046	7,211	[redacted]	4658	2001	[redacted]	16,757	14,164	-	[redacted]	(3,533)	11,875
2023	4770	2041	[redacted]	3,655	13,487	6,399	[redacted]	4770	2041	[redacted]	16,208	13,551	-	[redacted]	(3,493)	8,381
2024	4865	2082	[redacted]	4,203	13,538	5,668	[redacted]	4865	2082	[redacted]	16,311	13,619	-	[redacted]	(3,953)	4,428
2025	4963	2123	[redacted]	3,524	12,035	5,009	[redacted]	4963	2123	[redacted]	14,184	12,137	-	[redacted]	(3,428)	1,000
2026	5062	2166	[redacted]	2,166	9,867	4,417	[redacted]	5062	2166	[redacted]	10,073	9,994	-	[redacted]	(1,823)	(823)
2027	5163	2209	[redacted]	2,200	9,703	3,884	[redacted]	5163	2209	[redacted]	10,654	9,836	-	[redacted]	(2,576)	(3,398)
2028	5267	2253	[redacted]	2,314	9,182	3,405	[redacted]	5267	2253	[redacted]	10,114	9,256	-	[redacted]	(2,227)	(5,625)
2029	5372	2298	[redacted]	2,210	8,729	2,993	[redacted]	5372	2299	[redacted]	10,235	8,838	-	[redacted]	(2,988)	(8,613)
2030	5479	2344	[redacted]	2,396	8,444	2,640	[redacted]	5479	2344	[redacted]	10,066	8,503	-	[redacted]	(2,944)	(11,557)
2031	5589	2391	[redacted]	2,519	8,420	2,322	[redacted]	5589	2391	[redacted]	9,706	8,483	-	[redacted]	(2,813)	(14,370)
2032	5700	2439	[redacted]	2,430	8,130	2,036	[redacted]	5700	2439	[redacted]	9,393	8,219	-	[redacted]	(2,973)	(17,343)
2033	5815	2488	[redacted]	2,730	7,992	1,780	[redacted]	5815	2488	[redacted]	8,956	8,018	-	[redacted]	(2,699)	(20,042)
2034	5931	2538	[redacted]	2,409	7,591	1,550	[redacted]	5931	2538	[redacted]	8,796	7,580	-	[redacted]	(2,850)	(22,892)
2035	6049	2588	[redacted]	2,523	7,260	1,344	[redacted]	6049	2588	[redacted]	8,771	7,297	-	[redacted]	(3,194)	(26,086)
Totals			15,737,814	65,241	207,177	196,951	16,207,182			15,684,338	338,518	209,236	-	16,232,092	(24,911)	

Cost Comparison of Alternative NO_x Compliance Plans

All Costs in 2006 PVRR $ x1000

Case10- Option 0210: GH2 SCR 2009, BR3 SCR 2013

Fuel Forecast: Base — Capital Cost Sensitivity:
Load Forecast: Base
SO2 Price Forecast: Base X 1
NOX Price Forecast: Base X 1
Other Description: SO2 & NOx Dispatch, TC2 '10, GFCU1 '19, GFCU2 '25 GH2 SCR '09, BR3 SCR '13 0

Environmental Controls:

Unit	SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost (MS)
Brown 3	98%	FS HS+Wet FGD	2009	LNCFS III (1992)	2013	$116.10
Ghent 2	98%	FS HS+Wet FGD	2008	LNCFS III (2000)	2009	$95.00

SO_2 Allowances Purchased: 424,642 — SO_2 Tons Emitted: 2,459,170
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 57%
Annual NO_x Allow Purch: 43,538 — Annual NO_x Tons Emit: 639,146

Case00- Option 0: Do Nothing (with Env Dispatch)

Fuel Forecast: Base — Capital Cost Sensitivity:
Load Forecast: Base
SO2 Price Forecast: Base X 1
NOX Price Forecast: Base X 1
Other Description: SO2 & NOx Dispatch, TC2 '10, GFCU1 '19, GFCU2 '25 No SCR @ GH2 or BR3

Environmental Controls:

SO2 Rem %	SO2 Tech	SO2 In-Serv	NOX Tech	SCR In-Serv	NOx Tech Cost (MS)
98%	FS HS+Wet FGD	2009	LNCFS III (1992)	0	
98%	FS HS+Wet FGD	2008	LNCFS III (2000)	0	

SO_2 Allowances Purchased: 429,009 — SO_2 Tons Emitted: 2,463,537
Largest Annual SO_2 Purchase (as a % of EPA Allocation): 57%
Annual NO_x Allow Purch: 218,097 — Annual NO_x Tons Emit: 813,705

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 $
2006	3275	790		-	-	114		3275	790		-	-	-		114	114
2007	2838	782		-	-	3,077		2838	782		-	-	-		3,077	3,191
2008	2906	761		-	-	6,297		2906	761		-	-	-		6,297	9,488
2009	2976	725		-	-	11,557		2976	725		8,557	-	-		4,412	13,900
2010	3047	1385		-	-	11,076		3047	1385		6,593	-	-		5,814	19,713
2011	3120	1398		-	-	12,755		3120	1398		4,679	-	-		9,192	28,905
2012	3195	1412		-	-	15,464		3195	1412		4,804	-	-		11,801	40,706
2013	3272	1427		-	-	17,411		3272	1427		7,950	-	-		12,304	53,010
2014	3351	1441		-	-	15,519		3351	1441		9,385	-	-		8,846	61,856
2015	3946	1741		-	-	13,835		3946	1741		20,993	-	-		(4,721)	57,136
2016	4040	1776		-	-	12,335		4040	1776		21,689	-	-		(6,933)	50,202
2017	4137	1812		-	-	10,992		4137	1812		21,484	958	-		(8,853)	41,349
2018	4237	1849		-	19,369	9,790		4237	1849		20,368	19,524	-		(7,996)	33,353
2019	4338	1885		-	17,417	8,712		4338	1885		17,458	17,553	-		(6,393)	26,960
2020	4442	1923		2,010	16,522	7,747		4442	1923		17,288	16,650	-		(4,979)	21,982
2021	4549	1962		3,469	14,971	6,877		4549	1962		17,047	15,056	-		(4,511)	17,471
2022	4658	2001		3,678	14,046	6,092		4658	2001		16,757	14,164	-		(4,652)	12,818
2023	4770	2041		3,655	13,487	5,386		4770	2041		16,208	13,551	-		(4,506)	8,312
2024	4865	2082		4,203	13,538	4,750		4865	2082		16,311	13,619	-		(4,871)	3,441
2025	4963	2123		3,524	12,035	4,178		4963	2123		14,184	12,137	-		(4,259)	(818)
2026	5062	2166		2,166	9,867	3,664		5062	2166		10,073	9,994	-		(2,576)	(3,394)
2027	5163	2209		2,200	9,703	3,203		5163	2209		10,654	9,836	-		(3,257)	(6,651)
2028	5267	2253		2,314	9,182	2,789		5267	2253		10,114	9,256	-		(2,843)	(9,493)
2029	5372	2298		2,210	8,729	2,437		5372	2299		10,235	8,838	-		(3,544)	(13,038)
2030	5479	2344		2,396	8,444	2,137		5479	2344		10,066	8,503	-		(3,447)	(16,484)
2031	5589	2391		2,519	8,420	1,868		5589	2391		9,706	8,483	-		(3,267)	(19,751)
2032	5700	2439		2,430	8,130	1,627		5700	2439		9,393	8,219	-		(3,382)	(23,133)
2033	5815	2488		2,730	7,992	1,428		5815	2488		8,956	8,018	-		(3,051)	(26,184)
2034	5931	2538		2,409	7,591	1,264		5931	2538		8,796	7,580	-		(3,136)	(29,320)
2035	6049	2588		2,523	7,260	1,116		6049	2588		8,771	7,297	-		(3,422)	(32,742)
Totals			15,742,713	44,437	206,704	206,480	16,200,334			15,684,338	338,518	209,236	-	16,232,092	(31,759)	

Appendix 6

Case00- Option 0: Do Nothing (No NOx Dispatch)

ANNUAL NO_x SUMMARY BY YEAR

NOx EMISS RATE (#/MBTU)	Ownership	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0.000	0.000	0.000	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470
Brown 2	KU	0.000	0.000	0.000	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Brown 3	KU	0.000	0.000	0.000	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Ghent 1	KU	0.000	0.000	0.000	0.040	0.050	0.056	0.054	0.056	0.056	0.055	0.054	0.052	0.052	0.063	0.069	0.072	0.065	0.066	0.064	0.074	0.083	0.083	0.081	0.075	0.073	0.073	0.074	0.070	0.068	0.066
Ghent 2	KU	0.000	0.000	0.000	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270
Ghent 3	KU	0.000	0.000	0.000	0.039	0.043	0.052	0.052	0.053	0.051	0.048	0.048	0.042	0.046	0.056	0.067	0.066	0.066	0.069	0.064	0.074	0.091	0.094	0.088	0.083	0.084	0.083	0.084	0.074	0.077	0.073
Ghent 4	KU	0.000	0.000	0.000	0.037	0.037	0.038	0.037	0.038	0.038	0.037	0.037	0.037	0.037	0.040	0.042	0.042	0.041	0.041	0.040	0.045	0.049	0.049	0.046	0.044	0.044	0.044	0.044	0.043	0.043	0.041
Green River 3	KU	0.000	0.000	0.000	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Green River 4	KU	0.000	0.000	0.000	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Tyrone 3	KU	0.000	0.000	0.000	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.381	0.380	0.380	0.380	0.381	0.380	0.380	0.380
Cane Run 4	LGE	0.000	0.000	0.000	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Cane Run 5	LGE	0.000	0.000	0.000	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430
Cane Run 6	LGE	0.000	0.000	0.000	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Mill Creek 1	LGE	0.000	0.000	0.000	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 2	LGE	0.000	0.000	0.000	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 3	LGE	0.000	0.000	0.000	0.082	0.097	0.093	0.094	0.097	0.096	0.098	0.098	0.093	0.092	0.098	0.104	0.101	0.098	0.097	0.097	0.108	0.112	0.110	0.108	0.101	0.105	0.103	0.105	0.099	0.102	0.097
Mill Creek 4	LGE	0.000	0.000	0.000	0.042	0.054	0.054	0.058	0.064	0.061	0.062	0.057	0.050	0.049	0.058	0.072	0.069	0.066	0.063	0.062	0.073	0.086	0.084	0.079	0.073	0.073	0.074	0.073	0.067	0.070	0.065
Trimble County 1	LGE	0.000	0.000	0.000	0.036	0.036	0.036	0.036	0.037	0.036	0.036	0.036	0.036	0.036	0.038	0.038	0.038	0.038	0.038	0.038	0.041	0.042	0.043	0.041	0.040	0.040	0.040	0.040	0.038	0.039	0.038
Trimble County 2	KU	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
Trimble County 2	LGE	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
GFCU 1	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 1	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
Peakers	KU	0.000	0.000	0.000	0.079	0.078	0.075	0.076	0.074	0.075	0.075	0.074	0.074	0.074	0.074	0.074	0.074	0.074	0.075	0.075	0.074	0.073	0.073	0.074	0.073	0.073	0.073	0.074	0.073	0.074	0.073
Peakers	LGE	0.000	0.000	0.000	0.075	0.074	0.071	0.075	0.075	0.078	0.076	0.075	0.075	0.074	0.072	0.073	0.073	0.074	0.075	0.074	0.072	0.069	0.069	0.070	0.070	0.070	0.070	0.070	0.070	0.071	0.070
SCRUBBER REMOVAL EFF.																															
Brown 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tyrone 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 5		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 6		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TONS NOx EMITTED		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0	0	0	1,522	1,619	1,586	1,555	1,621	1,495	1,737	1,692	1,660	1,665	1,571	1,470	1,457	1,637	1,670	1,625	1,575	1,428	1,444	1,312	1,490	1,493	1,474	1,499	1,531	1,546	1,395
Brown 2	KU	0	0	0	1,658	1,759	1,748	1,802	1,798	1,811	1,660	1,823	1,815	1,820	1,764	1,669	1,797	1,629	1,829	1,827	1,768	1,698	1,713	1,733	1,578	1,754	1,756	1,762	1,796	1,792	1,805
Brown 3	KU	0	0	0	4,070	4,375	4,329	3,985	4,424	4,509	4,648	4,536	4,508	4,494	3,749	3,985	4,484	4,504	4,601	4,421	4,313	3,582	4,066	4,121	4,173	4,198	4,151	4,210	3,805	4,268	4,373
Ghent 1	KU	0	0	0	723	914	1,001	972	1,010	911	991	987	948	939	1,119	1,204	1,100	1,121	1,149	1,117	1,232	1,361	1,359	1,193	1,246	1,223	1,237	1,244	1,196	1,159	1,026
Ghent 2	KU	0	0	0	4,465	4,606	4,605	4,150	4,602	4,605	4,609	4,620	4,605	4,607	4,108	4,576	4,565	4,574	4,576	4,503	4,499	4,007	4,467	4,500	4,501	4,498	4,512	4,539	4,081	4,549	4,568
Ghent 3	KU	0	0	0	725	697	894	889	894	875	820	848	683	808	936	1,067	1,011	1,015	1,046	895	1,075	1,227	1,269	1,209	1,154	1,170	1,047	1,166	1,072	1,101	1,067
Ghent 4	KU	0	0	0	589	669	684	672	686	678	665	601	671	664	716	740	748	723	646	711	779	830	821	786	762	678	761	761	742	739	716
Green River 3	KU	0	0	0	712	561	430	475	397	442	353	272	298	283	305	210	199	174	171	197	173	171	127	117	134	130	136	159	238	155	172
Green River 4	KU	0	0	0	1,243	945	844	820	868	897	712	740	681	655	548	580	585	612	612	584	584	382	485	524	491	532	522	542	464	567	580
Tyrone 3	KU	0	0	0	730	563	590	627	624	649	628	595	508	535	465	397	338	318	269	262	240	213	210	178	215	201	189	220	247	251	254
Cane Run 4	LGE	0	0	0	1,614	1,376	1,250	1,452	1,414	1,491	1,475	1,499	1,545	1,384	1,470	1,363	1,421	1,378	1,417	1,460	1,222	1,275	1,245	1,247	1,307	1,310	1,309	1,219	1,384	1,352	1,394
Cane Run 5	LGE	0	0	0	2,124	1,793	1,773	1,855	1,846	1,886	1,757	1,976	2,009	2,026	1,879	1,758	1,835	1,622	1,823	1,857	1,681	1,625	1,597	1,578	1,498	1,667	1,700	1,714	1,797	1,731	1,846
Cane Run 6	LGE	0	0	0	2,500	2,499	2,375	2,573	2,489	2,537	2,527	2,342	2,634	2,645	2,529	2,326	2,423	2,450	2,223	2,493	2,321	2,153	2,166	2,225	2,123	2,064	2,316	2,342	2,399	2,420	2,546
Mill Creek 1	LGE	0	0	0	3,318	2,849	3,296	3,108	3,285	3,096	3,292	3,117	3,305	2,849	3,294	3,080	3,267	3,084	3,280	3,107	3,248	2,743	3,204	3,027	3,239	3,028	3,235	3,061	3,268	2,808	3,262
Mill Creek 2	LGE	0	0	0	3,241	3,378	2,878	3,366	3,118	3,347	3,129	3,390	3,188	3,404	2,844	3,255	3,068	3,314	3,117	3,347	3,049	3,134	2,710	3,156	3,033	3,235	3,028	3,256	3,078	3,275	2,843
Mill Creek 3	LGE	0	0	0	1,099	1,346	1,218	1,311	1,153	1,355	1,270	1,367	1,212	1,286	1,268	1,378	1,184	1,330	1,232	1,333	1,323	1,438	1,340	1,403	1,175	1,400	1,297	1,410	1,263	1,379	1,260
Mill Creek 4	LGE	0	0	0	753	880	936	931	1,066	894	1,040	925	869	804	984	1,113	1,137	938	1,044	988	1,186	1,252	1,307	1,189	1,174	1,008	1,182	1,111	1,093	1,063	1,057
Trimble County 1	LGE	0	0	0	494	592	545	597	554	597	543	589	494	586	563	617	570	612	561	615	546	668	617	653	591	640	590	641	520	625	564
Trimble County 2	KU	0	0	0	0	385	651	652	651	650	651	652	650	650	651	652	649	648	650	653	647	649	649	652	648	650	650	650	648	647	650
Trimble County 2	LGE	0	0	0	0	90	153	153	153	153	153	153	153	153	153	153	152	152	152	153	152	152	152	153	152	153	153	153	152	152	153
GFCU 1	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	712	1,213	1,208	1,207	1,208	1,211	1,208	1,207	1,208	1,208	1,204	1,209	1,208	1,209	1,209	1,208
GFCU 1	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	400	682	680	679	679	681	680	679	680	679	676	678	680	680	680	680
GFCU 2	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	688	1,166	1,169	1,172	1,167	1,170	1,170	1,174	1,170	1,168	1,167
GFCU 2	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	422	714	717	718	715	717	717	719	717	716	715
Peakers	KU	0	0	0	306	275	331	385	433	504	646	638	718	751	688	575	654	651	728	736	586	322	330	330	355	378	394	390	446	453	491
Peakers	LGE	0	0	0	140	128	155	185	217	259	323	319	359	368	325	274	312	314	354	358	281	154	158	155	170	180	188	184	215	213	233
NOx EMISSIONS (TONS)																															
Total		0	0	0	32,047	32,299	32,271	32,615	33,300	33,642	33,628	33,682	33,512	33,379	33,039	34,337	34,843	34,686	35,040	35,234	35,476	34,231	35,209	35,217	34,969	35,358	35,599	36,012	35,209	36,015	36,034
ALLOWANCES																															
KU EPA Allocated NOx Allowances		0	0	0	14,635	14,635	14,635	14,635	13,865	13,865	11,554	11,297	11,297	11,297	11,040	11,040	11,040	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784
LGE EPA Allocated NOx Allowances		0	0	0	12,966	12,966	12,966	12,966	12,284	12,284	10,236	10,009	10,009	10,009	9,782	9,782	9,782	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554
Total KU/LGE EPA Allocated NOx Allowances		0	0	0	27,601	27,601	27,601	27,601	26,149	26,149	21,790	21,306	21,306	21,306	20,822	20,822	20,822	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338
KU's Portion of OMU Surplus/Shortfall		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined Company Purchases		0	0	0	4,446	4,698	4,670	5,014	7,151	7,493	11,838	12,376	12,206	12,073	12,217	13,515	14,021	14,348	14,702	14,896	15,138	13,893	14,871	14,879	14,631	15,020	15,261	15,674	14,871	15,677	15,696
TOTAL KU/LGE ALLOWANCES		0	0	0	32,047	32,299	32,271	32,615	33,300	33,642	33,628	33,682	33,512	33,379	33,039	34,337	34,843	34,686	35,040	35,234	35,476	34,231	35,209	35,217	34,969	35,358	35,599	36,012	35,209	36,015	36,034
EOY Increase (+)/Decrease in Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ALLOWANCE BANK																															
Total KU/LGE Allowance Bank (End of Year)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Case00- Option 0: Do Nothing (with Env Dispatch)

ANNUAL NO_x SUMMARY BY YEAR

NOx EMISS RATE (#/MBTU)	Ownership	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0.000	0.000	0.000	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470
Brown 2	KU	0.000	0.000	0.000	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Brown 3	KU	0.000	0.000	0.000	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Ghent 1	KU	0.000	0.000	0.000	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.038
Ghent 2	KU	0.000	0.000	0.000	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270
Ghent 3	KU	0.000	0.000	0.000	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
Ghent 4	KU	0.000	0.000	0.000	0.037	0.036	0.036	0.037	0.036	0.036	0.036	0.036	0.036	0.036	0.037	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.037	0.036	0.036	0.036	0.037	0.036	0.036
Green River 3	KU	0.000	0.000	0.000	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Green River 4	KU	0.000	0.000	0.000	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Tyrone 3	KU	0.000	0.000	0.000	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.381	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.381	0.381	0.380	0.380
Cane Run 4	LGE	0.000	0.000	0.000	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Cane Run 5	LGE	0.000	0.000	0.000	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430
Cane Run 6	LGE	0.000	0.000	0.000	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Mill Creek 1	LGE	0.000	0.000	0.000	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 2	LGE	0.000	0.000	0.000	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 3	LGE	0.000	0.000	0.000	0.080	0.081	0.079	0.081	0.076	0.081	0.079	0.080	0.080	0.081	0.080	0.080	0.078	0.079	0.079	0.080	0.079	0.079	0.078	0.079	0.076	0.079	0.079	0.080	0.078	0.080	0.078
Mill Creek 4	LGE	0.000	0.000	0.000	0.040	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037
Trimble County 1	LGE	0.000	0.000	0.000	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036
Trimble County 2	KU	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
Trimble County 2	LGE	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
GFCU 1	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 1	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
Peakers	KU	0.000	0.000	0.000	0.077	0.076	0.073	0.073	0.072	0.072	0.072	0.072	0.071	0.070	0.071	0.072	0.071	0.072	0.072	0.071	0.071	0.069	0.069	0.069	0.068	0.069	0.070	0.071	0.069	0.070	0.070
Peakers	LGE	0.000	0.000	0.000	0.073	0.073	0.068	0.070	0.069	0.072	0.071	0.070	0.070	0.069	0.068	0.069	0.069	0.069	0.070	0.069	0.068	0.066	0.066	0.066	0.065	0.066	0.066	0.067	0.066	0.066	0.066
SCRUBBER REMOVAL EFF.																															
Brown 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tyrone 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 5		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 6		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TONS NOx EMITTED		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0	0	0	1,273	1,301	1,209	1,255	1,221	1,171	1,252	1,232	1,242	1,223	1,149	1,064	993	1,084	1,092	1,101	1,046	917	930	842	953	957	952	950	974	974	891
Brown 2	KU	0	0	0	1,649	1,716	1,665	1,689	1,678	1,699	1,544	1,713	1,730	1,717	1,599	1,503	1,595	1,441	1,584	1,596	1,512	1,351	1,406	1,411	1,276	1,439	1,445	1,418	1,441	1,477	1,501
Brown 3	KU	0	0	0	4,102	4,303	4,166	3,761	4,163	4,236	4,275	4,269	4,255	4,211	3,417	3,576	3,788	3,816	3,782	3,731	3,519	2,807	3,200	3,183	3,275	3,291	3,316	3,263	2,982	3,321	3,418
Ghent 1	KU	0	0	0	688	696	692	698	695	620	695	697	697	695	694	695	620	692	689	695	689	680	685	621	692	691	690	688	688	681	617
Ghent 2	KU	0	0	0	4,424	4,456	4,411	4,023	4,414	4,451	4,466	4,506	4,496	4,488	3,840	4,227	4,261	4,296	4,275	4,331	4,075	3,534	3,952	4,034	4,065	4,069	4,084	4,043	3,702	4,085	4,166
Ghent 3	KU	0	0	0	670	597	655	661	656	658	663	668	599	665	651	642	643	645	642	582	633	609	608	618	618	619	552	614	617	617	621
Ghent 4	KU	0	0	0	581	661	658	661	658	658	660	593	661	661	655	652	654	652	586	658	645	640	640	646	649	574	646	648	651	646	651
Green River 3	KU	0	0	0	660	472	324	389	296	343	247	198	206	205	250	188	182	149	160	161	155	160	117	103	109	116	99	143	218	145	172
Green River 4	KU	0	0	0	1,184	866	733	656	729	725	606	609	587	592	485	568	565	596	574	578	577	394	490	513	506	528	526	529	442	552	522
Tyrone 3	KU	0	0	0	666	518	487	513	504	518	458	375	308	297	241	208	223	185	178	173	147	95	102	95	124	134	125	153	159	155	171
Cane Run 4	LGE	0	0	0	1,653	1,448	1,305	1,499	1,442	1,532	1,499	1,548	1,589	1,408	1,477	1,349	1,381	1,319	1,355	1,432	1,203	1,151	1,161	1,146	1,191	1,211	1,226	1,129	1,310	1,269	1,330
Cane Run 5	LGE	0	0	0	2,008	1,736	1,668	1,747	1,743	1,794	1,682	1,894	1,924	1,938	1,762	1,605	1,659	1,418	1,609	1,650	1,524	1,371	1,390	1,353	1,307	1,456	1,486	1,471	1,596	1,488	1,612
Cane Run 6	LGE	0	0	0	2,472	2,513	2,377	2,523	2,432	2,473	2,482	2,315	2,597	2,568	2,444	2,232	2,264	2,252	2,044	2,298	2,058	1,941	1,926	1,934	1,842	1,760	1,977	1,955	2,101	2,069	2,216
Mill Creek 1	LGE	0	0	0	3,278	2,779	3,172	3,013	3,146	2,979	3,163	3,020	3,213	2,769	3,128	2,879	3,055	2,874	3,040	2,893	2,963	2,443	2,842	2,707	2,924	2,721	2,906	2,738	2,984	2,531	2,973
Mill Creek 2	LGE	0	0	0	3,192	3,251	2,725	3,194	2,956	3,170	2,964	3,219	3,076	3,267	2,666	2,980	2,791	2,949	2,766	3,008	2,695	2,713	2,309	2,701	2,629	2,790	2,647	2,796	2,692	2,817	2,511
Mill Creek 3	LGE	0	0	0	1,071	1,151	1,061	1,145	940	1,153	1,066	1,146	1,067	1,156	1,066	1,113	950	1,109	1,045	1,135	1,024	1,089	1,026	1,092	924	1,103	1,043	1,115	1,030	1,114	1,045
Mill Creek 4	LGE	0	0	0	724	625	662	627	659	571	663	629	665	629	659	615	655	568	657	622	651	604	639	606	647	557	649	612	650	609	651
Trimble County 1	LGE	0	0	0	493	585	535	586	535	584	536	588	493	585	533	581	532	581	534	584	483	573	523	576	529	576	529	579	485	580	532
Trimble County 2	KU	0	0	0	0	384	650	651	650	649	650	652	650	650	650	652	650	650	650	652	646	648	648	652	648	650	650	650	649	647	650
Trimble County 2	LGE	0	0	0	0	90	152	153	152	152	153	153	153	153	153	153	153	152	152	153	152	152	152	153	152	153	153	153	152	152	153
GFCU 1	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	701	1,195	1,191	1,194	1,198	1,206	1,186	1,180	1,184	1,190	1,186	1,190	1,196	1,197	1,199	1,201	1,202
GFCU 1	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	394	672	670	672	674	678	667	664	666	669	667	669	673	673	674	676	676
GFCU 2	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	667	1,137	1,145	1,150	1,149	1,154	1,154	1,160	1,160	1,161	1,160
GFCU 2	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	409	697	702	705	704	707	707	711	711	712	711
Peakers	KU	0	0	0	287	261	318	358	414	488	611	617	683	704	650	539	614	615	662	674	540	294	300	300	326	351	365	367	434	431	467
Peakers	LGE	0	0	0	133	122	144	167	194	238	293	295	331	341	307	253	287	288	307	318	250	140	143	141	154	165	170	172	204	199	219
NOx EMISSIONS (TONS)																															
Total		0	0	0	31,208	30,529	29,789	29,987	30,273	30,865	30,026	30,933	31,220	30,920	29,570	30,141	30,375	30,197	30,254	30,908	30,111	27,984	28,883	29,141	29,246	29,629	29,965	29,924	29,904	30,304	30,837
ALLOWANCES																															
KU EPA Allocated NOx Allowances		0	0	0	14,635	14,635	14,635	14,635	13,865	13,865	11,554	11,297	11,297	11,297	11,040	11,040	11,040	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784
LGE EPA Allocated NOx Allowances		0	0	0	12,956	12,956	12,956	12,956	12,284	12,284	10,236	10,009	10,009	10,009	9,782	9,782	9,782	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554
Total KU/LGE EPA Allocated NOx Allowances		0	0	0	27,601	27,601	27,601	27,601	26,149	26,149	21,790	21,306	21,306	21,306	20,822	20,822	20,822	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338
KU's Portion of OMU Surplus/Shortfall		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined Company Purchases		0	0	0	3,607	2,928	2,188	2,366	4,124	4,716	8,836	9,627	9,914	9,614	8,748	9,319	9,553	9,859	9,916	10,570	9,773	7,646	8,545	8,803	8,908	9,291	9,627	9,566	9,566	9,966	10,499
TOTAL KU/LGE ALLOWANCES		0	0	0	31,208	30,529	29,789	29,967	30,273	30,865	30,026	30,933	31,220	30,920	29,570	30,141	30,375	30,197	30,254	30,908	30,111	27,984	28,883	29,141	29,246	29,629	29,965	29,924	29,904	30,304	30,837
EOY Increase (+)/Decrease in Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ALLOWANCE BANK																															
Total KU/LGE Allowance Bank (End of Year)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Case01- Option 01: GH2 SCR 2008

ANNUAL NO_x SUMMARY BY YEAR

NOx EMISS RATE (#/MBTU)	Ownership	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0.000	0.000	0.000	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470
Brown 2	KU	0.000	0.000	0.000	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Brown 3	KU	0.000	0.000	0.000	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Ghent 1	KU	0.000	0.000	0.000	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.038
Ghent 2	KU	0.000	0.000	0.000	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039
Ghent 3	KU	0.000	0.000	0.000	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
Ghent 4	KU	0.000	0.000	0.000	0.037	0.037	0.036	0.037	0.037	0.037	0.036	0.037	0.037	0.036	0.037	0.037	0.037	0.036	0.036	0.036	0.037	0.036	0.037	0.037	0.037	0.036	0.036	0.036	0.037	0.036	0.036
Green River 3	KU	0.000	0.000	0.000	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Green River 4	KU	0.000	0.000	0.000	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Tyrone 3	KU	0.000	0.000	0.000	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.381	0.380	0.380	0.380
Cane Run 4	LGE	0.000	0.000	0.000	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Cane Run 5	LGE	0.000	0.000	0.000	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430
Cane Run 6	LGE	0.000	0.000	0.000	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Mill Creek 1	LGE	0.000	0.000	0.000	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 2	LGE	0.000	0.000	0.000	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 3	LGE	0.000	0.000	0.000	0.080	0.081	0.079	0.081	0.076	0.081	0.079	0.080	0.080	0.081	0.080	0.080	0.078	0.079	0.079	0.080	0.079	0.079	0.079	0.079	0.076	0.080	0.079	0.080	0.078	0.080	0.079
Mill Creek 4	LGE	0.000	0.000	0.000	0.040	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037
Trimble County 1	LGE	0.000	0.000	0.000	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036
Trimble County 2	KU	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
Trimble County 2	LGE	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
GFCU 1	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 1	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
Peakers	KU	0.000	0.000	0.000	0.077	0.076	0.073	0.073	0.072	0.072	0.072	0.072	0.071	0.070	0.071	0.072	0.071	0.072	0.072	0.071	0.071	0.069	0.069	0.069	0.069	0.069	0.070	0.070	0.069	0.070	0.070
Peakers	LGE	0.000	0.000	0.000	0.073	0.073	0.068	0.070	0.069	0.072	0.071	0.070	0.069	0.069	0.068	0.069	0.069	0.069	0.070	0.069	0.068	0.066	0.066	0.066	0.065	0.066	0.066	0.067	0.066	0.066	0.066
SCRUBBER REMOVAL EFF.																															
Brown 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tyrone 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 5		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 6		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TONS NOx EMITTED		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0	0	0	1,274	1,303	1,210	1,256	1,222	1,172	1,253	1,233	1,242	1,223	1,149	1,065	995	1,084	1,093	1,101	1,047	917	930	843	953	956	952	960	974	974	891
Brown 2	KU	0	0	0	1,649	1,716	1,565	1,690	1,679	1,699	1,544	1,713	1,730	1,716	1,599	1,503	1,589	1,438	1,582	1,593	1,509	1,346	1,395	1,402	1,273	1,436	1,442	1,413	1,439	1,473	1,496
Brown 3	KU	0	0	0	4,103	4,306	4,167	3,763	4,165	4,236	4,275	4,270	4,257	4,212	3,417	3,578	3,782	3,807	3,775	3,728	3,508	2,796	3,186	3,166	3,263	3,278	3,303	3,252	2,979	3,311	3,402
Ghent 1	KU	0	0	0	688	696	691	698	695	620	695	697	697	694	694	694	620	692	688	694	687	677	685	619	692	689	688	686	687	679	616
Ghent 2	KU	0	0	0	642	664	663	597	666	664	660	664	661	660	594	664	660	658	660	660	660	588	656	656	657	655	655	657	589	656	656
Ghent 3	KU	0	0	0	667	593	651	658	652	655	660	664	596	661	646	635	637	639	636	576	625	600	600	609	611	612	546	606	612	610	615
Ghent 4	KU	0	0	0	580	658	654	659	654	657	657	591	660	658	652	647	649	648	583	654	640	634	633	639	644	569	639	641	646	640	646
Green River 3	KU	0	0	0	660	472	322	390	302	342	247	198	206	205	255	192	182	149	161	161	155	160	117	103	109	116	99	143	217	145	172
Green River 4	KU	0	0	0	1,189	866	730	654	726	728	606	611	587	592	481	568	572	593	574	578	577	394	490	513	506	528	526	529	448	560	522
Tyrone 3	KU	0	0	0	666	518	487	513	504	517	458	376	308	299	241	209	223	182	177	175	147	91	102	95	124	134	127	149	162	160	168
Cane Run 4	LGE	0	0	0	1,654	1,449	1,305	1,499	1,442	1,532	1,500	1,548	1,589	1,498	1,477	1,347	1,382	1,320	1,355	1,434	1,202	1,151	1,161	1,147	1,191	1,212	1,227	1,129	1,311	1,270	1,330
Cane Run 5	LGE	0	0	0	2,009	1,737	1,569	1,747	1,744	1,794	1,682	1,896	1,924	1,937	1,762	1,608	1,660	1,418	1,611	1,654	1,529	1,372	1,390	1,353	1,307	1,457	1,487	1,472	1,598	1,469	1,613
Cane Run 6	LGE	0	0	0	2,471	2,515	2,378	2,523	2,433	2,474	2,482	2,315	2,597	2,568	2,444	2,231	2,265	2,253	2,044	2,299	2,058	1,941	1,926	1,935	1,844	1,761	1,978	1,956	2,100	2,069	2,217
Mill Creek 1	LGE	0	0	0	3,272	2,777	3,161	3,008	3,141	2,975	3,159	3,016	3,209	2,760	3,115	2,863	3,039	2,860	3,030	2,878	2,943	2,427	2,816	2,684	2,903	2,702	2,886	2,722	2,967	2,515	2,954
Mill Creek 2	LGE	0	0	0	3,192	3,251	2,726	3,194	2,956	3,171	2,965	3,220	3,077	3,267	2,666	2,988	2,791	2,947	2,759	3,004	2,694	2,710	2,307	2,697	2,628	2,789	2,647	2,795	2,694	2,816	2,511
Mill Creek 3	LGE	0	0	0	1,071	1,150	1,050	1,144	939	1,152	1,064	1,145	1,066	1,156	1,064	1,111	948	1,107	1,042	1,133	1,021	1,085	1,022	1,088	921	1,100	1,039	1,111	1,028	1,110	1,042
Mill Creek 4	LGE	0	0	0	723	623	660	625	657	570	662	628	663	627	656	611	652	565	654	619	646	598	632	601	642	552	644	607	647	605	647
Trimble County 1	LGE	0	0	0	493	582	532	583	532	581	533	586	491	584	529	577	528	578	531	581	480	567	518	572	524	571	525	575	482	576	529
Trimble County 2	KU	0	0	0	0	382	648	650	647	648	649	651	649	650	649	649	648	648	649	652	645	646	646	650	647	649	649	649	648	646	650
Trimble County 2	LGE	0	0	0	0	90	152	153	152	152	152	153	152	152	152	152	152	152	152	153	151	152	152	153	152	152	152	152	152	152	153
GFCU 1	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	692	1,181	1,181	1,184	1,189	1,199	1,174	1,167	1,170	1,180	1,176	1,179	1,187	1,187	1,193	1,194	1,198
GFCU 1	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	389	664	664	666	669	674	660	656	658	664	662	664	667	666	671	672	674
GFCU 2	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	654	1,125	1,130	1,138	1,138	1,143	1,145	1,150	1,153	1,154	1,155
GFCU 2	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	401	690	693	697	698	700	702	705	707	707	708
Peakers	KU	0	0	0	288	261	318	359	414	488	612	618	684	705	651	540	615	616	663	675	541	296	300	300	327	352	365	367	435	432	468
Peakers	LGE	0	0	0	133	122	144	168	194	238	294	295	331	341	307	253	288	288	307	318	250	141	144	141	154	165	170	172	205	199	221
NOx EMISSIONS (TONS)																															
Total		0	0	0	27,423	26,730	26,012	26,528	26,513	27,083	26,805	27,083	27,378	27,076	26,279	26,530	26,718	26,493	26,584	27,192	26,001	24,026	25,457	25,645	25,745	26,122	26,448	26,443	26,743	26,814	27,252
ALLOWANCES																															
KU EPA Allocated NOx Allowances		0	0	0	14,635	14,635	14,635	14,635	13,865	13,865	11,554	11,297	11,297	11,297	11,040	11,040	11,040	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784
LGE EPA Allocated NOx Allowances		0	0	0	12,966	12,966	12,966	12,966	12,284	12,284	10,236	10,009	10,009	10,009	9,782	9,782	9,782	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554
Total KU/LGE EPA Allocated NOx Allowances		0	0	0	27,601	27,601	27,601	27,601	26,149	26,149	21,790	21,306	21,306	21,306	20,822	20,822	20,822	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338
KU's Portion of OMU Surplus/Shortfall		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined Company Purchases		0	0	0	0	0	0	0	0	0	2,582	5,777	6,072	5,770	5,457	5,708	5,896	6,155	6,246	6,854	6,263	4,568	5,119	5,307	5,407	5,784	6,110	6,105	6,405	6,476	6,914
TOTAL KU/LGE ALLOWANCES		0	0	0	27,601	27,601	27,601	27,601	26,149	26,149	24,372	27,083	27,378	27,076	26,279	26,530	26,718	26,493	26,584	27,192	26,601	24,926	25,457	25,645	25,745	26,122	26,448	26,443	26,743	26,814	27,252
EOY Increase (+)/Decrease in Bank		0	0	0	178	871	1,589	1,073	-364	-914	-2,433	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ALLOWANCE BANK																															
Total KU/LGE Allowance Bank (End of Year)		-	-	-	178	1,050	2,639	3,712	3,347	2,433	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Case02- Option 02: GH2 SCR 2009

ANNUAL NO_x SUMMARY BY YEAR

NOx EMISS RATE (#/MBTU)	Ownership	2008	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0.000	0.000	0.000	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470
Brown 2	KU	0.000	0.000	0.000	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Brown 3	KU	0.000	0.000	0.000	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Ghent 1	KU	0.000	0.000	0.000	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.038
Ghent 2	KU	0.000	0.000	0.000	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039
Ghent 3	KU	0.000	0.000	0.000	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
Ghent 4	KU	0.000	0.000	0.000	0.037	0.037	0.036	0.037	0.037	0.037	0.036	0.037	0.037	0.036	0.037	0.037	0.037	0.036	0.037	0.036	0.036	0.037	0.036	0.037	0.037	0.036	0.036	0.036	0.037	0.035	0.036
Green River 3	KU	0.000	0.000	0.000	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Green River 4	KU	0.000	0.000	0.000	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Tyrone 3	KU	0.000	0.000	0.000	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.381	0.380	0.380	0.380
Cane Run 4	LGE	0.000	0.000	0.000	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Cane Run 5	LGE	0.000	0.000	0.000	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430
Cane Run 6	LGE	0.000	0.000	0.000	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Mill Creek 1	LGE	0.000	0.000	0.000	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 2	LGE	0.000	0.000	0.000	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 3	LGE	0.000	0.000	0.000	0.080	0.081	0.079	0.081	0.076	0.081	0.079	0.080	0.080	0.081	0.080	0.080	0.078	0.079	0.079	0.080	0.079	0.079	0.079	0.076	0.080	0.079	0.080	0.076	0.080	0.079	0.079
Mill Creek 4	LGE	0.000	0.000	0.000	0.040	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037
Trimble County 1	LGE	0.000	0.000	0.000	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036
Trimble County 2	KU	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
Trimble County 2	LGE	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
GFCU 1	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 1	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
Peakers	KU	0.000	0.000	0.000	0.077	0.076	0.073	0.073	0.072	0.072	0.072	0.072	0.071	0.070	0.071	0.072	0.071	0.072	0.072	0.071	0.071	0.069	0.069	0.069	0.069	0.070	0.070	0.069	0.069	0.070	0.070
Peakers	LGE	0.000	0.000	0.000	0.073	0.073	0.068	0.070	0.069	0.072	0.071	0.070	0.069	0.069	0.068	0.069	0.069	0.069	0.070	0.069	0.068	0.066	0.066	0.066	0.065	0.066	0.066	0.067	0.066	0.066	0.066
SCRUBBER REMOVAL EFF.																															
Brown 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tyrone 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 5		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 6		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TONS NOx EMITTED		2008	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0	0	0	1,274	1,303	1,210	1,256	1,222	1,172	1,253	1,233	1,242	1,223	1,149	1,065	995	1,084	1,093	1,101	1,047	917	930	843	953	956	952	950	974	974	891
Brown 2	KU	0	0	0	1,649	1,716	1,665	1,690	1,679	1,699	1,544	1,713	1,730	1,716	1,599	1,503	1,589	1,438	1,582	1,593	1,509	1,346	1,395	1,402	1,273	1,436	1,442	1,413	1,439	1,473	1,496
Brown 3	KU	0	0	0	4,103	4,306	4,167	3,763	4,165	4,236	4,275	4,270	4,257	4,212	3,417	3,578	3,782	3,807	3,775	3,728	3,508	2,796	3,186	3,166	3,263	3,278	3,303	3,252	2,979	3,311	3,402
Ghent 1	KU	0	0	0	688	696	691	698	695	620	695	697	697	694	694	694	620	692	688	694	687	677	685	619	692	689	688	686	687	679	616
Ghent 2	KU	0	0	0	642	664	663	597	666	664	660	664	661	660	594	664	660	658	660	660	660	588	656	656	657	655	655	657	589	656	656
Ghent 3	KU	0	0	0	667	593	651	658	652	655	660	664	596	661	646	635	637	639	636	576	625	600	600	609	611	612	546	606	612	610	615
Ghent 4	KU	0	0	0	580	658	654	659	654	657	657	591	660	658	652	647	649	648	583	654	640	634	633	639	644	569	639	641	646	640	646
Green River 3	KU	0	0	0	660	472	322	390	302	342	247	198	205	205	255	192	182	149	161	161	155	160	117	103	109	116	99	143	217	145	172
Green River 4	KU	0	0	0	1,189	866	730	864	726	728	606	611	587	592	481	568	572	593	574	578	577	394	490	513	506	528	526	529	448	560	522
Tyrone 3	KU	0	0	0	666	518	487	513	504	517	458	376	308	299	241	209	223	182	177	175	147	91	102	95	124	134	127	149	162	160	168
Cane Run 4	LGE	0	0	0	1,654	1,449	1,305	1,499	1,442	1,532	1,500	1,548	1,589	1,408	1,477	1,347	1,382	1,320	1,356	1,434	1,202	1,151	1,161	1,147	1,191	1,212	1,227	1,129	1,311	1,270	1,330
Cane Run 5	LGE	0	0	0	2,009	1,737	1,689	1,747	1,744	1,794	1,682	1,896	1,924	1,937	1,762	1,608	1,660	1,418	1,611	1,654	1,529	1,372	1,390	1,353	1,307	1,457	1,487	1,472	1,598	1,489	1,613
Cane Run 6	LGE	0	0	0	2,471	2,515	2,378	2,523	2,433	2,474	2,482	2,315	2,597	2,568	2,444	2,231	2,265	2,253	2,044	2,299	2,058	1,941	1,926	1,935	1,844	1,761	1,978	1,956	2,100	2,069	2,217
Mill Creek 1	LGE	0	0	0	3,272	2,777	3,161	3,008	3,141	2,975	3,159	3,016	3,209	2,760	3,115	2,863	3,039	2,860	3,030	2,878	2,943	2,427	2,816	2,684	2,903	2,702	2,886	2,722	2,967	2,515	2,954
Mill Creek 2	LGE	0	0	0	3,192	3,251	2,726	3,194	2,956	3,171	2,965	3,220	3,077	3,267	2,666	2,988	2,791	2,947	2,759	3,004	2,694	2,710	2,307	2,697	2,628	2,789	2,647	2,795	2,694	2,816	2,511
Mill Creek 3	LGE	0	0	0	1,071	1,150	1,060	1,144	939	1,152	1,064	1,145	1,066	1,156	1,064	1,111	948	1,107	1,042	1,133	1,021	1,085	1,022	1,088	921	1,100	1,039	1,111	1,028	1,110	1,042
Mill Creek 4	LGE	0	0	0	723	623	660	625	657	570	662	628	663	627	656	611	652	565	654	619	646	598	632	601	642	552	644	607	647	605	647
Trimble County 1	LGE	0	0	0	493	582	532	583	532	581	533	586	491	584	529	577	528	578	531	581	480	567	518	572	524	571	525	575	482	576	529
Trimble County 2	KU	0	0	0	0	382	648	650	647	648	649	651	649	650	649	649	649	648	648	649	652	645	646	646	650	647	649	649	649	648	646	650
Trimble County 2	LGE	0	0	0	0	90	152	153	152	152	152	153	152	152	152	152	152	152	152	153	151	152	152	153	153	152	152	152	152	152	153
GFCU 1	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	692	1,181	1,181	1,184	1,189	1,199	1,174	1,167	1,170	1,180	1,176	1,179	1,187	1,187	1,193	1,194	1,198
GFCU 1	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	389	664	664	666	669	674	660	656	658	664	662	664	667	668	671	672	674
GFCU 2	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	654	1,125	1,130	1,138	1,138	1,143	1,145	1,150	1,153	1,154	1,155
GFCU 2	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	401	690	693	697	698	700	702	705	707	707	708
Peakers	KU	0	0	0	288	261	318	359	414	488	612	618	684	705	651	540	615	616	663	675	541	296	300	300	327	352	365	367	435	432	468
Peakers	LGE	0	0	0	133	122	144	168	194	238	294	295	331	341	307	253	288	288	307	318	250	141	144	141	154	165	170	172	205	199	221
NOx EMISSIONS (TONS)																															
Total		0	0	0	27,423	26,730	26,012	26,528	26,513	27,063	26,805	27,083	27,378	27,076	26,279	26,530	26,718	26,493	26,584	27,192	26,001	24,926	25,457	25,645	25,745	26,122	26,448	26,443	26,743	26,814	27,252
ALLOWANCES																															
KU EPA Allocated NOx Allowances		0	0	0	14,635	14,635	14,635	14,635	13,865	13,865	11,554	11,297	11,297	11,297	11,040	11,040	11,040	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784
LGE EPA Allocated NOx Allowances		0	0	0	12,966	12,966	12,966	12,966	12,284	12,284	10,236	10,009	10,009	10,009	9,782	9,782	9,782	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554
Total KU/LGE EPA Allocated NOx Allowances		0	0	0	27,601	27,601	27,601	27,601	26,149	26,149	21,790	21,306	21,306	21,306	20,822	20,822	20,822	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338
KU's Portion of OMU Surplus/Shortfall		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined Company Purchases		0	0	0	0	0	0	0	0	0	2,582	5,777	6,072	5,770	5,457	5,708	5,896	6,155	6,246	6,854	6,263	4,588	5,119	5,307	5,407	5,784	6,110	6,105	6,405	6,476	6,914
TOTAL KU/LGE ALLOWANCES		0	0	0	27,601	27,601	27,601	27,601	26,149	26,149	24,372	27,083	27,378	27,076	26,279	26,530	26,718	26,493	26,584	27,192	26,001	24,926	25,457	25,645	25,745	26,122	26,448	26,443	26,743	26,814	27,252
EOY Increase (+)/Decrease in Bank		0	0	0	178	871	1,589	1,073	-364	-914	-2,433	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ALLOWANCE BANK																															
Total KU/LGE Allowance Bank (End of Year)		-	-	-	178	1,050	2,639	3,712	3,347	2,433	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Case03- Option 03: GH2 SCR 2010

ANNUAL NO_x SUMMARY BY YEAR

NOx EMISS RATE (#/MBTU)	Ownership	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0.000	0.000	0.000	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470
Brown 2	KU	0.000	0.000	0.000	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Brown 3	KU	0.000	0.000	0.000	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Ghent 1	KU	0.000	0.000	0.000	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.038
Ghent 2	KU	0.000	0.000	0.000	0.270	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039
Ghent 3	KU	0.000	0.000	0.000	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
Ghent 4	KU	0.000	0.000	0.000	0.037	0.037	0.036	0.037	0.037	0.037	0.036	0.037	0.037	0.036	0.037	0.037	0.037	0.036	0.037	0.036	0.036	0.037	0.036	0.037	0.036	0.036	0.036	0.036	0.037	0.036	0.036
Green River 3	KU	0.000	0.000	0.000	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Green River 4	KU	0.000	0.000	0.000	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Tyrone 3	KU	0.000	0.000	0.000	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.381	0.380	0.380	0.380	0.380	0.381	0.380	0.380	0.380
Cane Run 4	LGE	0.000	0.000	0.000	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Cane Run 5	LGE	0.000	0.000	0.000	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430
Cane Run 6	LGE	0.000	0.000	0.000	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Mill Creek 1	LGE	0.000	0.000	0.000	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 2	LGE	0.000	0.000	0.000	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 3	LGE	0.000	0.000	0.000	0.080	0.081	0.079	0.081	0.076	0.081	0.079	0.080	0.080	0.081	0.080	0.080	0.078	0.079	0.079	0.080	0.079	0.079	0.079	0.076	0.080	0.079	0.080	0.078	0.080	0.079	0.079
Mill Creek 4	LGE	0.000	0.000	0.000	0.040	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037
Trimble County 1	LGE	0.000	0.000	0.000	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036
Trimble County 2	KU	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
Trimble County 2	LGE	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
GFCU 1	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 1	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
Peakers	KU	0.000	0.000	0.000	0.077	0.076	0.073	0.073	0.072	0.072	0.072	0.072	0.071	0.070	0.071	0.072	0.071	0.072	0.072	0.071	0.071	0.069	0.069	0.069	0.069	0.069	0.070	0.070	0.069	0.070	0.070
Peakers	LGE	0.000	0.000	0.000	0.073	0.073	0.068	0.070	0.069	0.072	0.071	0.070	0.069	0.069	0.068	0.069	0.069	0.069	0.070	0.069	0.068	0.066	0.066	0.066	0.065	0.066	0.066	0.067	0.066	0.066	0.066
SCRUBBER REMOVAL EFF.																															
Brown 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tyrone 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 5		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 6		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TONS NOx EMITTED		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0	0	0	1,273	1,300	1,210	1,256	1,222	1,172	1,253	1,233	1,242	1,223	1,149	1,065	995	1,084	1,093	1,101	1,047	917	930	843	953	956	952	950	974	974	891
Brown 2	KU	0	0	0	1,649	1,713	1,665	1,690	1,679	1,699	1,544	1,713	1,730	1,716	1,599	1,503	1,589	1,438	1,582	1,593	1,509	1,346	1,395	1,402	1,273	1,436	1,442	1,413	1,439	1,473	1,496
Brown 3	KU	0	0	0	4,102	4,300	4,167	3,763	4,165	4,236	4,275	4,270	4,257	4,212	3,417	3,578	3,782	3,807	3,775	3,728	3,508	2,796	3,186	3,166	3,263	3,278	3,303	3,252	2,979	3,311	3,402
Ghent 1	KU	0	0	0	688	696	691	698	695	620	695	697	697	694	694	694	620	692	688	694	687	677	685	619	692	689	688	686	687	679	616
Ghent 2	KU	0	0	0	4,424	674	663	597	666	664	660	664	661	660	594	664	660	658	660	660	660	588	656	656	657	655	655	657	589	656	656
Ghent 3	KU	0	0	0	670	593	651	658	652	655	660	664	596	661	646	635	637	639	636	576	625	600	600	609	611	612	546	606	612	610	615
Ghent 4	KU	0	0	0	581	658	654	659	654	657	657	591	660	658	652	647	649	648	583	654	640	634	633	639	644	569	639	641	646	640	646
Green River 3	KU	0	0	0	660	481	322	390	302	342	247	198	206	205	255	192	182	149	161	161	155	160	117	103	109	116	99	143	217	145	172
Green River 4	KU	0	0	0	1,184	865	730	654	726	728	606	611	587	592	481	568	572	593	574	578	577	394	490	513	505	528	526	529	448	560	522
Tyrone 3	KU	0	0	0	666	514	487	513	494	517	458	476	408	399	241	209	223	182	177	175	147	91	102	95	124	134	127	149	162	160	168
Cane Run 4	LGE	0	0	0	1,653	1,446	1,305	1,499	1,442	1,532	1,500	1,548	1,589	1,408	1,477	1,347	1,382	1,320	1,356	1,434	1,202	1,151	1,161	1,147	1,191	1,212	1,227	1,129	1,311	1,270	1,330
Cane Run 5	LGE	0	0	0	2,008	1,733	1,689	1,747	1,744	1,794	1,682	1,896	1,924	1,937	1,762	1,608	1,660	1,418	1,611	1,654	1,529	1,372	1,390	1,353	1,307	1,457	1,487	1,472	1,598	1,489	1,613
Cane Run 6	LGE	0	0	0	2,472	2,512	2,378	2,523	2,433	2,474	2,482	2,315	2,597	2,568	2,444	2,231	2,265	2,253	2,044	2,299	2,058	1,941	1,926	1,935	1,844	1,761	1,978	1,956	2,100	2,069	2,217
Mill Creek 1	LGE	0	0	0	3,278	2,774	3,161	3,008	3,141	2,975	3,159	3,016	3,209	2,760	3,115	2,863	3,039	2,860	3,030	2,878	2,943	2,427	2,816	2,684	2,903	2,702	2,886	2,722	2,967	2,515	2,954
Mill Creek 2	LGE	0	0	0	3,192	3,247	2,726	3,194	2,956	3,171	2,965	3,220	3,076	3,267	2,666	2,988	2,791	2,947	2,759	3,004	2,694	2,710	2,307	2,697	2,628	2,789	2,647	2,795	2,694	2,816	2,511
Mill Creek 3	LGE	0	0	0	1,071	1,150	1,060	1,144	939	1,152	1,064	1,145	1,066	1,156	1,064	1,111	948	1,107	1,042	1,133	1,021	1,085	1,022	1,088	921	1,100	1,039	1,111	1,028	1,110	1,042
Mill Creek 4	LGE	0	0	0	724	623	660	625	657	570	662	628	663	627	656	611	652	565	654	619	646	598	632	601	642	552	644	607	647	605	647
Trimble County 1	LGE	0	0	0	493	582	532	583	532	581	533	586	491	584	529	577	528	578	531	581	480	567	518	572	524	571	525	575	482	576	529
Trimble County 2	KU	0	0	0	0	382	648	650	647	648	649	651	649	650	649	649	648	648	649	652	645	646	646	650	647	649	649	649	648	646	650
Trimble County 2	LGE	0	0	0	0	90	152	153	152	152	152	153	152	152	152	152	152	152	152	153	151	152	152	153	152	152	152	152	152	152	153
GFCU 1	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	692	1,181	1,181	1,184	1,189	1,199	1,174	1,167	1,170	1,180	1,176	1,179	1,187	1,187	1,193	1,194	1,198
GFCU 1	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	389	664	664	666	669	674	660	656	658	664	662	664	667	668	671	672	674
GFCU 2	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	654	1,125	1,130	1,138	1,138	1,143	1,145	1,150	1,153	1,154	1,155
GFCU 2	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	401	690	693	697	698	700	702	705	707	707	708
Peakers	KU	0	0	0	287	258	318	359	414	488	612	618	684	705	651	540	615	616	663	675	541	296	300	300	327	352	365	367	435	432	468
Peakers	LGE	0	0	0	133	121	144	168	194	238	294	295	331	341	307	253	288	288	307	318	250	141	144	141	154	165	170	172	205	199	221
NOx EMISSIONS (TONS)																															
Total		0	0	0	31,208	28,710	28,012	28,528	28,513	27,063	26,805	27,083	27,378	27,076	26,279	26,530	26,718	26,493	26,584	27,192	26,601	24,926	25,457	25,645	25,745	26,122	26,448	26,443	26,743	26,814	27,252
ALLOWANCES																															
KU EPA Allocated NOx Allowances		0	0	0	14,635	14,635	14,635	14,635	13,865	13,865	11,554	11,297	11,297	11,297	11,040	11,040	11,040	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784
LGE EPA Allocated NOx Allowances		0	0	0	12,966	12,966	12,966	12,966	12,284	12,284	10,236	10,009	10,009	10,009	9,782	9,782	9,782	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554
Total KU/LGE EPA Allocated NOx Allowances		0	0	0	27,601	27,601	27,601	27,601	26,149	26,149	21,790	21,306	21,306	21,306	20,822	20,822	20,822	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338
KU's Portion of OMU Surplus/Shortfall		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined Company Purchases		0	0	0	3,607	0	0	0	0	0	2,740	5,777	6,072	5,770	5,457	5,708	5,896	6,155	6,246	6,854	6,263	4,588	5,119	5,307	5,407	5,784	6,110	6,105	6,405	6,476	6,914
TOTAL KU/LGE ALLOWANCES		0	0	0	31,208	27,601	27,601	27,601	26,149	26,149	24,530	27,083	27,378	27,076	26,279	26,530	26,718	26,493	26,584	27,192	26,601	24,926	25,457	25,645	25,745	26,122	26,448	26,443	26,743	26,814	27,252
EOY Increase (+)/Decrease in Bank		0	0	0	0	892	1,589	1,073	-364	-914	-2,275	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ALLOWANCE BANK																															
Total KU/LGE Allowance Bank (End of Year)		-	-	-	-	892	2,481	3,553	3,189	2,275	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Case04- Option 04: BR3 SCR 2008

ANNUAL NO_x SUMMARY BY YEAR

NOx EMISS RATE (#/MBTU)	Ownership	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0.000	0.000	0.000	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470
Brown 2	KU	0.000	0.000	0.000	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Brown 3	KU	0.000	0.000	0.000	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044
Ghent 1	KU	0.000	0.000	0.000	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.037
Ghent 2	KU	0.000	0.000	0.000	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270
Ghent 3	KU	0.000	0.000	0.000	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
Ghent 4	KU	0.000	0.000	0.000	0.037	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.037	0.036	0.036	0.036	0.036	0.037	0.036	0.036
Green River 3	KU	0.000	0.000	0.000	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Green River 4	KU	0.000	0.000	0.000	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Tyrone 3	KU	0.000	0.000	0.000	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.381	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.381	0.380	0.380	0.380
Cane Run 4	LGE	0.000	0.000	0.000	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Cane Run 5	LGE	0.000	0.000	0.000	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430
Cane Run 6	LGE	0.000	0.000	0.000	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Mill Creek 1	LGE	0.000	0.000	0.000	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 2	LGE	0.000	0.000	0.000	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 3	LGE	0.000	0.000	0.000	0.080	0.081	0.079	0.081	0.076	0.081	0.079	0.080	0.080	0.080	0.081	0.079	0.080	0.077	0.079	0.079	0.080	0.079	0.079	0.078	0.079	0.076	0.079	0.079	0.080	0.078	0.080
Mill Creek 4	LGE	0.000	0.000	0.000	0.040	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037
Trimble County 1	LGE	0.000	0.000	0.000	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036
Trimble County 2	KU	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
Trimble County 2	LGE	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
GFCU 1	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 1	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
Peakers	KU	0.000	0.000	0.000	0.077	0.076	0.073	0.073	0.072	0.072	0.072	0.072	0.071	0.070	0.071	0.072	0.071	0.072	0.072	0.071	0.071	0.069	0.069	0.069	0.068	0.069	0.070	0.070	0.069	0.070	0.070
Peakers	LGE	0.000	0.000	0.000	0.073	0.073	0.068	0.070	0.069	0.072	0.071	0.070	0.069	0.069	0.068	0.069	0.069	0.069	0.070	0.069	0.068	0.066	0.066	0.066	0.065	0.066	0.066	0.067	0.065	0.066	0.066
SCRUBBER REMOVAL EFF.																															
Brown 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tyrone 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 5		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 6		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TONS NOx EMITTED		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0	0	0	1,229	1,254	1,163	1,220	1,178	1,132	1,227	1,207	1,212	1,196	1,135	1,043	971	1,062	1,076	1,082	1,031	912	917	832	942	943	941	940	967	965	879
Brown 2	KU	0	0	0	1,528	1,561	1,505	1,533	1,497	1,515	1,343	1,479	1,456	1,456	1,342	1,222	1,341	1,204	1,352	1,317	1,252	1,089	1,119	1,123	1,011	1,150	1,146	1,141	1,188	1,196	1,214
Brown 3	KU	0	0	0	692	734	725	655	727	735	748	743	742	740	633	689	733	739	739	735	715	613	694	702	704	707	706	700	630	703	711
Ghent 1	KU	0	0	0	688	696	691	696	694	620	693	696	695	694	693	695	616	689	685	693	684	676	681	618	689	688	688	686	685	676	613
Ghent 2	KU	0	0	0	4,404	4,422	4,359	3,979	4,364	4,397	4,375	4,447	4,458	4,436	3,764	4,132	4,067	4,088	4,085	4,142	3,856	3,287	3,686	3,720	3,781	3,800	3,807	3,788	3,498	3,839	3,932
Ghent 3	KU	0	0	0	669	595	650	656	649	652	655	663	595	661	645	632	622	625	620	655	612	589	585	594	595	597	533	591	598	593	596
Ghent 4	KU	0	0	0	582	659	656	660	656	656	657	592	660	656	653	648	651	649	584	655	642	535	637	642	645	572	643	644	647	643	648
Green River 3	KU	0	0	0	661	465	322	390	301	348	247	198	206	205	250	192	182	149	161	161	155	160	117	103	105	116	99	134	218	145	171
Green River 4	KU	0	0	0	1,158	866	730	654	727	731	606	603	587	593	485	568	574	593	574	578	577	394	490	513	506	528	526	529	453	560	523
Tyrone 3	KU	0	0	0	666	519	487	513	504	519	458	376	308	295	244	209	220	182	177	175	151	93	103	96	124	133	126	150	159	159	180
Cane Run 4	LGE	0	0	0	1,636	1,443	1,302	1,496	1,440	1,531	1,499	1,547	1,588	1,406	1,477	1,348	1,381	1,321	1,355	1,433	1,201	1,149	1,159	1,144	1,197	1,211	1,225	1,128	1,311	1,271	1,330
Cane Run 5	LGE	0	0	0	1,987	1,737	1,689	1,747	1,744	1,796	1,681	1,897	1,925	1,937	1,763	1,606	1,659	1,421	1,615	1,653	1,526	1,374	1,390	1,350	1,306	1,456	1,486	1,466	1,598	1,481	1,618
Cane Run 6	LGE	0	0	0	2,411	2,462	2,340	2,490	2,396	2,441	2,471	2,291	2,565	2,543	2,420	2,198	2,249	2,240	2,034	2,280	2,048	1,935	1,899	1,913	1,822	1,745	1,961	1,950	2,089	2,050	2,184
Mill Creek 1	LGE	0	0	0	3,258	2,742	3,124	2,970	3,083	2,928	3,119	2,979	3,174	2,733	3,084	2,825	3,007	2,830	3,001	2,854	2,913	2,406	2,791	2,662	2,881	2,682	2,865	2,705	2,953	2,495	2,938
Mill Creek 2	LGE	0	0	0	3,157	3,170	2,653	3,122	2,891	3,113	2,909	3,140	3,015	3,203	2,604	2,901	2,746	2,899	2,708	2,944	2,647	2,663	2,263	2,651	2,591	2,740	2,601	2,750	2,653	2,774	2,472
Mill Creek 3	LGE	0	0	0	1,071	1,147	1,056	1,140	937	1,148	1,058	1,139	1,064	1,152	1,062	1,106	945	1,104	1,040	1,128	1,019	1,084	1,020	1,086	913	1,098	1,038	1,106	1,026	1,109	1,040
Mill Creek 4	LGE	0	0	0	723	624	659	624	654	568	659	627	663	626	656	613	650	564	652	618	644	597	632	600	642	553	643	607	646	604	646
Trimble County 1	LGE	0	0	0	493	585	535	586	536	584	535	588	492	585	533	582	531	580	533	582	572	522	576	528	574	527	577	484	578	531	
Trimble County 2	KU	0	0	0	0	383	649	651	646	649	650	651	650	650	649	650	649	649	650	652	645	647	647	651	648	649	650	650	648	647	650
Trimble County 2	LGE	0	0	0	0	90	152	153	152	152	153	153	152	153	153	153	152	152	152	153	151	152	152	153	152	152	153	153	152	152	153
GFCU 1	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	697	1,189	1,187	1,191	1,194	1,203	1,181	1,173	1,178	1,186	1,182	1,186	1,193	1,193	1,196	1,198	1,200
GFCU 1	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	392	669	668	670	672	676	664	660	663	667	665	667	671	671	673	674	675
GFCU 2	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	663	1,131	1,138	1,147	1,145	1,149	1,151	1,156	1,157	1,158	1,159
GFCU 2	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	406	693	698	703	702	704	705	709	709	710	710
Peakers	KU	0	0	0	288	261	318	359	414	488	612	618	684	705	651	540	614	615	663	674	541	295	300	300	326	352	365	366	434	430	467
Peakers	LGE	0	0	0	133	122	144	168	194	238	293	295	331	341	307	253	288	288	307	319	250	140	144	141	153	166	169	172	204	198	220
NOx EMISSIONS (TONS)																															
Total		0	0	0	27,432	26,537	25,909	26,458	26,388	26,940	26,649	26,927	27,222	26,987	26,292	26,662	26,703	26,502	26,626	27,274	25,658	25,121	25,623	25,872	25,952	26,317	26,610	26,660	26,973	27,007	27,459
ALLOWANCES																															
KU EPA Allocated NOx Allowances		0	0	0	14,635	14,635	14,635	14,635	13,865	13,865	11,554	11,297	11,297	11,297	11,040	11,040	11,040	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784
LGE EPA Allocated NOx Allowances		0	0	0	12,966	12,966	12,966	12,966	12,284	12,284	10,236	10,009	10,009	10,009	9,782	9,782	9,782	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554
Total KU/LGE EPA Allocated NOx Allowances		0	0	0	27,601	27,601	27,601	27,601	26,149	26,149	21,790	21,306	21,306	21,306	20,822	20,822	20,822	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338
KU's Portion of OMU Surplus/Shortfall		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined Company Purchases		0	0	0	0	0	0	0	0	0	1,819	5,621	5,916	5,681	5,470	5,840	5,881	6,164	6,288	6,936	6,320	4,783	5,285	5,534	5,614	5,979	6,278	6,322	6,635	6,669	7,121
TOTAL KU/LGE ALLOWANCES		0	0	0	27,601	27,601	27,601	27,601	26,149	26,149	23,609	26,927	27,222	26,987	26,292	26,662	26,703	26,502	26,626	27,274	26,658	25,121	25,623	25,872	25,952	26,317	26,610	26,660	26,973	27,007	27,459
EOY Increase (+)/Decrease in Bank		0	0	0	169	1,064	1,692	1,143	-237	-791	-3,040	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ALLOWANCE BANK																															
Total KU/LGE Allowance Bank (End of Year)		-	-	-	169	1,233	2,925	4,068	3,831	3,040	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Case05- Option 05: BR3 SCR 2009

ANNUAL NO_x SUMMARY BY YEAR

NOx EMISS RATE (#/MBTU)	Ownership	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0.000	0.000	0.000	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470
Brown 2	KU	0.000	0.000	0.000	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Brown 3	KU	0.000	0.000	0.000	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044
Ghent 1	KU	0.000	0.000	0.000	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.037
Ghent 2	KU	0.000	0.000	0.000	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270
Ghent 3	KU	0.000	0.000	0.000	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
Ghent 4	KU	0.000	0.000	0.000	0.037	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.037	0.036	0.036	0.036	0.036	0.036	0.037	0.036	0.036
Green River 3	KU	0.000	0.000	0.000	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Green River 4	KU	0.000	0.000	0.000	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Tyrone 3	KU	0.000	0.000	0.000	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.381	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.381	0.380	0.380	0.380
Cane Run 4	LGE	0.000	0.000	0.000	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Cane Run 5	LGE	0.000	0.000	0.000	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430
Cane Run 6	LGE	0.000	0.000	0.000	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Mill Creek 1	LGE	0.000	0.000	0.000	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 2	LGE	0.000	0.000	0.000	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 3	LGE	0.000	0.000	0.000	0.080	0.081	0.079	0.081	0.076	0.081	0.079	0.080	0.080	0.081	0.079	0.080	0.077	0.079	0.079	0.080	0.079	0.079	0.078	0.079	0.076	0.079	0.079	0.080	0.078	0.080	0.078
Mill Creek 4	LGE	0.000	0.000	0.000	0.040	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037
Trimble County 1	LGE	0.000	0.000	0.000	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036
Trimble County 2	KU	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
Trimble County 2	LGE	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
GFCU 1	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 1	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
Peakers	KU	0.000	0.000	0.000	0.077	0.076	0.073	0.073	0.072	0.072	0.072	0.072	0.071	0.070	0.071	0.072	0.071	0.072	0.072	0.071	0.071	0.069	0.069	0.069	0.068	0.069	0.070	0.070	0.069	0.070	0.070
Peakers	LGE	0.000	0.000	0.000	0.073	0.073	0.068	0.070	0.069	0.072	0.071	0.070	0.069	0.069	0.068	0.069	0.069	0.069	0.070	0.069	0.068	0.066	0.066	0.066	0.065	0.066	0.066	0.067	0.065	0.066	0.066
SCRUBBER REMOVAL EFF.																															
Brown 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tyrone 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 5		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 6		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TONS NOx EMITTED		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0	0	0	1,229	1,254	1,163	1,220	1,178	1,132	1,227	1,207	1,212	1,196	1,135	1,043	971	1,062	1,076	1,082	1,031	912	917	832	942	943	941	940	967	965	879
Brown 2	KU	0	0	0	1,528	1,561	1,505	1,533	1,497	1,515	1,343	1,479	1,456	1,456	1,342	1,222	1,341	1,204	1,352	1,317	1,252	1,089	1,119	1,123	1,011	1,150	1,146	1,141	1,188	1,196	1,214
Brown 3	KU	0	0	0	692	734	725	655	727	735	748	743	742	740	633	689	733	739	739	735	715	613	694	702	704	707	706	700	630	703	711
Ghent 1	KU	0	0	0	688	696	691	696	694	620	693	696	695	694	693	695	616	689	685	693	684	676	681	616	689	688	688	686	685	676	613
Ghent 2	KU	0	0	0	4,404	4,422	4,359	3,979	4,364	4,397	4,375	4,447	4,458	4,436	3,764	4,132	4,057	4,088	4,085	4,142	3,856	3,287	3,686	3,720	3,781	3,800	3,807	3,788	3,498	3,839	3,932
Ghent 3	KU	0	0	0	669	595	650	656	649	652	655	663	595	661	645	632	622	625	620	565	612	589	585	594	595	597	533	591	598	593	596
Ghent 4	KU	0	0	0	582	659	656	660	656	656	657	592	660	659	653	648	651	649	584	655	642	635	637	642	645	572	643	644	647	643	648
Green River 3	KU	0	0	0	661	465	322	390	301	348	247	198	206	205	250	192	182	149	161	155	160	117	103	105	116	99	134	218	145	171	
Green River 4	KU	0	0	0	1,158	866	730	654	727	731	606	603	587	593	485	568	574	593	574	578	577	394	490	513	506	528	526	529	453	560	523
Tyrone 3	KU	0	0	0	666	519	487	513	504	519	458	376	308	295	244	209	220	182	177	175	151	93	103	96	124	133	126	150	159	159	180
Cane Run 4	LGE	0	0	0	1,636	1,443	1,302	1,496	1,440	1,531	1,499	1,547	1,588	1,406	1,477	1,348	1,381	1,321	1,355	1,433	1,201	1,149	1,159	1,144	1,197	1,211	1,225	1,128	1,311	1,271	1,330
Cane Run 5	LGE	0	0	0	1,987	1,737	1,689	1,747	1,744	1,796	1,681	1,897	1,925	1,937	1,763	1,606	1,659	1,421	1,615	1,653	1,526	1,374	1,390	1,350	1,306	1,456	1,486	1,466	1,598	1,481	1,618
Cane Run 6	LGE	0	0	0	2,411	2,462	2,340	2,490	2,396	2,441	2,471	2,291	2,565	2,543	2,420	2,198	2,249	2,240	2,034	2,280	2,048	1,935	1,899	1,913	1,822	1,745	1,961	1,950	2,089	2,050	2,184
Mill Creek 1	LGE	0	0	0	3,258	2,742	3,124	2,970	3,083	2,928	3,119	2,979	3,174	2,733	3,084	2,825	3,007	2,830	3,001	2,854	2,913	2,406	2,791	2,662	2,881	2,682	2,865	2,705	2,953	2,495	2,938
Mill Creek 2	LGE	0	0	0	3,157	3,170	2,653	3,122	2,891	3,113	2,909	3,140	3,015	3,203	2,604	2,901	2,746	2,899	2,708	2,944	2,647	2,663	2,263	2,651	2,591	2,740	2,601	2,750	2,653	2,774	2,472
Mill Creek 3	LGE	0	0	0	1,071	1,147	1,056	1,140	937	1,148	1,058	1,139	1,064	1,152	1,062	1,106	945	1,104	1,040	1,128	1,019	1,084	1,020	1,086	913	1,098	1,038	1,106	1,026	1,109	1,040
Mill Creek 4	LGE	0	0	0	723	624	659	624	654	568	659	627	663	626	656	613	650	564	652	618	644	597	632	600	642	553	643	607	646	604	646
Trimble County 1	LGE	0	0	0	493	585	535	586	536	584	535	588	492	585	533	582	531	580	533	582	484	572	522	576	528	574	527	577	484	576	531
Trimble County 2	KU	0	0	0	0	383	649	651	648	649	650	651	650	650	649	650	649	649	650	652	645	647	647	651	648	649	650	650	648	647	650
Trimble County 2	LGE	0	0	0	0	90	152	153	152	152	153	153	152	153	153	153	152	152	152	152	151	152	152	153	152	152	153	153	152	152	153
GFCU 1	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	697	1,189	1,187	1,191	1,194	1,203	1,181	1,173	1,178	1,186	1,182	1,186	1,193	1,193	1,196	1,198	1,200
GFCU 1	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	392	669	668	670	672	676	664	660	663	667	665	667	671	671	673	674	675
GFCU 2	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	663	1,131	1,138	1,147	1,145	1,149	1,151	1,156	1,157	1,158	1,159
GFCU 2	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	406	693	698	703	702	704	705	709	709	710	710	
Peakers	KU	0	0	0	288	261	318	359	414	488	612	618	684	705	651	540	614	615	663	674	541	295	300	300	326	352	365	366	434	430	467
Peakers	LGE	0	0	0	133	122	144	168	194	238	293	295	331	341	307	253	288	288	307	319	250	140	144	141	153	166	169	172	204	198	220
NOx EMISSIONS (TONS)																															
Total		0	0	0	27,432	26,537	25,909	26,458	26,386	26,940	26,040	26,927	27,222	26,067	26,292	26,662	26,703	26,502	26,626	27,274	26,058	25,121	25,623	25,872	25,952	26,317	26,616	26,660	26,973	27,007	27,459
ALLOWANCES																															
KU EPA Allocated NOx Allowances		0	0	0	14,635	14,635	14,635	14,635	13,865	13,865	11,554	11,297	11,297	11,297	11,040	11,040	11,040	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784
LGE EPA Allocated NOx Allowances		0	0	0	12,966	12,966	12,966	12,966	12,284	12,284	10,236	10,009	10,009	10,009	9,782	9,782	9,782	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554
Total KU/LGE EPA Allocated NOx Allowances		0	0	0	27,601	27,601	27,601	27,601	26,149	26,149	21,790	21,306	21,306	21,306	20,822	20,822	20,822	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338
KU's Portion of OMU Surplus/Shortfall		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined Company Purchases		0	0	0	0	0	0	0	0	0	1,819	5,621	5,916	5,661	5,470	5,840	5,881	6,164	6,288	6,936	6,320	4,783	5,285	5,534	5,614	5,979	6,278	6,322	6,635	6,669	7,121
TOTAL KU/LGE ALLOWANCES		0	0	0	27,601	27,601	27,601	27,601	26,149	26,149	23,609	26,927	27,222	26,067	26,292	26,662	26,703	26,502	26,626	27,274	26,058	25,121	25,623	25,872	25,952	26,317	26,616	26,660	26,973	27,007	27,459
EOY Increase (+)/Decrease in Bank		0	0	0	169	1,064	1,692	1,143	-237	-791	-3,040	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ALLOWANCE BANK																															
Total KU/LGE Allowance Bank (End of Year)		-	-	-	169	1,233	2,925	4,068	3,831	3,040	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Case06- Option 06: BR3 SCR 2010

ANNUAL NO_x SUMMARY BY YEAR

NOx EMISS RATE (#/MBTU)	Ownership	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0.000	0.000	0.000	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470
Brown 2	KU	0.000	0.000	0.000	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Brown 3	KU	0.000	0.000	0.000	0.290	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044
Ghent 1	KU	0.000	0.000	0.000	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.036	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.037
Ghent 2	KU	0.000	0.000	0.000	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270
Ghent 3	KU	0.000	0.000	0.000	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
Ghent 4	KU	0.000	0.000	0.000	0.037	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.035	0.036	0.036	0.036	0.036	0.036	0.036	0.037	0.036	0.036	0.036	0.036	0.036	0.037	0.036	0.036
Green River 3	KU	0.000	0.000	0.000	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Green River 4	KU	0.000	0.000	0.000	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Tyrone 3	KU	0.000	0.000	0.000	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.381	0.380	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.381	0.380	0.380	0.380
Cane Run 4	LGE	0.000	0.000	0.000	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Cane Run 5	LGE	0.000	0.000	0.000	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430
Cane Run 6	LGE	0.000	0.000	0.000	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Mill Creek 1	LGE	0.000	0.000	0.000	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 2	LGE	0.000	0.000	0.000	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 3	LGE	0.000	0.000	0.000	0.080	0.081	0.079	0.081	0.076	0.081	0.079	0.080	0.080	0.081	0.079	0.080	0.077	0.079	0.079	0.080	0.079	0.079	0.078	0.079	0.076	0.079	0.079	0.080	0.078	0.080	0.078
Mill Creek 4	LGE	0.000	0.000	0.000	0.040	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037
Trimble County 1	LGE	0.000	0.000	0.000	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036
Trimble County 2	KU	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
Trimble County 2	LGE	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
GFCU 1	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 1	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
Peakers	KU	0.000	0.000	0.000	0.077	0.076	0.073	0.073	0.072	0.072	0.072	0.071	0.070	0.071	0.072	0.071	0.072	0.072	0.071	0.071	0.069	0.069	0.069	0.068	0.069	0.070	0.070	0.069	0.070	0.070	0.070
Peakers	LGE	0.000	0.000	0.000	0.073	0.073	0.068	0.070	0.069	0.072	0.071	0.070	0.069	0.069	0.068	0.069	0.069	0.069	0.070	0.069	0.068	0.066	0.066	0.066	0.065	0.066	0.066	0.067	0.065	0.066	0.066
SCRUBBER REMOVAL EFF.																															
Brown 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tyrone 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 5		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 6		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TONS NOx EMITTED		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0	0	0	1,273	1,254	1,163	1,220	1,178	1,132	1,227	1,207	1,212	1,196	1,135	1,043	971	1,062	1,076	1,082	1,031	912	917	832	942	943	941	940	967	965	879
Brown 2	KU	0	0	0	1,649	1,561	1,505	1,533	1,497	1,515	1,343	1,479	1,456	1,456	1,342	1,222	1,341	1,204	1,352	1,317	1,252	1,089	1,119	1,123	1,011	1,150	1,146	1,141	1,188	1,196	1,214
Brown 3	KU	0	0	0	4,102	734	725	655	727	735	748	743	742	740	633	689	733	739	739	735	715	613	694	702	704	707	706	700	630	703	711
Ghent 1	KU	0	0	0	688	696	691	696	694	620	693	696	695	694	693	695	616	689	685	693	684	676	681	618	689	688	688	686	685	676	613
Ghent 2	KU	0	0	0	4,424	4,422	4,359	3,979	4,364	4,397	4,375	4,447	4,458	4,436	3,764	4,132	4,067	4,088	4,085	4,142	3,856	3,287	3,686	3,720	3,781	3,800	3,807	3,788	3,498	3,839	3,932
Ghent 3	KU	0	0	0	670	595	650	656	649	652	655	663	595	661	645	632	622	625	620	565	612	589	585	594	595	597	533	591	598	593	596
Ghent 4	KU	0	0	0	581	659	656	660	656	656	657	592	660	659	653	648	651	649	564	655	642	635	637	642	645	572	643	644	647	643	648
Green River 3	KU	0	0	0	660	465	322	390	301	348	247	198	206	205	250	192	182	149	161	161	155	160	117	103	105	116	99	134	218	145	171
Green River 4	KU	0	0	0	1,184	866	730	654	727	731	606	603	587	593	485	568	574	593	574	578	577	394	490	513	506	528	526	529	453	560	523
Tyrone 3	KU	0	0	0	666	519	487	513	504	519	458	376	308	295	244	209	220	182	177	175	151	93	103	96	124	133	126	150	159	159	180
Cane Run 4	LGE	0	0	0	1,653	1,443	1,302	1,496	1,440	1,531	1,499	1,547	1,588	1,406	1,477	1,348	1,381	1,321	1,355	1,433	1,201	1,149	1,159	1,144	1,197	1,211	1,225	1,128	1,311	1,271	1,330
Cane Run 5	LGE	0	0	0	2,008	1,737	1,689	1,747	1,744	1,796	1,681	1,897	1,925	1,937	1,763	1,606	1,659	1,421	1,615	1,653	1,526	1,374	1,390	1,350	1,306	1,456	1,486	1,466	1,598	1,481	1,618
Cane Run 6	LGE	0	0	0	2,472	2,462	2,340	2,490	2,396	2,441	2,471	2,291	2,565	2,543	2,420	2,198	2,249	2,240	2,034	2,280	2,048	1,935	1,899	1,913	1,822	1,745	1,961	1,950	2,089	2,050	2,184
Mill Creek 1	LGE	0	0	0	3,278	2,742	3,124	2,970	3,083	2,928	3,119	2,979	3,174	2,733	3,084	2,825	3,007	2,830	3,001	2,854	2,913	2,406	2,791	2,662	2,881	2,682	2,865	2,705	2,953	2,495	2,938
Mill Creek 2	LGE	0	0	0	3,192	3,170	2,653	3,122	2,891	3,113	2,909	3,140	3,015	3,203	2,604	2,901	2,746	2,899	2,708	2,944	2,647	2,663	2,263	2,651	2,591	2,740	2,601	2,750	2,653	2,774	2,472
Mill Creek 3	LGE	0	0	0	1,071	1,147	1,056	1,140	937	1,148	1,058	1,139	1,064	1,152	1,062	1,106	945	1,104	1,040	1,128	1,019	1,084	1,020	1,086	913	1,098	1,036	1,105	1,026	1,109	1,040
Mill Creek 4	LGE	0	0	0	724	624	659	624	654	568	659	627	663	626	656	613	650	564	652	618	644	597	632	600	642	553	643	607	646	604	646
Trimble County 1	LGE	0	0	0	493	585	535	586	536	584	535	588	492	585	533	582	531	580	533	582	484	572	522	576	528	574	527	577	484	578	531
Trimble County 2	KU	0	0	0	0	383	649	651	648	649	650	651	650	650	649	650	649	649	650	652	645	647	647	651	648	649	650	650	648	647	650
Trimble County 2	LGE	0	0	0	0	90	152	153	152	152	153	153	152	153	153	153	152	152	152	153	151	152	152	153	152	152	153	153	152	152	153
GFCU 1	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	697	1,189	1,187	1,191	1,194	1,203	1,181	1,173	1,178	1,186	1,182	1,186	1,193	1,193	1,196	1,198	1,200
GFCU 1	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	392	669	668	670	672	676	664	660	663	667	665	667	671	671	673	674	675
GFCU 2	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	663	1,131	1,138	1,147	1,145	1,149	1,151	1,156	1,157	1,158	1,159
GFCU 2	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	406	693	698	703	702	704	705	709	709	710	710	710
Peakers	KU	0	0	0	287	261	318	359	414	488	512	618	684	705	651	540	614	615	663	674	541	295	300	300	326	352	365	366	434	430	467
Peakers	LGE	0	0	0	133	122	144	168	194	238	293	295	331	341	307	253	288	288	307	319	250	140	144	141	153	166	169	172	204	198	220
NOx EMISSIONS (TONS)																															
Total		0	0	0	31,208	26,537	25,009	26,458	26,386	26,940	26,649	26,927	27,222	26,967	26,292	26,662	26,703	26,502	26,626	27,274	26,058	25,121	25,023	25,872	25,952	26,317	26,616	26,660	26,973	27,007	27,459
ALLOWANCES																															
KU EPA Allocated NOx Allowances		0	0	0	14,635	14,635	14,635	14,635	13,865	13,865	11,554	11,297	11,297	11,297	11,040	11,040	11,040	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784
LGE EPA Allocated NOx Allowances		0	0	0	12,966	12,966	12,966	12,966	12,284	12,284	10,236	10,009	10,009	10,009	9,782	9,782	9,782	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554
Total KU/LGE EPA Allocated NOx Allowances		0	0	0	27,601	27,601	27,601	27,601	26,149	26,149	21,790	21,306	21,306	21,306	20,822	20,822	20,822	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338
KU's Portion of OMU Surplus/Shortfall		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined Company Purchases		0	0	0	3,607	0	0	0	0	0	1,988	5,621	5,916	5,661	5,470	5,840	5,881	6,164	6,288	6,936	6,320	4,783	5,285	5,534	5,614	5,979	6,278	6,322	6,635	6,669	7,121
TOTAL KU/LGE ALLOWANCES		0	0	0	31,208	27,601	27,601	27,601	26,149	26,149	23,778	26,927	27,222	26,967	26,292	26,662	26,703	26,502	26,626	27,274	26,658	25,121	25,623	25,872	25,952	26,317	26,616	26,660	26,973	27,007	27,459
EOY Increase (+)/Decrease in Bank		0	0	0	0	1,064	1,692	1,143	-237	-791	-2,871	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ALLOWANCE BANK																															
Total KU/LGE Allowance Bank (End of Year)		-	-	-	-	1,064	2,757	3,899	3,662	2,871	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Case07- Option 0207: GH2 SCR 2009, BR3 SCR 2014

ANNUAL NO_x SUMMARY BY YEAR

NOx EMISS RATE (#/MBTU)	Ownership	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0.000	0.000	0.000	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470
Brown 2	KU	0.000	0.000	0.000	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Brown 3	KU	0.000	0.000	0.000	0.290	0.290	0.290	0.290	0.290	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044
Ghent 1	KU	0.000	0.000	0.000	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.036	0.038	0.038	0.038	0.038	0.037	0.038	0.037	0.037
Ghent 2	KU	0.000	0.000	0.000	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.040	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039
Ghent 3	KU	0.000	0.000	0.000	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
Ghent 4	KU	0.000	0.000	0.000	0.037	0.037	0.036	0.037	0.037	0.037	0.037	0.037	0.037	0.036	0.037	0.036	0.037	0.036	0.036	0.036	0.036	0.036	0.037	0.037	0.037	0.036	0.036	0.036	0.037	0.036	0.036
Green River 3	KU	0.000	0.000	0.000	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Green River 4	KU	0.000	0.000	0.000	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Tyrone 3	KU	0.000	0.000	0.000	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.381	0.380	0.380	0.380
Cane Run 4	LGE	0.000	0.000	0.000	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Cane Run 5	LGE	0.000	0.000	0.000	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430
Cane Run 6	LGE	0.000	0.000	0.000	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Mill Creek 1	LGE	0.000	0.000	0.000	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 2	LGE	0.000	0.000	0.000	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 3	LGE	0.000	0.000	0.000	0.080	0.081	0.079	0.081	0.076	0.081	0.079	0.080	0.080	0.081	0.080	0.080	0.077	0.079	0.079	0.080	0.079	0.079	0.078	0.079	0.076	0.080	0.079	0.080	0.078	0.080	0.078
Mill Creek 4	LGE	0.000	0.000	0.000	0.040	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037
Trimble County 1	LGE	0.000	0.000	0.000	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036
Trimble County 2	KU	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
Trimble County 2	LGE	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
GFCU 1	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 1	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
Peakers	KU	0.000	0.000	0.000	0.077	0.076	0.073	0.073	0.072	0.072	0.072	0.072	0.071	0.070	0.071	0.072	0.071	0.072	0.072	0.071	0.071	0.069	0.069	0.069	0.069	0.069	0.070	0.070	0.069	0.070	0.070
Peakers	LGE	0.000	0.000	0.000	0.073	0.073	0.068	0.070	0.069	0.072	0.071	0.070	0.069	0.069	0.068	0.069	0.069	0.069	0.070	0.069	0.068	0.066	0.066	0.066	0.065	0.066	0.066	0.067	0.066	0.066	0.066
SCRUBBER REMOVAL EFF.																															
Brown 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tyrone 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 5		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 6		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TONS NOx EMITTED		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0	0	0	1,274	1,303	1,210	1,256	1,222	1,132	1,228	1,207	1,213	1,195	1,136	1,044	971	1,062	1,076	1,083	1,031	912	917	832	943	942	942	941	968	966	878
Brown 2	KU	0	0	0	1,649	1,716	1,665	1,690	1,679	1,515	1,343	1,478	1,456	1,456	1,343	1,224	1,314	1,188	1,326	1,304	1,229	1,073	1,091	1,101	991	1,131	1,125	1,122	1,174	1,177	1,199
Brown 3	KU	0	0	0	4,103	4,306	4,167	3,763	4,165	732	740	740	741	737	629	684	718	720	725	717	697	593	672	676	681	683	681	679	612	683	693
Ghent 1	KU	0	0	0	688	696	691	698	695	618	692	695	695	693	692	693	615	687	685	689	681	668	674	609	680	680	680	680	682	672	609
Ghent 2	KU	0	0	0	642	664	663	597	666	668	663	665	665	660	596	670	663	660	659	660	663	590	659	658	659	655	656	656	588	656	655
Ghent 3	KU	0	0	0	667	593	651	658	652	648	650	658	592	657	639	624	612	615	608	557	600	575	572	580	581	583	522	577	586	581	585
Ghent 4	KU	0	0	0	580	658	654	659	654	655	655	591	659	656	651	645	646	644	580	650	636	627	630	633	640	565	635	636	641	636	641
Green River 3	KU	0	0	0	660	472	322	390	302	348	247	199	205	205	255	192	182	148	161	161	155	160	117	108	105	116	99	134	213	150	166
Green River 4	KU	0	0	0	1,189	866	730	654	726	729	607	598	587	592	481	568	574	595	574	578	577	394	490	513	506	528	526	529	447	560	523
Tyrone 3	KU	0	0	0	666	518	487	513	518	457	375	309	296	244	214	220	182	176	175	147	92	103	99	121	135	123	146	160	153	179	
Cane Run 4	LGE	0	0	0	1,554	1,449	1,305	1,499	1,442	1,530	1,500	1,548	1,588	1,407	1,477	1,346	1,381	1,322	1,356	1,433	1,201	1,151	1,160	1,145	1,194	1,210	1,226	1,128	1,311	1,272	1,330
Cane Run 5	LGE	0	0	0	2,009	1,737	1,689	1,747	1,744	1,797	1,681	1,899	1,926	1,938	1,763	1,609	1,660	1,422	1,613	1,654	1,526	1,374	1,390	1,351	1,307	1,457	1,487	1,467	1,597	1,482	1,618
Cane Run 6	LGE	0	0	0	2,471	2,515	2,378	2,523	2,433	2,441	2,472	2,292	2,566	2,544	2,420	2,198	2,250	2,241	2,034	2,281	2,049	1,936	1,899	1,914	1,827	1,744	1,962	1,943	2,090	2,051	2,185
Mill Creek 1	LGE	0	0	0	3,272	2,777	3,161	3,008	3,141	2,924	3,113	2,975	3,171	2,723	3,072	2,809	2,990	2,814	2,982	2,837	2,893	2,390	2,766	2,637	2,857	2,656	2,844	2,686	2,933	2,476	2,917
Mill Creek 2	LGE	0	0	0	3,192	3,251	2,726	3,194	2,956	3,113	2,909	3,141	3,015	3,203	2,604	2,901	2,745	2,899	2,716	2,943	2,646	2,661	2,259	2,648	2,588	2,735	2,600	2,746	2,653	2,772	2,471
Mill Creek 3	LGE	0	0	0	1,071	1,150	1,060	1,144	939	1,147	1,057	1,138	1,062	1,150	1,050	1,103	943	1,102	1,037	1,125	1,016	1,080	1,015	1,082	909	1,098	1,033	1,104	1,024	1,105	1,037
Mill Creek 4	LGE	0	0	0	723	623	660	625	657	566	657	624	660	624	652	608	645	560	646	614	639	591	625	594	635	547	638	601	642	599	642
Trimble County 1	LGE	0	0	0	493	582	532	583	532	579	532	585	490	583	528	575	526	576	530	579	480	566	515	570	522	570	523	573	481	574	528
Trimble County 2	KU	0	0	0	0	382	648	650	647	646	648	650	648	649	648	647	647	648	648	651	643	645	645	649	646	648	649	649	648	646	650
Trimble County 2	LGE	0	0	0	0	90	152	153	152	152	152	153	152	152	152	152	152	152	152	153	151	151	151	152	152	152	152	152	152	152	153
GFCU 1	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	686	1,173	1,175	1,180	1,184	1,194	1,168	1,160	1,163	1,174	1,169	1,174	1,182	1,182	1,188	1,190	1,194
GFCU 1	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	396	660	661	664	666	672	657	653	654	660	658	660	665	665	668	669	672
GFCU 2	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	649	1,116	1,123	1,133	1,132	1,137	1,140	1,144	1,149	1,149	1,153
GFCU 2	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	398	684	688	694	694	697	699	701	704	704	706
Peakers	KU	0	0	0	288	261	318	359	414	489	612	618	686	706	651	540	615	617	663	676	541	295	300	300	327	352	366	367	436	431	468
Peakers	LGE	0	0	0	133	122	144	168	194	239	293	296	331	341	307	253	288	288	308	319	251	141	144	141	153	166	170	172	205	199	220
NOx EMISSIONS (TONS)																															
Total		0	0	0	27,423	26,730	26,012	26,528	26,513	23,165	22,907	23,122	23,417	23,169	23,070	23,133	23,101	22,984	23,107	23,705	23,323	22,277	22,421	22,655	22,677	23,020	23,320	23,379	23,951	23,708	24,071
ALLOWANCES																															
KU EPA Allocated NOx Allowances		0	0	0	14,635	14,635	14,635	14,635	13,865	13,865	11,554	11,297	11,297	11,297	11,040	11,040	11,040	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784
LGE EPA Allocated NOx Allowances		0	0	0	12,966	12,966	12,966	12,966	12,284	12,284	10,236	10,009	10,009	10,009	9,782	9,782	9,782	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554
Total KU/LGE EPA Allocated NOx Allowances		0	0	0	27,601	27,601	27,601	27,601	26,149	26,149	21,790	21,306	21,306	21,306	20,822	20,822	20,822	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338
KU's Portion of OMU Surplus/Shortfall		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined Company Purchases		0	0	0	0	0	0	0	0	0	0	0	0	596	2,248	2,311	2,369	2,646	2,769	3,367	2,985	1,939	2,083	2,317	2,339	2,682	2,982	3,041	3,613	3,370	3,733
TOTAL KU/LGE ALLOWANCES		0	0	0	27,601	27,601	27,601	27,601	26,149	26,149	21,790	21,306	21,306	21,902	23,070	23,133	23,191	22,984	23,107	23,705	23,323	22,277	22,421	22,655	22,677	23,020	23,320	23,379	23,951	23,708	24,071
EOY Increase (+)/Decrease in Bank		0	0	0	178	871	1,589	1,073	-364	2,965	-1,117	-1,816	-2,111	-1,268	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ALLOWANCE BANK																															
Total KU/LGE Allowance Bank (End of Year)		-	-	-	178	1,050	2,639	3,712	3,347	6,312	5,195	3,379	1,268	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Case08- Option 0208: GH2 SCR 2009, BR3 SCR 2015

ANNUAL NO_x SUMMARY BY YEAR

NOx EMISS RATE (#/MBTU)	Ownership	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0.000	0.000	0.000	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470
Brown 2	KU	0.000	0.000	0.000	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Brown 3	KU	0.000	0.000	0.000	0.290	0.290	0.290	0.290	0.290	0.290	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044
Ghent 1	KU	0.000	0.000	0.000	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.037	0.037
Ghent 2	KU	0.000	0.000	0.000	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.040	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039
Ghent 3	KU	0.000	0.000	0.000	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
Ghent 4	KU	0.000	0.000	0.000	0.037	0.037	0.036	0.037	0.037	0.037	0.037	0.037	0.037	0.036	0.037	0.037	0.036	0.036	0.036	0.036	0.036	0.036	0.037	0.037	0.037	0.036	0.036	0.036	0.037	0.036	0.036
Green River 3	KU	0.000	0.000	0.000	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Green River 4	KU	0.000	0.000	0.000	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Tyrone 3	KU	0.000	0.000	0.000	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.381	0.380	0.380	0.380
Cane Run 4	LGE	0.000	0.000	0.000	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Cane Run 5	LGE	0.000	0.000	0.000	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430
Cane Run 6	LGE	0.000	0.000	0.000	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Mill Creek 1	LGE	0.000	0.000	0.000	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 2	LGE	0.000	0.000	0.000	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 3	LGE	0.000	0.000	0.000	0.080	0.081	0.079	0.081	0.076	0.081	0.079	0.080	0.080	0.081	0.080	0.080	0.077	0.079	0.079	0.080	0.079	0.079	0.078	0.079	0.076	0.080	0.079	0.080	0.078	0.080	0.078
Mill Creek 4	LGE	0.000	0.000	0.000	0.040	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037
Trimble County 1	LGE	0.000	0.000	0.000	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036
Trimble County 2	KU	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
Trimble County 2	LGE	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
GFCU 1	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 1	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
Peakers	KU	0.000	0.000	0.000	0.077	0.076	0.073	0.072	0.072	0.072	0.072	0.072	0.071	0.070	0.071	0.072	0.071	0.072	0.072	0.071	0.071	0.069	0.069	0.069	0.069	0.069	0.070	0.070	0.069	0.070	0.070
Peakers	LGE	0.000	0.000	0.000	0.073	0.073	0.068	0.070	0.069	0.072	0.071	0.070	0.069	0.069	0.068	0.069	0.069	0.069	0.070	0.069	0.068	0.066	0.066	0.066	0.065	0.066	0.066	0.067	0.066	0.066	0.066
SCRUBBER REMOVAL EFF.																															
Brown 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tyrone 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 5		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 6		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TONS NOx EMITTED		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0	0	0	1,274	1,303	1,210	1,256	1,222	1,172	1,228	1,207	1,213	1,196	1,135	1,044	971	1,062	1,076	1,083	1,031	912	917	832	943	942	942	941	968	966	878
Brown 2	KU	0	0	0	1,649	1,716	1,665	1,690	1,679	1,699	1,343	1,478	1,456	1,456	1,343	1,224	1,314	1,168	1,326	1,304	1,229	1,073	1,091	1,101	991	1,131	1,125	1,122	1,174	1,177	1,199
Brown 3	KU	0	0	0	4,103	4,306	4,167	3,763	4,165	4,236	740	740	741	737	629	684	718	720	725	717	697	593	672	676	681	683	681	679	612	683	693
Ghent 1	KU	0	0	0	688	696	691	698	695	620	692	695	695	693	692	693	615	687	685	689	681	668	674	609	680	680	680	680	682	672	609
Ghent 2	KU	0	0	0	642	664	663	597	666	664	663	665	665	660	596	670	663	660	659	660	663	590	659	658	659	655	656	656	588	656	655
Ghent 3	KU	0	0	0	667	593	651	658	652	655	650	658	592	657	639	624	612	615	608	557	600	575	572	580	581	583	522	577	586	581	585
Ghent 4	KU	0	0	0	580	658	654	659	654	657	655	591	659	656	651	645	646	644	580	650	636	627	630	633	640	565	635	636	641	636	641
Green River 3	KU	0	0	0	660	472	322	390	302	342	247	199	205	205	255	192	182	148	161	161	155	160	117	108	105	116	99	134	213	150	166
Green River 4	KU	0	0	0	1,189	866	730	654	726	728	607	598	587	592	481	568	574	595	574	578	577	394	490	513	506	528	526	529	447	560	523
Tyrone 3	KU	0	0	0	666	518	487	513	504	517	457	375	309	296	244	214	220	182	176	175	147	92	103	99	121	135	123	146	160	159	179
Cane Run 4	LGE	0	0	0	1,654	1,449	1,305	1,499	1,442	1,532	1,500	1,548	1,588	1,407	1,477	1,346	1,381	1,322	1,356	1,433	1,201	1,151	1,160	1,145	1,194	1,210	1,226	1,128	1,311	1,272	1,330
Cane Run 5	LGE	0	0	0	2,009	1,737	1,689	1,747	1,744	1,794	1,681	1,899	1,926	1,938	1,763	1,609	1,660	1,422	1,613	1,654	1,526	1,374	1,390	1,351	1,307	1,457	1,467	1,467	1,597	1,482	1,618
Cane Run 6	LGE	0	0	0	2,471	2,515	2,378	2,523	2,433	2,474	2,472	2,292	2,566	2,544	2,420	2,198	2,250	2,241	2,034	2,281	2,049	1,936	1,899	1,914	1,827	1,744	1,962	1,943	2,090	2,051	2,185
Mill Creek 1	LGE	0	0	0	3,272	2,777	3,161	3,008	3,141	2,975	3,113	2,975	3,171	2,723	3,072	2,809	2,990	2,814	2,982	2,637	2,893	2,390	2,766	2,637	2,857	2,656	2,844	2,686	2,933	2,476	2,917
Mill Creek 2	LGE	0	0	0	3,192	3,251	2,726	3,194	2,956	3,171	2,909	3,141	3,015	3,203	2,604	2,901	2,745	2,899	2,716	2,943	2,646	2,661	2,259	2,648	2,588	2,735	2,600	2,746	2,653	2,772	2,471
Mill Creek 3	LGE	0	0	0	1,071	1,150	1,060	1,144	939	1,152	1,057	1,138	1,062	1,150	1,060	1,103	943	1,102	1,037	1,125	1,016	1,080	1,015	1,082	909	1,098	1,033	1,104	1,024	1,105	1,037
Mill Creek 4	LGE	0	0	0	723	623	660	625	657	570	657	624	660	624	652	608	645	560	648	614	639	591	625	594	635	547	638	601	642	599	642
Trimble County 1	LGE	0	0	0	493	582	532	583	532	581	532	585	490	583	528	575	526	576	530	579	480	566	515	570	522	570	523	573	481	574	528
Trimble County 2	KU	0	0	0	0	382	648	650	647	648	648	650	648	649	648	647	647	648	648	651	643	645	645	649	646	648	649	649	648	646	650
Trimble County 2	LGE	0	0	0	0	90	152	153	152	152	152	153	152	152	152	152	152	152	152	153	151	151	151	152	152	152	152	152	152	152	153
GFCU 1	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	686	1,173	1,175	1,180	1,184	1,194	1,168	1,160	1,163	1,174	1,169	1,174	1,182	1,182	1,188	1,190	1,194
GFCU 1	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	386	660	661	664	666	672	657	653	654	660	658	660	665	665	668	669	672
GFCU 2	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	649	1,116	1,123	1,133	1,132	1,137	1,140	1,144	1,149	1,149	1,153
GFCU 2	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	398	684	688	694	694	697	699	701	704	704	706
Peakers	KU	0	0	0	288	261	318	359	414	488	612	618	686	706	651	540	615	617	663	676	541	295	300	300	327	352	366	367	436	431	468
Peakers	LGE	0	0	0	133	122	144	168	194	238	293	296	331	341	307	253	288	288	308	319	251	141	144	141	153	166	170	172	205	199	220
NOx EMISSIONS (TONS)																															
Total		0	0	0	27,423	26,730	26,012	26,528	26,513	27,063	22,907	23,122	23,417	23,169	23,070	23,133	23,191	22,984	23,107	23,705	23,323	22,277	22,421	22,655	22,677	23,020	23,320	23,379	23,951	23,708	24,071
ALLOWANCES																															
KU EPA Allocated NOx Allowances		0	0	0	14,635	14,635	14,635	14,635	13,865	13,865	11,554	11,297	11,297	11,297	11,040	11,040	11,040	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784
LGE EPA Allocated NOx Allowances		0	0	0	12,966	12,966	12,966	12,966	12,284	12,284	10,236	10,009	10,009	10,009	9,782	9,782	9,782	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554
Total KU/LGE EPA Allocated NOx Allowances		0	0	0	27,601	27,601	27,601	27,601	26,149	26,149	21,790	21,306	21,306	21,306	20,822	20,822	20,822	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338
KU's Portion of OMU Surplus/Shortfall		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined Company Purchases		0	0	0	0	0	0	0	0	0	0	500	2,111	1,863	2,248	2,311	2,369	2,646	2,769	3,367	2,985	1,939	2,083	2,317	2,339	2,682	2,982	3,041	3,613	3,370	3,733
TOTAL KU/LGE ALLOWANCES		0	0	0	27,601	27,601	27,601	27,601	26,149	26,149	21,790	21,806	23,417	23,169	23,070	23,133	23,191	22,984	23,107	23,705	23,323	22,277	22,421	22,655	22,677	23,020	23,320	23,379	23,951	23,708	24,071
EOY Increase (+)/Decrease in Bank		0	0	0	178	871	1,589	1,073	-364	-914	-1,117	-1,316	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ALLOWANCE BANK																															
Total KU/LGE Allowance Bank (End of Year)		-	-	-	178	1,050	2,639	3,712	3,347	2,433	1,316	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Case09- Option 0209: GH2 SCR 2009, BR3 SCR 2016

ANNUAL NO_x SUMMARY BY YEAR

NOx EMISS RATE (#/MBTU)	Ownership	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0.000	0.000	0.000	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470
Brown 2	KU	0.000	0.000	0.000	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Brown 3	KU	0.000	0.000	0.000	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044
Ghent 1	KU	0.000	0.000	0.000	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.037	0.037
Ghent 2	KU	0.000	0.000	0.000	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.040	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039
Ghent 3	KU	0.000	0.000	0.000	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
Ghent 4	KU	0.000	0.000	0.000	0.037	0.037	0.036	0.037	0.037	0.037	0.036	0.037	0.037	0.036	0.037	0.037	0.036	0.036	0.035	0.036	0.036	0.036	0.037	0.037	0.037	0.036	0.036	0.036	0.037	0.036	0.036
Green River 3	KU	0.000	0.000	0.000	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Green River 4	KU	0.000	0.000	0.000	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Tyrone 3	KU	0.000	0.000	0.000	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.381	0.380	0.380	0.380
Cane Run 4	LGE	0.000	0.000	0.000	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Cane Run 5	LGE	0.000	0.000	0.000	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430
Cane Run 6	LGE	0.000	0.000	0.000	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Mill Creek 1	LGE	0.000	0.000	0.000	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 2	LGE	0.000	0.000	0.000	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 3	LGE	0.000	0.000	0.000	0.080	0.081	0.079	0.081	0.076	0.081	0.079	0.080	0.080	0.081	0.080	0.080	0.077	0.079	0.079	0.080	0.079	0.079	0.078	0.079	0.076	0.080	0.079	0.080	0.078	0.080	0.078
Mill Creek 4	LGE	0.000	0.000	0.000	0.040	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037
Trimble County 1	LGE	0.000	0.000	0.000	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036
Trimble County 2	KU	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
Trimble County 2	LGE	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
GFCU 1	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 1	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
Peakers	KU	0.000	0.000	0.000	0.077	0.075	0.073	0.073	0.072	0.072	0.072	0.072	0.071	0.070	0.071	0.072	0.071	0.072	0.072	0.071	0.071	0.069	0.069	0.069	0.069	0.069	0.070	0.070	0.069	0.070	0.070
Peakers	LGE	0.000	0.000	0.000	0.073	0.073	0.068	0.070	0.069	0.072	0.071	0.070	0.069	0.069	0.068	0.069	0.069	0.069	0.070	0.069	0.068	0.066	0.066	0.066	0.065	0.066	0.066	0.067	0.066	0.066	0.066
SCRUBBER REMOVAL EFF.																															
Brown 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tyrone 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 5		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 6		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TONS NOx EMITTED		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0	0	0	1,274	1,303	1,210	1,256	1,222	1,172	1,253	1,207	1,213	1,196	1,136	1,044	971	1,062	1,076	1,083	1,031	912	917	832	943	942	942	941	968	966	878
Brown 2	KU	0	0	0	1,649	1,716	1,665	1,690	1,679	1,699	1,545	1,478	1,456	1,456	1,343	1,224	1,314	1,188	1,326	1,304	1,229	1,073	1,091	1,101	991	1,131	1,125	1,122	1,174	1,177	1,199
Brown 3	KU	0	0	0	4,103	4,306	4,167	3,763	4,165	4,236	4,274	740	741	737	629	684	718	720	725	717	697	593	672	676	681	683	681	679	612	683	693
Ghent 1	KU	0	0	0	688	695	691	698	695	620	695	695	695	693	692	693	615	687	685	689	681	668	674	609	680	680	680	680	682	672	609
Ghent 2	KU	0	0	0	642	664	663	597	666	664	660	665	665	660	596	670	663	660	659	660	663	590	659	658	659	655	656	656	588	656	655
Ghent 3	KU	0	0	0	667	593	651	658	652	655	660	658	592	657	639	624	612	615	608	557	600	575	572	580	581	583	522	577	586	581	585
Ghent 4	KU	0	0	0	580	658	654	659	654	657	657	591	659	656	651	645	646	644	580	650	636	627	630	633	640	565	635	636	641	636	641
Green River 3	KU	0	0	0	660	472	222	380	352	342	247	199	205	205	255	192	182	148	161	161	155	160	117	108	105	116	99	134	213	150	166
Green River 4	KU	0	0	0	1,189	866	730	654	726	728	606	598	587	592	481	568	574	595	574	578	577	394	490	513	506	528	526	529	447	560	523
Tyrone 3	KU	0	0	0	666	518	487	513	504	517	458	375	309	296	244	214	220	182	176	175	147	92	103	99	121	135	123	146	160	159	179
Cane Run 4	LGE	0	0	0	1,654	1,449	1,305	1,499	1,442	1,532	1,500	1,548	1,588	1,407	1,477	1,346	1,381	1,322	1,356	1,433	1,201	1,151	1,160	1,145	1,194	1,210	1,226	1,128	1,311	1,272	1,330
Cane Run 5	LGE	0	0	0	2,009	1,737	1,689	1,747	1,744	1,794	1,682	1,899	1,926	1,938	1,763	1,609	1,660	1,422	1,613	1,654	1,526	1,374	1,390	1,351	1,307	1,457	1,487	1,467	1,597	1,482	1,618
Cane Run 6	LGE	0	0	0	2,471	2,515	2,378	2,523	2,433	2,474	2,482	2,292	2,566	2,544	2,420	2,198	2,250	2,241	2,034	2,281	2,049	1,936	1,899	1,914	1,827	1,744	1,962	1,943	2,090	2,051	2,185
Mill Creek 1	LGE	0	0	0	3,272	2,777	3,161	3,008	3,141	2,975	3,159	2,975	3,171	2,723	3,072	2,809	2,990	2,814	2,982	2,837	2,893	2,390	2,766	2,637	2,857	2,656	2,844	2,686	2,933	2,476	2,917
Mill Creek 2	LGE	0	0	0	3,192	3,251	2,726	3,194	2,956	3,171	2,965	3,141	3,015	3,203	2,604	2,901	2,745	2,899	2,716	2,943	2,646	2,661	2,259	2,648	2,586	2,735	2,600	2,746	2,653	2,772	2,471
Mill Creek 3	LGE	0	0	0	1,071	1,150	1,060	1,144	939	1,152	1,064	1,138	1,062	1,150	1,060	1,103	943	1,102	1,037	1,125	1,016	1,080	1,015	1,082	909	1,098	1,033	1,104	1,024	1,105	1,037
Mill Creek 4	LGE	0	0	0	723	623	660	625	657	570	662	624	660	624	652	608	645	560	648	614	639	591	625	594	635	547	638	601	642	599	642
Trimble County 1	LGE	0	0	0	493	582	532	583	532	581	533	585	490	583	528	575	526	576	530	579	480	566	515	570	522	570	523	573	481	574	528
Trimble County 2	KU	0	0	0	0	382	648	650	647	648	649	650	648	649	648	647	647	646	648	651	643	645	645	649	646	648	649	649	648	646	650
Trimble County 2	LGE	0	0	0	0	90	152	153	152	152	152	153	152	152	152	152	152	152	152	153	151	151	151	152	152	152	152	152	152	152	153
GFCU 1	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	686	1,173	1,175	1,180	1,184	1,194	1,168	1,160	1,163	1,174	1,169	1,174	1,182	1,182	1,188	1,190	1,194
GFCU 1	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	386	660	661	664	666	672	657	653	654	660	658	660	665	665	668	669	672
GFCU 2	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	649	1,116	1,123	1,133	1,132	1,137	1,140	1,144	1,149	1,149	1,153
GFCU 2	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	396	684	688	694	694	697	699	701	704	704	706
Peakers	KU	0	0	0	288	251	318	359	414	488	612	618	686	706	651	540	615	617	663	676	541	295	300	300	327	352	366	367	436	431	468
Peakers	LGE	0	0	0	133	122	144	168	194	238	294	296	331	341	307	253	288	288	308	319	251	141	144	141	153	166	170	172	205	199	220
NOx EMISSIONS (TONS)																															
Total		0	0	0	27,423	26,730	26,012	26,528	26,513	27,063	26,806	23,122	23,417	23,169	23,070	23,133	23,101	22,984	23,107	23,705	23,323	22,277	22,421	22,655	22,677	23,020	23,320	23,370	23,951	23,708	24,071
ALLOWANCES																															
KU EPA Allocated NOx Allowances		0	0	0	14,635	14,635	14,635	14,635	13,865	13,865	11,554	11,297	11,297	11,297	11,040	11,040	11,040	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784
LGE EPA Allocated NOx Allowances		0	0	0	12,966	12,966	12,966	12,966	12,284	12,284	10,236	10,009	10,009	10,009	9,782	9,782	9,782	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554
Total KU/LGE EPA Allocated NOx Allowances		0	0	0	27,601	27,601	27,601	27,601	26,149	26,149	21,790	21,306	21,306	21,306	20,822	20,822	20,822	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338
KU's Portion of OMU Surplus/Shortfall		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined Company Purchases		0	0	0	0	0	0	0	0	0	2,582	1,816	2,111	1,863	2,248	2,311	2,369	2,646	2,769	3,367	2,985	1,939	2,083	2,317	2,339	2,682	2,982	3,041	3,613	3,370	3,733
TOTAL KU/LGE ALLOWANCES		0	0	0	27,601	27,601	27,601	27,601	26,149	26,149	24,372	23,122	23,417	23,169	23,070	23,133	23,101	22,984	23,107	23,705	23,323	22,277	22,421	22,655	22,677	23,020	23,320	23,370	23,951	23,708	24,071
EOY Increase (+)/Decrease in Bank		0	0	0	178	871	1,589	1,073	-364	-914	-2,433	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ALLOWANCE BANK																															
Total KU/LGE Allowance Bank (End of Year)		-	-	-	178	1,050	2,639	3,712	3,347	2,433	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Case10- Option 0210: GH2 SCR 2009, BR3 SCR 2013

ANNUAL NO_x SUMMARY BY YEAR

NOx EMISS RATE (#/MBTU)	Ownership	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0.000	0.000	0.000	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470
Brown 2	KU	0.000	0.000	0.000	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Brown 3	KU	0.000	0.000	0.000	0.290	0.290	0.290	0.290	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044
Ghent 1	KU	0.000	0.000	0.000	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.037	0.037
Ghent 2	KU	0.000	0.000	0.000	0.039	0.039	0.039	0.039	0.040	0.039	0.039	0.039	0.039	0.039	0.039	0.040	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039
Ghent 3	KU	0.000	0.000	0.000	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
Ghent 4	KU	0.000	0.000	0.000	0.037	0.037	0.036	0.037	0.037	0.037	0.037	0.037	0.037	0.036	0.037	0.037	0.036	0.036	0.036	0.036	0.036	0.035	0.037	0.037	0.037	0.036	0.036	0.036	0.037	0.036	0.036
Green River 3	KU	0.000	0.000	0.000	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Green River 4	KU	0.000	0.000	0.000	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Tyrone 3	KU	0.000	0.000	0.000	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.381	0.380	0.380	0.380	0.381	0.380	0.380	0.381	0.380	0.380	0.381	0.380	0.380
Cane Run 4	LGE	0.000	0.000	0.000	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Cane Run 5	LGE	0.000	0.000	0.000	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430
Cane Run 6	LGE	0.000	0.000	0.000	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Mill Creek 1	LGE	0.000	0.000	0.000	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 2	LGE	0.000	0.000	0.000	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 3	LGE	0.000	0.000	0.000	0.080	0.081	0.079	0.081	0.076	0.081	0.079	0.080	0.080	0.081	0.080	0.080	0.077	0.079	0.079	0.080	0.079	0.079	0.078	0.079	0.076	0.080	0.079	0.080	0.078	0.080	0.078
Mill Creek 4	LGE	0.000	0.000	0.000	0.040	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037
Trimble County 1	LGE	0.000	0.000	0.000	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036
Trimble County 2	KU	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
Trimble County 2	LGE	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
GFCU 1	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 1	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
Peakers	KU	0.000	0.000	0.000	0.077	0.076	0.073	0.073	0.072	0.072	0.072	0.072	0.071	0.070	0.071	0.072	0.071	0.072	0.072	0.071	0.071	0.069	0.069	0.069	0.069	0.069	0.070	0.070	0.069	0.070	0.070
Peakers	LGE	0.000	0.000	0.000	0.073	0.073	0.068	0.070	0.069	0.072	0.071	0.070	0.069	0.069	0.068	0.069	0.069	0.069	0.070	0.069	0.068	0.066	0.066	0.066	0.065	0.066	0.066	0.067	0.066	0.066	0.066
SCRUBBER REMOVAL EFF.																															
Brown 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tyrone 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 5		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 6		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TONS NOx EMITTED		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0	0	0	1,274	1,303	1,210	1,256	1,177	1,132	1,228	1,207	1,213	1,196	1,136	1,044	971	1,062	1,076	1,083	1,031	912	917	832	943	942	942	941	968	968	878
Brown 2	KU	0	0	0	1,649	1,716	1,665	1,690	1,497	1,515	1,343	1,476	1,456	1,456	1,343	1,224	1,314	1,188	1,326	1,304	1,229	1,073	1,091	1,101	991	1,131	1,125	1,122	1,174	1,177	1,199
Brown 3	KU	0	0	0	4,103	4,306	4,167	3,763	726	732	740	740	741	737	629	684	718	720	725	717	697	593	672	676	681	683	681	679	612	683	693
Ghent 1	KU	0	0	0	688	696	691	698	694	618	692	695	695	693	692	693	615	687	685	689	681	668	674	609	680	680	680	680	682	672	609
Ghent 2	KU	0	0	0	642	664	663	597	673	668	663	665	665	660	596	670	663	660	659	660	663	590	659	658	659	655	656	656	588	656	655
Ghent 3	KU	0	0	0	667	593	651	658	645	648	650	658	592	657	639	624	612	615	605	557	600	575	572	580	581	583	522	577	586	581	585
Ghent 4	KU	0	0	0	580	658	654	659	654	655	655	591	659	656	651	645	646	644	580	650	636	627	630	633	640	565	635	636	641	636	641
Green River 3	KU	0	0	0	660	472	322	390	301	348	247	199	205	205	255	192	182	148	161	161	155	160	117	108	105	116	99	134	213	150	166
Green River 4	KU	0	0	0	1,189	866	730	654	726	729	607	598	587	592	481	568	574	595	574	578	577	394	490	513	506	528	526	529	447	560	523
Tyrone 3	KU	0	0	0	666	518	487	513	500	518	457	375	309	296	244	214	220	182	176	175	147	32	103	98	121	135	123	146	160	159	179
Cane Run 4	LGE	0	0	0	1,654	1,449	1,305	1,499	1,439	1,530	1,500	1,548	1,588	1,407	1,477	1,346	1,381	1,322	1,356	1,433	1,201	1,151	1,160	1,145	1,194	1,210	1,226	1,128	1,311	1,272	1,330
Cane Run 5	LGE	0	0	0	2,009	1,737	1,589	1,747	1,742	1,797	1,681	1,899	1,926	1,938	1,763	1,609	1,660	1,422	1,613	1,654	1,526	1,374	1,390	1,351	1,307	1,457	1,487	1,467	1,597	1,482	1,618
Cane Run 6	LGE	0	0	0	2,471	2,515	2,378	2,523	2,396	2,441	2,472	2,292	2,566	2,544	2,420	2,198	2,250	2,241	2,034	2,281	2,049	1,935	1,899	1,914	1,827	1,744	1,962	1,943	2,090	2,051	2,185
Mill Creek 1	LGE	0	0	0	3,272	2,777	3,161	3,008	3,076	2,924	3,113	2,975	3,171	2,723	3,072	2,809	2,990	2,814	2,982	2,837	2,893	2,390	2,766	2,637	2,857	2,656	2,844	2,686	2,933	2,476	2,917
Mill Creek 2	LGE	0	0	0	3,192	3,251	2,726	3,194	2,891	3,113	2,909	3,141	3,015	3,203	2,604	2,901	2,745	2,899	2,716	2,943	2,646	2,661	2,259	2,648	2,588	2,735	2,600	2,746	2,653	2,772	2,471
Mill Creek 3	LGE	0	0	0	1,071	1,150	1,060	1,144	935	1,147	1,057	1,138	1,062	1,150	1,060	1,103	943	1,102	1,037	1,125	1,016	1,080	1,015	1,082	909	1,098	1,033	1,104	1,024	1,105	1,037
Mill Creek 4	LGE	0	0	0	723	623	660	625	652	566	657	624	660	624	652	608	645	560	648	614	639	591	625	594	635	547	638	601	642	599	642
Trimble County 1	LGE	0	0	0	493	582	532	583	531	579	532	585	490	583	528	575	526	576	530	579	480	566	515	570	522	570	523	573	481	574	528
Trimble County 2	KU	0	0	0	0	382	648	650	645	646	648	650	648	649	648	647	647	648	648	651	643	645	645	649	646	648	649	649	648	646	650
Trimble County 2	LGE	0	0	0	0	90	152	153	151	152	152	153	152	152	152	152	152	152	152	153	151	151	151	152	152	152	152	152	152	152	153
GFCU 1	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,173	1,175	1,180	1,184	1,194	1,168	1,160	1,163	1,174	1,169	1,174	1,182	1,188	1,190	1,194
GFCU 1	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	386	660	661	664	666	672	657	653	654	660	658	660	665	665	668	669	672
GFCU 2	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	649	1,116	1,123	1,133	1,132	1,137	1,140	1,144	1,149	1,149	1,153
GFCU 2	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	398	684	688	694	694	697	699	701	704	704	706
Peakers	KU	0	0	0	288	261	318	359	415	489	612	618	686	706	651	540	615	617	663	676	541	295	300	300	327	352	366	367	436	431	468
Peakers	LGE	0	0	0	133	122	144	168	195	239	293	296	331	341	307	253	288	288	308	319	251	141	144	141	153	166	170	172	205	199	220
NOx EMISSIONS (TONS)																															
Total		0	0	0	27,423	26,730	26,012	26,528	22,662	23,185	22,907	23,122	23,417	23,169	23,070	23,133	23,191	22,984	23,107	23,705	23,323	22,277	22,421	22,655	22,677	23,020	23,320	23,370	23,951	23,708	24,071
ALLOWANCES																															
KU EPA Allocated NOx Allowances		0	0	0	14,635	14,635	14,635	14,635	13,865	13,865	11,554	11,297	11,297	11,297	11,040	11,040	11,040	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784	10,784
LGE EPA Allocated NOx Allowances		0	0	0	12,966	12,966	12,966	12,966	12,284	12,284	10,236	10,009	10,009	10,009	9,782	9,782	9,782	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554	9,554
Total KU/LGE EPA Allocated NOx Allowances		0	0	0	27,601	27,601	27,601	27,601	26,149	26,149	21,790	21,306	21,306	21,306	20,822	20,822	20,822	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338	20,338
KU's Portion of OMU Surplus/Shortfall		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined Company Purchases		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,304	2,369	2,646	2,769	3,367	2,985	1,939	2,083	2,317	2,339	2,682	2,982	3,041	3,613	3,370	3,733
TOTAL KU/LGE ALLOWANCES		0	0	0	27,601	27,601	27,601	27,601	26,149	26,149	21,790	21,306	21,306	21,306	20,822	22,126	23,191	22,984	23,107	23,705	23,323	22,277	22,421	22,655	22,677	23,020	23,320	23,370	23,951	23,708	24,071
EOY Increase (+)/Decrease in Bank		0	0	0	178	871	1,589	1,073	3,487	2,965	-1,117	-1,816	-2,111	-1,863	-2,248	-1,007	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ALLOWANCE BANK																															
Total KU/LGE Allowance Bank (End of Year)		-	-	-	178	1,050	2,639	3,712	7,199	10,163	9,046	7,230	5,119	3,255	1,007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix 7

Case00- Option 0: Do Nothing (No NOx Dispatch)

OZONE SEASON NO_x SUMMARY BY YEAR

NOx EMISS RATE (#/MBTU)	Ownership	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470
Brown 2	KU	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Brown 3	KU	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Ghent 1	KU	0.038	0.038	0.039	0.042	0.063	0.071	0.068	0.074	0.069	0.072	0.072	0.069	0.064	0.085	0.089	0.094	0.086	0.092	0.083	0.103	0.112	0.110	0.104	0.101	0.100	0.097	0.097	0.095	0.089	0.088
Ghent 2	KU	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270
Ghent 3	KU	0.065	0.037	0.038	0.044	0.056	0.056	0.059	0.060	0.057	0.052	0.054	0.047	0.050	0.069	0.074	0.074	0.070	0.075	0.068	0.086	0.094	0.094	0.087	0.086	0.087	0.085	0.088	0.082	0.081	0.076
Ghent 4	KU	0.046	0.048	0.052	0.037	0.037	0.039	0.037	0.039	0.038	0.037	0.038	0.038	0.037	0.041	0.043	0.045	0.043	0.042	0.041	0.050	0.050	0.051	0.047	0.046	0.045	0.044	0.045	0.044	0.042	0.041
Green River 3	KU	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.399	0.400	0.400	0.400	0.400	0.400	0.400	0.396	0.398	0.401	0.400	0.398	0.401	0.400	0.400	0.400	0.400
Green River 4	KU	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.402	0.400	0.400	0.400	0.401	0.400	0.400	0.400	0.400	0.400
Tyrone 3	KU	0.381	0.380	0.380	0.380	0.381	0.380	0.380	0.380	0.380	0.380	0.381	0.380	0.380	0.380	0.380	0.381	0.381	0.381	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.381	0.381	0.380	0.380
Cane Run 4	LGE	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Cane Run 5	LGE	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.429	0.430	0.430
Cane Run 6	LGE	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Mill Creek 1	LGE	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 2	LGE	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 3	LGE	0.046	0.046	0.048	0.050	0.079	0.070	0.071	0.082	0.079	0.083	0.083	0.071	0.065	0.081	0.088	0.086	0.079	0.078	0.077	0.096	0.104	0.101	0.092	0.086	0.091	0.089	0.089	0.081	0.083	0.081
Mill Creek 4	LGE	0.038	0.037	0.040	0.041	0.063	0.055	0.060	0.070	0.066	0.069	0.061	0.058	0.050	0.065	0.071	0.071	0.065	0.065	0.061	0.080	0.085	0.084	0.076	0.074	0.074	0.072	0.073	0.067	0.068	0.065
Trimble County 1	LGE	0.036	0.036	0.036	0.036	0.037	0.036	0.036	0.037	0.037	0.036	0.036	0.036	0.036	0.039	0.039	0.040	0.039	0.038	0.038	0.043	0.044	0.044	0.042	0.042	0.042	0.041	0.041	0.039	0.039	0.039
Trimble County 2	KU	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
Trimble County 2	LGE	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
GFCU 1	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 1	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
Peakers	KU	0.080	0.078	0.075	0.076	0.076	0.076	0.078	0.077	0.077	0.078	0.077	0.077	0.076	0.077	0.077	0.077	0.077	0.078	0.077	0.077	0.075	0.074	0.075	0.075	0.075	0.075	0.076	0.075	0.076	0.075
Peakers	LGE	0.077	0.074	0.072	0.072	0.072	0.072	0.076	0.077	0.083	0.081	0.079	0.079	0.077	0.074	0.075	0.076	0.076	0.079	0.077	0.075	0.070	0.069	0.070	0.070	0.069	0.070	0.070	0.070	0.070	0.070
SCRUBBER REMOVAL EFF.																															
Brown 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tyrone 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 5		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 6		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

TONS NOx EMITTED		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	630	551	578	652	664	672	702	678	658	725	642	687	684	629	592	671	680	689	680	634	567	571	588	585	588	598	596	610	618	620
Brown 2	KU	740	741	754	735	747	717	785	779	802	820	804	746	752	755	741	769	728	807	759	742	748	693	662	694	774	762	779	789	721	797
Brown 3	KU	1,462	1,764	1,667	1,851	1,697	1,893	1,990	1,885	1,935	2,049	1,997	1,944	1,985	1,827	1,773	1,931	1,793	2,021	1,986	1,861	1,765	1,759	1,741	1,828	1,821	1,710	1,847	1,865	1,887	1,836
Ghent 1	KU	313	312	323	353	500	561	542	579	552	562	570	554	517	656	673	691	642	683	628	732	775	762	737	712	703	699	694	690	646	647
Ghent 2	KU	1,888	1,694	1,795	2,143	2,060	1,952	1,794	2,058	1,750	1,927	1,859	1,966	2,062	1,879	2,031	1,812	1,929	2,037	1,795	1,981	1,753	1,965	1,719	1,987	1,987	1,854	2,003	1,911	1,926	1,727
Ghent 3	KU	467	314	322	357	398	430	454	450	435	402	426	375	389	506	526	505	483	508	481	551	571	574	546	545	546	535	552	527	523	503
Ghent 4	KU	352	360	378	294	298	309	300	310	303	298	301	302	296	327	336	347	337	327	322	378	379	383	356	354	341	341	347	343	330	321
Green River 3	KU	296	314	299	290	261	191	195	181	180	135	125	111	112	83	98	94	92	90	91	68	5	18	23	23	32	35	53	59	56	65
Green River 4	KU	445	528	516	507	413	335	383	351	357	204	221	199	148	141	121	116	126	143	123	116	17	36	57	53	72	69	90	90	110	124
Tyrone 3	KU	246	302	259	313	294	271	295	269	265	273	248	256	222	199	202	220	225	246	256	194	108	113	118	112	117	118	117	124	134	137	131
Cane Run 4	LGE	707	645	651	687	642	590	652	630	662	664	669	646	647	605	645	649	634	611	633	578	595	578	598	568	571	593	594	620	618	634
Cane Run 5	LGE	844	841	987	926	848	827	877	782	868	889	899	830	874	847	782	853	856	836	861	780	755	714	777	785	795	806	826	830	823	871
Cane Run 6	LGE	1,204	1,199	1,120	1,072	875	1,004	1,088	1,027	1,071	1,060	944	1,091	1,131	1,028	982	1,014	996	930	1,058	948	926	913	955	955	951	968	988	1,021	1,012	1,069
Mill Creek 1	LGE	1,282	1,340	1,424	1,380	1,295	1,418	1,205	1,409	1,415	1,414	1,355	1,415	1,422	1,414	1,225	1,403	1,412	1,411	1,417	1,392	1,358	1,376	1,184	1,391	1,384	1,389	1,395	1,341	1,402	1,405
Mill Creek 2	LGE	1,474	1,208	1,377	1,232	1,421	1,412	1,420	1,393	1,411	1,395	1,430	1,426	1,446	1,345	1,369	1,373	1,395	1,389	1,414	1,240	1,314	1,297	1,343	1,356	1,353	1,356	1,343	1,379	1,379	1,392
Mill Creek 3	LGE	299	300	310	320	476	428	432	492	477	488	503	428	401	480	499	502	470	450	458	532	577	541	520	485	524	512	518	475	488	474
Mill Creek 4	LGE	301	298	315	319	461	418	439	495	481	496	448	429	378	470	500	497	469	462	444	549	568	560	526	508	510	504	505	475	476	466
Trimble County 1	LGE	245	245	245	239	251	246	250	253	252	248	246	244	246	265	264	266	263	259	260	282	285	289	279	279	276	273	272	262	264	261
Trimble County 2	KU	0	0	0	0	220	274	275	275	275	275	274	274	274	275	275	274	272	274	275	273	275	273	274	273	274	275	272	274	274	274
Trimble County 2	LGE	0	0	0	0	52	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
GFCU 1	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	406	509	508	507	509	509	508	506	508	508	505	504	508	504	508	508	508
GFCU 1	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	228	286	286	285	286	286	286	285	286	284	284	286	284	286	284	286	286
GFCU 2	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	392	491	491	492	490	492	491	492	492	491	492
GFCU 2	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	241	301	301	301	300	301	301	302	302	301	302
Peakers	KU	96	156	180	219	216	266	306	322	358	446	450	491	523	434	433	472	477	515	534	419	237	247	261	249	260	282	281	286	317	341
Peakers	LGE	45	72	85	101	100	119	142	157	164	221	222	242	253	199	202	220	225	246	256	194	108	113	118	112	117	127	125	130	141	152
NOx EMISSIONS (TONS)																															
Total		13,335	13,184	13,582	13,992	14,187	14,398	14,586	14,837	14,794	14,952	14,708	14,711	14,871	15,083	15,122	15,517	15,301	15,680	15,486	15,077	15,347	15,432	15,028	15,504	15,641	15,455	15,849	15,762	15,797	15,760
ALLOWANCES																															
KU EPA Allocated NOx Allowances		6,764	6,607	6,607	6,607	6,405	6,405	6,405	6,068	6,068	6,068	5,933	5,933	5,933	5,798	5,798	5,798	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663
LGE EPA Allocated NOx Allowances		5,683	5,992	5,992	5,992	5,808	5,808	5,808	5,502	5,502	5,502	5,380	5,380	5,380	5,285	5,285	5,285	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136
Total KU/LGE EPA Allocated NOx Allowances		12,447	12,599	12,599	12,599	12,213	12,213	12,213	11,570	11,570	11,570	11,313	11,313	11,313	11,056	11,056	11,056	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799
KU's Portion of OMU Surplus/Shortfall		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined Company Purchases		0	0	0	0	0	1,281	2,373	3,267	3,224	3,382	3,395	3,398	3,558	4,027	4,066	4,461	4,502	4,881	4,687	5,078	4,548	4,633	4,229	4,705	4,842	4,656	5,050	4,963	4,998	4,961
TOTAL KU/LGE ALLOWANCES		12,447	12,599	12,599	12,599	12,213	13,494	14,586	14,837	14,794	14,952	14,708	14,711	14,871	15,083	15,122	15,517	15,301	15,680	15,486	15,877	15,347	15,432	15,028	15,504	15,641	15,455	15,849	15,762	15,797	15,760
EOY Increase (+)/Decrease in Bank		-888	-585	-983	-1,393	-1,974	-904	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ALLOWANCE BANK																															
Total KU/LGE Allowance Bank (End of Year)		5,839	5,254	4,271	2,879	904	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Case00- Option 0: Do Nothing (with Env Dispatch)

OZONE SEASON NO_X SUMMARY BY YEAR

NOx EMISS RATE (#/MBTU)	Ownership	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0.470	0.470	0.470	0.470	0.469	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470
Brown 2	KU	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Brown 3	KU	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Ghent 1	KU	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.037	0.037	0.038	0.038	0.038	0.038	0.038	0.037	0.037	0.037	0.037
Ghent 2	KU	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270
Ghent 3	KU	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
Ghent 4	KU	0.037	0.036	0.037	0.037	0.037	0.037	0.036	0.037	0.037	0.036	0.036	0.036	0.036	0.036	0.037	0.036	0.036	0.036	0.037	0.036	0.037	0.037	0.037	0.036	0.036	0.036	0.036	0.036	0.036	0.036
Green River 3	KU	0.400	0.400	0.400	0.400	0.400	0.401	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.396	0.399	0.399	0.400	0.398	0.402	0.399	0.399	0.400	0.400
Green River 4	KU	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.399	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Tyrone 3	KU	0.380	0.380	0.380	0.380	0.381	0.381	0.380	0.381	0.380	0.380	0.381	0.380	0.381	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.381	0.382	0.380	0.380	0.380	0.381	0.381	0.381	0.380
Cane Run 4	LGE	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Cane Run 5	LGE	0.429	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430
Cane Run 6	LGE	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Mill Creek 1	LGE	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 2	LGE	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 3	LGE	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.045	0.045	0.045	0.046	0.046	0.046	0.046	0.045	0.045	0.045	0.045	0.046	0.046	0.045	0.046	0.045	0.045	0.046	0.045	0.045	0.046	0.045
Mill Creek 4	LGE	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037
Trimble County 1	LGE	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036
Trimble County 2	KU	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
Trimble County 2	LGE	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
GFCU 1	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 1	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
Peakers	KU	0.079	0.078	0.075	0.075	0.075	0.076	0.076	0.076	0.076	0.076	0.076	0.075	0.074	0.075	0.075	0.075	0.075	0.076	0.075	0.075	0.073	0.072	0.072	0.073	0.073	0.074	0.075	0.074	0.074	0.074
Peakers	LGE	0.075	0.074	0.072	0.072	0.071	0.070	0.072	0.071	0.076	0.076	0.074	0.073	0.073	0.071	0.072	0.072	0.073	0.074	0.073	0.071	0.068	0.068	0.068	0.068	0.068	0.068	0.070	0.069	0.069	0.069
SCRUBBER REMOVAL EFF.																															
Brown 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tyrone 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 5		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 6		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TONS NOx EMITTED		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	528	487	502	581	573	537	568	547	556	554	502	545	548	494	479	502	500	502	512	476	403	408	413	418	415	421	425	429	436	434
Brown 2	KU	702	732	735	729	727	687	735	711	737	660	747	711	712	691	666	695	626	687	652	630	609	566	535	571	630	618	631	649	603	670
Brown 3	KU	1,441	1,759	1,648	1,859	1,656	1,815	1,683	1,761	1,816	1,880	1,858	1,832	1,862	1,663	1,600	1,663	1,542	1,669	1,675	1,529	1,365	1,379	1,349	1,434	1,429	1,345	1,445	1,476	1,498	1,477
Ghent 1	KU	313	309	313	319	311	308	309	310	308	309	310	311	310	308	307	308	309	309	308	306	297	304	307	307	307	307	303	305	300	304
Ghent 2	KU	1,754	1,630	1,756	2,087	1,931	1,814	1,695	1,913	1,641	1,807	1,770	1,869	1,974	1,694	1,808	1,623	1,740	1,804	1,626	1,704	1,476	1,670	1,476	1,730	1,717	1,618	1,719	1,679	1,674	1,530
Ghent 3	KU	283	299	299	298	293	291	292	290	292	294	296	294	292	288	284	285	285	285	287	278	274	272	277	276	277	277	276	279	278	280
Ghent 4	KU	288	288	281	294	292	290	291	290	291	291	291	292	292	290	286	287	286	286	289	282	282	282	282	285	274	284	285	287	286	283
Green River 3	KU	289	303	285	276	211	121	143	122	132	101	91	94	95	77	85	89	73	79	80	70	5	23	14	23	32	22	43	50	56	60
Green River 4	KU	441	503	461	491	370	249	255	240	209	144	131	130	128	104	113	98	112	106	101	99	17	28	45	43	61	51	71	76	87	85
Tyrone 3	KU	235	293	248	292	279	240	253	237	218	204	177	185	177	140	125	129	112	102	112	89	66	67	71	75	77	84	104	95	102	104
Cane Run 4	LGE	711	663	665	711	673	611	671	638	676	675	691	654	651	600	632	628	619	587	622	581	555	555	555	560	564	570	574	603	590	625
Cane Run 5	LGE	736	781	916	858	805	783	819	728	825	853	858	777	822	786	733	769	785	747	794	723	653	643	691	716	718	719	725	746	729	773
Cane Run 6	LGE	1,204	1,207	1,112	1,062	879	1,008	1,062	1,001	1,044	1,037	932	1,067	1,091	991	941	971	912	862	993	863	866	852	880	881	856	876	873	895	914	950
Mill Creek 1	LGE	1,272	1,330	1,401	1,352	1,240	1,348	1,160	1,325	1,346	1,338	1,300	1,356	1,374	1,317	1,131	1,290	1,292	1,286	1,302	1,245	1,197	1,211	1,054	1,238	1,224	1,229	1,241	1,203	1,254	1,273
Mill Creek 2	LGE	1,456	1,193	1,342	1,192	1,337	1,319	1,330	1,301	1,320	1,298	1,342	1,343	1,366	1,236	1,236	1,231	1,212	1,206	1,259	1,084	1,131	1,093	1,142	1,176	1,159	1,160	1,164	1,193	1,168	1,228
Mill Creek 3	LGE	295	297	296	292	290	290	289	289	290	289	290	289	292	288	285	286	287	287	287	282	284	281	285	279	285	284	285	284	287	283
Mill Creek 4	LGE	293	294	293	291	287	287	288	285	287	287	289	289	291	284	279	282	284	282	284	277	275	273	276	277	276	279	278	279	280	281
Trimble County 1	LGE	245	245	245	237	244	243	244	243	244	243	245	244	245	242	241	241	242	242	243	237	238	238	238	239	239	240	239	240	241	241
Trimble County 2	KU	0	0	0	0	219	274	274	273	274	274	274	274	274	274	274	274	274	274	274	272	274	272	274	272	273	274	272	274	274	274
Trimble County 2	LGE	0	0	0	0	51	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
GFCU 1	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	396	495	491	494	498	503	489	487	488	493	491	492	497	495	500	501	502
GFCU 1	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	223	278	276	278	281	283	275	274	275	278	276	277	280	278	281	282	283
GFCU 2	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	374	472	472	477	475	478	478	481	484	484	486
GFCU 2	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	229	289	289	292	291	293	293	295	297	297	298
Peakers	KU	91	152	176	212	212	262	289	319	355	432	450	479	505	418	417	458	459	496	512	402	219	229	242	233	246	270	276	285	314	334
Peakers	LGE	43	70	82	100	99	115	131	145	170	204	210	225	239	191	191	208	209	223	235	179	101	107	112	106	113	122	126	130	141	153
NOx EMISSIONS (TONS)																															
Total		12,617	12,833	13,076	13,533	12,978	12,956	13,043	13,033	13,093	13,237	13,117	13,324	13,604	13,057	12,948	13,145	12,995	13,161	13,295	13,040	12,174	12,342	12,122	12,726	12,776	12,659	12,968	13,084	13,139	13,275
ALLOWANCES																															
KU EPA Allocated NOx Allowances		6,764	6,607	6,607	6,607	6,405	6,405	6,405	6,068	6,068	6,068	5,933	5,933	5,933	5,798	5,798	5,798	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663
LGE EPA Allocated NOx Allowances		5,683	5,992	5,992	5,992	5,808	5,808	5,808	5,502	5,502	5,502	5,380	5,380	5,380	5,258	5,258	5,258	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136
Total KU/LGE EPA Allocated NOx Allowances		12,447	12,599	12,599	12,599	12,213	12,213	12,213	11,570	11,570	11,570	11,313	11,313	11,313	11,056	11,056	11,056	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799
KU's Portion of OMU Surplus/Shortfall		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined Company Purchases		0	0	0	0	0	0	0	0	411	1,667	1,804	2,011	2,291	2,001	1,892	2,089	2,196	2,362	2,496	2,241	1,375	1,543	1,323	1,927	1,977	1,860	2,169	2,285	2,340	2,476
TOTAL KU/LGE ALLOWANCES		12,447	12,599	12,599	12,599	12,213	12,213	12,213	11,570	11,981	13,237	13,117	13,324	13,604	13,057	12,948	13,145	12,995	13,161	13,295	13,040	12,174	12,342	12,122	12,726	12,776	12,659	12,968	13,084	13,139	13,275
EOY Increase (+)/Decrease in Bank		-170	-234	-477	-934	-765	-743	-830	-1,463	-1,112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ALLOWANCE BANK																															
Total KU/LGE Allowance Bank (End of Year)		6,557	6,323	5,847	4,913	4,148	3,405	2,575	1,112	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Case01- Option 01: GH2 SCR 2008

OZONE SEASON NO_x SUMMARY BY YEAR

NOx EMISS RATE (#/MBTU)	Ownership	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470
Brown 2	KU	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Brown 3	KU	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Ghent 1	KU	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.038	0.037	0.037	0.037	0.037
Ghent 2	KU	0.270	0.270	0.039	0.039	0.040	0.040	0.039	0.040	0.040	0.039	0.039	0.039	0.039	0.039	0.040	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039
Ghent 3	KU	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
Ghent 4	KU	0.037	0.036	0.037	0.037	0.037	0.036	0.037	0.037	0.036	0.037	0.037	0.036	0.037	0.037	0.037	0.037	0.036	0.036	0.037	0.037	0.037	0.037	0.037	0.037	0.036	0.036	0.036	0.036	0.036	0.036
Green River 3	KU	0.400	0.400	0.400	0.400	0.400	0.401	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.396	0.399	0.399	0.400	0.399	0.402	0.399	0.399	0.400	0.400
Green River 4	KU	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.402	0.400	0.399	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Tyrone 3	KU	0.380	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.380	0.380	0.380	0.381	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.381	0.382	0.380	0.380	0.380	0.381	0.381	0.381	0.380
Cane Run 4	LGE	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Cane Run 5	LGE	0.429	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430
Cane Run 6	LGE	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Mill Creek 1	LGE	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 2	LGE	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 3	LGE	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.045	0.045	0.045	0.046	0.046	0.046	0.046	0.045	0.045	0.046	0.046	0.046	0.045	0.045	0.046	0.045	0.045	0.045	0.046	0.045	0.046	0.045
Mill Creek 4	LGE	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037
Trimble County 1	LGE	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.035	0.036	0.036
Trimble County 2	KU	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
Trimble County 2	LGE	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
GFCU 1	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 1	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
Peakers	KU	0.079	0.078	0.075	0.075	0.075	0.076	0.076	0.076	0.076	0.076	0.076	0.075	0.074	0.075	0.075	0.075	0.075	0.076	0.075	0.075	0.072	0.072	0.073	0.073	0.073	0.074	0.074	0.074	0.074	0.074
Peakers	LGE	0.075	0.074	0.071	0.072	0.071	0.070	0.072	0.071	0.076	0.076	0.074	0.073	0.073	0.071	0.072	0.072	0.073	0.073	0.073	0.071	0.068	0.068	0.068	0.068	0.068	0.068	0.069	0.069	0.069	0.069
SCRUBBER REMOVAL EFF.																															
Brown 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tyrone 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 5		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 6		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TONS NOx EMITTED		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	528	487	503	582	574	537	568	547	556	554	502	546	548	494	479	503	500	503	512	476	404	408	413	418	415	421	425	429	436	434
Brown 2	KU	702	732	735	729	727	687	736	711	737	660	747	712	712	691	666	694	624	688	652	630	608	565	534	570	628	616	629	650	602	669
Brown 3	KU	1,441	1,759	1,649	1,859	1,657	1,816	1,884	1,762	1,816	1,879	1,858	1,833	1,861	1,662	1,602	1,657	1,534	1,663	1,672	1,523	1,358	1,368	1,339	1,427	1,420	1,336	1,436	1,471	1,469	1,470
Ghent 1	KU	313	309	313	318	311	308	309	310	308	309	309	311	309	307	306	307	309	308	307	305	295	303	306	307	305	306	302	305	298	304
Ghent 2	KU	1,754	1,639	256	307	300	284	269	302	255	277	269	284	296	275	299	266	279	296	257	297	261	294	253	295	293	272	293	278	279	249
Ghent 3	KU	283	299	297	296	290	287	290	287	289	291	293	292	289	284	279	281	281	280	283	272	269	267	271	272	272	272	271	275	273	277
Ghent 4	KU	288	288	281	294	290	288	290	288	291	289	290	291	291	288	283	286	284	284	288	280	280	279	279	284	270	281	282	285	283	281
Green River 3	KU	289	303	284	276	211	121	143	127	132	101	91	94	95	77	90	89	73	79	80	70	5	23	14	23	32	22	44	55	61	60
Green River 4	KU	441	503	481	495	370	246	252	238	209	144	133	130	128	104	113	106	109	106	101	99	17	28	45	43	61	51	71	76	90	85
Tyrone 3	KU	235	293	249	292	279	240	253	237	218	204	176	185	177	140	125	129	107	100	114	89	65	67	71	75	77	86	104	97	103	104
Cane Run 4	LGE	711	663	665	711	673	611	671	639	676	675	691	654	651	600	629	628	619	588	622	581	555	555	558	550	564	570	574	604	590	626
Cane Run 5	LGE	736	781	916	858	806	783	819	729	825	853	858	777	822	786	736	769	785	747	794	723	553	643	691	716	719	719	724	748	730	774
Cane Run 6	LGE	1,204	1,207	1,112	1,061	880	1,009	1,062	1,002	1,045	1,037	932	1,067	1,092	991	942	971	912	862	993	863	666	852	880	883	855	876	873	893	915	950
Mill Creek 1	LGE	1,272	1,330	1,400	1,346	1,239	1,343	1,159	1,322	1,345	1,336	1,298	1,354	1,368	1,310	1,124	1,285	1,286	1,280	1,296	1,237	1,189	1,200	1,048	1,230	1,214	1,220	1,232	1,196	1,245	1,265
Mill Creek 2	LGE	1,456	1,193	1,343	1,192	1,338	1,320	1,330	1,301	1,320	1,298	1,342	1,344	1,366	1,236	1,236	1,231	1,212	1,197	1,259	1,084	1,131	1,092	1,142	1,176	1,159	1,161	1,164	1,195	1,168	1,228
Mill Creek 3	LGE	295	297	296	292	289	289	289	288	289	288	289	288	291	287	284	284	286	286	286	281	283	279	283	277	283	283	284	283	285	282
Mill Creek 4	LGE	293	294	293	290	285	285	287	283	286	285	288	287	290	282	277	280	282	279	282	274	271	269	273	274	273	277	275	278	277	280
Trimble County 1	LGE	245	245	245	237	242	241	241	240	241	241	244	242	243	239	239	238	240	240	241	235	235	235	236	236	236	238	238	238	239	239
Trimble County 2	KU	0	0	0	0	217	272	273	271	272	273	273	273	274	273	271	272	272	273	274	271	273	270	273	271	273	274	271	274	274	274
Trimble County 2	LGE	0	0	0	0	51	64	64	64	64	64	64	64	64	64	64	64	64	64	64	63	64	63	64	64	64	64	64	64	64	64
GFCU 1	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	369	486	483	487	491	497	480	479	480	488	484	484	491	488	495	496	499
GFCU 1	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	219	273	272	274	276	280	270	270	270	274	272	273	276	274	279	279	280
GFCU 2	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	364	465	463	470	467	471	471	474	478	479	482
GFCU 2	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	223	285	284	288	286	288	289	290	293	294	295
Peakers	KU	91	152	176	213	211	263	289	319	355	433	450	479	505	418	417	458	460	497	512	403	220	230	242	234	247	271	276	286	314	335
Peakers	LGE	43	70	83	101	99	115	131	145	170	203	209	225	239	191	191	208	209	223	235	180	102	107	112	107	113	122	126	131	141	154
NOx EMISSIONS (TONS)																															
Total		12,617	12,833	11,576	11,746	11,338	11,408	11,597	11,411	11,699	11,692	11,607	11,730	11,912	11,608	11,409	11,760	11,486	11,609	11,900	11,571	10,901	10,893	10,846	11,241	11,291	11,260	11,484	11,654	11,705	11,957
ALLOWANCES																															
KU EPA Allocated NOx Allowances		6,764	6,607	6,607	6,607	6,405	6,405	6,405	6,068	6,068	6,068	5,933	5,933	5,933	5,798	5,798	5,798	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663
LGE EPA Allocated NOx Allowances		5,683	5,992	5,992	5,992	5,808	5,808	5,808	5,502	5,502	5,502	5,380	5,380	5,380	5,258	5,258	5,258	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136
Total KU/LGE EPA Allocated NOx Allowances		12,447	12,599	12,599	12,599	12,213	12,213	12,213	11,570	11,570	11,570	11,313	11,313	11,313	11,056	11,056	11,056	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799
KU's Portion of OMU Surplus/Shortfall		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined Company Purchases		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,126
TOTAL KU/LGE ALLOWANCES		12,447	12,599	12,599	12,599	12,213	12,213	12,213	11,570	11,570	11,570	11,313	11,313	11,313	11,056	11,056	11,056	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	11,925
EOY Increase (+)/Decrease in Bank		-170	-234	1,023	853	875	805	617	159	-129	-122	-294	-417	-599	-552	-353	-704	-687	-810	-1,101	-772	-102	-94	-47	-442	-492	-461	-685	-855	-906	-32
ALLOWANCE BANK																															
Total KU/LGE Allowance Bank (End of Year)		6,557	6,323	7,346	8,199	9,074	9,880	10,496	10,655	10,526	10,404	10,110	9,694	9,094	8,542	8,189	7,485	6,799	5,989	4,887	4,116	4,014	3,919	3,873	3,431	2,939	2,478	1,793	938	32	-

Case02- Option 02: GH2 SCR 2009

OZONE SEASON NO_x SUMMARY BY YEAR

NOx EMISS RATE (#/MBTU)	Ownership	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470
Brown 2	KU	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Brown 3	KU	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Ghent 1	KU	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.038	0.037	0.037	0.037	0.037
Ghent 2	KU	0.270	0.270	0.270	0.039	0.040	0.040	0.039	0.040	0.040	0.039	0.039	0.039	0.039	0.039	0.040	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039
Ghent 3	KU	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
Ghent 4	KU	0.037	0.036	0.037	0.037	0.037	0.037	0.036	0.037	0.037	0.036	0.037	0.037	0.036	0.037	0.037	0.037	0.036	0.036	0.037	0.037	0.037	0.037	0.037	0.037	0.036	0.036	0.036	0.036	0.036	0.036
Green River 3	KU	0.400	0.400	0.400	0.400	0.400	0.401	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.396	0.399	0.399	0.400	0.399	0.402	0.399	0.399	0.400	0.400
Green River 4	KU	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.402	0.400	0.399	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Tyrone 3	KU	0.380	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.380	0.380	0.380	0.381	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.381	0.382	0.380	0.380	0.380	0.381	0.381	0.381	0.380
Cane Run 4	LGE	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Cane Run 5	LGE	0.429	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430
Cane Run 6	LGE	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Mill Creek 1	LGE	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 2	LGE	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 3	LGE	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.045	0.045	0.045	0.046	0.046	0.046	0.046	0.045	0.045	0.046	0.046	0.046	0.046	0.045	0.045	0.045	0.045	0.046	0.046	0.045	0.046	0.045
Mill Creek 4	LGE	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037
Trimble County 1	LGE	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.035	0.036	0.036
Trimble County 2	KU	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
Trimble County 2	LGE	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
GFCU 1	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 1	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
Peakers	KU	0.079	0.078	0.075	0.075	0.075	0.076	0.076	0.076	0.076	0.076	0.076	0.075	0.074	0.075	0.075	0.075	0.075	0.076	0.075	0.075	0.073	0.072	0.072	0.073	0.073	0.074	0.074	0.074	0.074	0.074
Peakers	LGE	0.075	0.074	0.072	0.072	0.071	0.070	0.072	0.071	0.076	0.076	0.074	0.073	0.073	0.071	0.072	0.072	0.073	0.073	0.073	0.071	0.068	0.068	0.068	0.068	0.068	0.068	0.069	0.069	0.069	0.069
SCRUBBER REMOVAL EFF.																															
Brown 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tyrone 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 5		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 6		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

TONS NOx EMITTED	Ownership	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	528	487	502	582	574	537	568	547	556	554	502	546	548	494	479	503	500	503	512	476	404	408	413	418	415	421	425	429	436	434
Brown 2	KU	702	732	735	729	727	687	736	711	737	669	747	712	712	691	666	694	624	688	652	630	608	565	534	570	628	616	629	650	602	669
Brown 3	KU	1,441	1,759	1,648	1,859	1,657	1,816	1,884	1,762	1,816	1,879	1,858	1,833	1,861	1,662	1,602	1,657	1,534	1,663	1,672	1,523	1,358	1,368	1,339	1,427	1,426	1,336	1,436	1,471	1,469	1,470
Ghent 1	KU	313	309	313	318	311	308	309	310	308	309	309	311	309	307	306	307	309	308	307	305	295	303	306	307	305	306	302	305	298	304
Ghent 2	KU	1,754	1,630	1,756	307	300	284	260	302	255	277	269	284	296	275	299	266	279	296	257	297	251	294	253	295	293	272	293	278	279	249
Ghent 3	KU	283	299	299	296	290	287	290	287	289	291	293	292	289	284	279	281	281	280	283	272	269	267	271	272	272	272	271	275	273	277
Ghent 4	KU	288	288	281	294	290	288	290	288	291	289	290	291	291	288	283	286	284	284	288	280	280	279	279	284	270	281	282	285	283	281
Green River 3	KU	289	303	285	276	211	121	143	127	132	101	91	94	95	77	90	89	73	79	80	70	5	23	14	23	32	22	44	55	61	60
Green River 4	KU	441	503	481	495	370	246	252	238	209	144	133	130	128	104	113	106	109	106	101	99	17	28	45	43	61	51	71	76	90	85
Tyrone 3	KU	235	293	248	292	279	240	253	237	218	204	176	185	177	140	125	129	107	100	114	89	65	67	71	75	77	86	104	97	103	104
Cane Run 4	LGE	711	663	665	711	673	611	671	639	676	675	691	654	651	600	629	628	619	588	622	561	555	555	558	550	564	570	574	604	590	626
Cane Run 5	LGE	736	781	916	858	806	783	819	729	825	853	858	777	822	786	736	769	785	747	794	723	653	643	691	716	719	719	724	748	730	774
Cane Run 6	LGE	1,204	1,207	1,112	1,061	880	1,009	1,062	1,002	1,045	1,037	932	1,067	1,092	991	942	971	912	862	993	863	866	852	880	883	856	876	873	893	915	950
Mill Creek 1	LGE	1,272	1,330	1,401	1,346	1,239	1,343	1,159	1,322	1,345	1,336	1,298	1,354	1,368	1,310	1,124	1,285	1,286	1,280	1,296	1,237	1,189	1,200	1,048	1,230	1,214	1,220	1,232	1,196	1,245	1,265
Mill Creek 2	LGE	1,456	1,193	1,342	1,192	1,338	1,320	1,330	1,301	1,320	1,298	1,342	1,344	1,366	1,236	1,236	1,231	1,212	1,197	1,259	1,084	1,131	1,092	1,142	1,176	1,159	1,161	1,164	1,195	1,168	1,228
Mill Creek 3	LGE	295	297	296	292	289	289	289	288	289	288	289	288	291	287	284	284	286	286	286	281	283	279	283	277	283	283	284	283	285	282
Mill Creek 4	LGE	293	294	293	290	285	285	287	283	286	285	288	287	290	282	277	280	282	279	282	274	271	269	273	274	273	277	275	278	277	280
Trimble County 1	LGE	245	245	245	237	242	241	241	240	241	241	244	242	243	239	239	238	240	240	241	235	235	235	236	236	236	238	238	238	239	239
Trimble County 2	KU	0	0	0	0	217	272	273	271	272	273	273	273	274	273	271	272	272	273	274	271	273	270	273	271	273	274	271	274	274	274
Trimble County 2	LGE	0	0	0	0	51	64	64	64	64	64	64	64	64	64	64	64	64	64	64	63	64	63	64	64	64	64	64	64	64	64
GFCU 1	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	389	486	483	487	491	497	480	479	480	488	484	484	491	488	495	495	499
GFCU 1	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	219	273	272	274	276	280	270	270	270	274	272	273	276	274	279	279	280
GFCU 2	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	364	465	463	470	467	471	471	474	478	479	482
GFCU 2	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	223	285	284	288	286	288	289	290	293	294	295
Peakers	KU	91	152	176	213	211	263	289	319	355	433	450	479	505	418	417	458	460	497	512	403	220	230	242	234	247	271	276	286	314	335
Peakers	LGE	43	70	82	101	99	115	131	145	170	203	209	225	239	191	191	208	209	223	235	180	102	107	112	107	113	122	126	131	141	154
NOx EMISSIONS (TONS)																															
Total		12,617	12,833	13,076	11,746	11,338	11,408	11,597	11,411	11,699	11,692	11,607	11,730	11,912	11,608	11,409	11,760	11,486	11,609	11,900	11,571	10,901	10,893	10,846	11,241	11,291	11,200	11,484	11,654	11,705	11,957
ALLOWANCES																															
KU EPA Allocated NOx Allowances		6,764	6,607	6,607	6,607	6,405	6,405	6,405	6,068	6,068	6,068	5,933	5,933	5,933	5,798	5,798	5,798	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663
LGE EPA Allocated NOx Allowances		5,683	5,992	5,992	5,992	5,808	5,808	5,808	5,502	5,502	5,502	5,380	5,380	5,380	5,258	5,258	5,258	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136
Total KU/LGE EPA Allocated NOx Allowances		12,447	12,599	12,599	12,599	12,213	12,213	12,213	11,570	11,570	11,570	11,313	11,313	11,313	11,056	11,056	11,056	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799
KU's Portion of OMU Surplus/Shortfall		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined Company Purchases		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	562	906	1,158
TOTAL KU/LGE ALLOWANCES		12,447	12,599	12,599	12,599	12,213	12,213	12,213	11,570	11,570	11,570	11,313	11,313	11,313	11,056	11,056	11,056	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	11,361	11,705	11,957
EOY Increase (+)/Decrease in Bank		-170	-234	-477	853	875	805	617	159	-129	-122	-294	-417	-599	-552	-353	-704	-687	-810	-1,101	-772	-102	-94	-47	-442	-492	-401	-685	-294	0	0
ALLOWANCE BANK																															
Total KU/LGE Allowance Bank (End of Year)		6,557	6,323	5,847	6,699	7,575	8,380	8,997	9,155	9,027	8,905	8,610	8,194	7,595	7,043	6,689	5,986	5,299	4,489	3,388	2,616	2,514	2,420	2,373	1,931	1,439	978	294	-	-	-

Case03- Option 03: GH2 SCR 2010

OZONE SEASON NO_x SUMMARY BY YEAR

NOx EMISS RATE (#/MBTU)	Ownership	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0.470	0.470	0.470	0.470	0.469	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470
Brown 2	KU	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Brown 3	KU	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Ghent 1	KU	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.038	0.037	0.037	0.037	0.037
Ghent 2	KU	0.270	0.270	0.270	0.270	0.039	0.040	0.039	0.040	0.040	0.039	0.039	0.039	0.039	0.039	0.040	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039
Ghent 3	KU	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
Ghent 4	KU	0.037	0.036	0.037	0.037	0.037	0.037	0.036	0.037	0.037	0.036	0.037	0.037	0.036	0.037	0.037	0.037	0.036	0.036	0.037	0.037	0.037	0.037	0.037	0.037	0.036	0.036	0.036	0.036	0.036	0.036
Green River 3	KU	0.400	0.400	0.400	0.400	0.400	0.401	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.396	0.399	0.399	0.400	0.399	0.402	0.399	0.399	0.400	0.400
Green River 4	KU	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.402	0.400	0.399	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Tyrone 3	KU	0.380	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.380	0.380	0.380	0.381	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.381	0.382	0.380	0.380	0.380	0.381	0.381	0.381	0.380
Cane Run 4	LGE	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Cane Run 5	LGE	0.429	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430
Cane Run 6	LGE	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Mill Creek 1	LGE	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 2	LGE	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 3	LGE	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.045	0.045	0.045	0.046	0.046	0.046	0.046	0.045	0.045	0.045	0.046	0.046	0.046	0.045	0.046	0.045	0.045	0.046	0.046	0.045	0.046	0.045
Mill Creek 4	LGE	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037
Trimble County 1	LGE	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036
Trimble County 2	KU	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
Trimble County 2	LGE	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
GFCU 1	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 1	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
Peakers	KU	0.079	0.078	0.075	0.075	0.075	0.076	0.076	0.076	0.076	0.076	0.076	0.075	0.074	0.075	0.075	0.075	0.075	0.076	0.075	0.075	0.073	0.072	0.072	0.073	0.073	0.074	0.074	0.074	0.074	0.074
Peakers	LGE	0.075	0.074	0.072	0.072	0.071	0.070	0.072	0.071	0.076	0.076	0.074	0.073	0.073	0.071	0.072	0.072	0.073	0.073	0.073	0.071	0.068	0.068	0.068	0.068	0.068	0.068	0.069	0.069	0.069	0.069
SCRUBBER REMOVAL EFF.																															
Brown 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tyrone 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 5		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 6		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TONS NOx EMITTED		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	528	487	502	581	571	537	568	547	556	554	502	546	548	494	479	503	500	503	512	476	404	408	413	418	415	421	425	429	436	434
Brown 2	KU	702	732	735	729	724	687	736	711	737	660	747	712	712	691	666	694	624	688	652	630	608	565	534	570	628	616	629	650	602	669
Brown 3	KU	1,441	1,759	1,648	1,859	1,652	1,816	1,884	1,762	1,816	1,679	1,858	1,833	1,861	1,662	1,602	1,657	1,534	1,663	1,672	1,523	1,358	1,368	1,339	1,427	1,420	1,336	1,436	1,471	1,489	1,470
Ghent 1	KU	313	309	313	319	311	308	309	310	308	309	309	311	309	307	306	307	309	308	307	305	295	303	306	307	305	306	302	305	298	304
Ghent 2	KU	1,754	1,630	1,756	2,087	309	284	260	302	255	277	269	284	296	275	299	266	279	296	257	297	261	294	253	295	293	272	293	276	279	249
Ghent 3	KU	283	299	299	298	289	287	290	287	289	291	293	292	289	284	279	281	281	280	283	272	269	267	271	272	272	272	271	275	273	277
Ghent 4	KU	288	288	281	294	290	288	290	288	291	289	290	291	291	288	283	286	284	284	288	280	280	279	279	284	270	281	282	285	283	281
Green River 3	KU	289	303	285	276	220	121	143	127	132	101	91	94	95	77	90	89	73	79	80	70	5	23	14	23	32	22	44	55	61	60
Green River 4	KU	441	503	481	491	369	246	252	238	209	144	133	130	128	104	113	106	109	106	101	99	17	28	45	43	61	51	71	76	90	85
Tyrone 3	KU	235	293	248	292	275	240	253	237	218	204	176	185	177	140	125	129	107	100	114	89	65	67	71	75	77	86	104	97	103	104
Cane Run 4	LGE	711	663	665	711	671	611	671	639	676	675	691	654	651	600	629	588	619	588	622	581	555	555	558	550	564	570	574	604	590	626
Cane Run 5	LGE	736	781	916	858	802	783	819	729	825	853	858	777	822	766	736	769	785	747	794	723	553	643	691	716	719	719	724	748	730	774
Cane Run 6	LGE	1,204	1,207	1,112	1,062	877	1,009	1,062	1,002	1,045	1,037	932	1,067	1,092	991	942	971	912	862	993	863	866	852	880	883	856	876	873	893	915	950
Mill Creek 1	LGE	1,272	1,330	1,401	1,352	1,237	1,343	1,159	1,322	1,345	1,336	1,298	1,354	1,368	1,310	1,124	1,285	1,286	1,280	1,296	1,237	1,189	1,200	1,048	1,230	1,214	1,220	1,232	1,196	1,245	1,265
Mill Creek 2	LGE	1,456	1,193	1,342	1,192	1,334	1,320	1,330	1,301	1,320	1,298	1,342	1,343	1,366	1,236	1,236	1,231	1,212	1,197	1,259	1,084	1,131	1,092	1,142	1,176	1,159	1,161	1,164	1,195	1,168	1,228
Mill Creek 3	LGE	295	297	296	292	289	289	289	288	289	288	289	288	291	287	284	284	286	286	286	281	283	279	283	277	283	283	284	283	285	282
Mill Creek 4	LGE	293	294	293	291	285	285	287	283	286	285	288	287	290	282	277	280	282	279	282	274	271	269	273	274	273	277	275	278	277	280
Trimble County 1	LGE	245	245	245	237	241	241	241	240	241	241	244	242	243	239	239	238	240	240	241	235	235	235	236	236	236	238	238	238	239	239
Trimble County 2	KU	0	0	0	0	217	272	273	271	272	273	273	274	273	271	272	272	273	274	271	273	270	273	271	273	274	271	274	274	274	274
Trimble County 2	LGE	0	0	0	0	51	64	64	64	64	64	64	64	64	64	64	64	64	64	64	63	64	63	64	64	64	64	64	64	64	64
GFCU 1	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	389	486	483	487	491	497	480	479	480	488	484	484	491	488	495	496	499
GFCU 1	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	219	273	272	274	276	280	270	270	270	274	272	273	276	274	279	279	280
GFCU 2	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	364	465	463	470	467	471	471	474	478	479	482
GFCU 2	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	223	285	284	288	286	288	289	290	293	294	295
Peakers	KU	91	152	176	212	208	263	289	319	355	433	450	479	505	418	417	458	460	497	512	403	220	230	242	234	247	271	276	286	314	335
Peakers	LGE	43	70	82	100	98	115	131	145	170	203	209	225	239	191	191	208	209	223	235	180	102	107	112	107	113	122	126	131	141	154
NOx EMISSIONS (TONS)																															
Total		12,617	12,833	13,076	13,533	11,319	11,408	11,597	11,411	11,699	11,692	11,607	11,729	11,912	11,608	11,409	11,766	11,486	11,609	11,900	11,571	10,901	10,893	10,846	11,241	11,291	11,260	11,484	11,654	11,705	11,957
ALLOWANCES																															
KU EPA Allocated NOx Allowances		6,764	6,607	6,607	6,607	6,405	6,405	6,405	6,068	6,068	6,068	5,933	5,933	5,933	5,798	5,798	5,798	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663
LGE EPA Allocated NOx Allowances		5,683	5,992	5,992	5,992	5,808	5,808	5,808	5,502	5,502	5,502	5,380	5,380	5,380	5,258	5,258	5,258	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136
Total KU/LGE EPA Allocated NOx Allowances		12,447	12,599	12,599	12,599	12,213	12,213	12,213	11,570	11,570	11,570	11,313	11,313	11,313	11,056	11,056	11,056	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799
KU's Portion of CMU Surplus/Shortfall		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined Company Purchases		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	328	461	685	855	906	1,158
TOTAL KU/LGE ALLOWANCES		12,447	12,599	12,599	12,599	12,213	12,213	12,213	11,570	11,570	11,570	11,313	11,313	11,313	11,056	11,056	11,056	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	11,127	11,260	11,484	11,654	11,705	11,957
EOY Increase (+)/Decrease in Bank		-170	-234	-477	-934	895	805	617	159	-129	-122	-294	-416	-599	-552	-353	-704	-687	-810	-1,101	-772	-102	-94	-47	-442	-164	0	0	0	0	0
ALLOWANCE BANK																															
Total KU/LGE Allowance Bank (End of Year)		6,557	6,323	5,847	4,913	5,807	6,612	7,229	7,388	7,259	7,137	6,843	6,426	5,827	5,275	4,922	4,218	3,531	2,721	1,620	848	746	652	606	164	-	-	-	-	-	-

Case04- Option 04: BR3 SCR 2008

OZONE SEASON NO_x SUMMARY BY YEAR

NOx EMISS RATE (#/MBTU)	Ownership	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.469	0.470	0.470	0.470
Brown 2	KU	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Brown 3	KU	0.290	0.290	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044
Ghent 1	KU	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.037	0.037	0.037	0.038	0.038	0.037	0.038	0.037	0.037	0.038	0.037	0.037
Ghent 2	KU	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270
Ghent 3	KU	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
Ghent 4	KU	0.037	0.036	0.037	0.037	0.037	0.037	0.036	0.036	0.037	0.036	0.036	0.036	0.036	0.037	0.035	0.036	0.036	0.036	0.036	0.036	0.036	0.037	0.036	0.036	0.036	0.036	0.036	0.037	0.036	0.036
Green River 3	KU	0.400	0.400	0.400	0.400	0.400	0.401	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.396	0.399	0.399	0.399	0.398	0.402	0.399	0.399	0.400
Green River 4	KU	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.402	0.400	0.399	0.400	0.400	0.400	0.400	0.400	0.400
Tyrone 3	KU	0.380	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.380	0.380	0.380	0.381	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.382	0.381	0.380	0.380	0.380	0.381	0.381	0.381	0.380
Cane Run 4	LGE	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Cane Run 5	LGE	0.429	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430
Cane Run 6	LGE	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Mill Creek 1	LGE	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 2	LGE	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 3	LGE	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.045	0.045	0.045	0.046	0.046	0.046	0.046	0.045	0.045	0.045	0.045	0.046	0.046	0.045	0.046	0.045	0.045	0.046	0.046	0.045	0.046	0.045
Mill Creek 4	LGE	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037
Trimble County 1	LGE	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036
Trimble County 2	KU	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
Trimble County 2	LGE	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
GFCU 1	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 1	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
Peakers	KU	0.079	0.078	0.075	0.075	0.075	0.076	0.076	0.076	0.076	0.076	0.076	0.075	0.074	0.075	0.075	0.075	0.075	0.076	0.075	0.075	0.073	0.072	0.072	0.073	0.073	0.074	0.074	0.074	0.074	0.074
Peakers	LGE	0.075	0.074	0.072	0.072	0.071	0.070	0.072	0.071	0.076	0.076	0.074	0.073	0.073	0.071	0.072	0.072	0.073	0.074	0.073	0.071	0.068	0.068	0.068	0.068	0.068	0.068	0.070	0.069	0.069	0.069
SCRUBBER REMOVAL EFF.																															
Brown 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tyrone 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 5		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 6		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TONS NOx EMITTED		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	528	487	479	577	569	532	563	543	552	553	501	543	545	492	477	503	500	502	511	475	403	407	411	415	414	420	423	428	434	432
Brown 2	KU	702	732	693	689	685	639	686	660	682	598	651	619	623	580	567	601	552	597	562	531	468	440	419	443	490	483	495	512	479	533
Brown 3	KU	1,441	1,759	281	312	284	317	323	308	315	338	325	322	326	303	303	316	290	332	321	308	300	299	297	306	307	287	307	310	310	309
Ghent 1	KU	313	309	312	316	310	308	310	307	308	309	310	309	306	307	306	306	307	306	303	295	302	305	304	304	304	302	305	298	302	
Ghent 2	KU	1,754	1,630	1,746	2,068	1,907	1,784	1,671	1,882	1,609	1,757	1,736	1,840	1,945	1,650	1,757	1,545	1,653	1,715	1,539	1,592	1,336	1,521	1,321	1,579	1,577	1,482	1,585	1,560	1,543	1,435
Ghent 3	KU	283	299	298	297	292	289	290	287	290	292	294	292	291	285	281	280	282	279	282	272	267	266	271	271	272	272	271	274	272	275
Ghent 4	KU	288	288	277	296	291	289	290	289	290	290	290	291	291	288	284	286	286	285	288	281	280	281	280	284	272	283	284	284	285	282
Green River 3	KU	289	303	284	276	205	121	143	127	137	101	91	94	95	77	90	89	73	79	80	70	5	23	14	19	32	22	34	55	61	60
Green River 4	KU	441	503	461	495	371	246	252	238	214	144	125	130	128	104	113	108	109	106	101	99	17	28	45	43	61	51	71	81	90	85
Tyrone 3	KU	235	293	249	293	279	240	253	238	218	204	176	185	174	140	125	129	106	100	114	89	64	67	72	76	75	84	101	95	102	105
Cane Run 4	LGE	711	663	663	701	673	610	670	639	676	675	691	654	651	600	632	628	619	588	622	581	555	555	556	550	564	569	574	595	593	626
Cane Run 5	LGE	736	781	911	849	805	782	819	729	826	853	858	777	822	786	733	769	788	751	794	723	656	643	690	715	719	718	725	747	724	774
Cane Run 6	LGE	1,204	1,207	1,100	1,024	868	997	1,050	993	1,036	1,034	925	1,058	1,086	983	935	970	911	861	969	861	865	848	878	879	854	873	879	890	910	947
Mill Creek 1	LGE	1,272	1,330	1,395	1,338	1,224	1,326	1,143	1,295	1,315	1,315	1,278	1,336	1,355	1,292	1,112	1,267	1,273	1,270	1,284	1,223	1,177	1,192	1,039	1,221	1,206	1,210	1,226	1,189	1,237	1,261
Mill Creek 2	LGE	1,456	1,193	1,332	1,164	1,304	1,282	1,298	1,272	1,294	1,277	1,310	1,311	1,338	1,202	1,200	1,213	1,200	1,177	1,235	1,069	1,114	1,076	1,128	1,162	1,143	1,143	1,150	1,176	1,153	1,213
Mill Creek 3	LGE	295	297	296	292	291	289	289	289	289	288	290	288	291	287	284	284	286	286	286	281	284	280	284	278	283	283	282	283	285	282
Mill Creek 4	LGE	293	294	293	291	287	285	286	283	286	284	288	287	290	283	279	279	282	279	282	274	271	270	273	275	273	277	275	277	277	280
Trimble County 1	LGE	245	245	245	237	244	244	244	245	244	243	246	243	245	242	243	241	241	243	242	238	239	238	239	239	238	239	239	239	240	240
Trimble County 2	KU	0	0	0	0	218	273	273	272	273	274	274	274	274	273	273	273	273	273	274	274	271	272	273	272	273	274	272	274	274	274
Trimble County 2	LGE	0	0	0	0	51	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
GFCU 1	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	393	491	487	491	495	500	486	483	485	491	488	489	495	492	498	499	501
GFCU 1	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	221	276	274	276	279	281	273	272	273	276	274	275	278	277	280	281	282
GFCU 2	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	371	469	468	473	472	475	475	479	481	482	484
GFCU 2	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	228	287	287	290	289	291	291	293	295	296	297		
Peakers	KU	91	152	177	212	211	263	289	319	355	433	451	476	505	418	417	458	459	496	512	403	219	229	242	233	247	270	276	285	314	334
Peakers	LGE	43	70	83	100	99	115	131	145	170	203	209	225	240	191	191	209	209	223	235	180	101	107	112	106	113	122	126	130	140	154
NOx EMISSIONS (TONS)																															
	Total	12,617	12,833	11,575	11,829	11,468	11,293	11,334	11,424	11,442	11,518	11,382	11,623	11,886	11,466	11,433	11,577	11,530	11,577	11,705	11,544	10,764	10,920	10,735	11,257	11,311	11,270	11,505	11,617	11,642	11,821
ALLOWANCES																															
KU EPA Allocated NOx Allowances		6,764	6,607	6,607	6,607	6,405	6,405	6,405	6,068	6,068	6,068	5,933	5,933	5,933	5,798	5,798	5,798	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663
LGE EPA Allocated NOx Allowances		5,683	5,992	5,992	5,992	5,808	5,808	5,808	5,502	5,502	5,502	5,380	5,380	5,380	5,258	5,258	5,258	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136
Total KU/LGE EPA Allocated NOx Allowances		12,447	12,599	12,599	12,599	12,213	12,213	12,213	11,570	11,570	11,570	11,313	11,313	11,313	11,056	11,056	11,056	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799
KU's Portion of OMU Surplus/Shortfall		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined Company Purchases		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL KU/LGE ALLOWANCES		12,447	12,599	12,599	12,599	12,213	12,213	12,213	11,570	11,570	11,570	11,313	11,313	11,313	11,056	11,056	11,056	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799
EOY Increase (+)/Decrease in Bank		-170	-234	1,024	771	745	920	879	146	128	53	-69	-310	-573	-410	-377	-521	-731	-778	-906	-745	35	-121	64	-458	-512	-471	-706	-818	-843	-1,022
ALLOWANCE BANK																															
Total KU/LGE Allowance Bank (End of Year)		6,557	6,323	7,347	8,118	8,863	9,783	10,662	10,808	10,936	10,989	10,920	10,610	10,037	9,627	9,249	8,728	7,997	7,219	6,313	5,568	5,602	5,482	5,546	5,088	4,576	4,105	3,398	2,581	1,738	716

Case05- Option 05: BR3 SCR 2009

OZONE SEASON NO_x SUMMARY BY YEAR

NOx EMISS RATE (#/MBTU)	Ownership	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.469	0.470	0.470	0.470
Brown 2	KU	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Brown 3	KU	0.290	0.290	0.290	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044
Ghent 1	KU	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.037	0.037	0.037	0.038	0.038	0.037	0.038	0.037	0.037	0.038	0.037	0.037
Ghent 2	KU	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270
Ghent 3	KU	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
Ghent 4	KU	0.037	0.036	0.037	0.037	0.037	0.037	0.036	0.036	0.037	0.036	0.036	0.036	0.036	0.037	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.037	0.036	0.036	0.036	0.036	0.036	0.037	0.036	0.036
Green River 3	KU	0.400	0.400	0.400	0.400	0.400	0.401	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.396	0.399	0.399	0.399	0.398	0.402	0.399	0.399	0.400
Green River 4	KU	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.402	0.400	0.399	0.400	0.400	0.400	0.400	0.400	0.400
Tyrone 3	KU	0.380	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.380	0.380	0.380	0.381	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.382	0.381	0.380	0.380	0.380	0.381	0.381	0.381	0.380
Cane Run 4	LGE	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Cane Run 5	LGE	0.429	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430
Cane Run 6	LGE	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Mill Creek 1	LGE	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 2	LGE	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 3	LGE	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.045	0.045	0.045	0.045	0.046	0.046	0.046	0.045	0.045	0.045	0.045	0.046	0.046	0.045	0.046	0.045	0.045	0.046	0.046	0.045	0.046	0.045
Mill Creek 4	LGE	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037
Trimble County 1	LGE	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036
Trimble County 1	KU	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
Trimble County 2	LGE	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
GFCU 1	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 1	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
Peakers	KU	0.079	0.078	0.075	0.075	0.075	0.076	0.076	0.076	0.076	0.076	0.076	0.075	0.074	0.075	0.075	0.075	0.075	0.076	0.075	0.075	0.073	0.072	0.072	0.073	0.073	0.074	0.074	0.074	0.074	0.074
Peakers	LGE	0.075	0.074	0.072	0.072	0.071	0.070	0.072	0.071	0.076	0.076	0.074	0.073	0.073	0.071	0.072	0.072	0.073	0.074	0.073	0.071	0.068	0.068	0.068	0.068	0.068	0.068	0.070	0.069	0.069	0.069
SCRUBBER REMOVAL EFF.																															
Brown 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tyrone 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 5		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 6		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TONS NOx EMITTED		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	528	487	502	577	569	532	563	543	552	553	501	543	545	492	477	503	500	502	511	475	403	407	411	415	414	420	423	428	434	432
Brown 2	KU	702	732	735	689	685	639	686	660	682	598	651	619	623	580	567	601	552	597	562	531	468	440	419	443	490	483	499	512	479	533
Brown 3	KU	1,441	1,759	1,648	312	284	317	323	308	315	328	325	322	326	309	303	316	290	321	305	308	300	299	291	308	307	287	307	310	310	309
Ghent 1	KU	313	309	313	318	310	308	308	310	307	308	309	310	309	306	307	306	308	307	306	303	295	302	305	304	304	302	305	295	298	302
Ghent 2	KU	1,754	1,630	1,756	2,068	1,907	1,784	1,671	1,882	1,609	1,757	1,736	1,840	1,945	1,650	1,757	1,545	1,653	1,715	1,539	1,592	1,336	1,521	1,321	1,579	1,577	1,482	1,585	1,560	1,543	1,435
Ghent 3	KU	283	299	299	297	292	289	290	287	290	292	294	292	291	285	281	280	282	279	282	272	267	266	271	271	272	272	271	274	272	275
Ghent 4	KU	288	288	281	296	291	289	290	289	290	290	290	291	291	288	284	286	286	285	288	281	280	281	280	284	272	283	284	284	285	282
Green River 3	KU	289	303	285	276	205	121	143	127	137	101	91	94	95	77	90	89	73	79	80	70	5	23	14	19	32	22	34	55	61	60
Green River 4	KU	441	503	481	495	371	246	252	238	214	144	125	130	128	104	113	108	109	106	101	99	17	28	45	43	61	51	71	81	90	85
Tyrone 3	KU	235	293	248	293	279	240	253	236	218	204	176	185	174	140	125	129	105	100	114	89	64	67	72	76	75	84	101	95	102	105
Cane Run 4	LGE	711	663	665	701	673	610	670	639	676	675	691	654	651	600	632	628	619	588	622	581	555	555	556	550	564	569	574	605	593	626
Cane Run 5	LGE	736	781	916	849	805	782	819	729	826	853	858	777	822	786	733	769	788	751	794	723	656	643	690	715	719	718	725	747	724	774
Cane Run 6	LGE	1,204	1,207	1,112	1,024	868	997	1,050	993	1,036	1,034	925	1,058	1,086	983	935	970	911	861	989	861	865	848	878	879	854	873	879	890	910	947
Mill Creek 1	LGE	1,272	1,330	1,401	1,338	1,224	1,326	1,143	1,295	1,315	1,315	1,278	1,336	1,355	1,292	1,112	1,267	1,273	1,270	1,284	1,223	1,177	1,192	1,039	1,221	1,206	1,210	1,226	1,189	1,237	1,261
Mill Creek 2	LGE	1,456	1,193	1,342	1,164	1,304	1,282	1,298	1,272	1,294	1,277	1,310	1,311	1,336	1,202	1,200	1,213	1,200	1,177	1,235	1,069	1,114	1,076	1,126	1,162	1,143	1,143	1,150	1,176	1,153	1,213
Mill Creek 3	LGE	295	297	296	292	291	289	289	289	289	288	290	288	291	287	284	284	286	286	286	281	284	280	284	278	283	283	282	283	285	282
Mill Creek 4	LGE	293	294	293	291	287	285	286	283	286	284	288	287	290	283	279	279	282	279	282	274	271	270	273	275	273	277	275	277	277	280
Trimble County 1	LGE	245	245	245	237	244	244	244	245	244	243	246	243	245	242	243	241	241	243	242	238	239	238	239	239	238	239	239	239	240	240
Trimble County 2	KU	0	0	0	0	218	273	273	272	273	274	274	274	274	273	273	273	273	274	274	271	273	272	272	272	273	274	272	274	274	274
Trimble County 2	LGE	0	0	0	0	51	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
GFCU 1	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	393	491	487	491	495	500	486	483	485	491	488	489	495	492	498	499	501
GFCU 1	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	221	276	274	276	279	281	273	272	273	276	274	275	278	277	280	281	282
GFCU 2	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	371	469	468	473	472	475	475	479	481	482	484
GFCU 2	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	228	287	287	290	289	291	291	293	295	296	297
Peakers	KU	91	152	176	212	211	263	289	319	355	433	451	478	505	418	417	458	459	496	512	403	219	229	242	233	247	270	276	285	314	334
Peakers	LGE	43	70	82	100	99	115	131	145	170	203	209	225	240	191	209	209	223	235	180	101	107	112	106	113	122	126	130	140	154
NOx EMISSIONS (TONS)																															
Total		12,617	12,833	13,076	11,829	11,468	11,293	11,334	11,424	11,442	11,518	11,382	11,623	11,886	11,466	11,433	11,577	11,530	11,577	11,705	11,544	10,764	10,920	10,735	11,257	11,311	11,270	11,505	11,617	11,642	11,821
ALLOWANCES																															
KU EPA Allocated NOx Allowances		6,764	6,607	6,607	6,607	6,405	6,405	6,405	6,068	6,068	6,068	5,933	5,933	5,933	5,798	5,798	5,798	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663
LGE EPA Allocated NOx Allowances		5,683	5,992	5,992	5,992	5,808	5,808	5,808	5,502	5,502	5,502	5,380	5,380	5,380	5,258	5,258	5,258	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136
Total KU/LGE EPA Allocated NOx Allowances		12,447	12,599	12,599	12,599	12,213	12,213	12,213	11,570	11,570	11,570	11,313	11,313	11,313	11,056	11,056	11,056	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799
KU's Portion of OMU Surplus/Shortfall		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined Company Purchases		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	784
TOTAL KU/LGE ALLOWANCES		12,447	12,599	12,599	12,599	12,213	12,213	12,213	11,570	11,570	11,570	11,313	11,313	11,313	11,056	11,056	11,056	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	11,583
EOY Increase (+)/Decrease in Bank		-170	-234	-477	771	745	920	879	146	128	53	-69	-310	-573	-410	-377	-521	-731	-778	-906	-745	35	-121	64	-458	-512	-471	-706	-818	-843	-237
ALLOWANCE BANK																															
Total KU/LGE Allowance Bank (End of Year)		6,557	6,323	5,847	6,617	7,362	8,282	9,161	9,307	9,435	9,488	9,419	9,110	8,536	8,126	7,749	7,227	6,497	5,719	4,812	4,067	4,102	3,981	4,045	3,587	3,075	2,604	1,898	1,080	237	-

Case06- Option 06: BR3 SCR 2010

OZONE SEASON NO_x SUMMARY BY YEAR

NOx EMISS RATE (#/MBTU)	Ownership	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.469	0.470	0.470	0.470
Brown 2	KU	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Brown 3	KU	0.290	0.290	0.290	0.290	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044
Ghent 1	KU	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.037	0.037	0.037	0.038	0.038	0.037	0.038	0.037	0.037	0.038	0.037	0.037
Ghent 2	KU	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270	0.270
Ghent 3	KU	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
Ghent 4	KU	0.037	0.036	0.037	0.037	0.037	0.037	0.036	0.036	0.037	0.036	0.036	0.036	0.036	0.037	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.037	0.036	0.036
Green River 3	KU	0.400	0.400	0.400	0.400	0.400	0.401	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.396	0.399	0.399	0.399	0.398	0.402	0.399	0.399	0.400	0.400
Green River 4	KU	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.402	0.400	0.399	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Tyrone 3	KU	0.380	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.380	0.380	0.380	0.381	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.382	0.381	0.380	0.380	0.380	0.381	0.381	0.381	0.380
Cane Run 4	LGE	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Cane Run 5	LGE	0.429	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430
Cane Run 6	LGE	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Mill Creek 1	LGE	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 2	LGE	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 3	LGE	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.045	0.045	0.045	0.046	0.046	0.046	0.046	0.045	0.045	0.045	0.045	0.045	0.046	0.045	0.045	0.045	0.045	0.046	0.046	0.045	0.046	0.045
Mill Creek 4	LGE	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037
Trimble County 1	LGE	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036
Trimble County 2	KU	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
Trimble County 2	LGE	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
GFCU 1	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 1	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
Peakers	KU	0.079	0.078	0.075	0.075	0.075	0.076	0.076	0.076	0.076	0.076	0.076	0.075	0.074	0.075	0.075	0.075	0.075	0.076	0.075	0.075	0.073	0.072	0.072	0.073	0.074	0.074	0.074	0.074	0.074	0.074
Peakers	LGE	0.075	0.074	0.072	0.072	0.071	0.070	0.072	0.071	0.076	0.076	0.074	0.073	0.073	0.071	0.072	0.072	0.073	0.074	0.073	0.071	0.068	0.068	0.068	0.068	0.068	0.068	0.070	0.069	0.069	0.069
SCRUBBER REMOVAL EFF.																															
Brown 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tyrone 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 5		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 6		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TONS NOx EMITTED		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	528	487	502	581	569	532	563	543	552	553	501	543	545	492	477	503	500	502	511	475	403	407	411	415	414	420	423	428	434	432
Brown 2	KU	702	732	735	729	685	639	686	660	682	598	651	619	623	580	567	601	552	597	562	531	468	440	419	443	490	483	499	512	479	533
Brown 3	KU	1,441	1,759	1,648	1,859	284	317	323	308	316	328	325	322	326	309	303	316	299	322	321	308	300	299	291	308	307	287	307	310	310	300
Ghent 1	KU	313	309	313	319	310	308	308	310	307	308	309	310	309	306	307	306	308	307	306	303	295	302	305	304	304	302	302	305	298	302
Ghent 2	KU	1,754	1,630	1,756	2,087	1,907	1,784	1,671	1,882	1,609	1,757	1,736	1,840	1,945	1,650	1,757	1,545	1,653	1,715	1,539	1,592	1,336	1,521	1,321	1,579	1,577	1,482	1,585	1,560	1,543	1,435
Ghent 3	KU	283	299	299	298	292	289	290	287	290	292	294	292	291	285	281	280	282	279	282	272	267	266	271	271	272	272	271	274	272	275
Ghent 4	KU	288	288	281	294	291	289	290	289	290	290	290	291	291	288	284	286	286	285	288	281	280	281	280	284	272	283	284	284	285	282
Green River 3	KU	289	303	285	276	205	121	143	127	137	101	91	94	95	77	90	89	73	79	80	70	5	23	14	19	32	22	34	55	61	60
Green River 4	KU	441	503	481	491	371	246	252	238	214	144	125	130	128	104	113	108	109	106	101	99	17	28	45	43	61	51	71	81	90	85
Tyrone 3	KU	235	293	248	292	279	240	253	238	218	204	176	185	174	140	125	129	106	100	114	89	64	67	72	76	75	84	101	95	102	105
Cane Run 4	LGE	711	663	665	711	673	610	670	639	676	675	691	654	651	600	632	628	619	588	622	581	555	555	556	550	564	569	574	605	593	626
Cane Run 5	LGE	736	781	916	858	805	782	819	729	826	853	858	777	822	786	733	769	788	751	794	723	656	643	690	715	719	718	725	747	724	774
Cane Run 6	LGE	1,204	1,207	1,112	1,062	868	997	1,050	993	1,036	1,034	925	1,058	1,086	983	935	970	911	861	989	861	865	848	878	879	854	873	879	899	910	947
Mill Creek 1	LGE	1,272	1,330	1,401	1,352	1,224	1,326	1,143	1,295	1,315	1,315	1,278	1,336	1,355	1,292	1,112	1,267	1,273	1,270	1,284	1,223	1,177	1,192	1,039	1,221	1,206	1,210	1,226	1,189	1,237	1,261
Mill Creek 2	LGE	1,456	1,193	1,342	1,192	1,304	1,282	1,298	1,272	1,294	1,277	1,310	1,311	1,338	1,202	1,200	1,213	1,200	1,177	1,235	1,069	1,114	1,076	1,128	1,162	1,143	1,143	1,150	1,176	1,153	1,213
Mill Creek 3	LGE	295	297	296	292	291	289	289	289	289	288	290	288	291	287	284	284	286	286	286	281	284	280	284	278	283	283	282	283	285	282
Mill Creek 4	LGE	293	294	293	291	287	285	286	283	286	284	288	287	290	283	279	279	282	279	282	274	271	270	273	275	273	277	275	277	277	280
Trimble County 1	LGE	245	245	245	237	244	244	244	245	244	243	246	243	245	242	243	241	241	243	242	238	239	238	239	239	238	239	239	239	240	240
Trimble County 2	KU	0	0	0	0	218	273	273	272	273	274	274	274	274	273	273	273	273	274	274	271	273	272	273	272	273	274	272	274	274	274
Trimble County 2	LGE	0	0	0	0	51	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
GFCU 1	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	393	491	487	491	495	500	486	483	485	491	488	489	495	492	498	499	501
GFCU 1	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	221	276	274	276	279	281	273	272	273	276	274	275	278	277	280	281	282
GFCU 2	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	371	469	468	473	472	475	475	479	481	482	484
GFCU 2	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	228	287	287	290	289	291	291	293	295	296	297
Peakers	KU-	91	152	176	212	211	263	289	319	355	433	451	478	505	418	417	458	459	496	512	403	219	229	242	233	247	270	276	285	314	334
Peakers	LGE	43	70	82	100	99	115	131	145	170	203	209	225	240	191	191	209	209	223	235	180	101	107	112	106	113	122	126	130	140	154
NOx EMISSIONS (TONS)																															
Total		12,617	12,833	13,076	13,533	11,468	11,293	11,334	11,424	11,442	11,516	11,382	11,623	11,886	11,466	11,433	11,577	11,530	11,577	11,705	11,544	10,764	10,920	10,735	11,257	11,311	11,270	11,505	11,617	11,642	11,821
ALLOWANCES																															
KU EPA Allocated NOx Allowances		6,764	6,607	6,607	6,607	6,405	6,405	6,405	6,068	6,068	6,068	5,933	5,933	5,933	5,798	5,798	5,798	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663
LGE EPA Allocated NOx Allowances		5,683	5,992	5,992	5,992	5,808	5,808	5,808	5,502	5,502	5,502	5,380	5,380	5,380	5,258	5,258	5,258	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136
Total KU/LGE EPA Allocated NOx Allowances		12,447	12,599	12,599	12,599	12,213	12,213	12,213	11,570	11,570	11,570	11,313	11,313	11,313	11,056	11,056	11,056	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799
KU's Portion of OMU Surplus/Shortfall		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined Company Purchases		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	624	843	1,022
TOTAL KU/LGE ALLOWANCES		12,447	12,599	12,599	12,599	12,213	12,213	12,213	11,570	11,570	11,570	11,313	11,313	11,313	11,056	11,056	11,056	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	11,423	11,642	11,821
EOY Increase (+)/Decrease in Bank		-170	-234	-477	-934	745	920	879	146	128	53	-69	-310	-573	-410	-377	-521	-731	-778	-906	-745	35	-121	64	-458	-512	-471	-706	-193	0	0
ALLOWANCE BANK																															
Total KU/LGE Allowance Bank (End of Year)		6,557	6,323	5,847	4,913	5,657	6,578	7,456	7,603	7,731	7,783	7,715	7,405	6,832	6,421	6,044	5,523	4,792	4,014	3,107	2,363	2,397	2,277	2,341	1,883	1,370	899	193	-	-	-

Case07- Option 0207: GH2 SCR 2009, BR3 SCR 2014

OZONE SEASON NO_x SUMMARY BY YEAR

NOx EMISS RATE (#/MBTU)	Ownership	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470
Brown 2	KU	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Brown 3	KU	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044
Ghent 1	KU	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.038	0.037	0.037
Ghent 2	KU	0.270	0.270	0.270	0.039	0.040	0.040	0.039	0.040	0.040	0.039	0.040	0.040	0.039	0.040	0.041	0.040	0.039	0.039	0.039	0.040	0.040	0.040	0.040	0.039	0.039	0.039	0.039	0.039	0.039	0.039
Ghent 3	KU	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
Ghent 4	KU	0.037	0.036	0.037	0.037	0.037	0.037	0.036	0.037	0.037	0.037	0.037	0.037	0.036	0.037	0.037	0.037	0.036	0.036	0.036	0.037	0.037	0.037	0.037	0.037	0.036	0.036	0.036	0.037	0.036	0.036
Green River 3	KU	0.400	0.400	0.400	0.400	0.400	0.401	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.396	0.399	0.400	0.399	0.398	0.402	0.399	0.399	0.400	0.399
Green River 4	KU	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.402	0.400	0.399	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Tyrone 3	KU	0.380	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.380	0.380	0.381	0.381	0.381	0.381	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.382	0.382	0.380	0.380	0.380	0.381	0.380
Cane Run 4	LGE	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Cane Run 5	LGE	0.429	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430
Cane Run 6	LGE	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Mill Creek 1	LGE	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 2	LGE	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 3	LGE	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.045	0.045	0.046	0.046	0.046	0.046	0.046	0.045	0.045	0.046	0.045	0.046	0.046	0.045	0.046	0.045	0.045	0.046	0.046	0.045	0.046	0.045
Mill Creek 4	LGE	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037
Trimble County 1	LGE	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036
Trimble County 2	KU	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
Trimble County 2	LGE	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
GFCU 1	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 1	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
Peakers	KU	0.079	0.078	0.075	0.075	0.075	0.076	0.076	0.076	0.076	0.076	0.076	0.075	0.074	0.075	0.075	0.075	0.075	0.076	0.075	0.075	0.073	0.072	0.073	0.074	0.074	0.074	0.074	0.074	0.074	0.074
Peakers	LGE	0.075	0.074	0.072	0.072	0.071	0.070	0.072	0.071	0.076	0.075	0.074	0.073	0.073	0.071	0.072	0.072	0.073	0.074	0.073	0.071	0.068	0.068	0.068	0.068	0.068	0.068	0.069	0.069	0.068	0.069
SCRUBBER REMOVAL EFF.																															
Brown 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tyrone 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 5		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 6		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TONS NOx EMITTED		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	528	487	502	582	574	537	568	547	552	553	502	543	545	492	477	502	500	503	512	476	403	407	412	416	414	420	424	428	435	432
Brown 2	KU	702	732	735	729	727	687	736	711	682	598	651	620	624	580	567	597	547	593	561	526	466	435	416	437	485	480	494	507	475	531
Brown 3	KU	1,441	1,759	1,648	1,859	1,657	1,816	1,884	1,762	314	324	323	321	324	308	300	309	282	314	313	298	289	286	279	296	295	275	295	299	299	293
Ghent 1	KU	313	309	313	318	311	308	309	310	306	307	308	310	309	306	305	305	306	305	303	300	289	296	297	298	296	297	297	301	293	298
Ghent 2	KU	1,754	1,630	1,756	307	300	284	260	302	259	280	271	287	296	277	304	269	281	297	258	300	263	297	295	296	293	273	293	276	279	248
Ghent 3	KU	283	299	299	296	290	287	290	287	287	288	291	290	291	290	288	281	276	276	277	273	277	265	260	259	263	263	264	265	263	267	264	270
Ghent 4	KU	286	288	281	294	290	288	290	288	291	289	290	291	290	288	284	285	283	282	286	279	278	279	278	282	270	280	281	282	281	280
Green River 3	KU	289	303	285	276	211	121	143	127	137	101	91	92	95	77	90	69	71	79	80	70	5	23	18	19	32	22	34	50	65	55
Green River 4	KU	441	503	481	495	370	246	252	238	212	144	120	130	128	104	113	108	112	106	102	99	17	28	45	43	61	51	71	75	90	84
Tyrone 3	KU	235	293	248	292	279	240	253	237	218	204	176	185	175	140	125	129	106	99	114	89	64	67	75	76	77	86	101	96	102	105
Cane Run 4	LGE	711	663	665	711	673	611	671	639	676	675	691	654	651	600	630	628	619	588	622	581	555	555	557	550	563	569	574	605	593	626
Cane Run 5	LGE	736	781	916	858	806	783	819	729	826	852	858	778	823	787	736	769	788	751	794	723	656	642	690	716	718	718	725	747	725	774
Cane Run 6	LGE	1,204	1,207	1,112	1,061	880	1,009	1,062	1,002	1,037	1,035	925	1,059	1,087	983	935	970	911	861	990	861	646	678	679	653	872	873	872	890	910	948
Mill Creek 1	LGE	1,272	1,330	1,401	1,346	1,239	1,343	1,159	1,322	1,314	1,313	1,277	1,334	1,349	1,286	1,105	1,260	1,266	1,261	1,278	1,215	1,170	1,181	1,033	1,212	1,195	1,203	1,217	1,178	1,224	1,252
Mill Creek 2	LGE	1,456	1,193	1,342	1,192	1,338	1,320	1,330	1,301	1,294	1,277	1,310	1,311	1,338	1,202	1,200	1,213	1,202	1,188	1,235	1,070	1,115	1,076	1,128	1,161	1,142	1,144	1,149	1,176	1,153	1,213
Mill Creek 3	LGE	295	297	296	292	289	289	289	288	288	287	289	287	291	285	282	283	285	285	285	279	282	277	282	276	282	281	282	282	284	281
Mill Creek 4	LGE	293	294	293	290	285	285	287	283	284	283	286	285	288	280	276	276	279	276	280	271	268	266	270	271	270	274	272	275	274	278
Trimble County 1	LGE	245	245	245	237	242	241	241	240	241	241	243	241	243	238	238	237	239	240	240	235	234	233	236	236	235	237	237	237	238	238
Trimble County 2	KU	0	0	0	0	217	272	273	271	271	272	272	272	273	272	270	271	272	272	273	270	272	270	272	271	272	273	271	274	274	274
Trimble County 2	LGE	0	0	0	0	51	64	64	64	64	64	64	64	64	64	63	64	64	64	64	63	64	63	64	64	64	64	64	64	64	64
GFCU 1	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	386	481	479	483	487	494	476	475	475	484	479	461	488	485	492	493	496
GFCU 1	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	217	271	269	272	274	278	268	267	267	272	269	270	274	273	277	278	279
GFCU 2	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	361	460	459	466	464	467	468	470	475	476	480
GFCU 2	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	221	282	281	286	284	286	287	288	292	292	294
Peakers	KU	91	152	176	213	211	263	289	319	356	432	451	479	506	419	418	458	460	496	512	402	219	229	242	234	247	270	276	287	314	336
Peakers	LGE	43	70	82	101	99	115	131	145	170	203	210	225	240	191	191	209	209	224	235	180	102	107	112	106	113	122	126	131	140	154
NOx EMISSIONS (TONS)																															
Total		12,617	12,833	13,076	11,746	11,338	11,408	11,597	11,411	10,077	10,019	9,896	10,057	10,224	10,060	9,938	10,255	10,113	10,117	10,384	10,178	9,616	9,606	9,608	9,897	9,946	9,994	10,131	10,264	10,317	10,582
ALLOWANCES																															
KU EPA Allocated NOx Allowances		6,764	6,607	6,607	6,607	6,405	6,405	6,405	6,068	6,068	6,068	5,933	5,933	5,933	5,798	5,798	5,798	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663
LGE EPA Allocated NOx Allowances		5,683	5,992	5,992	5,992	5,808	5,808	5,808	5,502	5,502	5,502	5,380	5,380	5,380	5,256	5,256	5,256	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136
Total KU/LGE EPA Allocated NOx Allowances		12,447	12,599	12,599	12,599	12,213	12,213	12,213	11,570	11,570	11,570	11,313	11,313	11,313	11,056	11,056	11,056	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799
KU's Portion of OMU Surplus/Shortfall		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined Company Purchases		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL KU/LGE ALLOWANCES		12,447	12,599	12,599	12,599	12,213	12,213	12,213	11,570	11,570	11,570	11,313	11,313	11,313	11,056	11,056	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799
EOY Increase (+)/Decrease in Bank		-170	-234	-477	853	875	805	617	159	1,493	1,551	1,417	1,257	1,089	996	1,118	801	686	682	415	621	1,184	1,193	1,192	902	853	805	668	535	482	217
ALLOWANCE BANK																															
Total KU/LGE Allowance Bank (End of Year)		6,657	6,323	5,847	6,699	7,575	8,380	8,997	9,155	10,649	12,199	13,616	14,873	15,962	16,958	18,076	18,876	19,562	20,244	20,659	21,280	22,464	23,657	24,848	25,751	26,604	27,409	28,077	28,612	29,094	29,311

Case08- Option 0208: GH2 SCR 2009, BR3 SCR 2015

OZONE SEASON NO_x SUMMARY BY YEAR

NOx EMISS RATE (#/MBTU)	Ownership	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470
Brown 2	KU	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Brown 3	KU	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044
Ghent 1	KU	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.038	0.037	0.037
Ghent 2	KU	0.270	0.270	0.270	0.039	0.040	0.040	0.039	0.040	0.040	0.039	0.040	0.040	0.039	0.040	0.041	0.040	0.039	0.039	0.039	0.040	0.040	0.040	0.040	0.039	0.039	0.039	0.039	0.039	0.039	0.039
Ghent 3	KU	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
Ghent 4	KU	0.037	0.036	0.037	0.037	0.037	0.037	0.036	0.037	0.037	0.037	0.037	0.037	0.036	0.037	0.037	0.037	0.036	0.036	0.036	0.037	0.037	0.037	0.037	0.037	0.036	0.036	0.036	0.037	0.036	0.036
Green River 3	KU	0.400	0.400	0.400	0.400	0.400	0.401	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.396	0.399	0.400	0.399	0.398	0.402	0.399	0.399	0.400	0.399
Green River 4	KU	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.402	0.400	0.399	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Tyrone 3	KU	0.380	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.380	0.381	0.381	0.381	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.382	0.382	0.380	0.380	0.380	0.381	0.381	0.381	0.380
Cane Run 4	LGE	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Cane Run 5	LGE	0.429	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430
Cane Run 6	LGE	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Mill Creek 1	LGE	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 2	LGE	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 3	LGE	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.045	0.045	0.046	0.046	0.046	0.046	0.046	0.045	0.045	0.045	0.045	0.046	0.045	0.045	0.046	0.045	0.045	0.046	0.045	0.046	0.045	0.045
Mill Creek 4	LGE	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037
Trimble County 1	LGE	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.035	0.036	0.036
Trimble County 2	KU	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
Trimble County 2	LGE	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
GFCU 1	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 1	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
Peakers	KU	0.079	0.078	0.075	0.075	0.075	0.076	0.076	0.076	0.076	0.076	0.076	0.075	0.074	0.075	0.075	0.075	0.075	0.076	0.075	0.075	0.073	0.072	0.072	0.073	0.073	0.073	0.074	0.074	0.074	0.074
Peakers	LGE	0.075	0.074	0.072	0.072	0.071	0.070	0.072	0.071	0.076	0.075	0.074	0.073	0.073	0.071	0.072	0.072	0.073	0.074	0.073	0.071	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.069	0.069	0.068
SCRUBBER REMOVAL EFF.																															
Brown 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tyrone 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 5		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 6		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TONS NOx EMITTED		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	528	487	502	582	574	537	568	547	556	553	502	543	545	492	477	502	500	503	512	476	403	407	412	416	414	420	424	428	435	432
Brown 2	KU	702	732	735	729	727	687	736	711	737	598	651	620	624	580	567	597	547	593	561	526	466	435	416	437	485	480	494	507	475	531
Brown 3	KU	1,441	1,759	1,648	1,859	1,657	1,816	1,864	1,762	1,816	324	323	321	324	308	300	309	282	314	313	296	289	285	279	296	295	275	295	299	299	293
Ghent 1	KU	313	309	313	318	311	306	309	310	308	307	308	310	309	306	305	305	306	305	303	300	296	297	298	298	297	297	301	293	298	
Ghent 2	KU	1,754	1,630	1,756	307	300	284	260	302	255	280	271	287	296	277	304	269	281	297	258	300	263	297	255	296	293	273	293	278	279	248
Ghent 3	KU	283	299	299	296	290	287	290	287	289	288	291	290	288	281	276	276	277	273	277	255	260	259	263	263	264	265	263	267	264	270
Ghent 4	KU	288	288	281	294	290	288	290	288	291	289	290	291	290	288	284	285	283	282	286	279	278	279	278	282	270	280	281	282	281	280
Green River 3	KU	289	303	285	276	211	121	143	127	132	101	91	92	95	77	90	89	71	79	80	70	5	23	18	19	32	22	34	50	65	55
Green River 4	KU	441	503	481	495	370	246	252	238	209	144	120	130	128	104	113	108	112	106	102	99	17	28	45	43	61	51	71	75	90	84
Tyrone 3	KU	235	293	248	292	279	240	253	237	218	204	176	185	175	140	125	129	106	99	114	89	64	67	75	76	77	86	101	96	102	105
Cane Run 4	LGE	711	663	665	711	673	611	671	639	676	675	691	654	651	600	630	628	619	588	622	581	555	555	557	550	563	569	574	605	593	626
Cane Run 5	LGE	736	791	916	858	806	783	819	729	825	852	858	778	823	787	735	769	788	751	794	723	566	542	690	716	718	718	725	747	725	774
Cane Run 6	LGE	1,204	1,207	1,112	1,061	880	1,009	1,062	1,002	1,045	1,035	925	1,059	1,087	983	935	970	911	861	990	861	865	846	878	879	853	873	872	890	910	948
Mill Creek 1	LGE	1,272	1,330	1,401	1,346	1,239	1,343	1,159	1,322	1,345	1,313	1,277	1,334	1,349	1,286	1,105	1,260	1,266	1,251	1,278	1,215	1,170	1,181	1,033	1,212	1,195	1,203	1,217	1,178	1,224	1,252
Mill Creek 2	LGE	1,456	1,193	1,342	1,192	1,338	1,320	1,330	1,301	1,320	1,277	1,310	1,311	1,338	1,202	1,200	1,213	1,202	1,188	1,235	1,070	1,115	1,076	1,128	1,161	1,142	1,144	1,149	1,176	1,153	1,213
Mill Creek 3	LGE	295	297	296	292	289	289	289	288	289	287	289	287	291	285	282	283	285	285	285	279	282	277	282	276	282	281	282	282	284	281
Mill Creek 4	LGE	293	294	293	290	285	285	287	283	286	283	286	285	288	280	276	276	279	276	280	271	268	266	270	271	270	274	272	275	274	278
Trimble County 1	LGE	245	245	245	237	242	241	241	240	241	241	243	241	243	238	238	237	239	240	240	235	234	233	236	236	235	237	237	237	238	238
Trimble County 2	KU	0	0	0	0	217	272	273	271	272	272	272	272	273	272	270	271	272	272	273	270	272	270	272	271	272	273	271	274	274	274
Trimble County 2	LGE	0	0	0	0	51	64	64	64	64	64	64	64	64	64	63	64	64	64	64	63	44	63	64	64	64	64	64	64	64	64
GFCU 1	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	386	481	479	483	487	494	476	475	475	484	479	481	488	485	492	493	496
GFCU 1	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	217	271	269	272	274	278	268	267	267	272	269	270	274	273	277	278	279
GFCU 2	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	361	460	459	466	464	467	468	470	475	476	480
GFCU 2	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	221	282	281	286	284	286	287	288	292	292	294
Peakers	KU	91	152	176	213	211	263	289	319	355	432	451	479	506	419	418	458	460	496	512	402	219	229	242	234	247	270	276	287	314	336
Peakers	LGE	43	70	82	101	99	115	131	145	170	203	210	225	240	191	191	209	209	224	235	180	102	107	112	106	113	122	126	131	140	154
NOx EMISSIONS (TONS)																															
Total		12,617	12,833	13,076	11,746	11,338	11,408	11,597	11,411	11,699	10,019	9,896	10,057	10,224	10,060	9,938	10,255	10,113	10,117	10,384	10,178	9,816	9,606	9,668	9,697	9,946	9,994	10,131	10,264	10,317	10,582
ALLOWANCES																															
KU EPA Allocated NOx Allowances		6,764	6,607	6,607	6,607	6,405	6,405	6,405	6,068	6,068	6,068	5,933	5,933	5,933	5,798	5,798	5,798	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663
LGE EPA Allocated NOx Allowances		5,683	5,992	5,992	5,992	5,808	5,808	5,808	5,502	5,502	5,502	5,380	5,380	5,380	5,258	5,258	5,258	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136
Total KU/LGE EPA Allocated NOx Allowances		12,447	12,599	12,599	12,599	12,213	12,213	12,213	11,570	11,570	11,570	11,313	11,313	11,313	11,056	11,056	11,056	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799
KU's Portion of OMU Surplus/Shortfall		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined Company Purchases		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL KU/LGE ALLOWANCES		12,447	12,599	12,599	12,599	12,213	12,213	12,213	11,570	11,570	11,570	11,313	11,313	11,313	11,056	11,056	11,056	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799
EOY Increase (+)/Decrease in Bank		-170	-234	-477	853	875	805	617	159	-129	1,551	1,417	1,257	1,089	996	1,118	801	686	682	415	621	1,184	1,193	1,192	902	853	805	668	535	482	217
ALLOWANCE BANK																															
Total KU/LGE Allowance Bank (End of Year)		6,557	6,323	5,847	6,699	7,575	8,380	8,997	9,155	9,027	10,578	11,994	13,251	14,340	15,336	16,454	17,255	17,940	18,622	19,037	19,658	20,842	22,035	23,226	24,129	24,982	25,787	26,455	26,990	27,472	27,689

Case09- Option 0209: GH2 SCR 2009, BR3 SCR 2016

OZONE SEASON NO_x SUMMARY BY YEAR

NOx EMISS RATE (#/MBTU)	Ownership	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470
Brown 2	KU	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Brown 3	KU	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044
Ghent 1	KU	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.038	0.037	0.037
Ghent 2	KU	0.270	0.270	0.270	0.039	0.040	0.040	0.039	0.040	0.040	0.039	0.040	0.040	0.039	0.040	0.041	0.040	0.039	0.039	0.039	0.040	0.040	0.040	0.040	0.039	0.039	0.039	0.039	0.039	0.039	0.039
Ghent 3	KU	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
Ghent 4	KU	0.037	0.036	0.037	0.037	0.037	0.036	0.037	0.037	0.037	0.036	0.037	0.037	0.036	0.037	0.037	0.037	0.036	0.036	0.036	0.037	0.037	0.037	0.037	0.037	0.036	0.036	0.036	0.037	0.036	0.036
Green River 3	KU	0.400	0.400	0.400	0.400	0.400	0.401	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.396	0.399	0.400	0.399	0.398	0.402	0.399	0.399	0.400	0.399
Green River 4	KU	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.402	0.400	0.399	0.400	0.400	0.400	0.400	0.400	0.400
Tyrone 3	KU	0.380	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.380	0.381	0.381	0.381	0.380	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.382	0.382	0.380	0.380	0.381	0.381	0.381	0.380
Cane Run 4	LGE	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Cane Run 5	LGE	0.429	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430
Cane Run 6	LGE	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Mill Creek 1	LGE	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 2	LGE	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 3	LGE	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.045	0.045	0.046	0.046	0.046	0.046	0.046	0.045	0.045	0.046	0.045	0.046	0.046	0.045	0.046	0.045	0.045	0.046	0.046	0.045	0.046	0.045
Mill Creek 4	LGE	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037
Trimble County 1	LGE	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.035	0.036	0.036
Trimble County 2	KU	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
Trimble County 2	LGE	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
GFCU 1	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 1	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
Peakers	KU	0.079	0.078	0.075	0.075	0.075	0.076	0.076	0.076	0.076	0.076	0.076	0.075	0.074	0.075	0.075	0.075	0.075	0.076	0.075	0.075	0.073	0.072	0.072	0.073	0.074	0.073	0.074	0.074	0.074	0.074
Peakers	LGE	0.075	0.074	0.072	0.072	0.071	0.070	0.072	0.071	0.076	0.076	0.074	0.073	0.073	0.071	0.072	0.072	0.073	0.074	0.073	0.071	0.068	0.068	0.068	0.068	0.068	0.068	0.069	0.069	0.068	0.069
SCRUBBER REMOVAL EFF.																															
Brown 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tyrone 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 5		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 6		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

TONS NOx EMITTED	Ownership	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	528	487	502	582	574	537	568	547	556	554	502	543	545	492	477	502	500	503	512	476	403	407	412	416	414	420	424	428	435	432
Brown 2	KU	702	732	735	729	727	687	736	711	737	661	651	620	624	580	567	597	547	593	561	526	466	435	416	437	485	460	494	507	475	531
Brown 3	KU	1,441	1,759	1,648	1,859	1,657	1,816	1,884	1,762	1,816	1,878	323	321	324	308	300	309	282	314	313	298	289	286	279	296	295	275	295	299	293	293
Ghent 1	KU	313	309	313	318	311	308	309	310	308	309	308	310	309	306	305	305	306	303	300	289	296	297	298	296	295	273	293	278	279	298
Ghent 2	KU	1,754	1,630	1,756	307	300	284	260	302	255	277	271	287	296	277	304	269	281	297	258	300	263	297	255	296	293	273	293	278	279	248
Ghent 3	KU	283	299	299	296	290	287	290	287	289	291	291	290	288	281	276	276	277	273	277	265	260	259	263	263	264	255	263	267	264	270
Ghent 4	KU	288	288	281	294	290	288	290	288	291	289	290	291	290	288	284	285	283	282	286	279	278	279	278	282	270	280	281	282	281	280
Green River 3	KU	289	303	285	276	211	121	143	127	132	101	91	92	95	77	90	89	71	79	80	70	5	23	18	19	32	22	34	50	65	55
Green River 4	KU	441	503	481	495	370	246	252	238	209	144	120	130	128	104	113	108	112	106	102	99	17	28	45	43	61	51	71	75	90	84
Tyrone 3	KU	235	293	248	292	279	240	253	237	218	204	176	185	175	140	125	129	106	99	114	89	64	67	75	76	77	86	101	96	102	105
Cane Run 4	LGE	711	663	665	711	673	611	671	639	676	675	691	654	651	600	630	628	619	588	622	581	555	555	557	550	563	569	574	605	593	626
Cane Run 5	LGE	736	781	916	858	806	783	819	729	825	853	858	778	823	787	736	769	786	751	794	723	656	642	690	716	718	718	725	747	725	774
Cane Run 6	LGE	1,204	1,207	1,112	1,061	880	1,009	1,062	1,002	1,045	1,037	925	1,059	1,087	983	935	970	911	861	865	848	878	879	853	873	872	890	910	948		
Mill Creek 1	LGE	1,272	1,330	1,401	1,346	1,239	1,343	1,159	1,322	1,345	1,336	1,277	1,334	1,349	1,286	1,105	1,260	1,266	1,261	1,278	1,215	1,170	1,181	1,033	1,212	1,195	1,203	1,217	1,178	1,224	1,252
Mill Creek 2	LGE	1,456	1,193	1,342	1,192	1,338	1,320	1,330	1,301	1,320	1,298	1,310	1,311	1,338	1,202	1,200	1,213	1,202	1,168	1,235	1,070	1,115	1,076	1,128	1,161	1,142	1,144	1,149	1,176	1,153	1,213
Mill Creek 3	LGE	295	297	296	292	289	289	289	288	289	288	289	287	291	285	282	283	285	285	285	279	282	277	282	276	282	281	282	282	284	281
Mill Creek 4	LGE	293	294	293	290	285	285	287	283	286	285	286	285	288	280	276	276	279	276	280	271	268	266	270	271	270	274	272	275	274	278
Trimble County 1	LGE	245	245	245	237	242	241	241	240	241	241	243	241	243	238	238	237	239	240	240	235	234	233	236	236	235	237	237	237	238	238
Trimble County 2	KU	0	0	0	0	217	272	273	271	272	273	272	272	273	272	270	271	272	272	273	270	272	270	272	271	272	273	271	274	274	274
Trimble County 2	LGE	0	0	0	0	51	64	64	64	64	64	64	64	64	64	63	64	64	64	64	63	64	63	64	64	64	64	64	64	64	64
GFCU 1	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	386	481	479	483	487	494	476	475	475	484	479	481	488	485	492	493	496
GFCU 1	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	217	271	269	272	274	278	268	267	267	272	269	270	274	273	277	278	279
GFCU 2	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	361	460	459	466	464	467	468	470	475	476	480
GFCU 2	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	221	282	281	286	284	286	287	288	292	292	294
Peakers	KU	91	152	176	213	211	263	289	319	355	433	451	479	506	419	418	458	460	495	512	402	219	229	242	234	247	270	276	287	314	336
Peakers	LGE	43	70	82	101	99	115	131	145	170	203	210	225	240	191	191	209	209	224	235	180	102	107	112	106	113	122	126	131	140	154
NOx EMISSIONS (TONS)																															
Total		12,617	12,833	13,076	11,746	11,338	11,408	11,597	11,411	11,699	11,692	9,896	10,057	10,224	10,060	9,938	10,255	10,113	10,117	10,384	10,178	9,816	9,806	9,808	9,897	9,946	9,994	10,131	10,264	10,317	10,582
ALLOWANCES																															
KU EPA Allocated NOx Allowances		6,764	6,607	6,607	6,607	6,405	6,405	6,405	6,068	6,068	6,068	5,933	5,933	5,933	5,798	5,798	5,798	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663
LGE EPA Allocated NOx Allowances		5,683	5,992	5,992	5,992	5,808	5,808	5,808	5,502	5,502	5,502	5,380	5,380	5,380	5,258	5,258	5,258	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136
Total KU/LGE EPA Allocated NOx Allowances		12,447	12,599	12,599	12,599	12,213	12,213	12,213	11,570	11,570	11,570	11,313	11,313	11,313	11,056	11,056	11,056	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799
KU's Portion of OMU Surplus/Shortfall		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined Company Purchases		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL KU/LGE ALLOWANCES		12,447	12,599	12,599	12,599	12,213	12,213	12,213	11,570	11,570	11,570	11,313	11,313	11,313	11,056	11,056	11,056	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799
EOY Increase (+)/Decrease in Bank		-170	-234	-477	853	875	805	617	159	-129	-122	1,417	1,257	1,089	996	1,118	801	686	682	415	621	1,184	1,193	1,192	902	853	805	668	535	482	217
ALLOWANCE BANK																															
Total KU/LGE Allowance Bank (End of Year)		6,557	6,323	5,847	6,699	7,575	8,380	8,997	9,155	9,027	8,905	10,321	11,578	12,667	13,663	14,781	15,582	16,267	16,949	17,364	17,985	19,169	20,362	21,553	22,456	23,309	24,114	24,782	25,317	25,799	26,016

Case10- Option 0210: GH2 SCR 2009, BR3 SCR 2013

OZONE SEASON NO_x SUMMARY BY YEAR

NOx EMISS RATE (#/MBTU)	Ownership	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470
Brown 2	KU	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.290
Brown 3	KU	0.290	0.290	0.290	0.290	0.290	0.290	0.290	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044
Ghent 1	KU	0.038	0.038	0.038	0.038	0.038	0.037	0.038	0.038	0.037	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.038	0.037	0.037
Ghent 2	KU	0.270	0.270	0.270	0.039	0.040	0.040	0.039	0.041	0.040	0.039	0.040	0.040	0.039	0.040	0.041	0.040	0.039	0.039	0.039	0.040	0.040	0.040	0.040	0.039	0.039	0.039	0.039	0.039	0.039	0.039
Ghent 3	KU	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
Ghent 4	KU	0.037	0.036	0.037	0.037	0.037	0.037	0.036	0.037	0.037	0.037	0.037	0.037	0.036	0.037	0.037	0.037	0.036	0.036	0.036	0.037	0.037	0.037	0.037	0.037	0.036	0.036	0.036	0.037	0.036	0.036
Green River 3	KU	0.400	0.400	0.400	0.400	0.401	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.396	0.399	0.400	0.399	0.398	0.402	0.399	0.399	0.400	0.399
Green River 4	KU	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.402	0.400	0.399	0.400	0.400	0.400	0.400	0.400	0.400
Tyrone 3	KU	0.380	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.380	0.381	0.381	0.381	0.380	0.380	0.380	0.381	0.381	0.380	0.380	0.380	0.382	0.382	0.380	0.380	0.380	0.381	0.381	0.381	0.380
Cane Run 4	LGE	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Cane Run 5	LGE	0.429	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430	0.430	0.429	0.430	0.430	0.430
Cane Run 6	LGE	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350
Mill Creek 1	LGE	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 2	LGE	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
Mill Creek 3	LGE	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.045	0.045	0.046	0.046	0.046	0.046	0.046	0.045	0.045	0.046	0.045	0.046	0.046	0.045	0.046	0.045	0.045	0.046	0.046	0.045	0.046	0.045
Mill Creek 4	LGE	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037
Trimble County 1	LGE	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.035	0.036	0.036
Trimble County 2	KU	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
Trimble County 2	LGE	0.000	0.000	0.000	0.000	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
GFCU 1	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 1	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	KU	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
GFCU 2	LGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
Peakers	KU	0.079	0.078	0.075	0.075	0.075	0.076	0.076	0.076	0.076	0.076	0.076	0.075	0.074	0.075	0.075	0.075	0.075	0.076	0.075	0.075	0.073	0.072	0.072	0.073	0.073	0.074	0.074	0.074	0.074	0.074
Peakers	LGE	0.075	0.074	0.072	0.072	0.071	0.070	0.072	0.071	0.076	0.075	0.074	0.073	0.073	0.071	0.072	0.072	0.073	0.074	0.073	0.071	0.068	0.068	0.068	0.068	0.068	0.068	0.069	0.069	0.068	0.069
SCRUBBER REMOVAL EFF.																															
Brown 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brown 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ghent 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Green River 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tyrone 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 5		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cane Run 6		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 3		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Creek 4		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trimble County 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 1		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
GFCU 2		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peakers		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TONS NOx EMITTED		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Brown 1	KU	528	487	502	582	574	537	568	543	552	553	502	543	545	492	477	502	500	503	512	476	403	407	412	416	414	420	424	428	435	432
Brown 2	KU	702	732	735	729	727	687	736	660	682	598	651	620	624	580	567	597	547	593	561	526	466	435	416	437	485	480	494	507	475	531
Brown 3	KU	1,441	1,759	1,648	1,859	1,657	1,816	1,886	307	314	324	323	321	324	308	300	309	282	314	313	298	289	286	272	296	295	275	295	299	299	293
Ghent 1	KU	313	309	313	318	311	308	309	310	306	307	308	310	309	306	305	305	306	305	303	300	289	296	297	298	298	297	297	301	293	298
Ghent 2	KU	1,754	1,630	1,756	307	300	284	260	308	259	280	271	287	296	277	304	269	281	297	258	300	263	297	255	296	293	273	293	278	279	248
Ghent 3	KU	283	299	299	296	290	287	290	284	287	288	291	290	288	281	276	276	277	273	277	265	260	259	263	263	264	265	263	267	264	270
Ghent 4	KU	288	288	281	294	290	288	290	289	291	289	290	291	290	288	284	285	283	282	286	279	278	279	278	282	270	280	281	282	281	280
Green River 3	KU	289	303	285	276	211	121	143	126	137	101	91	92	95	77	90	89	71	79	80	70	5	23	18	19	32	22	34	50	65	55
Green River 4	KU	441	503	481	495	370	246	252	238	212	144	120	130	128	104	113	108	112	106	102	99	17	28	45	43	61	51	71	75	90	84
Tyrone 3	KU	235	293	248	292	279	240	253	238	218	204	176	185	175	140	125	129	106	99	114	89	64	67	75	76	77	86	101	96	102	105
Cane Run 4	LGE	711	663	665	711	673	611	671	639	676	675	691	654	651	600	630	628	619	588	622	581	555	555	557	550	563	569	574	605	593	626
Cane Run 5	LGE	736	781	916	858	806	783	819	728	826	852	858	778	823	787	736	769	788	751	794	723	656	642	690	716	718	718	725	747	725	774
Cane Run 6	LGE	1,204	1,207	1,112	1,061	880	1,009	1,062	993	1,037	1,035	925	1,059	1,087	983	935	970	911	861	990	851	865	848	878	879	853	873	872	890	910	948
Mill Creek 1	LGE	1,272	1,330	1,401	1,346	1,239	1,343	1,159	1,292	1,314	1,313	1,277	1,334	1,349	1,286	1,105	1,260	1,266	1,261	1,278	1,215	1,170	1,181	1,033	1,212	1,195	1,203	1,217	1,178	1,224	1,252
Mill Creek 2	LGE	1,456	1,193	1,342	1,192	1,338	1,320	1,330	1,273	1,294	1,277	1,310	1,311	1,338	1,202	1,200	1,213	1,202	1,188	1,235	1,070	1,115	1,076	1,128	1,161	1,142	1,144	1,149	1,176	1,153	1,213
Mill Creek 3	LGE	295	297	296	292	289	289	289	287	288	287	289	287	291	285	282	283	285	285	285	279	282	277	282	276	282	281	282	282	284	281
Mill Creek 4	LGE	293	294	293	290	285	285	287	281	284	283	286	285	288	280	276	276	279	276	280	271	268	266	270	271	270	274	272	275	274	278
Trimble County 1	LGE	245	245	245	237	242	241	241	241	241	241	243	241	243	238	238	237	239	240	240	235	234	233	235	236	235	237	237	237	238	238
Trimble County 2	KU	0	0	0	0	217	272	273	270	271	272	272	272	273	272	270	271	272	272	273	270	272	270	272	271	272	273	271	274	274	274
Trimble County 2	LGE	0	0	0	0	51	64	64	63	64	64	64	64	64	64	63	64	64	64	64	63	64	63	64	64	64	64	64	64	64	64
GFCU 1	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	386	481	479	483	467	494	476	475	475	484	479	481	488	485	492	493	496
GFCU 1	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	217	271	269	272	274	278	268	267	267	272	269	270	274	273	277	278	279
GFCU 2	KU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	361	460	459	466	464	467	468	470	475	476	480
GFCU 2	LGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	221	282	281	286	284	286	287	288	292	292	294
Peakers	KU	91	152	176	213	211	263	289	319	356	432	451	479	506	419	418	458	460	496	512	402	219	229	242	234	247	270	276	287	314	336
Peakers	LGE	43	70	82	101	99	115	131	145	170	203	210	225	240	191	191	209	209	224	235	180	102	107	112	106	113	122	126	131	140	154
NOx EMISSIONS (TONS)																															
Total		12,617	12,833	13,076	11,746	11,338	11,408	11,597	9,832	10,077	10,019	9,896	10,057	10,224	10,060	9,938	10,255	10,113	10,117	10,384	10,178	9,618	9,606	9,608	9,897	9,946	9,994	10,131	10,264	10,317	10,582
ALLOWANCES																															
KU EPA Allocated NOx Allowances		6,764	6,607	6,607	6,607	6,405	6,405	6,405	6,068	6,068	6,068	5,933	5,933	5,933	5,798	5,798	5,798	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663	5,663
LGE EPA Allocated NOx Allowances		5,683	5,992	5,992	5,992	5,808	5,808	5,808	5,502	5,502	5,502	5,380	5,380	5,380	5,258	5,258	5,258	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136
Total KU/LGE EPA Allocated NOx Allowances		12,447	12,599	12,599	12,599	12,213	12,213	12,213	11,570	11,570	11,570	11,313	11,313	11,313	11,056	11,056	11,056	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799
KU's Portion of OMU Surplus/Shortfall		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combined Company Purchases		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL KU/LGE ALLOWANCES		12,447	12,599	12,599	12,599	12,213	12,213	12,213	11,570	11,570	11,570	11,313	11,313	11,313	11,056	11,056	11,056	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799	10,799
EOY Increase (+)/Decrease in Bank		-170	-234	-477	853	875	805	617	1,739	1,493	1,551	1,417	1,257	1,089	996	1,118	801	686	682	415	621	1,184	1,193	1,192	902	853	805	668	535	482	217
ALLOWANCE BANK																															
Total KU/LGE Allowance Bank (End of Year)		6,557	6,323	5,847	6,699	7,575	8,380	8,997	10,735	12,228	13,779	15,196	16,452	17,542	18,538	19,655	20,456	21,142	21,824	22,239	22,860	24,043	25,236	26,428	27,330	28,183	28,988	29,656	30,192	30,673	30,891

Exhibit JPM-3 – Component Cost of Trimble County Unit 2 Air Quality Control System Equipment

Kentucky Utilities' Allocation of Trimble County Unit 2 AQCS Cost

Equipiment Type	$ Millions
Dry Electrostatic Precipitator (DESP)	$18.3
Pulverized Activated Carbon Injection (PAC)	$1.0
Pulse Jet Fabric Filter (PJFF) w/ Hydrated Lime	$18.3
Wet Flue Gas Desulphurization (WFGD)	$59.0
Wet Electrostatic Precipitator (WESP)	$37.1
Selective Catalytic Reduction System (SCR)	$14.8
ID Fans	$2.9
Stack Flue	$2.6
Miscellaneous Mechanical/Pipe	$18.3
Civil	$5.0
Electrical/Controls	$6.7
Miscellaneous Bulks	$1.2
Total	**$185.3**

Exhibit JPM-4 – *Sargent & Lundy SO_3 Mitigation Study* dated March 29, 2006

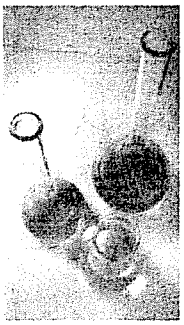
Exhibit JPM-4

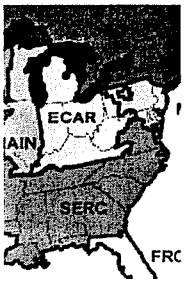
Sargent & Lundy SO_3 Mitigation Study is being provided electronically on CD

Exhibit JPM-5 – *2006 SO_3 Mitigation Strategy for Kentucky Utilities and Louisville Gas and Electric*

e·on U.S.
Generation Services

Engineering
Laboratory
Planning





2006 SO_3 Mitigation Strategy for Kentucky Utilities and Louisville Gas and Electric

April 2006

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2006 SO_3 Mitigation Strategy for Kentucky Utilities and Louisville Gas and Electric

Executive Summary

Selective Catalytic Reactors (SCRs) have been installed at Ghent 1, 3, 4, Trimble 1 and Mill Creek 3 and 4 to reduce NOx emissions in compliance with the current regulations. The SCRs increase SO_3/H_2SO_4 in the flue gas which impacts particulate stack emissions. In order to mitigate the SCR impact on particulate emissions while maintaining NOx reduction, it is necessary to reduce the SO_3 levels in the flue gas.

E.On U.S. employed Sargent & Lundy (S&L) to evaluate all commercially available SO_3 reduction technologies and develop capital and O&M cost estimates for each technology to determine the most economic and technically effective approach to mitigate the impact of SO_3 on visible emissions for the SCR equipped units in the fleet. An economic evaluation was performed of the viable technologies to determine the best compliance option.

As a result of the study, sorbent injection was identified as a least cost option for units with cold-side ESP equipment. In order to select the most economic sorbent, it is recommended that KU and LG&E proceed with testing of hydrated lime and Trona injection at Ghent 1 and Trimble 1. Pending results of the testing the most economic sorbent will be selected as the technology of choice for all generating units with cold-side ESPs.

For Ghent 3&4, the units with hot-side ESP equipment, replacement of catalyst in conjunction with sorbent injection in the boiler and flue gas path was identified as the least cost option for SO3 reduction. In search of a lower cost option it is recommended that hydrated lime and Trona injection be tested at Ghent 3 & 4 while burning high sulfur coal. This approach is unproven but could save capital investment at these units if successful.

1.0 Background

During the combustion of sulfur-containing fossil fuels, a percentage of the sulfur dioxide (SO_2) formed is further oxidized to sulfur trioxide (SO_3). As the flue gas cools across the air heater and wet flue gas desulphurization equipment (WFGD), the SO_3 combines with flue gas moisture to form vapor-phase and/or condensed sulfuric acid (H_2SO_4). Sulfuric acid in flue gas has long been known to cause a variety of plant operation problems including plume visible emissions. The retrofit of selective catalytic reduction (SCR) units for nitrogen oxide (NOx) control can more than double flue gas SO_3/H_2SO_4 concentrations.

The SCR units at Ghent 1, 3, and 4, Trimble 1 and Mill Creek 3 and 4 increase SO_3/H_2SO_4 and thus particulate stack emissions. The amount of sulfur in the coal supply, the volume of SCR catalyst, along with various other equipment operating conditions, determines the total volume of SO_3 in the flue gas. Due to the specific conditions at Ghent 1 and Trimble 1, the addition of SCR equipment has increased flue gas SO_3 to a level that may result in visible emissions exceedences as measured by EPA Method 9. Under current conditions and with the existing fuel quality, the Mill Creek units and Ghent 3 and 4 are not experiencing visible emissions exceedences during SCR operation, though the particulate levels are elevated above normal operating levels. Plans to build FGD modules at Ghent 3 and 4 will result in a fuel switch to higher sulfur levels. This will increase the SO_3 and visible emissions levels at these units. The addition of catalyst in the Mill Creek SCRs to maintain NOx compliance will result in increased SO_3 and visible emissions.

E.On U.S. embarked on a SO_3 Mitigation Study to determine the most economic and technically effective approach to mitigate the impact of SO_3 on visible emissions for the SCR equipped units in the fleet. As part of the SO_3 mitigation study Generation Services employed Sargent & Lundy to investigate currently available SO_3 control technologies potential application at each unit. An economic evaluation of viable technologies was completed and combined with the technical evaluation to produce a lowest evaluated cost plan.

2.0 SO_3 Mitigation Alternatives

In order to mitigate SO_3/H_2SO_4 increases created by operation of the SCR, E.On U.S. has considered multiple alternatives.

1. Purchase of NOx Allowances
2. SO_3 Reduction Technologies
    a. Alkaline Additive Technology
    b. Sorbent Injection Technology
    c. Wet ESP Technology
    d. Low SO_2 to SO_3 conversion rate SCR catalyst
    e. Combination Technologies

2.1 Purchase NOx Allowances

By purchasing NOx allowances the SCR equipment can be turned off, reducing the formation of SO_3 in the flue gas. This option was considered during development of the NOx compliance strategy and was rejected. Dependence on the NOx allowance market results in the Companies being exposed to a volatile allowance market with significant price risk and the possibility that there will be minimal volumes of allowances available at any price. Installation of a combination of combustion NOx control equipment and SCR equipment has been demonstrated to be the least cost compliance strategy for NOx compliance.

2.2 SO_3 Reduction Technologies

EON-US employed Sargent & Lundy (S&L)to evaluate the feasibility of applying each commercially available SO_3 technology at each SCR unit in the combined company. As part of the evaluation S&L developed capital construction costing and annual operation and maintenance (O&M) costing for each technology at each unit. This data provides the basis for further technical and economic evaluation and development of an SO_3/visible emissions control strategy.

2.2.1 Alkaline Additive Technology

The alkaline components in flyash react with the SO_3 produced in the furnace to form sulfates, which are removed by the electrostatic precipitator (ESP). Introducing alkaline additives into the furnace allows higher SO_3 reaction and removal rates. These additives only capture boiler generated SO_3 and are not effective at capturing SCR-generated SO_3. Alkaline additives may also modify the slagging and fouling tendencies of the coal ash and increase furnace exit gas temperatures. Higher exit gas temperatures increase the SO_2 to SO_3 conversion in the SCR. For these reasons alkaline additives have been eliminated from consideration as viable SO_3 reduction options.

2.2.2 Sorbent Injection Technology

A variety of sorbents are available that can be added at various points in the flue gas path to reduce SO_3 and visible emissions. The following sorbent injection options were evaluated by S&L:

- Ammonia
- Humidification Water
- Hydrated Lime
- Magnesium Hydroxide
- Magnesium Oxide
- Micronized Limestone
- Sodium Bisulfite (SBS)
- Soda Ash
- Trona

Sorbent injection captures the SO_3 by reacting to form salts or sulfates which can be collected in the existing ESP, thus reducing the SO_3 impact on visible emissions. The use of sorbent injection technologies will be limited at Ghent Units 3&4 due to the hot-side ESPs, which are

located upstream of the SCRs. Sorbent injection downstream of the ESP depends on particulate removal in the FGD and thus may be limited. A full assessment of each technology determined the viability at each unit as shown below in Table I.

Viability of Sorbent Injection Technologies

	Ghent - Unit 1	Ghent - Unit 3	Ghent - Unit 4	Mill Creek - Unit 3	Mill Creek - Unit 4	Trimble - Unit 1	Expected SO_3 Reduction
Ammonia	No	No	No	No	No	No	70%
Humidification	No	No	No	No	No	No	27%
Hydrated Lime	Yes	Yes*	Yes*	Yes	Yes	Yes	**90%**
Magnesium Hydroxide	Yes	Yes	Yes	Yes	Yes	Yes	90% Boiler/40-60%Overall
Magnesium Oxide	No	No	No	No	No	No	80%
Micronized Limestone	No	No	No	No	No	No	70%
Soda Ash	Yes	Yes*	Yes*	Yes	Yes	Yes	90%
Sodium BiSulfite (SBS)	Yes	Yes*	Yes*	Yes	Yes	Yes	90%
Trona	Yes	Yes*	Yes*	Yes	Yes	Yes	90%
Required SO_3 Reduction	90%	90%	90%	87%	85%	90%	

* Limited by capacity of FGD to collect particulate matter.

TABLE I

2.2.3 West ESP (WESP) Technology

Wet ESPs use water to clean collection plates while dry ESPs clean by mechanically rapping. Wet cleaning reduces particle re-entrainment and allows collection of fine particulate, mercury and aerosols. WESP technology is a primary candidate for compliance with proposed mercury and PM2.5 regulations. However, the capital cost of a wet ESP ranges from $50 to $70 million for the units in the KU and LG&E systems. For this reason it is prudent to avoid the installation of WESP technology until and unless additional regulations make this a cost-effective approach. Meanwhile, the Companies will pursue other means of reducing SO_3 and visible emissions.

2.2.4 Low Conversion Catalyst Technology

Catalyst manufacturers recognized the need for NOx reduction catalyst with lower SO_2 to SO_3 conversion rates and have brought 'low conversion' catalyst to market. New catalyst purchased for the LG&E and KU fleet in 2005 is low conversion type catalyst. By replacing existing catalyst with low conversion type, the level of SO_3 in the flue gas could be reduced by 28-43%. New catalyst alone will not reach the target of 5ppm SO_3 at the stack, but could work in combination with other technologies to reach the goal.

2.2.5 Combination Technologies

Sorbent injection technologies are potentially limited by the ability of the cold-side ESP or FGD (depending on the injection location) to collect the salts or sulfates produced. It may prove necessary to employ a combination of technologies to reduce the SO_3 to target levels, particularly at units with low ESP collection area. Table II identifies the technology combinations recommended by S&L in their evaluation.

Viability of Combination Technologies

	Ghent - Unit 1	Ghent - Unit 3	Ghent - Unit 4	Mill Creek - Unit 3	Mill Creek - Unit 4	Trimble - Unit 1	Expected SO_3 Reduction
Low Conversion Catalyst	Yes	Yes	Yes	Yes	Yes	Yes	28-43%
Combination Technologies							
Low Conv. Catalyst + Sorbent Injection	Yes			Yes	Yes	Yes	95%
Magnesium Hydroxide + Sorbent Injection	Yes			Yes	Yes		95%
Mag Hydroxide + Low Conv Catalyst + Sorbent Inj.		Yes	Yes				
Trona + Sorbacal (pending test results)		Yes	Yes				
Required SO_3 Reduction	90%	90%	90%	87%	85%	90%	

TABLE II

3.0 Cost of Particulate Control Alternatives

The Companies performed a full economic evaluation of all viable technologies to determine the present value of revenue requirements. The result of this evaluation is an economic ranking of viable technologies by unit. Table III-KU and Table III-LG&E summarize the results of the cost evaluation.

Kentucky Utilities Technology Ranking Economic Evaluation Results of all Viable Technologies		
Ghent 1	**PVRR**	**Rank**
Soda Ash	$19.88	1
LCC + Soda Ash	$21.62	2
LCC + Sodium BiSulfite	$29.29	3
LCC + Hyd Lime	$30.46	4
Sodium BiSulfite	$33.56	5
Magnesium Hydroxide + Soda Ash	$40.24	6
Hydrated Lime	$41.45	7
LCC + Trona	$42.26	8
Magnesium Hydroxide + Sodium BiSulfite	$50.03	9
Magnesium Hydroxide + Hydrated Lime	$53.58	10
Trona	$66.14	11
Magnesium Hydroxide + Trona	$69.93	12
Wet ESP (Horizontal)	$89.26	13
Wet ESP (Veritcal)	$108.54	14
Ghent 3	**PVRR**	**Rank**
LCC + Mag Hyd+ Soda Ash	$43.56	1
LCC + Mag Hyd+ Hyd Lime	$44.59	2
LCC + Mag Hyd+ Sodium BiSulfite	$45.55	3
LCC + Mag Hyd+ Trona	$48.92	4
Wet ESP (Horizontal)	$86.12	5
Wet ESP (Veritcal)	$108.79	6
Ghent 4	**PVRR**	**Rank**
LCC + Mag Hyd+ Soda Ash	$44.57	1
LCC + Mag Hyd+ Hyd Lime	$45.57	2
LCC + Mag Hyd+ Sodium BiSulfite	$46.77	3
LCC + Mag Hyd+ Trona	$50.45	4
Wet ESP (Horizontal)	$88.10	5
Wet ESP (Veritcal)	$113.22	6

Table III-KU

Note: "Sorbents" include Soda Ash, Sodium Bisulfite, Hyd Lime, Magnesium Hydroxide and Trona.

Louisville Gas & Electric Technology Ranking Economic Evaluation Results of all Viable Technologies		
Mill Creek 3	**PVRR**	**Rank**
Soda Ash	$15.91	1
LCC + Soda Ash	$20.26	2
Magnesium Hydroxide + Soda Ash	$24.57	3
Sodium BiSulfite	$24.82	4
LCC + Hyd Lime	$25.88	5
LCC + Sodium BiSulfite	$26.19	6
Hydrated Lime	$27.85	7
Magnesium Hydroxide + Sodium BiSulfite	$30.49	8
LCC + Trona	$35.18	9
Magnesium Hydroxide + Hydrated Lime	$41.13	10
Trona	$43.55	11
Magnesium Hydroxide + Trona	$50.41	12
Wet ESP (Veritcal)	$109.21	13
Mill Creek 4	**PVRR**	**Rank**
Soda Ash	$16.75	1
LCC + Soda Ash	$21.33	2
Magnesium Hydroxide + Soda Ash	$25.26	3
Sodium BiSulfite	$26.24	4
LCC + Sodium BiSulfite	$28.12	5
LCC + Hyd Lime	$28.18	6
Hydrated Lime	$29.33	7
Magnesium Hydroxide + Sodium BiSulfite	$31.30	8
LCC + Trona	$37.56	9
Magnesium Hydroxide + Hydrated Lime	$43.10	10
Trona	$44.52	11
Magnesium Hydroxide + Trona	$50.87	12
Wet ESP (Veritcal)	$109.04	13
Trimble 1	**PVRR**	**Rank**
Soda Ash	$15.49	1
LCC + Soda Ash	$19.32	2
Sodium BiSulfite	$21.05	3
Magnesium Hydroxide + Soda Ash	$25.89	4
Hydrated Lime	$26.64	5
LCC + Hyd Lime	$26.96	6
LCC + Sodium BiSulfite	$28.50	7
Magnesium Hydroxide + Hydrated Lime	$30.56	8
Magnesium Hydroxide + Sodium BiSulfite	$32.84	9
LCC + Trona	$36.90	10
Trona	$42.39	11
Magnesium Hydroxide + Trona	$52.63	12
Wet ESP (Veritcal)	$81.56	13

Table III-LG&E

Note: "Sorbents" include Soda Ash, Sodium Bisulfite, Hyd Lime, Magnesium Hydroxide and Trona.

4.0 Overall Evaluation of Top Ranking Technologies

The results of the economic evaluation must be considered in the context of economic and technologic risks and engineering evaluation. While all of the options evaluated are viable, the risks and potential side effects of each vary greatly. A summary of these risks is provided in Table IV, as provided in the S&L evaluation study report.

Risk Assessment Summary					
Technology	**Capital Cost**	**O&M Cost**	**Performance**	**Reliability**	**Overall**
Low Conversion Catalyst	Low	Low	Low	Low	Low
Sodium BiSulfite (SBS)	Low	Medium	Low	Medium	Low to Medium
Soda Ash	Low	Medium	Low	Medium	Low to Medium
Trona	Low	High	Low	Medium	Low to Medium
Hydrated Lime (Sorbacal)	Low	Medium	Medium	Medium	Medium
Magnesium Hydroxide	Medium	Medium	Medium	Medium	Medium
Wet ESP (Vertical)	High	Medium	Low	Medium	High
Wet ESP (Horizontal)	High	Medium	Low	Medium	High

Table IV

For all generating units with cold-side ESPs sorbent injection is the most economic technology. Soda ash, hydrated lime and sodium bisulfite are the top sorbent options. The cost estimates provided by S&L are based on predicted sorbent flow rates and average market prices. To make a final selection of the type of sorbent to be used at each unit, more accurate sorbent costs from suppliers must be obtained. Additionally, stoichiometric ratios for SO_3 reduction must be confirmed by testing.

Sorbacal is a type of hydrated lime with higher surface area and greater porosity. Sorbacal is expected to perform more efficiently than standard hydrated lime products. Testing of Sorbacal is being conducted at the Ghent 1 and Trimble 1 units. Initial results at Ghent 1 are favorable, while testing at Trimble 1 is currently underway. Long term testing (5 months) is being considered to fully evaluate the impact of Sorbacal injection on ESP performance. Current stoichiometric ratios for Sorbacal are below the hydrated lime estimates in the S&L study.

Trona sorbent injection is also being tested at Ghent 1 and Trimble 1. The price of Trona has dropped locally since the construction of a nearby distribution facility. Based on test results of Trona injection at these facilities stoichiometric ratios in the S&L study may be adjusted.

Refinement of the economic analysis after test results will be conducted to select the least cost sorbent injection option for cold-side ESP units.

For generating units with hot-side ESPs a combination of sorbent injection in the boiler and the gas path and catalyst replacement is the first choice technology on an economic basis.

It has been proposed that Sorbacal injection in combination with Trona may provide adequate SO_3 reduction on hot-side ESP units. The equipment arrangement on these units (Ghent 3 and 4) limits the use of sorbent injection downstream of the ESP. By injecting in two locations negative visible emissions impacts can be mitigated. A test of this combination is warranted before committing to the capital cost of catalyst replacement. Currently Ghent 3 and 4 are burning low sulfur coal and testing is not possible. When the flue gas desulphurization units have been installed and the units begin to burn high sulfur fuel a test will be conducted to prove the concept.

If the testing of split location sorbent injection is unsuccessful, Ghent 3 and 4 will require multiple reduction technologies to meet the target SO_3 emission level of 5 ppm. Magnesium hydroxide injection in the boiler coupled with replacement of existing NOx reduction catalyst with new 'low conversion' catalyst and sorbent injection in the gas path will be required.

5.0 Conclusion and Recommended Plan

The SCR units at Ghent 1, 3, 4, Trimble 1 and Mill Creek 3 and 4 increase SO_3/H_2SO_4 and thus particulate stack emissions. In order to mitigate the SCR impact on particulate emissions while maintaining NOx reduction, it is necessary to reduce the SO_3 levels in the flue gas.

All commercially available SO_3 reduction technologies were evaluated by S&L and the viable technologies were then subject to economic evaluation by the Companies. As a result it is recommended that KU and LG&E proceed with testing injection of various sorbents at Ghent 1 and Trimble 1. Pending success of the testing the most economic sorbent will become the technology of choice for all generating units with cold-side ESPs.

It is further recommended that a combination of Sorbacal and Trona injection be tested at Ghent 3 & 4 with high sulfur coal to prove the technology. Pending success of the testing, Sorbacal and Trona injection will become the technology of choice for Ghent 3 and 4. Failure of the tests will result in the need to inject sorbent in the boiler and flue gas path as well as replacement of the catalyst.

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

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	)))))))	CASE NO. 2006-00206

DIRECT TESTIMONY OF
SHANNON L. CHARNAS
DIRECTOR, UTILITY ACCOUNTING AND REPORTING
E.ON U.S. SERVICES INC.

Filed: June 23, 2006

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

A. My name is Shannon L. Charnas. I am the Director of Utility Accounting and Reporting 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 statement of my education and work experience is attached to this testimony as Appendix A.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to explain KU's reporting and accounting for the operation and maintenance expenses associated with the pollution control projects in KU's 2006 Environmental Compliance Plan ("2006 Plan"), to demonstrate that the environmental compliance costs KU proposes to recover through its surcharge are not already included in existing rates and to discuss the accounting treatment for the retirement of assets.

Recording and Tracking of Environmental Surcharge Expenses

Q. Is KU seeking recovery of operation and maintenance expenses associated with some of the Projects included in its proposed 2006 Plan?

A. Yes. The projects for which KU is seeking the recovery of operating and maintenance ("O&M") expense are Project Nos. 24, 25 and 26. As explained in Mr. Malloy's testimony, Project 24 relates to the installation of Sorbent Injection equipment on Ghent Units 1, 3, and 4. This project includes O&M costs estimated to be $.9 million in 2007, $1.5 million in 2008, and annual O&M costs beginning in 2009 of approximately $3.8 million. The change in cost is due to the

timing of completion of the projects in addition to the requirement to operate the SCRs year-round beginning in 2009 rather than just during the ozone season (May – September). Project No. 25 relates to the installation of mercury emission monitors on all generating units and includes annual O&M costs of approximately $790 thousand. Project 26 relates to the installation of Selective Catalytic Reduction ("SCR") and Sorbent Injection equipment on Ghent Unit 2, and includes annual O&M costs estimated to be approximately $1.4 million for each, respectively.

Q. How will KU identify the O&M expenses associated with Projects 24, 25 and 26 in its 2006 Plan?

A. KU's accounting system permits the tracking of costs in accordance with the Federal Energy Regulatory Commission's ("FERC") Uniform System of Accounts. KU intends to use FERC Account Nos. 502, Steam Expenses – Operation and 512, Maintenance of Boiler Plant, to identify and track the O&M expenses associated with the Sorbent Injection, mercury emission monitor and SCR projects, respectively, once they become operational. KU will use subaccounts to track specific expenses and location codes to track expenses by unit. Since the Sorbent Injection equipment included in Projects 24 and 26, the mercury emission monitor equipment included in Project 25, and the SCR equipment included in Project 26 are new, there is no expense currently in base rates for these units and KU will only include in its monthly surcharge filings the O&M associated with the new equipment.

No O&M expenses for Project Nos. 23 and 27 will be recovered through KU's environmental surcharge.

Q. Are there any changes necessary to account for NO_x allowance inventory?

A. Yes. In order to properly designate NO_x allowances for the annual and ozone season programs, two separate allowance inventory accounts will be tracked and reported on the forms as shown in Mr. Conroy's testimony.

Q. What book depreciation rates will be used in the calculation of the depreciation expense for the new and additional pollution control facility?

A. The book depreciation rate to be used for this equipment will be the existing depreciation rate for those assets. These rates are set forth in KU's Depreciation Study which is on file with and was approved by the Commission in Case No. 2001-140[1].

Q. What deferred income taxes are associated with pollution control facilities and equipment?

A. Deferred income taxes are recorded for all book versus tax temporary timing differences. The new pollution control facilities are eligible for accelerated tax depreciation and amortization. The pollution control facilities will generally fall into a 20-year Modified Accelerated Cost Recovery ("MACRS") life, or be eligible for U.S. Tax Code Section 169 amortization over a five-year or seven-year life.

Q. Please explain how property taxes associated with the new and additional pollution facilities are calculated.

[1] In the Matter of: *Application of Kentucky Utilities Company for an Order Approving Revised Depreciation Rates*

A. Pollution control facilities located in Kentucky are generally categorized as manufacturing machinery. This class of property is exempt from local property tax and is taxed at the state property tax rate of $0.15 per $100 of assessed value.

Costs Not Already Included In Existing Rates

Q. Are any of the capital expenditures for the new and additional pollution control facilities in this case already included in existing rates?

A. No. The current base rates were determined to be fair, just and reasonable by the Commission in its Order issued June 30, 2004 in Case No. 2003-00434[2]. In making that determination, the Commission evaluated the reasonableness of KU's regulated return from Kentucky jurisdictional operations using the twelve month period ending September 30, 2003, as the test period, adjusted for known and measurable changes. No capital expenditures for the new and additional pollution control facilities in this case were incurred by KU during or prior to the twelve-month period ending September 30, 2003, or included as adjustments thereto.

Q. Are any of the operation and maintenance expenses for the new and additional pollution control facilities in this case already included in existing rates?

A. No. As previously explained, all O&M expenses for which KU is seeking recovery are associated with new pollution control projects. Therefore, KU's existing rates do not include any O&M for these facilities.

Q. Will the installation of the new pollution control facilities replace or cause existing facilities to be removed from service?

[2] In the Matter of: *An Adjustment of the Electric Rates, Terms and Conditions of Kentucky Utilities Company*

A. Yes. Project No. 27 results in the removal from service of existing assets totaling $57 thousand. The construction costs of the project have been reduced by this amount and are shown in Exhibit JPM-1 described in Mr. Malloy's testimony. During the construction of the project, as existing equipment is replaced, labor associated with the removal will be charged to Retirement Work in Process ("RWIP"). Upon completion of the project, the book value of the assets replaced will be removed from the Plant In Service account. Accumulated Depreciation and all associated RWIP charges will be removed from the Reserve for Accumulated Depreciation account and the monthly ECR filings will be adjusted to reflect the retirements. As described above, when appropriate, KU will adjust the monthly ECR filings to reflect asset retirements in conformity with prior Commission Orders and consistent with KU's current practice.

Q. Will there be any operation and maintenance savings resulting from the installation of the equipment for the 2006 Plan that are already included in existing rates?

A. No. There are no O&M savings related to these projects.

Q. Does this conclude your testimony?

A. Yes.

VERIFICATION

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

The undersigned, **Shannon L. Charnas**, being duly sworn, deposes and says she is Director, Utility Accounting and Reporting for E.ON U.S. Services Inc., that she 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 her information, knowledge and belief.

Shannon L Charnas

SHANNON L. CHARNAS

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 23rd day of June, 2006.

Tammy J. Elzy (SEAL)
Notary Public

My Commission Expires:

TAMMY J. ELZY
NOTARY PUBLIC
STATE AT LARGE
KENTUCKY
My Commission Expires Nov. 9, 2006

APPENDIX A

Shannon L. Charnas
Director, Utility Accounting & Reporting
E.ON U.S. Services Inc.
220 West Main Street
Louisville, KY 40202
(502) 627-4978

Professional Memberships
American Institute of Certified Public Accountants
Kentucky Society of Certified Public Accountants

Education
University of Louisville, Masters of Business Administration, 2000
University of Wisconsin Oshkosh, Bachelor of Business Administration with Majors in Accounting and Management Information Systems, 1993
Certified Public Accountant, Kentucky, 1995

Previous Positions

E.ON U.S.
2001 (Mar) - 2005 (Feb)- Manager, Finance & Budgeting - Energy Services
1999 (Sept) - 2001 (Apr) - Senior Budget Analyst
1995 (Aug) - 1999 (Sept) - Accounting Analyst, various positions

Arthur Anderson LLP

1995 – Senior Auditor
1993 – 1994 – Audit Staff

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

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	)CASE NO. 2006-00206

DIRECT TESTIMONY OF ROBERT M. CONROY MANAGER, RATES E.ON U.S. SERVICES INC.

Filed: June 23, 2006

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

A. My name is Robert M. Conroy. I am the Manager of 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 previously testified before this Commission in proceedings concerning the Companies' fuel adjustment clauses and 2004 amended environmental compliance plans ("2005 Plan").

Q. Are you sponsoring any exhibits?

A. Yes. I am sponsoring four exhibits, identified as Exhibits RMC-1, RMC-2, RMC-3 and RMC-4. These exhibits are:

Exhibit RMC-1 Proposed KU Environmental Cost Recovery Surcharge Tariff

Exhibit RMC-2 Proposed KU Environmental Cost Recovery Surcharge Tariff (redline)

Exhibit RMC-3 Current KU Environmental Surcharge Monthly Reports

Exhibit RMC-4 Proposed KU Environmental Surcharge Monthly Reports

Q. What is the purpose of your testimony?

A. My testimony addresses how the environmental surcharge under KU's Electric Rate Schedule Environmental Cost Recovery Surcharge ("ECR") tariff will be calculated to include the costs incurred in connection with the new and additional pollution control projects in KU's 2006 Environmental Compliance Plan ("2006 Plan").

Q. Is KU proposing any changes to its Environmental Cost Recovery Surcharge tariff?

A. Yes. KU is proposing a modification in the application of the ECR billing factor, and if approved, this modification will result in language revisions to the ECR tariff sheet. The proposed ECR Tariff is attached as Exhibit RMC-1. A redline version comparing the proposed ECR Tariff to the existing tariff is attached as Exhibit RMC-2.

Q. Will the methodologies for calculating the environmental surcharge change if the Commission approves recovery of KU's 2006 Plan?

A. No. KU will use the currently approved methodologies for calculating the environmental surcharge as specified by the Commission in Case Nos. 2000-439[1], 2002-00146[2] and 2004-00426[3]. The calculation of the monthly Environmental Surcharge billing factor will continue to consolidate the 2001, 2003 and 2005 Environmental Compliance Plans and if approved, the proposed 2006 Plan. However, KU is proposing a modification to the determination of R(m).

Q. Please explain the modification to the determination of R(m) that is being proposed by KU.

A. Under current practice, KU determines R(m) by deducting all non-jurisdictional revenues, all FAC revenues and all ECR revenues from each month's total revenues according to the financial records. The remaining balance is treated as base revenues.

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[1] In the Matter of: *The Application of Kentucky Utilities Company for Approval of an Amended Compliance Plan for Purposes of Recovering the Costs of New and Additional Pollution Control Facilities and to Amend Its Environmental Cost Recovery Surcharge Tariff*

[2] In the Matter of: *The Application of Kentucky Utilities Company for Approval of Its 2002 Compliance Plan for Recovery by Environmental Surcharge*

[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*

That remaining balance, however, is actually net of small time-of-day ("STOD") program cost recovery factor ("PCRF"), merger surcredit ("MSR") and value delivery surcredit ("VDT") revenues. KU is proposing that the determination of R(m) be refined by removing the above referenced revenues from total revenue, leaving base revenues as the sum of customer charges, energy charges and demand charges. Therefore, if the Commission accepts KU's proposal, R(m) as determined in the monthly filings will closely approximate the revenues to which the monthly ECR billing factor is applied (i.e. base revenue plus fuel adjustment clause plus demand-side management plus STOD PCRF).

Q. Why is KU proposing to change the R(m)?

A. KU is proposing the change to R(m) so that the revenues used to determine the environmental surcharge factor are consistent with the revenues to which the environmental surcharge factor is applied on customer bills. Initially when the ECR was established, STOD, MSR and VDT were not established rate schedules and therefore were not included in the determination of R(m). As these rate schedules were established, the revenue (or surcredit) was included in R(m).

Q. What is the impact on the customer for the change in R(m)?

A. There will not be an impact on the customer by changing the determination of R(m). The proposed change to the determination of R(m) does not change the amount of the environmental costs (Net Jurisdictional E(m)) that KU is authorized to collect through the ECR billing factor.

Q. What is the benefit of the change?

A. As previously discussed, the change will more closely align the revenues used to determine the billing factor and the revenues to which the billing factor is applied. This alignment should somewhat reduce the variability of the monthly true-up adjustment for the over/under recovery of the monthly surcharge due to timing differences (from ES Form 2.00). There will still remain a variance due to the fact that a 12 month average revenue value is used to calculate the monthly factor and this factor is applied to actual monthly revenues.

Q. Will the monthly reporting forms used for calculating the environmental surcharge change if the Commission approves recovery of KU's 2006 Plan?

A. Yes. KU is proposing to change the format of several forms to reflect the recovery of the costs associated with the 2006 Plan and also edit the language used throughout the forms to provide consistency between the LG&E and KU filings. Exhibit RMC-3 contains the forms KU currently uses when filing its monthly environmental surcharge report. Exhibit RMC-4 shows the sample monthly environmental surcharge report forms KU is proposing in this case.

Q. Please describe the modifications that KU is proposing as a result of the 2006 Plan.

A. The calculation of the monthly billing factor for recovery of the cost of KU's 2006 Plan will be consistent with the methodology approved by the Commission in Case No. 2004-00426[4] and used to calculate the recovery of the cost of KU's Post 1994 Environmental Compliance Plans. ES Form 1.00 will continue to show the

[4] 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*

calculation of the Jurisdictional Environmental Surcharge Billing Factor using the same methodology previously approved by the Commission.

The determination of the Environmental Compliance Rate Base is based on combining all ECR approved expenditures and calculating the rate base according to the methodologies ordered in Case Nos. 2000-439[5], 2002-00146[6] and 2004-00426[7].

The plant, construction work in progress and depreciation expense for the 2001, 2003 and 2005 Plans previously reported on ES Forms 2.11 will continue to be reported on ES Form 2.11. KU is proposing to report the monthly plant, construction work in progress and depreciation expense for the additional projects in the 2006 Plan on ES Form 2.12.

The pollution control equipment operation and maintenance expenses for the 2001 and 2005 Plans are currently reported on ES Form 2.50. This form is being expanded to include the 2006 Plan projects for which KU is seeking to recover incremental operation and maintenance expenses as discussed in Ms. Charnas' testimony. The current month O&M expense for all plans shown on ES Form 2.50 will be utilized as the current month O&M on ES Form 2.40 in the determination of the pollution control cash working capital allowance.

Q. What modifications to the forms are necessary for the proposed change in the determination of R(m)?

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[5] In the Matter of: *The Application of Kentucky Utilities Company for Approval of an Amended Compliance Plan for Purposes of Recovering the Costs of New and Additional Pollution Control Facilities and to Amend Its Environmental Cost Recovery Surcharge Tariff*

[6] In the Matter of: *The Application of Kentucky Utilities Company for Approval of Its 2002 Compliance Plan for Recovery by Environmental Surcharge*

[7] 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*

A. KU is proposing to modify ES Form 3.10 to specifically identify MSR and VDT revenues in the section titled "Reconciling Revenues". Currently, those revenues are included in base revenues reported on ES Forms 3.00 and 3.10 even though the ECR is not applied to those revenues. Separate identification will result in an accurate match of base revenues used for the determination of the ECR billing factor and the method for applying the ECR billing factor on customer bills.

Both ES Form 3.00 and 3.10 are being further modified to separately identify DSM revenues and STOD PCRF revenues from base revenues leaving base revenue as the sum of customer, energy and demand charges.

Q. Is KU proposing to edit the language throughout the forms to be consistent between the LG&E and KU filings?

A. Yes. KU and LG&E are proposing to make changes to the forms in order to provide consistency between the two Companies. This consistency will facilitate the review process for both Companies and allow for easier comparison. It will also facilitate the Commission's review of the Companies monthly filings and the operation of the mechanism in the 6-month and 2-year review proceedings. In addition, by having both Companies' forms consistent, administration of the mechanism will be made easier and it will allow for the potential automation of our filing processes in the future. Due to the different projects that each Company has approval to include in the ECR, there will remain slight differences in the content of each form.

Q. Are there any other proposed changes to the Forms?

A. Yes. KU is proposing to add new forms ES Form 2.32 and 2.33 to track and report NO_x emission allowance inventory, usage and purchases consistent with the SO_2

emission allowances reported on ES Form 2.31. As explained in Mr. Malloy's testimony, NO_x emission allowance purchases (either from the market or from LG&E) will be required. Currently there are NO_x allowances in inventory for the Ozone Season (May through September). ES Form 2.32 will be used to track and report the ozone season NO_x allowance inventory. Upon implementation of the Clean Air Interstate Rule, as discussed in Mr. Malloy's and Ms. Dodson's testimony, there will be an allocation of annual NO_x allowances and a separate inventory from the ozone season NO_x allowance inventory. As such, ES Form 2.33 will be used to track and report the annual NO_x allowance inventory.

Consistent with the Commission's Order of June 20, 2005 in Case No. 2004-00426[8] any purchases of allowances from LG&E will be at LG&E's weighted average cost of its emission allowance inventory. Currently there is a zero dollar value associated with KU's NO_x emission allowance inventory because the only NOx allowances held in inventory are those allocated by the Environmental Protection Agency at zero dollar value. The proposed new forms ES Form 2.32 and 2.33 are consistent with the Commission's approval of Project 22 in the June 20, 2005 Order in Case No. 2004-00426[9].

KU is also proposing to modify ES Form 2.30 in order to separately identify SO_2 and NO_x emission allowance inventory.

Q. Does the relief requested by KU in this case have any effect on the existing electric base rates?

[8] 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*

A. No. Ms. Charnas' testimony affirms that none of the costs of the new and additional pollution control facilities was incurred prior to or during the 12-month period ending September 30, 2003 or included as adjustments hereto. Thus, none of these costs is already included in existing base rates.

The current base rates also do not include existing environmental surcharge revenues, expenses or assets associated with proposed 2006 Plans. To the extent that the installation of the new and additional pollution control facilities causes existing facilities to be replaced or retired the cost of which is already included in existing rates, KU will credit the amount of net plant balance of retired or replaced plant against the amount of the capital expenditure to be recovered through the surcharge in accordance with the Commission's Order of July 19, 1994 in Case No. 93-465[10] and its April 18, 2001 Order in Case No. 2000-439[11]. KU has been removing such amounts from the surcharge as necessary in the monthly calculation of the surcharge factor.

Q. Has KU estimated the impact of the new projects on the Environmental Cost Recovery tariff?

A. Yes. The estimated impact, upon approval by the Commission, on a residential customer using 1,000-kilowatt hours per month is expected to be an increase of $0.82 during 2007 with a maximum monthly impact estimated to be an increase of $2.67 in 2010. In addition to the projects associated with the 2006 Plan, KU has also

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[9] 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*

[10] In the Matter of : *The Application of Kentucky Utilities Company to Assess a Surcharge Pursuant to KRS 278.183 to Recover Costs of Compliance with Environmental Requirements for Coal Combustion Wastes and By-Products*

estimated the impact for those projects associated with the 2005 Plan[12] for the same time period. The estimated impact of those projects approved as part of the 2005 Plan is expected to be an increase of $3.25 during 2007 and $6.05 in 2010.

Q. Please summarize what relief KU is requesting from the Commission.

A. KU is seeking Commission approval of (1) the 2006 Plan proposed in this case for the purposes of recovering the costs of pollution control facilities in that plan through the environmental surcharge beginning with bills rendered on and after February 1, 2007; (2) the proposed ECR Tariff; and (3) the proposed reporting formats.

Q. Does this conclude your testimony?

A. Yes it does.

---

[11] In the Matter of: *The Application of Kentucky Utilities Company for Approval of an Amended Compliance Plan for Purposes of Recovering the Costs of New and Additional Pollution Control Facilities and to Amend Its Environmental Cost Recovery Surcharge Tariff*

[12] Approved by the Commission in Case No. 2004-00426 by Order issued June 20, 2005

VERIFICATION

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

The undersigned, **Robert M. Conroy**, being duly sworn, deposes and says he is Manager, 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.

ROBERT M. CONROY

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 23rd day of June 2006.

Notary Public (SEAL)

My Commission Expires:

TAMMY J. ELZY
NOTARY PUBLIC
STATE AT LARGE
KENTUCKY
My Commission Expires Nov. 9, 2006

APPENDIX A

Robert M. Conroy

Manager, Rates
E.ON U.S. Services Inc.
220 West Main Street
Louisville, Kentucky 40202
(502) 627-3324

Education

Masters of Business Administration
Indiana University (Southeast campus), December 1998. GPA: 3.9.

Bachelor of Science in Electrical Engineering;
Rose Hulman Institute of Technology, May 1987. GPA: 3.3

Center for Creative Leadership, Foundations in Leadership program, 1998.

Registered Professional Engineer in Kentucky, 1995.

Previous Positions

Manager, Generation Systems Planning	Feb. 2001 – April 2004
Group Leader, Generation Systems Planning	Feb. 2000 – Feb. 2001
Lead Planning Engineer	Oct. 1999 – Feb. 2000
Consulting System Planning Analyst	April 1996 – Oct. 1999
System Planning Analyst III & IV	Oct. 1992 - April 1996
System Planning Analyst II	Jan. 1991 - Oct. 1992
Electrical Engineer II	Jun. 1990 - Jan. 1991
Electrical Engineer I	Jun. 1987 - Jun. 1990

Professional/Trade Memberships

Registered Professional Engineer in Kentucky, 1995.

Exhibit RMC-1 – Proposed KU Environmental Cost Recovery Surcharge Tariff

Kentucky Utilities Company

Second Revision to Original Sheet No. 72
P.S.C. No. 13

ECR
Environmental Cost Recovery Surcharge

APPLICABLE
In all territory served.

AVAILABILITY OF SERVICE
To all electric rate schedules.

RATE
The monthly billing amount under each of the schedules to which this mechanism is applicable, including the fuel adjustment clause, demand-side management cost recovery mechanism and STOD program cost recovery factor, shall be increased or decreased by a percentage factor calculated in accordance with the following formula. T T

$$CESF = E(m) / R(m) \qquad MESF = CESF - BESF$$

MESF = Monthly Environmental Surcharge Factor
CESF = Current Environmental Surcharge Factor
BESF = Base Environmental Surcharge Factor

Where E(m) is the jurisdictional total of each approved environmental compliance plan revenue requirement of environmental compliance costs for the current expense month and R(m) is the revenue for the current expense month as set forth below.

DEFINITIONS

1) For all Plans, $E(m) = [(RB/12) (ROR + (ROR - DR) (TR / (1 - TR))] + OE - BAS$ T
   Where:
   a) RB is the Total Environmental Compliance Rate Base.
   b) ROR is the Rate of Return in Environmental Compliance Rate Base, designated as the overall all rate of return [cost of short term debt, long term debt, preferred stock, and common equity] T
   c) DR is the Debt Rate [cost of short term debt, and long term debt] T
   d) TR is the Composite Federal and State Income Tax Rate. T
   e) OE is the Operating Expenses [Depreciation and Amortization Expense, Property Taxes, Insurance Expense adjusted for the Average Month Expense already included in existing rates]. Includes operation and maintenance expense recovery authorized by the K.P.S.C. in Case Nos. 2000-439, 2002-146, 2004-00426 and 2006-00206. T T
   f) BAS is the total proceeds from by-product and allowance sales.

2) Total E(m) (sum of each approved environmental compliance plan revenue requirement) is multiplied by the Jurisdictional Allocation Factor to arrive at Net Jurisdictional E(m)

3) The revenue R(m) is the average monthly base revenue for the Company for the 12 months ending with the current expense month. Base revenue includes the customer, energy and demand charge for each rate schedule to which this mechanism is applicable and automatic adjustment clause revenues for the Fuel Adjustment Clause, the Demand-Side Management Cost Recovery Mechanism and STOD Program Cost Recovery Factor as applicable for each rate schedule. T T T T T T

4) Current expense month (m) shall be the second month preceding the month in which the Environmental Surcharge is billed.

Date of Issue: June 23, 2006
Canceling First Revision to Original Sheet No. 72 Issued June 28, 2005

Issued By

Date Effective: With Bills Rendered On and After February 1, 2007

John R. McCall
General Counsel and Secretary
Louisville, Kentucky
Issued by Authority of an Order of the KPSC in Case No. 2006-00206 dated

Exhibit RMC-2 – Proposed KU Environmental Cost Recovery Surcharge Tariff (redline)

Kentucky Utilities Company

Second Revision to Original Sheet No. 72
P.S.C. No. 13

Deleted: First

ECR
Environmental Cost Recovery Surcharge

APPLICABLE
In all territory served.

AVAILABILITY OF SERVICE
To all electric rate schedules.

RATE
The monthly billing amount under each of the schedules to which this mechanism is applicable, including the fuel adjustment clause, demand-side management cost recovery mechanism and STOD program cost recovery factor, shall be increased or decreased by a percentage factor calculated in accordance with the following formula.

CESF = E(m) / R(m) MESF = CESF – BESF

MESF = Monthly Environmental Surcharge Factor
CESF = Current Environmental Surcharge Factor
BESF = Base Environmental Surcharge Factor

Where E(m) is the jurisdictional total of each approved environmental compliance plan revenue requirement of environmental compliance costs for the current expense month and R(m) is the revenue for the current expense month as set forth below.

DEFINITIONS

1) For all Plans, E(m) = [(RB/12) (ROR + (ROR - DR) (TR / (1 - TR))] + OE - BAS
Where:
   a) RB is the Total Environmental Compliance Rate Base.
   b) ROR is the Rate of Return in Environmental Compliance Rate Base, designated as the overall all rate of return [cost of short term debt, long term debt, preferred stock, and common equity]
   c) DR is the Debt Rate [cost of short term debt, and long term debt]
   d) TR is the Composite Federal and State Income Tax Rate.
   e) OE is the Operating Expenses [Depreciation and Amortization Expense, Property Taxes, Insurance Expense adjusted for the Average Month Expense already included in existing rates]. Includes operation and maintenance expense recovery authorized by the K.P.S.C. in Case Nos. 2000-439, 2002-146, 2004-00426 and 2006-00206.
   f) BAS is the total proceeds from by-product and allowance sales.

2) Total E(m) (sum of each approved environmental compliance plan revenue requirement) is multiplied by the Jurisdictional Allocation Factor to arrive at Net Jurisdictional E(m)

3) The revenue R(m) is the average monthly base revenue for the Company for the 12 months ending with the current expense month. Base revenue includes the customer, energy and demand charge for each rate schedule to which this mechanism is applicable and automatic adjustment clause revenues for the Fuel Adjustment Clause, the Demand-Side Management Cost Recovery Mechanism and STOD Program Cost Recovery Factor as applicable for each rate schedule.

4) Current expense month (m) shall be the second month preceding the month in which the Environmental Surcharge is billed.

Deleted: Where
Deleted: Where
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Deleted: Where
Deleted: and
Deleted: , including base revenues and automatic adjustment clause revenues less Environmental Cost Recovery Surcharge revenues,
Deleted: June
Deleted: 28, 2005
Deleted: Service
Deleted:
Deleted: July 20, 2004
Deleted: July
Deleted: 2005
Deleted: 2004-00426
Deleted: June 20, 2005

Date of Issue: June 23,2006 Issued By Date Effective: With Bills Rendered
Canceling First Revision to Original Sheet No. 72, On and After
Issued June 28, 2005 February 1, 2007

John R. McCall
General Counsel and Secretary
Louisville, Kentucky
Issued by Authority of an Order of the KPSC in Case No. 2006-00206 dated,

Exhibit RMC-3 – Current KU Environmental Surcharge Monthly Reports

ES Form 1.0

KENTUCKY UTILITIES COMPANY
ENVIRONMENTAL SURCHARGE REPORT

Calculation of Monthly Billed Environmental Surcharge Factor - MESF
For the Expense Month of

MESF = CESF - BESF

Where:

CESF	=	Current Period Jurisdictional Environmental Surcharge Factor
BESF	=	Base Period Jurisdictional Environmental Surcharge Factor

Calculation of MESF:

CESF, from ES Form 1.1	=	
BESF, from Case No. 2003-00434	=	0.30%
MESF	=	

Effective Date for Billing:

Submitted by: _____

Title: Manager, Rates

Date Submitted: _____

ES Form 1.00

KENTUCKY UTILITIES COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Calculation of Total E(m) and
Jurisdictional Surcharge Billing Factor
For the Expense Month of

Calculation of Total E(m)

E(m) = [(RB / 12) (ROR)+(ROR-DR)(TR/(1-TR)))] + OE, where

RB	=	Environmental Compliance Rate Base
ROR	=	Rate of Return on the Environmental Compliance Rate Base
DR	=	Debt Rate (both short-term and long-term debt)
TR	=	Composite Federal & State Income Tax Rate
OE	=	Pollution Control Operating Expenses for the 1994 Plan

		Environmental Compliance Plan
RB	=	
RB / 12	=	
(ROR + (ROR - DR) (TR / (1 - TR))) [2001 Plan]	=	11.00%
OE	=	
BAS	=	
E(m)	=	

Calculation of Jurisdictional Environmental Surcharge Billing Factor

Jurisdictional Allocation Ratio for Expense Month	=	
Jurisdictional E(m) = Total E(m) x Jurisdictional Allocation Ratio	=	
Adjustment for Monthly True-up (from Form 2.0)	=	
Recovery of OMU NOx Expenditures (Case No. 2003-00434-Settlement Agreement, Section 3.19, pg. 13)	=	83,333
Net Jurisdictional E(m) = Jurisdictional E(m) minus Adjustment for Over/(Under) Recovery	=	
Jurisdictional R(m) = Average Monthly Jurisdictional Revenue for the 12 Months Ending with the Current Expense Month	=	
Jurisdictional Environmental Surcharge Billing Factor: Net Jurisdictional E(m) / Jurisdictional R(m) ; as a % of Revenue	=	

ES FORM 2.00

KENTUCKY UTILITIES COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Revenue Requirements of Environmental Compliance Costs
For the Expense Month of

Determination of Environmental Compliance Rate Base

	Environmental Compliance Plan
Eligible Pollution Control Plant	
Eligible Pollution CWIP Excluding AFUDC	
Subtotal	
Additions:	
Inventory - Limestone	
Less: Limestone Inventory in base rates	
Inventory - Emission Allowances per Form 2.31	
less Allowance Inventory baseline	$69,415
Net Emission Allowance Inventory	
Cash Working Capital Allowance	
Subtotal	
Deductions:	
Accumulated Depreciation on Eligible Pollution Control Plant	
Pollution Control Deferred Income Taxes	
Pollution Control Deferred Investment Tax Credit	
Subtotal	
Environmental Compliance Rate Base	

Determination of Pollution Control Operating Expenses

	Environmental Compliance Plan
Monthly Operations & Maintenance Expense	
Monthly Depreciation & Amortization Expense	
Monthly Taxes Other Than Income Taxes	
Monthly Insurance Expense	
Monthly Emission Allowance Expense from Form 2.31	
Less Monthly Emission Allowance in base rates (1/12 of $58,345.76)	$ (4,862)
Net Recoverable Emission Allowance Expense	
Monthly Surcharge Consultant Fee	
Total Pollution Control Operating Expense	

Gross Proceeds From By-Product and Allowance Sales

Allocated Allowances from EPA	Allowances from Over-Control	Allowances from Purchases	Total Proceeds from Allowance Sales	Proceeds from By-Products Sales

True-up Adjustment: Over/Under Recovery of Monthly Surcharge Due to Timing Differences

MESF for December Expense Month	
Net Jurisdictional E(m) for December Expense Month	
Environmental Surcharge Revenue, current month (from Form 3.00)	
Environmental Surcharge Revenue recovered through base rates (Base Revenues, Form 3.0 * .30%)	
Over/(Under) Recovery due to Timing Differences (D - C)	
Over-recoveries will be deducted from the Jurisdictional E(m); under-recoveries will be added to the Jurisdictional E(m)	

ES FORM 2.11

KENTUCKY UTILITIES COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Plant, CWIP & Depreciation Expense - Post-1994 Plan

For the Month Ended

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Description	Eligible Plant In Service	Eligible Accumulated Depreciation	CWIP Amount Excluding AFUDC	Eligible Net Plant In Service	Unamortized ITC as of	Deferred Tax Balance as of	Monthly Depreciation Expense	Monthly Property Tax Expense
				(2)-(3)+(4)				
2001 Plan:								
Project 16 - KU Nox modifications								
Project 17 - KU Nox SCR's								
Less Retirements and Replacement resulting from implementation of 2001 Plan								
Subtotal								
2003 Plan:								
Project 18 - Ghent Ash Pond Dike Elevation								
Less Retirements and Replacement resulting from implementation of 2003 Plan								
Subtotal								
2005 Plan:								
Project 19 - Ash Handling at Ghent 1 and Ghent Station								
Project 20 - Ash Treatment Basin Expansion at E.W. Brown Station								
Project 21 - FGD's at all E.W. Brown Units and at Ghent 2,3, and 4								
Less Retirements and Replacement resulting from implementation of 2005 Plan								
Subtotal								
TOTAL								

ES FORM 2.30

KENTUCKY UTILITIES COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Inventory of Emission Allowances

For the Expense Month of

Vintage Year	Number of Allowances	Total Dollar Value of Vintage Year	Comments and Explanations
Current Year			
2007			
2008			
2009			
2010			
2011			
2012			
2013			
2014			
2015			
2016			
2017			
2018			
2019			
2020			
2021			
2022			
2023			
2024			
2025			
2025 - 2033			

In the "Comments and Explanation" Column, describe any allowance inventory adjustment other than the assignment of allowances by EPA. Inventory adjustments include, but are not limited to, purchases, allowances acquired as part of other purchases, and the sale of allowances.

ES FORM 2.31

KENTUCKY UTILITIES COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Inventory of Emission Allowances - Current Vintage Year

For the Month Ended

	Beginning Inventory	Allocations/ Purchases	Utilized (Steam Power)	Utilized (Other Power Generation)	Sold	Ending Inventory	Allocation, Purchase, or Sale Date & Vintage Years
TOTAL EMISSION ALLOWANCES IN INVENTORY, ALL CLASSIFICATIONS							
Quantity							
Dollars							
$/Allowance							
ALLOCATED ALLOWANCES FROM EPA: STEAM							
Quantity							
Dollars							
$/Allowance							
ALLOCATED ALLOWANCES FROM EPA: OTHER POWER GENERATION							
Quantity							
Dollars							
$/Allowance							
ALLOWANCES FROM PURCHASES:							
From Market:							
Quantity							
Dollars							
ALLOWANCES FROM PURCHASES:							
From LG&E							
Quantity							
Dollars							

Emission Allowance Expense for Other Power Generation is excluded from expense reported on Form 2.00 for recovery through the monthly billing factor

ES FORM 2.40

KENTUCKY UTILITIES COMPANY
ENVIRONMENTAL SURCHARGE REPORT
O&M Expenses and Determination of Cash Working Capital Allowance

For the Month Ended

Environmental Compliance Plan	
O&M Expenses	Amount
11th Previous Month	
10th Previous Month	
9th Previous Month	
8th Previous Month	
7th Previous Month	
6th Previous Month	
5th Previous Month	
4th Previous Month	
3rd Previous Month	
2nd Previous Month	
Previous Month	
Current Month	
Total 12 Month O&M	

Determination of Working Capital Allowance
12 Months O&M Expenses
One Eighth (1/8) of 12 Month O&M Expenses
Pollution Control Cash Working Capital Allowance

ES FORM 2.50

KENTUCKY UTILITIES COMPANY
ENVIRONMENTAL SURCHARGE REPORT

Pollution Control - Operations & Maintenance Expenses

For the Month Ended

O&M Expense Account	E. W. Brown	Ghent	Total
2001 Plan			
506104 - NOx Operation -- Consumables			
506105 - NOx Operation -- Labor and Other			
512101 - NOx Maintenance			
Total 2001 Plan O&M Expenses			
2005 Plan			
502006 - Scrubber Operations			
512005 - Scrubber Maintenance			
Total 2005 Plan O&M Expenses			

ES FORM 3.00

KENTUCKY UTILITIES COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Monthly Average Revenue Computation of R (m)

For the Month Ended

	Kentucky Jurisdictional Revenues					Non-Jurisdictional Revenues	Total Company Revenues	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Month	Base Rate Revenues	Fuel Clause Revenues	Environmental Surcharge Revenues	Total (2)+(3)+(4)	Total Excluding Environmental Surcharge (5)-(4)	Total Including Off-System Sales (See Note 1)	Total (5)+(7)	Total Excluding Environmental Surcharge (8)-(4)
Average Monthly Jurisdictional Revenues, Excluding Environmental Surcharge, for 12 Months Ending Current Expense Month.						[redacted]		
Jurisdictional Allocation Percentage for Current Month (Environmental Surcharge Excluded from Calculations): Expense Month Kentucky Jurisdictional Revenues Divided by Expense Month Total Company Revenues: Column (6) / Column (9) =								
[redacted]						Note 1 - Excludes Brokered Sales, Total for Current Month =		

ES FORM 3.10

KENTUCKY UTILITIES COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Reconciliation of Reported Revenues

For the Month Ended

Description	Revenues per ES Form 3.0	Revenues per Income Statement
Kentucky Retail Revenues		
Base Rates		
Fuel Adjustment Clause		
Environmental Surcharge		
CSR Credits		
Total Kentucky Jurisdictional Revenues for Environmental Surcharge Purposes =		
Non -Jurisdictional Revenues		
Tennessee Retail		
Virginia Retail		
Wholesale		
InterSystem (Total Less Transmission Portion Booked in Account 447)		
Pitcairn, PA		
Total Non-Jurisdictional Revenues for Environmental Surcharge Purposes =		
Total Company Revenues for Environmental Surcharge Purposes =		
Reconciling Revenues		
Brokered		
InterSystem (Transmission Portion Booked in Account 447)		
Unbilled		
Provision for Refund		
Monthly Merger Surcredit Settlement Amortization		
Miscellaneous		
Total Company Revenues per Income Statement =		

Exhibit RMC-4 – Proposed KU Environmental Surcharge Monthly Reports

ES FORM 1.00

KENTUCKY UTILITIES COMPANY
ENVIRONMENTAL SURCHARGE REPORT

Calculation of Monthly Billed Environmental Surcharge Factor - MESF
For the Expense Month of

MESF = CESF - BESF

Where:

CESF	=	Current Period Jurisdictional Environmental Surcharge Factor
BESF	=	Base Period Jurisdictional Environmental Surcharge Factor

Calculation of MESF:

CESF, from ES Form 1.10	=
BESF, from Case No.	=
MESF	=

Effective Date for Billing:

Submitted by: _____

Title: Manager, Rates

Date Submitted: _____

ES FORM 1.10

KENTUCKY UTILITIES COMPANY
ENVIRONMENTAL SURCHARGE REPORT

Calculation of Total E(m) and
Jurisdictional Surcharge Billing Factor

For the Expense Month of

Calculation of Total E(m)

E(m) = [(RB / 12) (ROR+(ROR -DR)(TR/(1-TR)))] + OE - BAS, where

RB	=	Environmental Compliance Rate Base
ROR	=	Rate of Return on the Environmental Compliance Rate Base
DR	=	Debt Rate (both short-term and long-term debt)
TR	=	Composite Federal & State Income Tax Rate
OE	=	Pollution Control Operating Expenses
BAS	=	Total Proceeds from By-Product and Allowance Sales

		Environmental Compliance Plans
RB	=	
RB / 12	=	
(ROR + (ROR - DR) (TR / (1 - TR)))	=	
OE	=	
BAS	=	
E(m)	=	

Calculation of Jurisdictional Environmental Surcharge Billing Factor

Jurisdictional Allocation Ratio for Expense Month	=	
Jurisdictional E(m) = E(m) x Jurisdictional Allocation Ratio	=	
Adjustment for Monthly True-up (from Form 2.00)	=	
Recovery of OMU NOx Expenditures (Case No. 2003-00434-Settlement Agreement, Section 3.19, pg. 13)	=	83,333
Prior Period Adjustment (if necessary)	=	
Net Jurisdictional E(m) = Jurisdictional E(m) minus Adjustment for Monthly True-up plus/minus Prior Period Adjustment	=	
Jurisdictional R(m) = Average Monthly Jurisdictional Revenue for the 12 Months Ending with the Current Expense Month	=	
Jurisdictional Environmental Surcharge Billing Factor: Net Jurisdictional E(m) / Jurisdictional R(m) ; as a % of Revenue	=	

ES FORM 2.00

KENTUCKY UTILITIES COMPANY
ENVIRONMENTAL SURCHARGE REPORT

Revenue Requirements of Environmental Compliance Costs
For the Expense Month of

Determination of Environmental Compliance Rate Base

	Enviromental Compliance Plan
Eligible Pollution Control Plant	
Eligible Pollution CWIP Excluding AFUDC	
Subtotal	
Additions:	
Inventory - Limestone	
Less: Limestone Inventory in base rates	
Inventory - Emission Allowances per ES Form 2.31, 2.32 and 2.33	
Less: Allowance Inventory Baseline	69,415
Net Emission Allowance Inventory	
Cash Working Capital Allowance	
Subtotal	
Deductions:	
Accumulated Depreciation on Eligible Pollution Control Plant	
Pollution Control Deferred Income Taxes	
Subtotal	
Environmental Compliance Rate Base	

Determination of Pollution Control Operating Expenses

	Enviromental Compliance Plan
Monthly Operations & Maintenance Expense	
Monthly Depreciation & Amortization Expense	
Monthly Taxes Other Than Income Taxes	
Monthly Insurance Expense	
Monthly Emission Allowance Expense from ES Form 2.31, 2.32 and 2.33	
Less Monthly Emission Allowance Expense in base rates (1/12 of $58,345.76)	4,862
Net Recoverable Emission Allowance Expense	
Monthly Surcharge Consultant Fee	
Total Pollution Control Operations Expense	

Proceeds From By-Product and Allowance Sales

	Total Proceeds
Allowance Sales	
Scrubber By-Products Sales	
Total Proceeds from Sales	

True-up Adjustment: Over/Under Recovery of Monthly Surcharge Due to Timing Differences

A. MESF for two months prior to Expense Month	
B. Net Jurisdictional E(m) for two months prior to Expense Month	
C. Environmental Surcharge Revenue, current month (from ES Form 3.00)	
D. Retail E(m) recovered through base rates (Base Revenues, ES Form 3.00 times xx%)	
E. Over/(Under) Recovery due to Timing Differences ((D + C) - B)	
Over-recoveries will be deducted from the Jurisdictional E(m); under-recoveries will be added to the Jurisdictional E(m)	

ES FORM 2.11

KENTUCKY UTILITIES COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Plant, CWIP & Depreciation Expense

For the Month Ended:

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Description	Eligible Plant In Service	Eligible Accumulated Depreciation	CWIP Amount Excluding AFUDC	Eligible Net Plant In Service	Deferred Tax Balance as of xx/dd/yyyy	Monthly Depreciation Expense	Monthly Property Tax Expense
				(2)-(3)+(4)			
2001 Plan:							
Project 16 - KU Nox modifications							
Project 17 - KU Nox SCR's							
Subtotal							
Less Retirements and Replacement resulting from implementation of 2001 Plan							
2003 Plan:							
Project 18 - Ghent Ash Pond Dike Elevation							
Subtotal							
Less Retirements and Replacement resulting from implementation of 2003 Plan							
2005 Plan:							
Project 19 - Ash Handling at Ghent 1 and Ghent Station							
Project 20 - Ash Treatment Basin Expansion at E.W. Brown Station							
Project 21 - FGD's at all E.W. Brown Units and at Ghent 2, 3, and 4							
Subtotal							
Less Retirements and Replacement resulting from implementation of 2005 Plan							
Net Total - ES Form 2.11							

ES FORM 2.12

KENTUCKY UTILITIES COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Plant, CWIP & Depreciation Expense

For the Month Ended:

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Description	Eligible Plant In Service	Eligible Accumulated Depreciation	CWIP Amount Excluding AFUDC	Eligible Net Plant In Service	Deferred Tax Balance as of xx/dd/yyyy	Monthly Depreciation Expense	Monthly Property Tax Expense
				(2)-(3)+(4)			
2006 Plan:							
Project 23 - TC2 AQCS Equipment							
Project 24 - Sorbent Injection							
Project 25 - Mercury Monitors							
Project 26 - Ghent 2 SCR							
Project 27 - E.W. Brown Electrostatic Precipitators							
Subtotal							
Less Retirements and Replacement resulting from implementation of 2006 Plan							
Net Total - ES Form 2.12							
Grand Total - ES Form 2.11 and 2.12							

ES FORM 2.30

KENTUCKY UTILITIES COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Inventory of Emission Allowances

For the Month Ended:

Vintage Year	Number of Allowances			Total Dollar Value Of Vintage Year			Comments and Explanations
	SO_2	NOx Annual	NOx Ozone Season	SO_2	NOx Annual	NOx Ozone Season	
Current Year							
2007							
2008							
2009							
2010							
2011							
2012							
2013							
2014							
2015							
2016							
2017							
2018							
2019							
2020							
2021							
2022							
2023							
2024							
2025							
2026 - 2034							

In the "Comments and Explanation" Column, describe any allowance inventory adjustment other than the assignment of allowances by EPA. Inventory adjustments include, but are not limited to, purchases, allowances acquired as part of other purchases, and the sale of allowances.

ES FORM 2.31

KENTUCKY UTILITIES COMPANY
ENVIRONMENTAL SURCHARGE REPORT

Inventory of Emission Allowances (SO_2) - Current Vintage Year

For the Expense Month of

	Beginning Inventory	Allocations/ Purchases	Utilized (Coal Fuel)	Utilized (Other Fuels)	Sold	Ending Inventory	Allocation, Purchase, or Sale Date & Vintage Years
TOTAL EMISSION ALLOWANCES IN INVENTORY, ALL CLASSIFICATIONS							
Quantity							
Dollars							
$/Allowance							
ALLOCATED ALLOWANCES FROM EPA: COAL FUEL							
Quantity							
Dollars							
ALLOCATED ALLOWANCES FROM EPA: OTHER FUELS							
Quantity							
Dollars							
ALLOWANCES FROM PURCHASES:							
From Market:							
Quantity							
Dollars							
$/Allowance							
From LG&E							
Quantity							
Dollars							
$/Allowance							

Emission Allowance Expense for Other Power Generation is excluded from expense reported on Form 2.00 for recovery through the monthly billing factor

ES FORM 2.32

KENTUCKY UTILITIES COMPANY
ENVIRONMENTAL SURCHARGE REPORT

Inventory of Emission Allowances (NOx) - Ozone Season Allowance Allocation

For the Expense Month of

	Beginning Inventory	Allocations/ Purchases	Utilized (Coal Fuel)	Utilized (Other Fuels)	Sold	Ending Inventory	Allocation, Purchase, or Sale Date & Vintage Years
TOTAL EMISSION ALLOWANCES IN INVENTORY, ALL CLASSIFICATIONS							
Quantity							
Dollars							
$/Allowance							
ALLOCATED ALLOWANCES FROM EPA: COAL FUEL							
Quantity							
Dollars							
ALLOCATED ALLOWANCES FROM EPA: OTHER FUELS							
Quantity							
Dollars							
ALLOWANCES FROM PURCHASES:							
From Market:							
Quantity							
Dollars							
$/Allowance							
From LG&E:							
Quantity							
Dollars							
$/Allowance							

Emission Allowance Expense for Other Power Generation is excluded from expense reported on Form 2.00 for recovery through the monthly billing factor.

ES FORM 2.33

KENTUCKY UTILITIES COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Inventory of Emission Allowances (NOx) - Annual Allowance Allocation

For the Expense Month of

	Beginning Inventory	Allocations/ Purchases	Utilized (Coal Fuel)	Utilized (Other Fuels)	Sold	Ending Inventory	Allocation, Purchase, or Sale Date & Vintage Years
TOTAL EMISSION ALLOWANCES IN INVENTORY, ALL CLASSIFICATIONS							
Quantity							
Dollars							
$/Allowance							
ALLOCATED ALLOWANCES FROM EPA: COAL FUEL							
Quantity							
Dollars							
ALLOCATED ALLOWANCES FROM EPA: OTHER FUELS							
Quantity							
Dollars							
ALLOWANCES FROM PURCHASES:							
From Market:							
Quantity							
Dollars							
$/Allowance							
From LG&E:							
Quantity							
Dollars							
$/Allowance							

Emission Allowance Expense for Other Power Generation is excluded from expense reported on Form 2.00 for recovery through the monthly billing factor.

ES FORM 2.40

KENTUCKY UTILITIES COMPANY
ENVIRONMENTAL SURCHARGE REPORT
O&M Expenses and Determination of Cash Working Capital Allowance

For the Month Ended:

Environmental Compliance Plan	
O&M Expenses	Amount
11th Previous Month	
10th Previous Month	
9th Previous Month	
8th Previous Month	
7th Previous Month	
6th Previous Month	
5th Previous Month	
4th Previous Month	
3rd Previous Month	
2nd Previous Month	
Previous Month	
Current Month	
Total 12 Month O&M	

Determination of Working Capital Allowance	
12 Months O&M Expenses	
One Eighth (1/8) of 12 Month O&M Expenses	1/8
Pollution Control Cash Working Capital Allowance	

ES FORM 2.50

KENTUCKY UTILITIES COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Pollution Control - Operations & Maintenance Expenses
For the Month Ended:

O&M Expense Account	E. W. Brown	Ghent	Green River	Tyrone	Total
2001 Plan					
506104 - NOx Operation -- Consumables					
506105 - NOx Operation -- Labor and Other					
512101 - NOx Maintenance					
Total 2001 Plan O&M Expenses					
2005 Plan					
502006 - Scrubber Operations					
512005 - Scrubber Maintenance					
Total 2005 Plan O&M Expenses					
2006 Plan					
506104 - NOx Operation -- Consumables					
506105 - NOx Operation -- Labor and Other					
512101 - NOx Maintenance					
506109 - Sorbent Injection Operation					
512102 - Sorbent Injection Maintenance					
506110 - Mercury Monitors Operation					
512103 - Mercury Monitors Maintenance					
Total 2006 Plan O&M Expenses					

Current Month O&M Expense for All Plans	

ES FORM 3.00

KENTUCKY UTILITIES COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Monthly Average Revenue Computation of R (m)

For the Month Ended:

	Kentucky Jurisdictional Revenues							Non-Jurisdictional Revenues	Total Company Revenues	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Month	Base Rate Revenues	Fuel Clause Revenues	DSM Revenues	STOD Program Cost Recovery Factor Revenues	Environmental Surcharge Revenues	Total (2)+(3)+(4)+(5)+(6)	Total Excluding Environmental Surcharge (7)-(6)	Total Including Off-System Sales (See Note 1)	Total (7)+(9)	Total Excluding Environmental Surcharge (10)-(6)
Average Monthly Jurisdictional Revenues, Excluding Environmental Surcharge, for 12 Months Ending Current Expense Month.										
Jurisdictional Allocation Percentage for Current Month (Environmental Surcharge Excluded from Calculations): Expense Month Kentucky Jurisdictional Revenues Divided by Expense Month Total Company Revenues: Column (8) / Column (11) =										
								Note 1 - Excludes Brokered Sales, Total for Current Month =		

ES FORM 3.10

KENTUCKY UTILITIES COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Reconciliation of Reported Revenues

For the Month Ended:

	Revenues per ES Form 3.00	Revenues per Income Statement
Kentucky Retail Revenues		
Base Rates (Customer Charge, Energy Charge, Demand Charge)		
Fuel Adjustment Clause		
DSM		
STOD Program Cost Recovery Factor		
Environmental Surcharge		
CSR Credits		
Total Kentucky Jurisdictional Revenues for Environmental Surcharge Purposes =		
Non -Jurisdictional Revenues		
Tennessee Retail		
Virginia Retail		
Wholesale		
InterSystem (Total Less Transmission Portion Booked in Account 447)		
Total Non-Jurisdictional Revenues for Environmental Surcharge Purposes =		
Total Company Revenues for Environmental Surcharge Purposes =		
Reconciling Revenues		
Brokered		
InterSystem (Transmission Portion Booked in Account 447)		
Unbilled		
Provision for Refund		
Merger Surcredit		
Merger Surcredit - Non Jurisdictional		
Value Delivery Surcredit		
Miscellaneous		
Total Company Revenues per Income Statement =		