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JUN 26 2009

PUBLIC SERVICE COMMISSION

Mr. Jeff DeRouen
Executive Director
Kentucky Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky 40602-0615

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

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

June 26, 2009

RE: *In the Matter Of: The Application of Louisville Gas and Electric Company for a Certificate of Public Convenience and Necessity and Approval of Its 2009 Compliance Plan for Recovery by Environmental Surcharge*
Case No. 2009-00198

Dear Mr. DeRouen:

Enclosed please find an original and ten (10) copies of Louisville Gas and Electric Company's ("LG&E") Application and Testimonies in the above-referenced docket.

The filing includes:

- LG&E's Application,
- Lonnie E. Bellar's Testimony,
- John N. Voyles's Testimony and Exhibits,
- Charles R. Schram's Testimony and Exhibits,
- Shannon L Charnas's Testimony, and
- Robert M. Conroy's Testimony and Exhibits.

The original and each copy of LG&E's application and testimony contains a CD holding an electronic copy of Exhibit JNV-3 through Exhibit JNV-9 for the testimony of Mr. Voyles along with paper copies of the remaining exhibits to the testimony. These exhibits are being provided electronically due to the volume of the material.

Also enclosed are an original and ten (10) copies of LG&E's Petition for Confidential Protection regarding certain information contained in the filing. Electronic files of the confidential information contained in Exhibits JNV-7 and JNV-8 to Mr. Voyles's testimony are being provided on CD. Confidential versions of Mr. Schram's testimony and exhibits with the confidential information highlighted are being provided in paper copy. The CD and paper copies are being filed with the Petition in a sealed envelope marked confidential. (For the sake of clarity, the CDs containing the redacted versions of the affected exhibits are labeled, "REDACTED," whereas the CDs containing the confidential information are labeled, "CONFIDENTIAL.")

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,

Robert M. Conroy

cc: Hon. Dennis G. Howard
Hon. Michael L. Kurtz
Hon. Kendrick R. Riggs
Hon. Allyson K. Sturgeon

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2009 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	**CASE NO. 2009-00198**

APPLICATION

Louisville Gas and Electric Company ("LG&E"), 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 LG&E a Certificate of Public Convenience and Necessity ("CPCN") for the construction of a new landfill at the Trimble County Generating Station, and approving an amended compliance plan for purposes of recovering the costs of new and additional pollution control facilities through its Environmental Surcharge tariff ("2009 Environmental Compliance Plan"). These projects are required in order for LG&E to comply with the Clean Air Act as amended, the federal Clean Water Act, the Resource Conservation and Recovery Act, and other federal, state, and local environmental requirements that apply to coal combustion byproducts ("CCP") from our facilities used for the production of electricity from coal. In support of this Application, LG&E states as follows:

1. Address: The applicant's full name and post office address is: Louisville Gas and Electric Company, 220 West Main Street, Post Office Box 32010, Louisville, Kentucky 40202.

2. Articles of Incorporation: A certified copy of LG&E's 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. LG&E is a public utility, as defined in KRS 278.010(3)(a), engaged in the electric and gas business. LG&E generates and purchases electricity, and distributes and sells electricity at retail in Jefferson County and portions of Bullitt, Hardin, Henry, Meade, Oldham, Shelby, Spencer and Trimble Counties. LG&E also purchases, stores and transports natural gas and distributes and sells natural gas at retail in Jefferson County and portions of Barren, Bullitt, Green, Hardin, Hart, Henry, Larue, Marion, Meade, Metcalfe, Nelson, Oldham, Shelby, Spencer, Trimble and Washington Counties.

Request for a Certificate of Public Convenience and Necessity
Trimble County Landfill Project

4. Statement of Need (807 KAR 5:001 § 9(2)(a)): In support of LG&E's contention that the public convenience and necessity requires, or will require, the proposed construction of a new landfill at the Trimble County Generating Station, LG&E states that a significant increase in gypsum production is expected when Trimble County Unit 2 goes into commercial operation in June 2010. Building this new landfill is the most cost-effective means of disposing of the Trimble County Units' CCP.

5. Description of Proposed Construction (807 KAR 5:001 § 9(2)(c)): LG&E is requesting a CPCN for a new four phase landfill at the Trimble County Generating Station. This project qualifies as "new" construction which requires prior approval from the Commission under KRS 278.020. The construction timeframe for Phase I of the landfill is 24-30 months. Construction is expected to begin in 2010 and be completed in 2012. For this reason, LG&E is requesting that the Commission issue its CPCN by December 23, 2009.

There are no utilities, corporations, or persons with whom the proposed new construction is likely to compete.

6. Permits or Franchises (807 KAR 5:001 § 9(2)(b)): Building the new landfill at Trimble County will require an application to the Division of Waste Management for a modification of the existing permit during which the plans will be updated to current engineering and environmental standards. Trimble County has received favorable feedback on the preliminary landfill designs during meetings with KYDWM staff and after final engineering design work is completed, a permit modification application will be submitted. A copy of the existing permit is attached to the testimony of John Voyles as Exhibit JNV-6.

7. Area Maps (807 KAR 5:001 § 9(2)(d)): Three area maps showing the location where the Trimble County landfill is proposed to be constructed are attached to this Application at the tab labeled 'Maps'.

8. Financing Plans (807 KAR 5:001 § 9(2)(e)): The total project cost forecast for Phase I is $94.04 million, of which partners IMEA and IMPA are responsible for 25% and LG&E is responsible for 39% or $36.68 million. The project is scheduled to be in service by 2012. The project will serve LG&E and Kentucky Utilities Company ("KU") (collectively, "the Companies") customers and will be owned proportionally. LG&E's proposed financing of such costs is discussed in the prepared direct testimony of Mr. Bellar.

9. Estimated Cost of Operation (807 KAR 5:001 § 9(2)(f)): The estimated annual cost of operations of the proposed construction is shown on page 2 of Exhibit JNV-1 to Mr. Voyles's testimony, which is also attached to this Application.

10. Final action on this Application is requested by December 23, 2009 in order to allow LG&E to begin procurement of materials and equipment under the proposed construction schedule.

Request for Approval of LG&E's 2009 Environmental Compliance Plan for Recovery by Environmental Surcharge

11. This Application and supporting testimony and exhibits are available for public inspection at each LG&E 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, LG&E is entitled to recover its costs of complying with environmental requirements that apply to coal combustion wastes and by-products from facilities used to generate electricity from coal.

13. LG&E is adding three new projects, one project that will result in modifications to existing ash treatment basins at the Trimble County Generating Station, and a modification to the existing Trimble County Air Quality Control System project (Project 18), all of which will enable LG&E to comply with the requirements of the Clean Air Act and other environmental regulations. The environmental regulations creating the need for these new and additional projects are shown in the 2009 Environmental Compliance Plan, which is attached to this Application and to the testimony of Mr. Voyles as Exhibit JNV-1. Mr. Voyles's testimony further presents LG&E's evidence concerning the applicable regulatory requirements and how the pollution control facilities satisfy those regulatory requirements. The 2009 Environmental Compliance Plan identifies the appropriate regulatory approvals or permits showing that such

projects fulfill the obligations under the applicable environmental regulations. The pollution control projects included in the 2009 Environmental Compliance Plan are:

- Amendment to Project No. 18: Expands existing project to include operations and maintenance costs associated with the Air Quality Control System ("AQCS") equipment at Trimble County Unit 2;
- Project No. 22: Construction of new landfill at Cane Run Generating Station;
- Project No. 23: Raising three walls to originally permitted heights on the ash treatment basin and adding a liner to the gypsum storage pond dike at Trimble County Generating Station;
- Project No. 24: Construction of new landfill at Trimble County Generating Station; and
- Project No. 25: Beneficial reuse operations and maintenance costs for all generating stations.

The total capital cost of these new projects to the Compliance Plan is estimated to be $72.53 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 Lonnie E. Bellar, Vice President of State Regulation and Rates, presents an overview of LG&E's environmental surcharge plan and supporting testimony, and requests the recovery of an overall rate of return that includes a 10.63% return on common equity. His testimony also states the reasons LG&E is seeking CPCNs for certain ECR projects, the reasons for requesting the projects

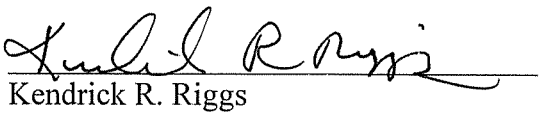
themselves, how LG&E plans to finance the projects, and explains why LG&E's costs of beneficial reuse projects should be given ECR recovery.

- John N. Voyles, Vice President of Transmission and Generation Services, presents testimony that describes the projects and the need for the projects in LG&E's 2009 Plan. Mr. Voyles also presents testimony concerning the environmental regulatory requirements faced by the Companies, including the rules and regulations governing the handling and disposal of CCP.
- Charles R. Schram, Director, Energy Planning, Analysis and Forecasting, presents testimony on the cost-effectiveness of the projects in LG&E's 2009 Plan.
- Shannon L. Charnas, Director of Utility Accounting and Reporting, presents testimony affirming that none of the costs for which LG&E is seeking recovery through its Environmental Surcharge tariff are included in base rates and describes the accounting associated with the projects in LG&E's 2009 Plan, consistent with the Commission's prior orders.
- Robert M. Conroy, Director of Rates, presents LG&E's proposed Electric Rate Schedule ECR and corresponding monthly reporting requirements and presents testimony affirming that the calculation of LG&E's environmental surcharge will comply with all previous Commission Orders. Mr. Conroy also presents the revisions to the monthly ECR reporting forms that LG&E proposes, and explains why the revisions to the forms are appropriate.

WHEREFORE, Louisville Gas and Electric Company requests the Commission: (1) enter an order by December 23, 2009 granting LG&E a Certificate of Public Convenience and Necessity to permit the construction of a new landfill at the Trimble County Generating Station; (2) approve the new and additional projects to LG&E'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 January 28, 2010 (i.e. beginning with the environmental surcharge expense month of December 2009); (4) approve the proposed ES monthly filing forms; (5) approve the recovery of the overall rate of return requested herein; and (6) such other relief as LG&E may be entitled under law.

Dated: June 26, 2009

Respectfully submitted,



Kendrick R. Riggs
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Allyson K. Sturgeon
Senior Corporate Attorney
E.ON U.S. LLC
220 West Main Street
Louisville, Kentucky 40202
Telephone: (502) 627-2088

Counsel for Louisville Gas and Electric 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 26th day of June 2009, U.S. mail, postage prepaid:

Dennis G. Howard II
Lawrence W. Cook
Assistant Attorneys General
Office of the Attorney General
Office of Rate Intervention
1024 Capital Center Drive, Suite 200
Frankfort, KY 40601-8204

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

Counsel for Louisville Gas and Electric Company

Statutory Notice

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2009 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	))))))	**CASE NO. 2009-00198**

STATUTORY NOTICE

Louisville Gas and Electric Company ("LG&E"), 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, LG&E hereby gives notice to the Commission that, on this 26th day of June 2009, it files herewith its application to issue an order granting LG&E a Certificate of Public Convenience and Necessity for the construction of a landfill at the Trimble County station, and approving an amended compliance plan for purposes of recovering the costs of new pollution control facilities through its Electric Rate Schedule ECR.

Notice is further given that the proposed effective date for Electric Rate Schedule ECR is to become effective for bills rendered on and after January 28, 2010 (i.e. beginning with the environmental surcharge expense month of December 2009).

Submitted to the Commission this 26th day of June 2009.

Respectfully submitted,

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

Allyson K. Sturgeon
Senior Corporate Attorney
E.ON U.S. LLC
220 West Main Street
Louisville, Kentucky 40202
Telephone: (502) 627-2088

Counsel for Louisville Gas and Electric Company

Tariff Sheet with Revision Marks

Louisville Gas and Electric Company

P.S.C. Electric No. 7, First Revision of Original Sheet No. 87
Cancelling P.S.C. Electric No. 7, Original Sheet No. 87

Adjustment Clause **ECR**

Environmental Cost Recovery Surcharge

APPLICABLE

In all territory served.

AVAILABILITY OF SERVICE

To electric rate schedules RS, VFD, GS, CPS, IPS, CTOD, ITOD, RTS, IS, LS, RLS, LE, TE, FAC, and DSM. T

RATE

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

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

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

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 + BR
   a) RB is the Total Environmental Compliance Rate Base.
   b) ROR is the Rate of Return on Environmental Compliance Rate Base, designated as the overall 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 prior amended ECR Plan proceedings. T
   f) BAS is the total proceeds from by-product and allowance sales.
   g) BR is the operation and maintenance expenses, and/or revenues if applicable, associated with Beneficial Reuse. T T

2) Total E(m) (sum of each approved environmental compliance plan revenue requirement) is multiplied by the Jurisdictional Allocation Factor to arrive at the 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 schedule to which this mechanism is applicable and automatic adjustment clause revenues for the Fuel Adjustment Clause and the Demand-Side Management Cost Recovery Mechanism 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.

Date of Issue: June 26, 2009
Date Effective: With Bills Rendered On and After January 28, 2010
Issued By: Lonnie E. Bellar, Vice President, State Regulation and Rates, Louisville, Kentucky

Issued by Authority of an Order of the KPSC in Case No. 2009-00198 dated

Compliance Plan

LOUISVILLE GAS AND ELECTRIC COMPANY
2009 ENVIRONMENTAL COMPLIANCE PLAN (Case No. 2009-00198)

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) Projected Capital Cost ($Million)
22	Fly & Bottom Ash, Fixated Calcium Sulfite	CCP Storage Landfill (Phase I)	Cane Run Station	401 KAR Chapter 45	Division of Waste Management - Landfill Permit	2015	$18.52 (E)
23	Fly & Bottom Ash, Gypsum	CCP Storage Ash Treatment Basin/Gypsum Storage (See Note 1)	Trimble County Station	401 KAR Chapter 5 KRS Chapter 151	Division of Water - KPDES Permit and Dam Construction Permit	2010	$12.82 (E)
24	Fly & Bottom Ash, Gypsum	CCP Storage Landfill (Phase I) (See Note 1)	Trimble County Station	401 KAR Chapter 5 401 KAR Chapter 45	Division of Waste Management - Landfill Permit Division of Water - KPDES Permit	2012	$36.68 (E)
25	Fly & Bottom Ash, Gypsum, Fixated Calcium Sulfite	Beneficial Reuse	Trimble County Station (see Note 2)	401 KAR Chapter 45	Permit-by-rule	2010	$4.51 (E)
			All Stations (see Note 3)			on-going	N/A
							$72.53

Note 1: Combined, the KU/LG&E costs account for 75% of the total TC CCP project costs. KU and LG&E's costs split 48% / 52% respectively.
Note 2: Barge Loading Facility for fly ash Beneficial Reuse opportunity
Note 3: O&M for Beneficial Reuse - see Page 2 of 2

LOUISVILLE GAS AND ELECTRIC COMPANY
2009 ENVIRONMENTAL COMPLIANCE PLAN (Case No. 2009-00198)

Project	Air Pollutant or Waste/By-Product To Be Controlled	Control Facility	Generating Station	Esitmated Annual Operations and Maintenance Costs (Through 2018)								
				2010	2011	2012	2013	2014	2015	2016	2017	2018
18	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 (See Note 1)	$ 1,328,398	$ 2,078,421	$ 2,457,617	$ 2,631,751	$ 2,702,173	$ 2,767,171	$ 2,834,519	$ 2,917,620	$ 2,972,968
22	Fly & Bottom Ash, Fixated Calcium Sulfite	CCP Storage Landfill (Phase I)	Cane Run Station	$ 21,573	$ 22,868	$ 2,952,681	$ 3,153,930	$ 3,343,166	$ 3,543,756	$ 3,756,381	$ 3,962,950	$ 4,101,442
23	Fly & Bottom Ash, Gypsum	CCP Storage Ash Treatment Basin/Gypsum Storage (See Note 2)	Trimble County Station	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
24	Fly & Bottom Ash, Gypsum	CCP Storage Landfill (Phase I) (See Note 3)	Trimble County Station	$ -	$ -	$ -	$ 1,137,576	$ 1,205,830	$ 1,278,180	$ 1,354,871	$ 1,436,163	$ 1,522,333
25	Fly & Bottom Ash, Gypsum, Fixated Calcium Sulfite	Beneficial Reuse	Trimble County Station (see Note 4)	$ 155,025	$ 328,653	$ 348,372	$ 369,275	$ 391,431	$ 414,917	$ 439,812	$ 466,201	$ 494,173
			Trimble County Station (see Note 4)	$ 273,000	$ 273,000	$ 273,000	$ 273,000	$ 273,000	$ 273,000	$ 273,000	$ 273,000	$ 273,000
			Cane Run Station (see Note 5)	$ 6,353,842	$ 3,442,996	$ 3,622,061	$ 4,126,864	$ 4,764,110	$ 4,922,442	$ 5,393,825	$ 5,717,455	$ 6,001,820
			All Stations	Note 6								

Note 1: Combined, the KU/LG&E costs account for 75% of the total TC AQCS O&M costs. KU and LG&E's costs split 81% / 19% respectively.
Note 2: Trimble County Ash Treatment Basin/Gypsum Storage do not incur any incremental O&M costs.
Note 3: Combined, the KU/LG&E costs account for 75% of the total TC CCP O&M costs. KU and LG&E's costs split 48% / 52% respectively.
Note 4: O&M for beneficial reuse
Note 5: O&M for beneficial reuse. Execution of this beneficial reuse opportunity would reduce the capital and O&M cost of Project 22.
Note 6: Expenses associated with future beneficial reuse projects will be incurred as opportunities are identified.

Certificate of Notice

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2009 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	))))))	**CASE NO. 2009-00198**

CERTIFICATE OF NOTICE

Pursuant to the Kentucky Public Service Commission's Rules Governing Tariffs effective August 4, 1984, I hereby certify that I am Lonnie E. Bellar, Vice President, State Regulation and Rates, for Louisville Gas and Electric Company ("LG&E" or "Company"), a utility furnishing retail electric service within the Commonwealth of Kentucky, which, on the 26th day of June 2009, filed an application for an order granting LG&E a Certificate of Public Convenience and Necessity for the construction of a landfill at the Trimble County Generating station, and approving an amended compliance plan for purposes of recovering the costs of new pollution control facilities through its Electric Rate Schedule ECR as required by KRS 278.183, as follows:

On the 26th day of June 2009, the same was delivered for exhibition and public inspection at 220 West Main Street, Louisville, KY 40202.

I further certify that more than twenty (20) customers will be affected by said change by way of an increase in their bills, and that on the 11th day of June 2009, 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, 2009, a notice

of the filing of LG&E'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, Louisville Gas and Electric 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 June 29, 2009.

Given under my hand this 26th day of June 2009.

Lonnie E. Bellar
Vice President, State Regulation and Rates
Louisville Gas and Electric Company
220 West Main Street
Louisville, Kentucky 40202

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 26th day of June 2009.

Notary Public (SEAL)

My Commission Expires:

November 9, 2010

400001.132871/573197.2

NOTICE TO CUSTOMERS OF
LOUISVILLE GAS AND ELECTRIC COMPANY

RECOVERY BY ENVIRONMENTAL SURCHARGE OF LOUISVILLE GAS AND ELECTRIC'S 2009 ENVIRONMENTAL COMPLIANCE PLAN

PLEASE TAKE NOTICE that on June 26, 2009, Louisville Gas and Electric Company ("LG&E") will file with the Kentucky Public Service Commission ("Commission") in Case No. 2009-00198, an Application pursuant to Kentucky Revised Statute 278.183 for approval of an amended compliance plan ("LG&E's 2009 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 2010, under LG&E's existing rate mechanism known as the environmental cost recovery surcharge or "Electric Rate Schedule ECR."

Federal, state and local environmental regulations require LG&E to continually build and upgrade equipment and facilities in order to operate in an environmentally sound manner. Specifically, LG&E is seeking Commission approval of a Certificate of Public Convenience and Necessity ("CPCN") to construct a new landfill facility at the Trimble County Generating Station near Wises Landing in Trimble County, Kentucky. Additionally, LG&E is seeking recovery of costs associated with these environmental projects, which are necessary for compliance with the Federal Clean Air Act, the Federal Clean Water Act and the Federal Resource Conservation and Recovery Act. These additional projects primarily relate to expansion of the coal combustion byproduct (ash and gypsum) treatment basins at the Trimble County Generating Station, expansion of the landfill at the Cane Run Generating Station in Jefferson County, Kentucky, construction of a new landfill facility at the Trimble County Generating Station, and certain operating costs associated with the Air Quality Control System equipment necessary to operate Trimble County Unit 2 within the approved environmental limitations. The capital cost of these new pollution control facilities for which LG&E will seek cost recovery at this time is estimated to be $73 million. Additional operation and maintenance expenses will be incurred for these facilities.

The estimated impact on a residential electric customer using 1,000 kilowatt hours per month is expected to be an initial monthly increase of $0.71 for LG&E customers during 2010, with the maximum monthly increase expected to be $0.87 during 2014.

The Environmental Surcharge Application described in this Notice is proposed by LG&E. However, the Public Service Commission may issue an order modifying or denying LG&E'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. 2009-00198. 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 Louisville Gas and Electric Company at 220 West Main Street, Louisville, Kentucky, 40202, Attention: Lonnie E. Bellar, Vice President, State Regulation and Rates. A copy of the Application and testimony will be available for public inspection at LG&E's offices where bills are paid after June 26, 2009.

Maps

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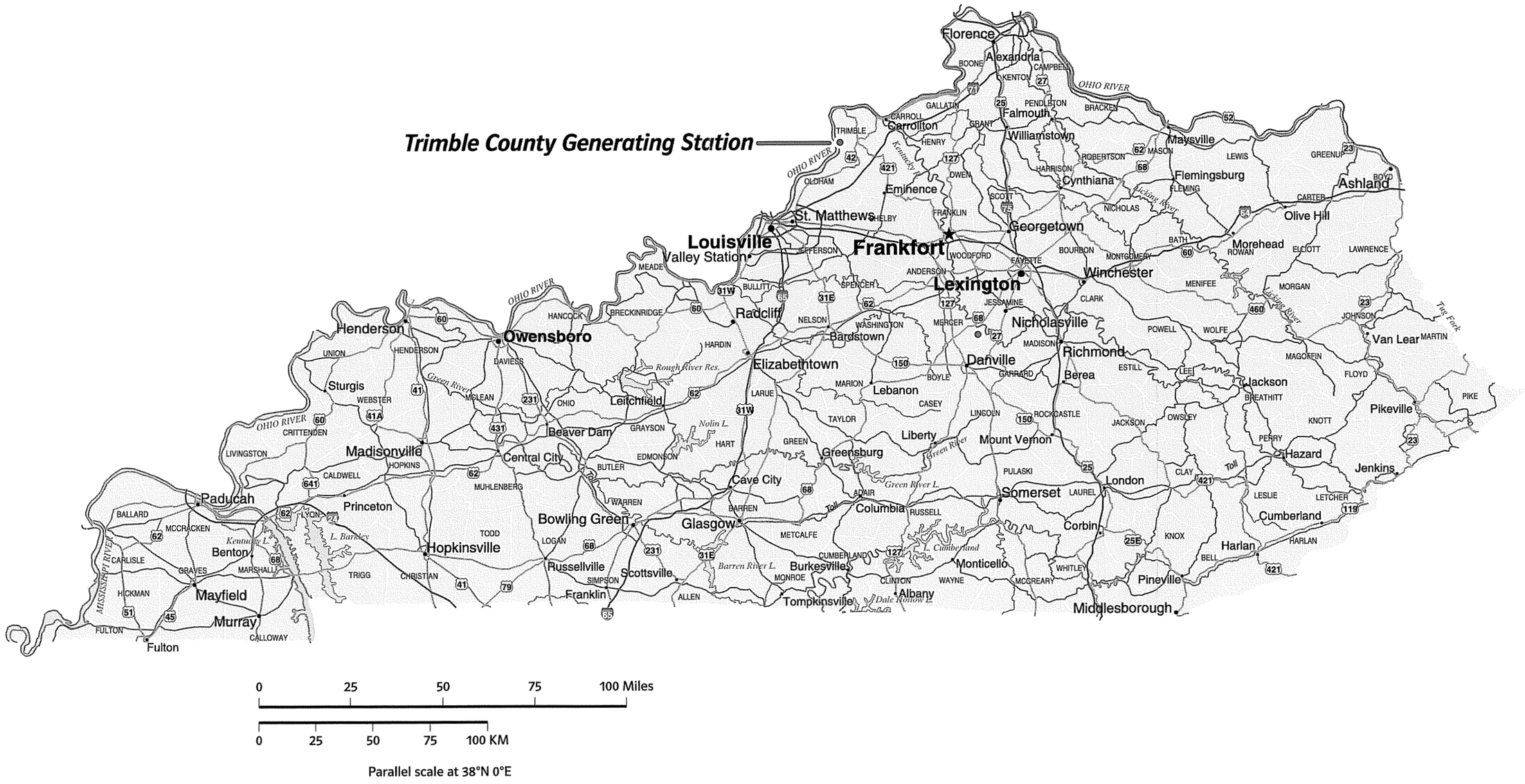
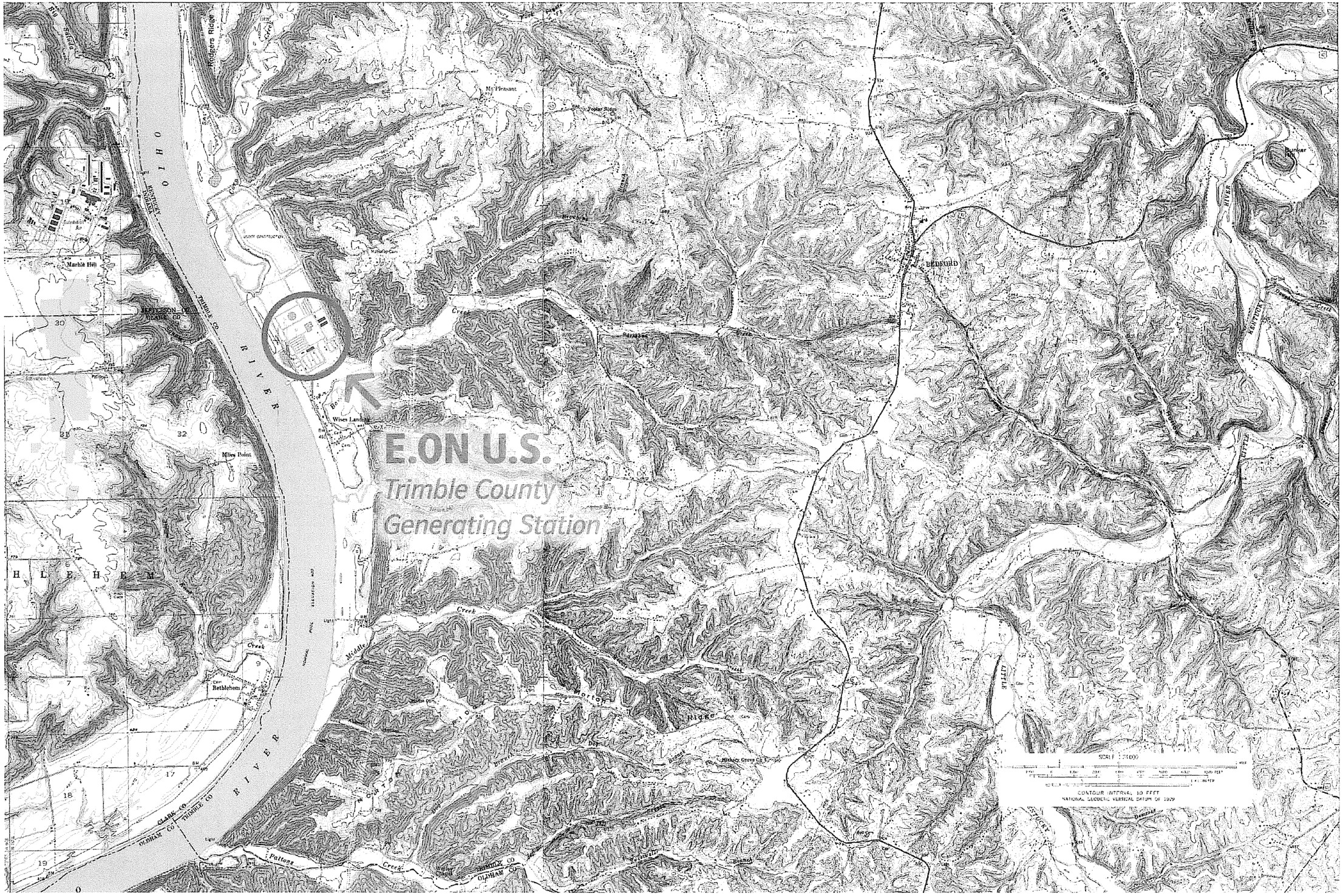

Trimble County Generating Station
Florence
Alexandria
Falmouth
Williamstown
Carrollton
Maysville
Flemingsburg
Ashland
Cynthiana
Eminence
St. Matthews
Louisville
Valley Station
Frankfort
Georgetown
Olive Hill
Morehead
Winchester
Lexington
Radcliff
Nicholasville
Bardstown
Richmond
Danville
Berea
Van Lear
Jackson
Pikeville
Elizabethtown
Lebanon
Liberty
Mount Vernon
Greensburg
Hazard
Jenkins
Somerset
London
Cave City
Columbia
Glasgow
Bowling Green
Corbin
Cumberland
Harlan
Monticello
Burkesville
Russellville
Scottsville
Hopkinsville
Tompkinsville
Albany
Middlesborough
Pineville
Owensboro
Henderson
Sturgis
Madisonville
Central City
Beaver Dam
Leitchfield
Paducah
Princeton
Benton
Mayfield
Murray
Fulton
OHIO RIVER
Kentucky R.
Green River
Rough River Res.
Nolin L.
Barren River L.
L. Barkley
Kentucky L.
L. Cumberland
Dale Hollow L.
Licking River
Big Sandy River
Tug Fork
MISSISSIPPI RIVER
0 25 50 75 100 Miles
0 25 50 75 100 KM
Parallel scale at 38°N 0°E


E.ON U.S.
Trimble County
Generating Station
Rodgers Ridge
Ms Pleasant
Foster Ridge
Bunker Hill
Marble Hill
JEFFERSON CO
TRIMBLE CO
BEDFORD
Wises Landing
Miles Point
Bethlehem
Patton Ridge
Patton Creek
CLARK CO
OLDHAM CO
SCALE 1:24000
CONTOUR INTERVAL 10 FEET
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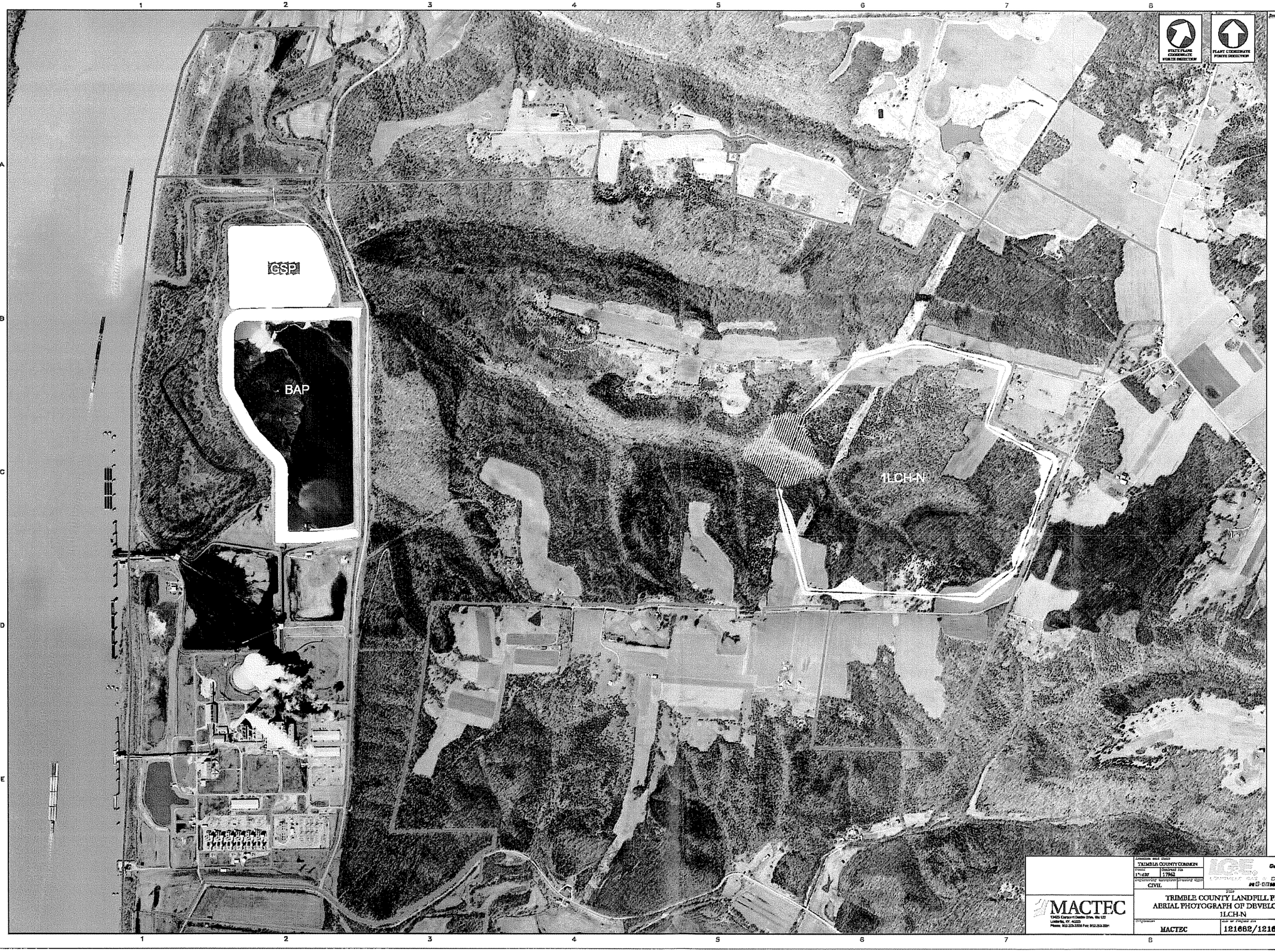

Generation Services	Drawn: G.HAYS		
LG&E KENTUCKY GAS & ELECTRIC COMPANY	Checked: S.COX		
Engineering Supervision:	Approved: D.DUNCAN		
CIVIL	Title: TRIMBLE COUNTY LANDFILL PROJECT AERIAL PHOTOGRAPH OF DEVELOPMENT OF 1LCH-N		
MACTEC	Original Size: 121682/121683	Drawing No: TCO-C-02006	Rev:

MACTEC

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2009 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	))))))	CASE NO. 2009-00198

DIRECT TESTIMONY OF
LONNIE E. BELLAR
VICE PRESIDENT, STATE REGULATION AND RATES
LOUISVILLE GAS AND ELECTRIC COMPANY

Filed: June 26, 2009

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

A. My name is Lonnie E. Bellar. I am the Vice President, State Regulation and Rates for Louisville Gas and Electric Company ("LG&E") and Kentucky Utilities Company ("KU") (collectively, "the Companies"), and am an employee of E.ON U.S. Services Inc., which provides services to 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. 2008-00251[1] and 2008-00252,[2] the Companies' most recent base rate cases.

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 Convenience and Necessity ("CPCN") associated with the construction of a coal combustion byproduct ("CCP") landfill at the Trimble County Generating Station. My testimony also presents an overview of LG&E's 2009 Environmental Compliance Plan ("2009 Plan"). LG&E's 2009 Plan includes (1) LG&E's allocated share of the operating and maintenance expenses of the Air Quality Control Systems ("AQCS") currently being installed on Trimble County Unit 2 ("Trimble 2"), the capital cost of which is included in LG&E's 2006 Plan[3] as Project No. 18, (2) expansion of the Trimble County Station ash treatment basin and gypsum storage pond, (3)

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[1] In the Matter of: *The Application of Kentucky Utilities Company for an Adjustment of Electric Base Rates*

[2] In the Matter of: *The Application of Louisville Gas and Electric Company, Inc. for an Adjustment of its Electric and Gas Base Rates*

[3] In the Matter of: *The Application of Louisville Gas and Electric Company for Approval of Its 2006 Compliance Plan for Recovery by Environmental Surcharge* (Case No, 2006-00208)

construction of landfill facilities at the Trimble County and Cane Run generating stations, and (4) recovery of certain capital and operating and maintenance costs LG&E will incur to take advantage of opportunities to beneficially reuse CCP rather than dispose of 100% of it on site in either existing or new CCP storage facilities. Finally, I will explain why LG&E is seeking environmental surcharge recovery of its 2009 Plan through its Environmental Cost Recovery ("ECR") Surcharge tariff, for bills rendered on and after January 28, 2010, including LG&E's request and support for continuing the current 10.63 percent return on common equity.

Overview of Testimony

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

A. Yes. In addition to my testimony, LG&E is presenting the testimony of four other witnesses in this case. These witnesses and the subjects of their testimonies are:

- John N. Voyles, Vice President of Transmission and Generation Services, presents testimony that describes the projects and the need for the projects in LG&E's 2009 Plan. Mr. Voyles also presents testimony concerning the environmental regulatory requirements faced by the Companies, including a description of the rules and regulations governing the handling and disposal of the solid waste material produced as a result of coal combustion.
- Charles R. Schram, Director, Energy Planning, Analysis and Forecasting, presents testimony on the cost-effectiveness of the projects in LG&E's 2009 Plan.
- Shannon L. Charnas, Director of Utility Accounting and Reporting, presents testimony affirming that none of the costs for which LG&E is seeking

recovery through its Environmental Surcharge tariff are included in base rates and describes the accounting associated with the projects in LG&E's 2009 Plan consistent with the Commission's prior orders.

- Robert M. Conroy, Director of Rates, presents LG&E's proposed Electric Rate Schedule ECR and corresponding monthly reporting requirements and presents testimony affirming that the calculation of LG&E's environmental surcharge will comply with all previous Commission Orders. Mr. Conroy also presents the revisions to the monthly ECR reporting forms that LG&E proposes, and explains why the revisions to the forms are appropriate.

Certificate of Public Convenience and Necessity

Q. Is LG&E requesting a CPCN in this proceeding?

A. Yes. As explained in Mr. Voyles's testimony, LG&E must expand its CCP storage facilities at the Trimble County generating station in order to safely store the CCP at the facility. Due to the financial commitments necessitated by this project, LG&E determined that a CPCN is necessary, and in this Application is requesting the Commission's authority to construct the identified facility. Because of its joint ownership of Trimble County Unit 2, KU will be a part-owner of the new CCP storage facility at Trimble County, and is requesting similar authority in Case No. 2009-00197.[4]

Q. What is the construction timeframe for the CCP storage facility?

A. As indicated in the Application and in Mr. Voyles's testimony, LG&E expects the Trimble County landfill to be placed in service in 2013, after approximately 18-24 months of construction.

Q. When does LG&E need to begin construction of the CCP landfill to meet the proposed in-service date?

A. Based upon the preliminary engineering design work, LG&E anticipates starting construction on the Trimble County CCP landfill in the second half of 2010. For these reasons, LG&E is requesting that the Commission issue its CPCN authorization by December 23, 2009. To date, LG&E has not executed any contracts for the acquisition or construction of the proposed landfill.

Q. What is LG&E's anticipated investment in the proposed CCP facility?

A. LG&E estimates that the capital investment in Phase I of the Companies' portion of the Trimble County CCP landfill will be approximately $71 million (of which LG&E will share 52% as discussed below). The support for this estimate is discussed in Mr. Voyles's testimony.

Q. How do the Companies propose to determine their ownership shares of the new CCP storage facility at the Trimble County generating station?

A. The Companies propose to allocate their ownership of the new CCP storage facility at the Trimble County generating station on the basis of their ownership of the nameplate generating capacity ratings of the two generating units at the station, as shown in Table 1 below. The proposed allocation would result in LG&E's ownership share of the Companies portion being 52% and KU's being 48%; LG&E will own 39% and KU will own 36% of the total facility cost.

[4] In the Matter of : *The Application of Kentucky Utilities Company For Certificates of Public Convenience and Necessity and Approval of Its 2009 Compliance Plan for Recovery By Environmental Surcharge*.

Table 1

	Nameplate Rating	IMEA/IMPA Share	Companies' Share	LG&E Share	KU Share
TC1 (MW)	566	141.5	424.5	424.5	0
TC2 (MW)	838	209.5	628.5	119.4	509.1
Total (MW)	1404	351	1053	543.9	509.1
Companies' Allocation of Their Combined Ownership Share			75%	**52%**	**48%**
Total Ownership		25%		**39%**	**36%**

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

A. LG&E expects to finance the costs of the new facilities 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 LG&E to maintain its strong investment-grade credit rating. To the extent that tax exempt financing may be available for these projects, the Companies anticipate using such opportunities to the extent that they are reasonably cost-effective.

Q. Will LG&E obtain the necessary permits for the facilities for which CPCNs are being requested?

A. Yes. As described in detail in Mr. Voyles's testimony, LG&E either has obtained or is in the process of developing the applications for all environmental and construction permits. LG&E anticipates a favorable disposition of its permit applications.

Q. May the Commission grant LG&E the CPCN it requests before the permitting process is complete?

A. Yes, the Commission may grant the requested CPCN before the permitting process is complete. KRS 278.020(1) states that a CPCN shall expire within one year of the

Commission's granting thereof, "exclusive of any delay due to the ... failure to obtain any necessary grant or consent ...." The statute therefore clearly anticipates situations in which the Commission may grant CPCNs prior to the CPCN applicants' having obtained all other necessary permits.

Q. Did the Commission issue a certificate of public convenience and necessity which includes the pollution control facilities being built as part of the Trimble County Unit No. 2?

A. Yes. The environmental equipment being built in connection with the construction of Trimble County Unit 2 is included in the authority of the CPCN issued by the Commission in its Order dated November 1, 2005 in Case No. 2004-00507.[5]

Q. Will LG&E seek recovery of the costs of the CCP facility through the Environmental Cost Recovery mechanism?

A. Yes. LG&E, in this proceeding, is seeking approval of the CPCN, the 2009 Plan, and cost recovery through the Environmental Cost Recovery mechanism. The CPCN 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.

2009 Environmental Surcharge Plan and Recovery

Q. Is LG&E proposing a 2009 Environmental Surcharge Plan in this proceeding?

A. Yes. The projects in LG&E's 2009 Plan serve LG&E's Cane Run and Trimble County generating stations, as well as LG&E's ownership of Trimble County Unit 2, which is now under construction. LG&E's 2009 Plan contains four new capital

[5] 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*

projects (along with their associated operating and maintenance ("O&M") expenses), as well as a modification to Project 18 in LG&E's 2006 Plan, which will allow LG&E to recover its share of the O&M expenses associated with the Trimble 2 AQCS (Project 18 already includes the capital costs of the Trimble 2 AQCS). LG&E's 2009 Plan is attached as Exhibit JNV-1 to Mr. Voyles's testimony. Mr. Voyles's testimony presents LG&E's 2009 Plan, describes the need for the new projects in that plan, and provides the timeframe for construction of the projects. Mr. Voyles's testimony also presents LG&E's evidence concerning the applicable environmental regulatory requirements and shows how the pollution control facilities in the 2009 Plan satisfy LG&E's environmental obligations. Mr. Schram's testimony provides evidence as to the cost-effectiveness of the projects and details the estimated capital cost of $73 million for the projects.

Q. What evidence does LG&E present on the accounting of the cost for the 2009 Plan?

A. Ms. Charnas's testimony explains LG&E's reporting and accounting for the capital costs and operation and maintenance expenses associated with the pollution control facilities described in Mr. Voyles's testimony. Ms. Charnas further affirms that the environmental compliance costs LG&E proposes to recover through its surcharge are not already in existing rates and, as applicable, that the accounting will be consistent with the Commission's prior orders.

Q. What evidence does LG&E present concerning cost recovery and reporting under its ECR surcharge rider?

A. Mr. Conroy presents testimony to explain LG&E's changes to its monthly reporting requirements and affirming that the calculation of LG&E's environmental surcharge

will comply with all previous Commission Orders. Mr. Conroy also presents the revisions to the monthly ECR reporting forms that LG&E proposes, and explains why the revisions to the forms are appropriate.

2009 Compliance Plan Overview

Q. Please describe the nature of the projects LG&E is including in its 2009 Compliance Plan.

A. As summarized in Exhibit JNV-1 to Mr. Voyles's testimony, LG&E's 2009 Compliance Plan is focused almost exclusively on projects to properly handle and store solid waste resulting from coal combustion at two of LG&E's generating facilities. The coal combustion process results in quantities of solid waste that must be safely stored in such a way as to avoid release into surface waterways and ground water. Over time, LG&E's existing CCP storage facilities have neared capacity and LG&E has been studying and evaluating alternatives for additional CCP storage capacity. This evaluation process is presented in Exhibit JNV-2, ***Louisville Gas and Electric Company and Kentucky Utilities Company Comprehensive Coal Combustion Byproduct Strategy,*** which describes and summarizes the nature of the CCP storage requirements the Companies face and the alternatives developed for meeting the CCP storage needs. LG&E's proposed CCP storage projects will provide the Company with long-term storage for CCP in compliance with all applicable laws and regulations.

Q. How do additional CCP storage needs affect LG&E's commitment to the responsible use of coal-fired generation?

A. The additional CCP storage needs LG&E faces do not affect the Company's long-standing commitment to the efficient, safe and environmentally responsible use of

coal as a fuel source in its generating facilities. The Company's commitment to coal use is evidenced by the type of power plants in which LG&E has historically invested, and continues to invest, to meet its service requirements, consistent with the stated policy of Kentucky's General Assembly in KRS 278.020(1): "[It is] the policy of the General Assembly to foster and encourage the use of Kentucky coal by electric utilities serving the Commonwealth." The Companies are demonstrating their long-term commitment to the safe, clean, and efficient use of coal by their significant investment in Trimble County Unit 2, a new 750 MW pulverized-coal super-critical unit employing state-of-the-art air pollution control equipment to ensure environmental compliance.

Q. At which facilities does LG&E operate CCP storage facilities?

A. LG&E owns, or partially owns, coal generating facilities (and therefore CCP storage facilities) at three locations: Cane Run Generating Station and Mill Creek Generating Station, both located in Jefferson County, Kentucky, and Trimble County Generating Station, located in Trimble County, Kentucky. Please see Exhibit LEB-1 for a summary of LG&E's existing facilities and storage capacities.

Q. Please describe the current status of LG&E's CCP storage facilities at its Cane Run generating station.

A. LG&E operates an ash treatment basin and a landfill at its Cane Run generating station. The ash treatment basin was constructed in 1972, has a surface area of 40 acres and a dam height of 12 feet and is used to store bottom ash and fly ash. The landfill was constructed in 1982 and has a current surface area of 110 acres, with a permitted surface area of 163 acres and is used to store all types of CCP. Since 2006, LG&E has been expanding the capacity of the Cane Run landfill, which expansion

was approved for recovery through the ECR as Project 12 of LG&E's 2004 Compliance Plan ("2005 Plan") in Case No. 2004-00421.[6]

Q. Please describe the current status of LG&E's CCP storage facilities at its Mill Creek generating station.

A. LG&E operates an ash treatment basin and a landfill at its Mill Creek generating station. The ash treatment basin was constructed in 1972, has a surface area of 43 acres, and dam heights of 77 feet on the river side of the impoundment, and 30 feet on the Cane Run Road side of the impoundment. LG&E stores bottom ash, fly ash, and gypsum fines in the Mill Creek ash treatment basin. The Mill Creek landfill was constructed in 1982, and as a result of the expansion approved by the Commission as Project 11 of LG&E's 2005 Plan, has a surface area of 206 acres. LG&E stores all types of CCP in the Mill Creek landfill.

Q. Please describe the current status of the CCP storage facilities at the Trimble County generating station.

A. The Companies operate an ash treatment basin at its Trimble County generating station, which was constructed in 1991, has a surface area of 82 acres and a dam height of 40 feet. The Companies store bottom ash, fly ash, and gypsum fines in the Trimble County ash treatment basin.

Q. What is the remaining storage capacity of LG&E's CCP storage facilities?

A. LG&E's assessment of remaining useful storage at the facilities described above is presented more comprehensively in Mr. Voyles's testimony; however, based on current estimates of generation requirements, coal qualities, and associated CCP

[6] In the Matter of: *The Application of Louisville Gas and Electric Company for Approval of Its 2004 Compliance Plan for Recovery by Environmental Surcharge*

production, LG&E estimates that current available CCP storage will reach its maximum desired capacity by 2011 at the Cane Run ash treatment basin, by 2012 at the Cane Run landfill, by 2025 at the Mill Creek ash treatment basin, by 2024 at the Mill Creek landfill, and by 2010 at the Trimble County ash treatment basin. These dates assume that no new significant cost-effective CCP beneficial reuse opportunities arise, though the Companies will pursue every cost-effective and otherwise prudent opportunity that arises.

Q. What are LG&E's plans for CCP storage at Cane Run and Trimble County?

A. LG&E's plans are described in more detail in Mr. Voyles's testimony. LG&E is planning to expand its existing Trimble County ash treatment basin and activate its constructed, but unused, gypsum storage pond in 2010. LG&E anticipates that these two steps will provide additional CCP storage until 2013, which provides adequate time to construct a new landfill on the Trimble County property. LG&E is planning to meet storage needs at Cane Run by executing the Louisville Underground beneficial reuse opportunity while seeking approval of permit modifications for the new landfill.

Beneficial Reuse Opportunities

Q. What are "beneficial reuse opportunities" and why are the Companies interested in them?

A. "Beneficial reuse opportunities" refers to opportunities the Companies have to transport CCP off-site for reuse in an unrelated manufacturing process or construction project. For example, both LG&E and KU have agreements, and have had agreements for several years, for wallboard manufacturers to use gypsum produced at

LG&E's Trimble County facility and KU's Ghent facility in the manufacture of wallboard.

When such opportunities are determined to be cost effective they can be beneficial for the Companies and their customers, and environmentally sound. Construction and operation of landfills and ash treatment basins are significant investments and commitments. If the Companies are able to take advantage of prudent beneficial reuse opportunities as they arise, they can reduce the rate of CCP material going into on-site storage facilities, thereby extending the lives of their CCP storage facilities. The Companies are therefore actively seeking such alternatives to reduce the volume of on-site storage that is required to continue operating their generating facilities.

Q. Why are the Companies now seeking recovery of beneficial reuse opportunities through the ECR?

A. The Companies are proposing significant capital investments in CCP storage facilities in this proceeding. Beneficial reuse remains an alternative to these storage projects. The rate treatment of the CCP storage facilities projects and beneficial reuse opportunities should be consistent to avoid any economic bias toward one project type. When the economic evaluation of CCP projects is consistent, including both capital investment and beneficial reuse, customers will ultimately benefit through the lowest cost combination of long-term CCP management options.

Q. Are there any beneficial reuse opportunities LG&E is actively pursuing?

A. Yes. In terms of new beneficial reuse opportunities, LG&E has been approached by a cement manufacturer located in St. Louis, Missouri, about using ash from the Trimble County station as a raw material for cement production. Based on the Company's

economic evaluations, as discussed in Mr. Schram's testimony, this beneficial reuse opportunity has the potential to divert, over the next 20 years, up to 95% of the fly ash produced at the Trimble County generating facility. Up to 350,000 tons per year for a total potential of up to 6.5 million tons of ash will be diverted from permanent on-site storage, thereby delaying the next phase of the landfill by an estimated 8 years.

LG&E is actively pursuing an opportunity to transport CCP from its Cane Run facility to the Louisville Underground project. When an agreement with Louisville Underground is finalized, LG&E estimates that up to approximately 6.5 million tons of CCP per year will be diverted from the Cane Run facility, thereby potentially permanently prolonging the useful life of the landfill.

Q. What is the determining criterion for evaluating the cost-effectiveness of beneficial reuse?

A. Mr. Schram's testimony describes the evaluation process LG&E follows when determining whether a beneficial reuse opportunity is a cost-effective means of managing CCP. Generally, the Company determines that a beneficial reuse opportunity is cost effective and should be pursued when the incremental costs associated with the reuse lowers the present value of revenue requirements ("PVRR") of building and operating future phases of on-site storage.

Q. What has changed about the beneficial reuse market that makes Project 25 in LG&E's 2009 Plan advantageous to LG&E and its customers?

A. Increasingly, beneficial reuse opportunities are available for relatively short periods of time and for varying amounts of CCP. For example, an opportunity to reuse CCP as structural fill will only be available as long as the particular project is in the

structural fill phase of construction. Even so, some of these opportunities may be cost-effective, and therefore beneficial to LG&E and its customers. To be ready to avail itself of such opportunities, LG&E has an efficient beneficial reuse evaluation and recommendation process, as many utilities are seeking to reuse CCP. LG&E is therefore requesting Commission approval for ECR cost recovery through Project 25 for the cost of such arrangements when the Company determines they are cost-effective and demonstrates such as described below. This will allow LG&E to maximize its use of cost-effective beneficial reuse for the ultimate benefit of its customers.

Q. How would LG&E include beneficial reuse opportunities in its Compliance Plan and in the ECR?

A. When LG&E's evaluation determines that a beneficial reuse opportunity is cost effective using the general criteria described above and the detailed evaluation methods Mr. Schram describes, LG&E proposes to include the current monthly costs associated with such a beneficial reuse opportunity in its ECR filing forms. (The testimony of Mr. Conroy presents the changes to the ECR filing forms associated with Project 25.) This would allow LG&E to inform the Commission of the cost-effective beneficial reuse opportunities the Company is pursuing in nearly real-time and provide the necessary information for the Commission's continuing oversight of this activity. The six-month and two-year reviews would provide further oversight and review of the cost-effectiveness of each beneficial use project.

Return on Equity

Q. What return on common equity is LG&E currently authorized in its ECR tariff?

A. LG&E is currently authorized a return on equity ("ROE") of 10.63 percent per the Commission's February 5, 2009 Order in Case No. 2008-00252.

Q. What ROE is LG&E requesting in this proceeding?

A. The Company is requesting a continuation of the 10.63 percent ROE authorized in Case No. 2008-00252. This ROE is the result of settlement negotiations and has been in effect since February 2009. LG&E believes that, although a higher ROE could be justified under current economic conditions, the use of the 10.63% ROE is a straightforward approach, consistent with the settlement agreement approved by the Commission in LG&E's most recent base rate case, and eliminates the controversy often associated with this issue.

Q. How does LG&E propose to recover the cost of the pollution control projects in its 2009 Plan?

A. LG&E proposes to recover the cost of the pollution control projects in its 2009 Plan through LG&E's Electric Rate Schedule ECR filed with this application and proposed to be effective for bills rendered in the first cycle of the February 2010 billing month. The testimony of Mr. Conroy explains how the surcharge for the 2009 Plan will be calculated and billed under LG&E's proposed revised ECR Tariff. Mr. Conroy's testimony 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. Also, Mr. Conroy's testimony discusses changes to LG&E's monthly ECR filing forms.

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

A. The Commission should grant LG&E a CPCN to construct a landfill (to be jointly owned with KU) at the Trimble County generating station. Further, the Commission should approve LG&E's 2009 Plan and application for cost recovery of its compliance costs through its Electric Rate Schedule ECR tariff and the proposed changes to its monthly filing forms beginning with the expense month of December 2009 for bills rendered on and after January 28, 2010.

Q. Does this conclude your testimony?

A. Yes, it does.

VERIFICATION

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

The undersigned, **Lonnie E. Bellar**, being duly sworn, deposes and says he is Vice President, State Regulation and Rates for Louisville Gas and Electric Company and an employee of E.ON U.S. Services, Inc., and that has personal knowledge of the matters set forth in the foregoing testimony, and that the answers contained therein are true and correct to the best of his information, knowledge and belief.

Lonnie E. Bellar
LONNIE E. BELLAR

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 24th day of June 2009.

Tammy J. Elyy (SEAL)
Notary Public

My Commission Expires:

November 9, 2010

APPENDIX A

Lonnie E. Bellar
E.ON U.S. Services Inc.
220 West Main Street
Louisville, Kentucky 40202

Education

Bachelors in Electrical Engineering;
University of Kentucky, May 1987
Bachelors in Engineering Arts;
Georgetown College, May 1987
E.ON Academy, Intercultural Effectiveness Program: 2002-2003
E.ON Finance, Harvard Business School: 2003
E.ON Executive Pool: 2003-2007
E.ON Executive Program, Harvard Business School: 2006
E.ON Academy, Personal Awareness and Impact: 2006

Professional Experience

E.ON U.S.

Vice President, State Regulation and Rates	Aug. 2007 – Present
Director, Transmission	Sept. 2006 – Aug. 2007
Director, Financial Planning and Controlling	April 2005 – Sept. 2006
General Manager, Cane Run, Ohio Falls and Combustion Turbines	Feb. 2003 – April 2005
Director, Generation Services	Feb. 2000 – Feb. 2003
Manager, Generation Systems Planning	Sept. 1998 – Feb. 2000
Group Leader, Generation Planning and Sales Support	May 1998 – Sept. 1998

Kentucky Utilities Company

Manager, Generation Planning	Sept. 1995 – May 1998
Supervisor, Generation Planning	Jan. 1993 – Sept. 1995
Technical Engineer I, II and Senior, Generation System Planning	May 1987 – Jan. 1993

Professional Memberships

IEEE

Civic Activities

E.ON U.S. Power of One Co-Chair – 2007
Louisville Science Center – Board of Directors – 2008, 2009
Metro United Way Campaign – 2008
UK College of Engineering Advisory Board – 2009

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2009 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	))))))	CASE NO. 2009-00198

DIRECT TESTIMONY OF
JOHN N. VOYLES, JR.
VICE PRESIDENT, TRANSMISSION AND GENERATION SERVICES
LOUISVILLE GAS AND ELECTRIC COMPANY

Filed: June 26, 2009

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

A. My name is John N. Voyles, Jr. I am the Vice President of Transmission and Generation Services for Louisville Gas and Electric Company ("LG&E") and Kentucky Utilities Company ("KU") (collectively, "the Companies") and I am an employee of E.ON U.S. Services Inc.. 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. Please describe your job responsibilities.

A. I have 33 years of experience in the utility industry. In addition to oversight of the Transmission system, my current responsibilities include support of the generating fleet for both companies with engineering services and environmental compliance departments. I am also responsible for project engineering, the department that oversees large construction projects including generating stations, pollution control equipment and on-site byproduct storage facilities. Prior to this assignment, I was the officer responsible for the generating fleet and earlier in my career; I served as the corporate environmental director.

Q. Have you previously testified before this Commission?

A. Yes. Most recently, I have testified in Case No. 2004-00507[1] and Administrative Case 2007-00300[2]. Prior to those cases, I testified in LG&E's original application for recovery of its 1995 Environmental Compliance Plan.[3]

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[1] *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

[2] *In the Matter of:* Consideration of the Requirements of the Federal Energy Policy Act of 2005 Regarding Fuel Sources and Fossil Fuel Generation.

[3] *In the Matter of:* The Application of Louisville Gas and Electric Company for Approval of Compliance Plan and to Assess a Surcharge Pursuant to KRS 278.183 to Recover Costs of Compliance With Environmental Requirements For Coal Combustion Wastes and By-Products. Case No. 93-332

Q. Are you sponsoring any exhibits?

A. Yes. I am sponsoring the following nine (9) exhibits:

Exhibit JNV-1	Louisville Gas and Electric Company's 2009 Environmental Compliance Plan
Exhibit JNV-2	*Comprehensive Strategy for Management of Coal Combustion By-Products for E.ON U.S. Subsidiaries Kentucky Utilities and Louisville Gas and Electric (June 2009)*
Exhibit JNV-3	Cane Run Station Special Waste Landfill Permit – 056-00030
Exhibit JNV-4	Trimble County Station KPDES Permit – KY0041971
Exhibit JNV-5	Trimble County Station Dam Construction Permit – 17503
Exhibit JNV-6	Trimble County Station Special Waste Landfill Permit -112-00003
Exhibit JNV-7	GAI Consultants, Incorporated's- *Draft Supplemental Report Cane Run Landfill Project Conceptual Design for Storage of Coal Combustion Products (April 2009)*
	GAI Consultants, Incorporated's- *Draft Report Cane Run Landfill Project Conceptual Design for Storage of Coal Combustion Products (February 2009)*
	GAI Consultants, Incorporated's- *Final Report Cane Run Landfill Project Initial Siting Study for Storage of Coal Combustion Products (February 2008)*
Exhibit JNV-8	MACTEC Engineering and Consulting, Incorporated's- *Modification of Bottom Ash Pond Trimble County Generating Station (November 10, 2006)*
Exhibit JNV-9	MACTEC Engineering and Consulting, Incorporated's- *Final Report on Preliminary Conceptual Design For Landfill Storage of CCP Materials – Trimble County Generating Station (June 17, 2009)*

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to describe the proposed pollution control projects contained in LG&E's 2009 Environmental Compliance Plan ("2009 Plan"), identify the environmental requirements which cause the need for the pollution control

facilities in LG&E's 2009 Plan, to describe the various obligations imposed on LG&E by current local, state and federal environmental laws and regulations which cause the need for the environmental protection projects set forth in the 2009 Plan, and present the Companies' *Comprehensive Strategy for Management of Coal Combustion By-Products for E.ON U.S. Subsidiaries Kentucky Utilities and Louisville Gas and Electric* (Exhibit JNV-2) ("CCP Strategy"). The 2009 Plan is attached as Exhibit JNV-1 to my testimony and sets forth each new pollution control project for which LG&E is seeking environmental surcharge recovery. These projects are required in order for LG&E to comply with the Clean Air Act as amended, the Clean Air Interstate Rule ("CAIR"), Clean Water Act, the Resource Conservation and Recovery Act and other environmental requirements that apply to LG&E facilities used in the production of energy from coal. I will be presenting the need for the proposed projects, and will provide project details including a description of the proposed projects, the timeframe for construction, and the estimated cost of the projects.

PROJECT OVERVIEW AND DESCRIPTION

Q. Please provide an overview of the projects in LG&E's 2009 Environmental Compliance Plan.

A. The four projects contained on Page 1 of Exhibit JNV-1 and identified as LGE Projects 22 through 25, are required in order for LG&E to comply with the Clean Air Act, Clean Water Act and the Resource Conservation and Recovery Act, and other environmental regulations applicable to LG&E power plants. The total capital cost of the new and additional projects in the 2009 Plan is estimated to be approximately

$72.53 million. LG&E is also seeking recovery of operating and maintenance expenses associated with Projects 22 and 24, as detailed on Page 2 of Exhibit JNV-1.

Additionally, LG&E is seeking inclusion of the incremental operating and maintenance expenses associated with Project 18 in its 2006 Plan, namely, the Air Quality Control Systems ("AQCS") being installed on Trimble County Unit 2 ("Trimble 2") (see Page 2 of Exhibit JNV-1). In order to remain in compliance with its Title V Operating Permit, LG&E must operate and maintain the AQCS in accordance with the requirements of the Clean Air Act and CAIR.

Q. Please describe LG&E's 2009 Environmental Compliance Plan as shown in Exhibit JNV-1.

A. The new pollution control projects in LG&E's Environmental Compliance Plan are shown in Exhibit JNV-1. Page 1 of Exhibit JNV-1 lists the capital costs associated with LG&E's compliance plan.

Column 1 assigns a number to the project for identification purposes in sequence with the projects from Case No. 94-332[4] (1 through 5), Case No. 2000-386[5] (6), Case No. 2002-00147[6] (7 through 10), Case No. 2004-00421[7] (11 through 17) and Case No. 2006-00208[8] (18 through 21).

Column 2 describes the air pollutant or byproduct to be controlled.

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[4] In the Matter of: *The Application of Louisville Gas and Electric Company for Approval of a Compliance Plan and to Assess a Surcharge Pursuant to KRS 278.183 to Recover Costs of Compliance with Environmental Requirements for Coal Combustion Wastes and By-Products*

[5] In the Matter of: *The Application of Louisville Gas and Electric 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 Louisville Gas and Electric Company for Approval of Its 2002 Compliance Plan for Recovery by Environmental Surcharge*

[7] In the Matter of: *The Application of Louisville Gas and Electric Company for Approval of Its 2004 Compliance Plan for Recovery by Environmental Surcharge*

[8] In the Matter of: *The Application of Louisville Gas and Electric Company for Approval of Its 2006 Compliance Plan for Recovery by Environmental Surcharge*

Column 3 identifies the pollution control facility that LG&E plans to upgrade/construct to comply with the environmental regulations identified in Column 5 or lists "Beneficial Reuse" for all beneficial reuse projects.

Column 4 identifies the specific location of the pollution control facility, or states "All Stations" for beneficial reuse projects with operation and maintenance expenses only.

Column 5 identifies the environmental regulation that requires LG&E to act on the associated project.

Column 6 identifies the environmental permit required for LG&E's projects to satisfy the environmental regulations.

Column 7 shows anticipated completion date of the specific project or "on-going" for beneficial reuse projects.

Column 8 displays the estimated capital of the project.

Page 2 of Exhibit JNV-1 lists the expected annual incremental operations and maintenance expenses associated with each project.

Column 1 assigns a number to the project for identification purposes in sequence with the projects from Case No. 94-332 (1 through 5), Case No. 2000-386 (6), Case No. 2002-00147 (7 through 10), Case No. 2004-00421 (11 through 17) and Case No. 2006-00208 (18 through 21).

Column 2 describes the air pollutant or waste / by-product to be controlled.

Column 3 identifies the pollution control facility that LG&E plans to upgrade/construct to comply with the environmental regulations.

Column 4 identifies the specific location of the pollution control facility or beneficial reuse.

Columns 5-13 identify the incremental annual operation and maintenance costs associated with each project (through 2018).

ENVIRONMENTAL REGULATION

Q. Please describe environmental regulation as it exists today.

A. Environmental compliance is and always has been an ongoing, everyday activity at our facilities and for our operations. The passage of the initial Clean Air Act, the Clean Water Act, and the Resource Conservation and Recovery Act, and all subsequent amendments to and revisions of these and other environmental laws and regulations have increased LG&E's environmental compliance obligations over time. There is a need for continuous investment in and maintenance of environmental pollution control equipment and facilities. The stringent environmental regulations that have caused the need for the pollution control projects in LG&E's 2009 Plan relate to the protection of water quality and the proper management of coal combustion byproducts ("CCP").

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

A. Under the Clean Air Act, LG&E 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 Clean Air Act through the State Implementation Plan process. All of the LG&E coal-fired units in Kentucky (except those in Jefferson County) fall under the jurisdiction of the Kentucky Energy and Environment Cabinet, Division for Air Quality and must comply with regulations promulgated by the state agency. The facilities located in Jefferson County fall under

the jurisdiction of the Louisville Metro Air Pollution Control District ("Air Control District") and must comply with the local regulations promulgated by the district. Primacy for implementation and enforcement of the Clean Water Act and the Resource Conservation and Recovery Act have also been granted to Kentucky. The Kentucky Division of Water and the Kentucky Division of Waste Management manage the water and waste management issues for the Cabinet, respectively.

LG&E has four coal-fired units located at Mill Creek Station and three coal-fired units located at Cane Run Station, with both facilities located in Jefferson County, Kentucky, and one coal-fired unit located in Trimble County, Kentucky. A second coal-fired unit is currently under construction at the Trimble County Station, which is jointly owned with KU and is expected to be completed in 2010.

Q. Does LG&E's 2009 Plan list the environmental permits and regulations that are applicable to LG&E?

A. Yes. My testimony describes the environmental regulations, permit requirements and compliance orders applicable to LG&E. These regulations and requirements are summarized in Column 5 in Exhibit JNV-1. The pollution control facilities listed as Projects 22-25 of LG&E's 2009 Plan enable the Company to continue to fulfill its environmental compliance obligations. The evidence of LG&E's satisfaction of its environmental compliance obligation and thus the need for the projects in the 2009 Plan is shown in Column 6, "Environmental Permits" in Exhibit JNV-1.

Projects 22, 23 and 24 – Coal Combustion Byproduct Treatment Facilities

Q. Please identify those byproducts produced during the combustion of coal to produce electricity that LG&E is controlling with the projects included in the 2009 Plan.

A. The combustion of coal generates various byproducts which are characterized as special wastes (non-hazardous, high volume wastes) in the form of fly ash and bottom ash, which are currently deposited into permitted ash treatment basins, as well as calcium sulfite or calcium sulfate (gypsum) from the Flue Gas Desulfurization systems ("FGDs"), which is either delivered to wallboard manufacturers or stored in the ash treatment basin (Trimble County) or landfilled on site (Cane Run).

Q. Has EPA studied these special wastes and made any determinations as to the hazardous nature of CCP?

A. EPA has conducted two separate studies, reaching a conclusion in 1993 and again in 2000 that CCP did not warrant regulation as a hazardous waste.

Q. What environmental laws and regulations are applicable to the protection of water quality and control of coal combustion byproducts?

A. Storage of coal combustion byproducts is regulated under both the Clean Water Act and the Resource Conservation and Recovery Act. Primacy for implementation and enforcement of these Federal environmental statutes has been granted to Kentucky. The coal-fired units in Kentucky are under the jurisdiction of the Kentucky Energy and Environment Cabinet and must comply with regulations promulgated by the state agency. Division of Water and the Division of Waste Management manage the water and waste management issues for the Cabinet, respectively.

LG&E has operated ash treatment basins at the Cane Run and Trimble County stations for as long as the units have been in service. Under current operations, fly ash and bottom ash are sluiced with water to these above-ground surface impoundments where the ash settles out and the decanted water is returned back to surface waters as a point source discharge (Cane Run) or recycled within the station (Trimble County). These point source discharges are permitted by the Division of Water through the Kentucky Pollutant Discharge Elimination System ("KPDES") program regulations found in 401 KAR 5. The Division of Water program establishes water quality standards (at 401 KAR 5:031) for the protection of aquatic life, drinking water and primary and secondary contact recreation. The discharge from ash treatment basins must meet these water quality standards which are translated into effluent limitations (limits on the concentration and mass of pollutants returned to surface waters) by the Division of Water. The Division of Water program also requires a demonstration of compliance with effluent limitations through discharge monitoring and monthly reporting.

The Division of Waste Management regulates utility wastes under their special waste management regulatory program (401 KAR Chapter 45). Fly ash, bottom ash, and gypsum, which are managed in a surface impoundment permitted under the Division of Water's KPDES program, are granted a special waste permit-by-rule by the Division of Waste Management. Since the Cane Run and Trimble County ash treatment basins operate as surface impoundments with a KPDES permit, the Division of Waste Management considers them permit-by-rule facilities under the special waste regulations. Utility wastes that are disposed of on a dry basis have to obtain a special waste landfill permit from the Division of Waste Management. Cane

Run currently operates a special waste landfill under a Division of Waste Management permit.

Project 22 – Cane Run Station Landfill

Q. Why is it necessary to construct a new landfill at Cane Run Station (Project 22)?

A. The original landfill at Cane Run is nearing capacity and new storage capacity must be constructed in order to continue operation of the plant. Cane Run operates its existing Special Waste Landfill under Permit Number 056-00030, identified as Exhibit JNV-3 on the compact disc attached to this testimony. The landfill at Cane Run is permitted by the Division of Waste Management and is allowed to accept fly ash and bottom ash as well as fixated scrubber sludge. Fixated scrubber sludge is a mixture of calcium sulfite (from the FGD), fly ash and a small amount of lime (calcium oxide) which creates a material similar to cement. LG&E has met with Division of Waste Management staff on several occasions over the last six months to discuss permitting issues for the proposed landfill and received favorable feedback on the preliminary designs. On the basis of LG&E's past experience with Division of Waste Management permitting processes, the applicable regulations, and the positive feedback from the agency staff, the Company anticipates a favorable disposition of LG&E's permit application. Similar discussions and preliminary field reviews have also be held with the U.S. Army Corps of Engineers ("Corps") for the Clean Water Act 404 permit and Division of Water staff for the Clean Water Act 401 Water Quality Certification, both of which require mitigation for the taking of streams within the proposed landfill footprint. Favorable disposition of these two permit applications is also anticipated. After final engineering design work is completed this

fall, the landfill, 404 and 401 permit applications will be submitted to the Division of Waste Management, the Corps and the Division of Water respectively and copies will be provided to the Commission.

Q. Are there any air regulations which would need to be considered in the operation of a new landfill at the Cane Run Station?

A. Yes. New landfill operations will cause an increase in particulate emissions, which if not properly controlled, would have an adverse impact on the environment. The increase in particulate emissions associated with the new landfill is regulated under the Air Control District's Regulation 2.05, Prevention of Significant Deterioration of Air Quality. The control of fugitive dust from landfill operations is regulated under the Air Control District's Regulation 1.14, Control of Fugitive Particulate Emissions. The permitting of the new particulate emission sources associated with the landfill is regulated under the Air Control District's Regulation 2.04. LG&E's proposed landfill design is not anticipated to trigger a Prevention of Significant Deterioration application.

Q. What are the requirements associated with these air regulations?

A. Regulation 2.04 requires the station to obtain a construction permit and revise its Title V air operating permit whenever there is a new emission source added at the facility. New emission sources include the new CCP material handling conveyors, CCP loading/unloading and CCP landfill dozer operations. These new process operations will be added to the existing Title V permit and, as a result, additional regulatory requirements associated with these activities could be required and also added to the Title V permit.

Regulation 1.14 has several requirements associated with minimizing fugitive dust and prohibiting any visible particulate emissions off-site. The new landfill design and operation will require specific efforts to comply with this regulation.

Regulation 2.05 requires that a Prevention of Significant Deterioration permit application be submitted whenever there is a significant increase in emissions such as particulates. When Prevention of Significant Deterioration is triggered, the increase in particulate emissions consumes a portion of a maximum allowable air quality increment for particulates. In addition, a Prevention of Significant Deterioration permit requires the new process to install Best Available Control Technology ("BACT").

Project 23 – Trimble County Station
Ash Treatment Basin and Gypsum Storage Pond

Q. Why is it necessary to modify the existing Ash Treatment Basin at the Trimble County Station (Project 23)?

A. The original ash treatment basin is nearing maximum desired capacity. The project calls for the raising of the dam height of the existing ash treatment basin as well as lining the previously unused emergency pond and converting it to a gypsum storage pond in order to increase overall storage capacity on site. Upon completion of Trimble 2, KU will become a part owner of the existing ash treatment basin, and therefore, the expansion of the existing facility is included in both LG&E's and KU's 2009 Plans.

Q. Is this expansion necessary in order to comply with environmental regulations or permits?

A. Yes, the byproducts from the combustion of coal, that are not beneficially reused must be deposited in the facility's ash treatment basins in accordance with the Trimble County KPDES permit KY0041971, identified as Exhibit JNV-4 on the compact disc included with this testimony. This permit, effective on October 1, 2002, was due to expire on September 30, 2007 but remains active and in force (consistent with Division of Water Regulation 401 KAR 5:060) because the renewal application was submitted to the Division of Water on April 11, 2007. The letter from the Division of Water indicating the official date of the complete application and thus the permit extension is identified as Exhibit JNV-5 on the compact disc included with this testimony. The KPDES renewal application accounts for the addition of the new gypsum storage pond. The planned expansion of the ash treatment basin and creation of the new gypsum storage pond will allow Trimble County to continue meeting the requirements of this permit.

Project 24 – Trimble County Station Landfill

Q. Why is it necessary to construct new storage capability at the Trimble County Station (Project 24)?

A. The original storage impoundment is nearing capacity and new storage capacity must be constructed in order to continue operation of the plant. Project 23 will increase the current capacity of the ash treatment basin for a short period of time which will allow the design, permitting and Phase I construction of Project 24 to be completed in time to meet the facility's storage needs. During the construction of Trimble County Unit

1 in the late 1980's, the facility applied for and received an inert landfill permit from the Division of Waste Management which was subsequently converted to a special waste landfill permit in 1996 (effective back to 1992) as a result of Kentucky regulatory changes. A copy of the current permit is identified Exhibit JNV-6 on the compact disc included with this testimony. Even though the landfill was permitted, it was never constructed because LG&E was able to successfully transport gypsum offsite for beneficial reuse in the wallboard manufacturing process. However, with the addition of Trimble 2 in 2010, the plan for additional CCP storage was reexamined with both ash treatment basins and landfills considered as CCP storage options. After an engineering review, separate ash treatment and gypsum storage facilities were determined to be the best option for additional CCP storage and further engineering studies were initiated. In December 2008, EPA rejected a request to recycle ash sluice waters as make-up water in the Trimble 2 FGD, thus creating a water balance problem for the station if fly ash was transported and stored wet in a newly constructed ash treatment basin. As a result of the EPA decision, the Company decided in January 2009 to switch from ash treatment basins to dry landfills as the storage method of choice, and the entire engineering process was started over.

Project 24 will require an application to the Division of Waste Management for a modification of the existing permit during which the plans will be updated to current engineering and environmental standards. Trimble County has received favorable feedback on the preliminary landfill designs during meetings with Division of Waste Management staff and the Company anticipates a favorable disposition of the permit modification. Similar discussions and preliminary field reviews have been held with the Corps for the Clean Water Act 404 permit and the Division of Water

staff for the Clean Water Act 401 Water Quality Certification, both of which require mitigation for the taking of streams within the proposed landfill footprint. A favorable disposition of these two permit applications is also anticipated. After final engineering design work is completed this fall, the landfill, 404 and 401 permit applications will be submitted to the Division of Waste Management, the Corps, and the Division of Water respectively and copies will be provided to the Commission.

Q. Are there any air regulations which would need to be considered in the operation of a new landfill at the Trimble County Station?

A. Yes. The new landfill operations will cause an increase in particulate emissions, which if not properly controlled, could have an adverse impact on the environment. The increase in particulate emissions associated with the new landfill is regulated under 401 KAR 51:017, Prevention of Significant Deterioration of Air Quality. The control of fugitive dust from landfill operations is regulated under 401 KAR 63:010, Fugitive Emissions. The permitting of the new particulate emission sources associated with the landfill is regulated under 401 KAR 52:020.

Q. What are the requirements associated with these air regulations?

A. The 401 KAR 52:020 regulation requires the station to revise its Title V air operating permit whenever there is new emission source added at the facility. This will include the new CCP material handling conveyors, CCP loading/unloading and CCP landfill dozer operations. These new process operations will be added to the existing Title V permit and potentially additional regulatory requirements associated with these activities could be required and also added to the Title V permit.

The 401 KAR 63:010 regulation has several requirements associated with minimizing fugitive dust and prohibiting any visible particulate emissions off-site.

The new landfill design and operation will require specific efforts to comply with this regulation.

The 401 KAR 51:017 regulation requires a Prevention of Significant Deterioration permit application be submitted whenever there is a significant increase in emissions such as particulates. When Prevention of Significant Deterioration is triggered, the increase in particulate emissions consumes a portion of a maximum allowable air quality increment for particulates. In addition, a Prevention of Significant Deterioration permit requires the new process to install BACT.

Q. Have any of these air quality regulations impacted the design of the proposed new Trimble County landfill?

A. Yes. Ash transport from the generator site to the landfill can be accomplished in two ways, either by truck hauling or by automated conveyance systems. Using trucks raised the likelihood of increasing particulate emissions to a level that would trigger the requirement for a Prevention of Significant Deterioration permit. BACT for moving significant quantities of CCP material would likely be conveyors, either pipe or enclosed, instead of truck hauling. Trimble County is an existing Prevention of Significant Deterioration source for both Trimble 1 and Trimble 2, which means that the construction on both of these units consumed Prevention of Significant Deterioration increment. Based on the modeling performed in conjunction with Trimble 2 Prevention of Significant Deterioration permitting, little ,if any, particulate increment is remaining on the eastern and southern sides of the existing property.

In addition to the Prevention of Significant Deterioration increment concern, since the truck hauling designs would have required the haul road to travel across a highway, it would be impractical to avoid visible particulate emissions off the

property. The proposed landfill design includes plans to use conveyors and is not anticipated to trigger a Prevention of Significant Deterioration application.

Project 25 – Beneficial Reuse

Q. Are there environmental regulations governing the beneficial reuse of coal combustion byproducts?

A. Yes. LG&E will comply with the performance standards and requirements of the special waste and beneficial reuse regulations found in 401 KAR 45 for all CCP projects.

COAL COMBUSTION BY-PRODUCT MANAGEMENT STRATEGY

Q. Please summarize the Companies' strategy for managing coal combustion by-products ("CCP").

A. The Companies have over 50 years of experience in the operation and maintenance of landfills and impoundments. With seven coal–fired generation facilities (approximately 95% of the Companies annual energy production is sourced from coal), the Companies have had to develop safe, efficient, and cost effective methods of managing CCP. The Companies realize that the long term viability of the existing and future coal fired generation depends on environmentally sound and economically feasible management of coal combustion byproducts. As such, the Companies developed a Comprehensive Strategy for Management of Coal Combustion Byproducts for E.ON U.S. Subsidiaries Kentucky Utilities and Louisville Gas and Electric ("CCP Strategy") attached to my testimony as Exhibit JNV-2. The CCP Strategy was developed through cross-functional coordination across various departments in the Companies, and the cross-functional coordination continues to

assess the on-going requirements of proper handling and storage of CCP. The CCP Strategy defines the approach the Companies are taking to mitigate needs associated with the short and long-term management of CCP at each generating facility. I am the executive officer that was responsible for the development of the CCP Strategy, and am the executive officer responsible for coordinating the execution of plans adopted to implement the CCP Strategy.

The CCP Strategy is presented in six sections: Background, Future Needs, Alternatives for Management of CCP, Evaluation Process, Site Specific CCP Management Plans, and a Summary. The Background describes the Companies' historical perspective of CCP management. The Future Needs section outlines a needs assessment defining the projected future needs associated with the management of CCP produced. Alternatives are developed to address the defined need. The Evaluation Process describes the methodology utilized on an on-going basis to evaluate the alternatives to mitigate a defined need for CCP management. This section includes the consideration of beneficial reuse opportunities as not only a means to satisfy a pending CCP management need but equally important as a socially responsible and environmentally sound use of a coal combustion byproduct. The strategy dictates a rigorous economic and environmental analysis supporting the recommended alternative. The fifth section summarizes the site specific CCP management plan for the generating stations with pressing CCP storage needs.

The Companies have identified the following CCP management plan for the LG&E generating facilities:

- phased construction of one new landfill (and supporting systems) at the Cane Run station (Project 22),

- vertical expansion of the existing Trimble County station ash treatment basin (Project 23),
- relining (and commissioning) the Trimble County station gypsum storage pond (Project 23),
- phased construction of one new landfill (and supporting systems) at the Trimble County station (Project 24), and
- pursuing cost effective, environmentally responsible beneficial reuse opportunities with Merlu ("Louisville Underground"), Synthetic Materials Company, and Holcim (US) Inc. (Project 25) These beneficial reuse opportunities reduce the required amount of on-site storage capacity and the cost associated with managing CCP.

All CCP related projects are currently being implemented in accordance with the CCP Strategy.

Q. Please explain "maximum desired storage capacity".

A. As explained in the CCP Strategy, the maximum desired storage capacity is a site specific maximum amount of CCP the Companies forecast to be placed in the treatment basin or landfill. It is based on unique characteristics of each facility including CCP production rates, fuel quality variability, and impoundment/landfill operational requirements.

Q. How does the CCP Strategy address the risks associated with management of CCP?

A. Although the Companies pursue and execute beneficial reuse opportunities, adequate on-site storage is needed to ensure continued operation of generating facilities. An inherent risk associated with each beneficial reuse opportunity under contractual

obligation is the possibility that the beneficial reuse partner may not fully perform its contractual obligations. On-site storage mitigates this risk in a cost effective manner. The Companies' approach is to continue to pursue and execute least-cost beneficial reuse opportunities and maintain cost effective on-site storage capacity as a backstop to support on-going operations.

Q. Please describe the phased approach to CCP management?

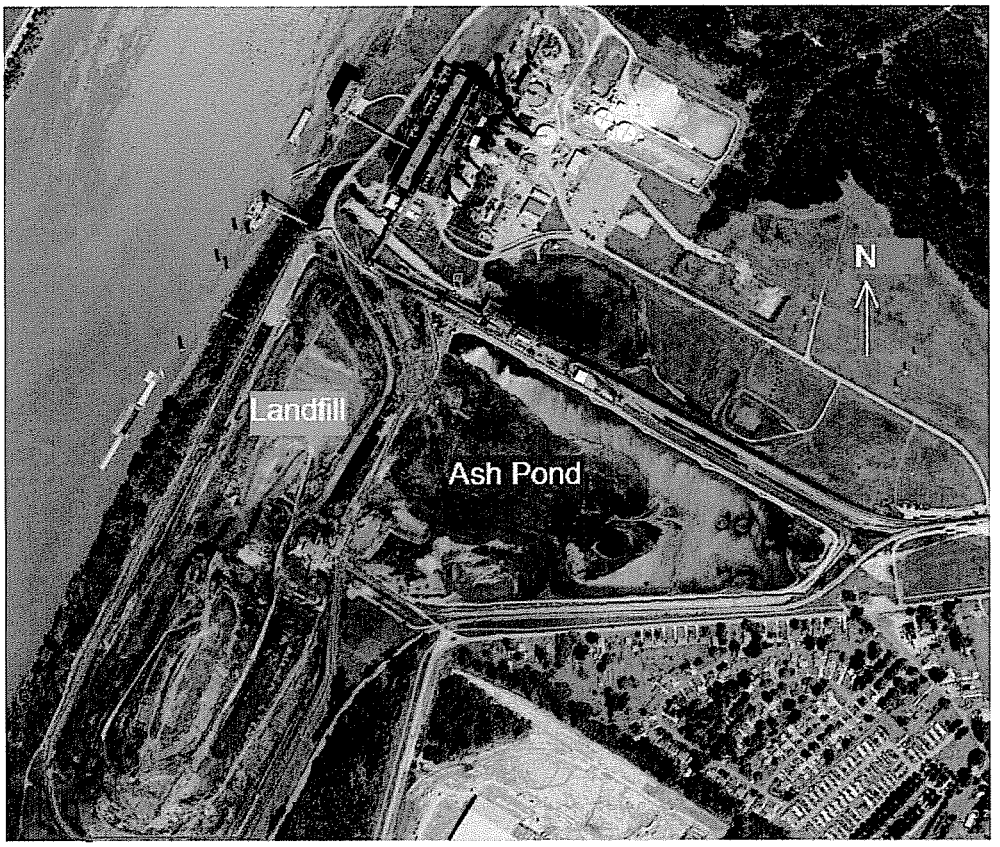
A. Phased construction consists of designing a CCP project to facilitate construction of multiple subsets (phases) of the overall project. Utilizing the phased approach incorporates flexibility and minimizes the cost impact associated with the project through alignment of construction with need. This approach enables the Companies to optimize total spend for the entire project and is consistent with the CCP strategy detailed in Exhibit JNV-2. The Companies have used, and continue to use, the phased approach at KU's E.W. Brown station associated with the Phase 1 work on the treatment basins currently in progress. The phased approach to landfill or impoundment construction maintains long term planning and operational flexibility by allowing the Companies to accommodate future beneficial reuse opportunities as they become available or as the economics improve. Such reconsideration of beneficial reuse may result in the delay or elimination of subsequent phases of the project. This approach provides maximum flexibility in support of dynamic conditions associated with CCP management and is the current philosophy of the Companies for on-site CCP construction projects.

Project 22 – Cane Run Station Landfill

Q. Please describe the new Cane Run landfill (Project 22), the anticipated cost and the associated timeline.

A. LG&E's Cane Run station produces primarily three (3) coal combustion by-products: bottom ash, fly ash and fixated calcium sulfite (fixated calcium sulfite is produced by blending fly ash with scrubber sludge and lime). The station has two (2) existing on-site storage areas for CCP (see photo below): an ash treatment basin (for bottom ash and fly ash) and a special waste landfill (for fixated calcium sulfite).

Cane Run Station



As demonstrated in Exhibit CRS-1 of Mr. Schram's testimony both the main ash treatment basin and the landfill are nearing maximum desired storage capacity with approximately 1.5 and 2 years of remaining capacity available, respectively.

Project 22 consists of Phase I (Ia and Ib, as identified in Exhibit JNV-7 on the compact disc included with this testimony), of a four (4) phase approach to constructing a new 60 acre (approximate) landfill at the Cane Run station for continued on-site management of CCP. Phase I of the project includes relocation of the following existing facilities: a 69kV transmission (located entirely on the Cane Run property) and distribution lines, the coal-pile runoff pond and dead storage ponds, and the plant entrance road. The landfill will be designed with a liner and a leachate collection system to prevent infiltration into surrounding groundwater. The liner system will be constructed from a Flexible Membrane Liner material. A 3'-5' leachate collection layer will be installed on top of the liner system utilizing reclaimed bottom ash. Utilization of bottom ash for this application is not only a beneficial reuse but also provides additional storage capacity in the existing ash treatment basin. Full construction of Phase I is expected to have a capital cost of approximately $18.52 million ($4.6 million with execution of the Louisville Underground beneficial reuse opportunity) with a total project capital cost estimated to be $53.7 million ($5.9 million with execution of Louisville Underground). As indicated, the capital requirement for this project is reduced if the Louisville Underground beneficial reuse opportunity (Project 25) is executed. This is further discussed later in this testimony. Phase I construction is expected to begin by the 3rd quarter of 2011 and be completed by mid-year 2012. Exhibit JNV-7 includes three engineering reports produced by GAI Consultants: Draft Supplemental Report – Conceptual Design; Draft Report – Conceptual Design; and Final Report – Initial Siting Study. All three reports are on the compact disc included with this testimony and provide more details about the planning for the Cane Run landfill.

The following activities summarize the Phase I scope of work:

1. **Initial Siting Study** (Completed) – This phase evaluated various CCP storage locations on existing Cane Run property and the area surrounding the plant. Six storage alternatives were evaluated during this study.
2. **Conceptual Design** (Completed) – Between the Initial Siting Study and the Conceptual Design, the original six options were expanded to seven options. Due to revised design criteria, additional options were added to the study process, and a total of 11 siting variations were evaluated. This phase developed alternatives with scope of work estimate and present value evaluation. Based on this data the best storage alternative was chosen, Alternative #10 – Single 20 year landfill on existing property.
3. **Final Design** (In Progress) – This engineering phase will design and permit Alternative #10. Work includes the landfill design/permitting, wetlands/stream mitigation, transmission/distribution line relocation design, various environmental studies etc. The goal is to obtain the construction permits, develop Issued For Construction drawings and specifications for all phases, as well as develop the landfill operation and maintenance manual.
4. **Phase I Construction** – Once the permits have been received a contractor will be chosen to perform the following (this is a high level list of activities):

   - Mobilization
   - Clearing and grubbing of the landfill and borrow areas
   - Construction of stormwater/sediment ponds
   - Grade work to attain the proper subgrade of the landfill
   - Development of the borrow site(s)
   - Installation of the liner system and leachate collection system.
   - Relocation of the existing dead storage ponds and ancillary mechanical equipment
   - Construction of new site haul roads

- Mitigation for the Mill Creek Cutoff
- De-mobilization

Q. Please describe the new Cane Run landfill (Project 22) if the Louisville Underground beneficial reuse opportunity is executed?

A. Execution of the Louisville Underground beneficial reuse opportunity as described in Project 25 of this testimony could move over six million tons of CCP from Cane Run off site for a cost effective, environmentally sound reuse. Economic analysis is presented in Mr. Schram's testimony. With execution of the full potential quantity, there is the potential to delay construction of the Cane Run landfill beyond the current 20 year planning window. However, contract negotiations are in progress and this opportunity may or may not fully materialize. As discussed previously, adequate on-site storage is necessary to ensure continued operation of the station. Project 22 as listed in Exhibit JNV-1 is to design and permit the Cane Run landfill and construct Phase I. In the event the Louisville Underground opportunity is fully performed, Project 22 Phase I capital requirements are reduced to $4.6 million to complete design and permitting. With design and permitting complete LG&E can proceed with the construction of the landfill in a timely manner, mitigating the risk should the Louisville Underground opportunity take less CCP than expected.

Q. Is this project a cost-effective means of complying with environmental regulations and permits?

A. Yes. Mr. Schram's testimony provides details associated with the economics of this project.

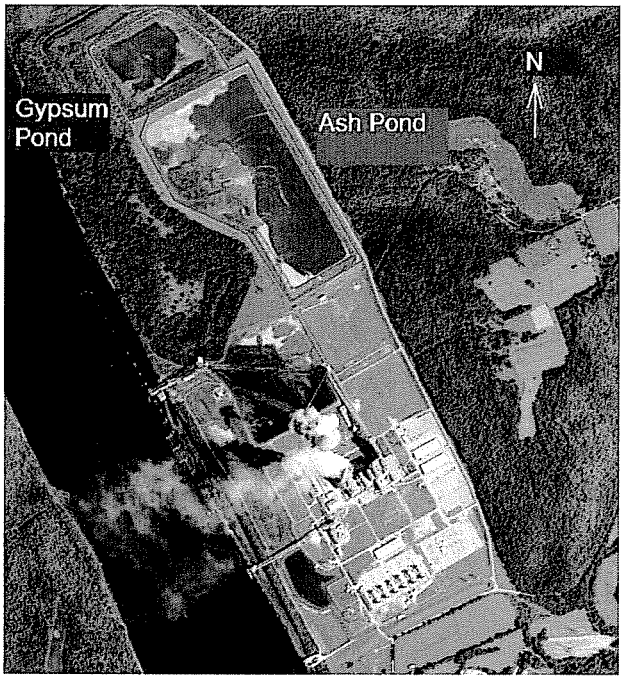
Project 23 -- Trimble County Station
Ash Treatment Basin/Gypsum Storage Pond

Q. Please describe the Trimble County Ash Treatment Basin and Gypsum Storage Pond (Project 23), the anticipated cost and the associated timeline.

A. The primary CCP managed at the Trimble County station are: bottom ash, fly ash and gypsum, all of which are currently managed through treatment in the 85 acre ash treatment basin (see photo below) located north of the generation station, or through beneficial reuse opportunities.

Trimble County also has an existing pond formally called the Emergency Fly Ash Pond, now known as the Gypsum Storage Pond located just north of the ash treatment basin. This gypsum storage pond was built during the construction of Trimble County Unit 1 and was never placed in service. In order to meet the short term CCP storage needs of the plant and to allow adequate time to develop, permit, and construct the long term storage alternative, additional storage is required to support on-going plant operations.

Trimble County Station



Based on current forecasts for CCP production (without additional on-site storage capacity, off-site storage or new beneficial reuse opportunities) the ash treatment basin is expected to reach its maximum desired capacity in 2010, as discussed in the testimony of Mr. Schram. This creates a need for additional CCP storage solutions.

Project 23 is the vertical expansion of the ash treatment basin's north, south and west dikes and conversion of the permitted, but inactive, emergency fly ash pond to a new gypsum storage pond. The ash treatment basin will be expanded by approximately 30 feet to a final elevation of 530 feet (which will increase the maximum desired capacity by 2.1 million cubic yards) at a total cost of $25.3 million. The conversion of the permitted, but inactive, fly ash basin to a new gypsum storage pond through installation of a synthetic liner will provide a maximum desired

capacity of 1.1 million cubic yards at a total cost of $7.6 million. These capital costs will be borne 75% by the utilities and 25% by partners Indiana Municipal Power Association ("IMPA") and Illinois Municipal Energy Association ("IMEA"). LG&E and KU will share the utility portion of the landfill with LG&E owning approximately 52% and KU owning approximately 48% of the facility. Therefore, LG&E's share of the Phase I cost of the ash treatment basin and gypsum ash pond expansion is expected to be $12.82 million. The vertical expansion of the ash treatment basin and utilization of the gypsum storage pond will provide sufficient on-site storage through 2012.

The following activities summarize the scope of work associated with the vertical expansion of the ash treatment basin and placing the new gypsum storage pond into operation:

1. **Conceptual Design** (Completed) – This phase determined if raising the existing ash treatment basin embankments to their original designed and permitted elevation as well as placing the gypsum storage pond into service was cost effective. In addition, a stability analysis was performed on the existing ash treatment basin to verify the original design was still acceptable. Based on the cost and stability analysis it was determined that the ash treatment basin embankments could be raised and the gypsum storage pond could be placed into service. This project is needed to provide adequate time to permit and construct the first phase of the landfill project, ensuring long-term on-site storage is available.
2. **Final Design** (Completed) – This phase provided detailed design drawings and specifications to raise the ash treatment basin embankments and line the gypsum

storage pond. As part of that process several soil borings and various studies were performed. In addition to the design drawings all the applicable construction permits were applied for and received.

3. **Phase I Construction** (In Progress) – The construction contractor has been chosen to perform the following activities (this is a high level list of activities):

- Mobilization
- Clearing and grubbing of the ash treatment basin embankments and borrow areas
- Installation of stormwater/sediment controls
- Construction of the ash treatment basin's North, West, and South embankments using a combination of clay, bottom ash, and Mechanically Stabilized Earth walls
- Remove saturated soils from the gypsum storage pond
- Grade work to attain the proper subgrade in the gypsum storage pond
- Installation of the gypsum storage pond liner system
- Installation of the new gypsum storage pond KPDES outfall
- Upgrades to existing plant mechanical transport systems to account for increased head capacities from raising the ash treatment basin height
- Installation of the new ash treatment basin and gypsum storage pond raft and pump systems
- Construction of access roads
- De-mobilization

Exhibit JNV-8 is a MACTEC Engineering report addressing the modification of the Trimble County station's ash treatment basin and gypsum storage pond. Exhibit JNV-8 is on the compact disc included with this testimony and provides more details associated with this project.

Q. Is this project a cost-effective means of complying with environmental regulations?

A. Yes. Mr. Schram's testimony provides details associated with the economics of this project.

Project 24 -- Trimble County Station Landfill

Q. Please describe the new Trimble County Station landfill (Project 24), the anticipated cost and the associated timeline.

A. Project 24 consists of constructing the first phase (Phase I of four phases) of a new 210 acre onsite landfill at the Trimble County station. Phase I is expected to cost $94.0 million (total). The total landfill project capital cost, with the inclusion of the Synthetic Materials and Holcim beneficial reuse contracts, is estimated to be $551.4 million. The Synthetic Materials and Holcim beneficial reuse opportunities allow the deferral of future phases and the capital expenditures associated with those phases. Construction of Phase I is expected to take 18-24 months to complete and is expected to be in-service in January 2013.

As presented in Exhibit CRS-2, Coal Combustion Byproduct Plan for Trimble County Station, the total Phase I cost of the landfill is anticipated to be approximately $94.04 million. The Companies will be co-owners of 75% of the landfill, with partners IMPA and IMEA owning jointly approximately 25%. The Companies will share the utility portion of the landfill, with LG&E owning approximately 52% and KU owning approximately 48% of the facility. Accordingly, LG&E's share of the Phase I cost of the landfill is expected to be approximately $36.68 million.

The following activities summarize the Phase I scope of work:

1. **Initial Siting Study** (Completed) – This phase identified 26 potential CCP storage alternatives on existing Trimble County station property and the area surrounding the ravines. Of the 26 potential alternatives, nine landfill scenarios were evaluated during this study, including a scope of work estimate and net present value evaluation.

2. **Conceptual Design** (In Progress) – This phase used the results of the Initial Siting Study and developed three storage alternatives for scope of work estimates and net present value evaluations. Based on these evaluations, the best storage alternative was chosen that meets the station's overall needs.

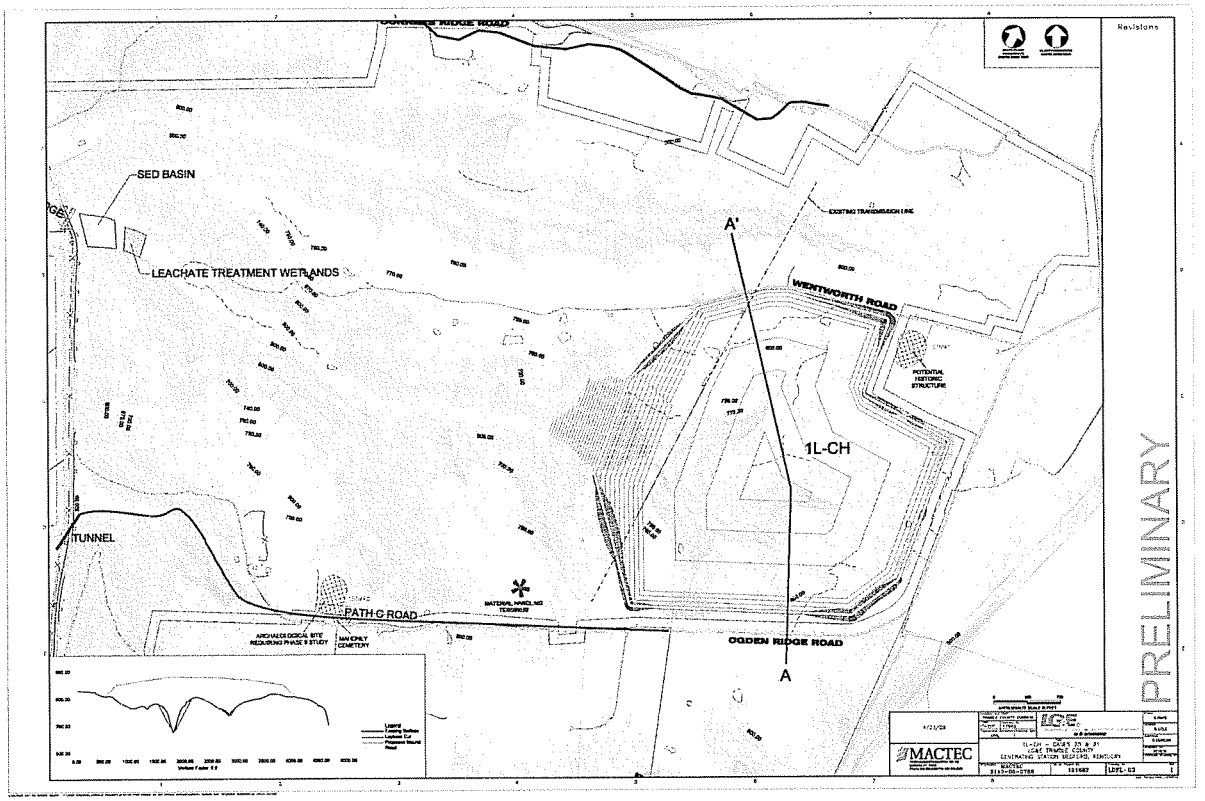
3. **Final Design** – This phase will design and permit the case chosen during the conceptual design. Work in this phase will include the landfill design/permitting, wetlands/stream mitigation, transmission/distribution line relocation design, various environmental studies, etc. The ultimate goal of this phase is to obtain the construction permits, develop Issued For Construction drawings and specifications for all phases, as well as develop the landfill O&M manual.

4. **Phase I Construction** – Once the permits and CPCN have been received a contractor will be chosen to perform the following (this is a high level list of activities):

- Mobilization
- Harvesting of timber
- Clearing and grubbing of the landfill and borrow areas
- Construction of stormwater/sediment ponds
- Construction of the stream and wetlands mitigation. This work will be done on Corn Creek.
- Grade work to attain the proper subgrade of the landfill
- Development of borrow site(s)
- Installation of a liner system, a leachate collection system and the CCP transfer system from the station to the landfill
- Construction of new site access roads
- Construction of the CCP transfer storage facility and pipe conveyor systems
- Construction of the Gypsum Dewatering facility
- Upgrades to existing CCP transfer systems
- De-mobilization

As shown in the following drawing, the landfill will be located on existing plant property in the upper area of Ravine B just east (across County Road 1838) from the existing ash treatment basin. Exhibit JNV-9 is a MACTEC Engineering and Consulting Report on the preliminary conceptual design for the Trimble County station's landfill. Exhibit JNV-9 is on the compact disc included with this testimony and provides more details associated with this project.

Proposed Trimble County Station Landfill Location



As previously discussed in this testimony, Project 24 is for Phase I ($94.0 million) of the new 210 acres (approximate) landfill located at the Trimble County station. The design of the proposed landfill is in the initial conceptual phase, and the Companies have begun the permit application process. Under Division of Waste Management regulations, permit applications for special waste landfills must be

accompanied by specific and detailed engineering drawings. The Companies have retained MACTEC Engineering to develop the permit applications, and while the applications are in development, the Companies' are meeting regularly with staff from the Division of Waste Management. These meetings serve to keep the Division of Waste Management staff apprised of the status of the application development and provide staff with the opportunity to advise the Companies of concerns that arise during the development of the application. The result of this collaborative approach is a permit application that could be approved within the minimum suggested regulatory timeframes.

Q. Is LG&E requesting a CPCN for the proposed Trimble County landfill (Project 24)?

A. Yes, as discussed in the testimony of Mr. Bellar, LG&E is requesting a CPCN for Project 24 in Exhibit JNV-1. Project 24 is associated with the construction of a new landfill and supporting systems at the Trimble County station.

Q. Why are LG&E and KU seeking a CPCN for Project 24, the proposed Trimble County station landfill at this time?

A. As discussed in Exhibit JNV-2, CCP Strategy, the Trimble County station will need additional storage space for the ash and gypsum currently being produced by Unit 1 (and Unit 2 upon commercial operation). As discussed in this testimony associated with the ash treatment basin and gypsum storage pond (Project 23), current assessments indicate that after completion of Project 23, the ash treatment basin and gypsum storage pond will be inadequate to hold additional CCP as soon as 2012 (depending on the quantity of CCP taken off-site for beneficial reuse). The Companies expect construction of the proposed landfill to take up to two years from

the issuance of the CPCN and permits before the proposed landfill facility can accept material.

Q. What alternatives to the proposed project were evaluated?

A. The Initial Siting Study identified over 26 potential alternatives based on combinations of variables including

- storage and CCP transport methods
- site locations
- transmission line relocation needs

Consistent with the CCP Strategy, opportunities for beneficial reuse were also evaluated by the Companies. The beneficial reuse alternatives at the Trimble County station, as discussed in Project 25, were also evaluated. Mr. Schram's testimony provides details associated with the evaluation of the alternatives at Trimble County.

Q. Is the proposed new landfill at the Trimble County station (LG&E Project 24) consistent with the Companies' strategy for long-term management of CCP?

A. Yes. The landfill ensures adequate on-site CCP management capacity exists for the long-term. Furthermore, as discussed in Mr. Schram's testimony, analytical assessments have been performed to identify and utilize any cost effective beneficial reuse alternatives in order to minimize environmental impact and promote environmental stewardship.

Two known beneficial reuse opportunities exist for the Trimble County station. In accordance with the CCP Strategy, evaluations have been performed assessing economic and environmental feasibility. One opportunity is in the process of execution and the other is in negotiation. The identified need can not be

completely satisfied by these two beneficial reuse opportunities; thus on-site storage is required. Project 24 is a phased landfill to mitigate the remaining need.

Q. Is this project a cost-effective means of complying with environmental regulations?

A. Yes. Project 24 provides the best means of compliance with discharge and water quality regulations. Mr. Schram's testimony provides details associated with the economics of this project.

Project 25 -- Beneficial Reuse

Q. What is meant by the phrase "beneficial reuse"?

A. CCP is considered non-hazardous by the EPA and it has allowed individual states to regulate their use. Kentucky considers CCP a non-hazardous special waste and has enacted 401 KAR 45:060 which is a "special waste permit-by-rule" statute. As long as the generator abides by all aspects of the rule, reuse of the CCP is considered permitted-by-rule and no special permitting is required by the state. Pre-approved uses of the CCP include, but are not limited to, uses in cement, concrete, paint and plastics; spreading on roadways for winter time "anti-skid" material; highway base course construction; structural fill; blasting grit, roofing shingle granules and mine stabilization and reclamation material.

If the CCP are used in the manufacturing of a product or are used to replace natural soils or aggregates, the use is considered a "beneficial reuse". The EPA has also begun a program titled Coal Combustion Partnership Program to encourage and increase the use of CCP, and it defines beneficial reuse as follows: "The beneficial use of CCP involves the use of, or substitution of, coal combustion products for

another product based on performance criteria. Beneficially using CCP can generate significant environmental, economic, and performance benefits. For purposes of the Coal Combustion Partnership Program, beneficial use includes, but is not restricted to, raw feed for cement clinker, concrete, grout, flowable fill, structural fill, road base/sub-base, soil-modification, mineral filler, snow and ice traction control, blasting grit and abrasives, roofing granules, mining applications, wallboard, waste stabilization/solidification, soil amendment, and agriculture"[9].

Beneficial reuse of CCP allows utilities to manage their expenses by providing an outlet for the CCP at a cost less than the cost for placing in on-site storage facilities while also allowing natural materials to be preserved for use by future generations.

Q. Please describe the beneficial reuse market for CCP.

A. CCP materials are produced after the preparation and burning of coal and the removal of particulates or sulfur from the flue gases that exit a coal fired boiler. For many years, these high volume materials were mostly considered unusable wastes and generators of electrical power placed them in landfills, surface impoundments, or other disposal facilities.

Initially, reuse was not a wide-spread consideration, but as the CCP materials accumulated and disposal costs escalated, companies, universities, individuals, and other interested parties began to evaluate the inherent properties of CCP and whether they could be used for construction and other applications. The pozzolanic properties of classes of fly ash provided the first, wide-spread reuse of these by-products as a substitute for cement in the ready mix concrete market. This type of reuse has

[9]Available at: http://www.epa.gov/osw/conserve/rrr/imr/ccps/index.htm

evolved into one of the most common in the CCP market, which has expanded to include supply of ingredients in the manufacture of cement, flowable fill, gypsum wallboard, paints, abrasives, lightweight aggregates, and other construction-type materials.

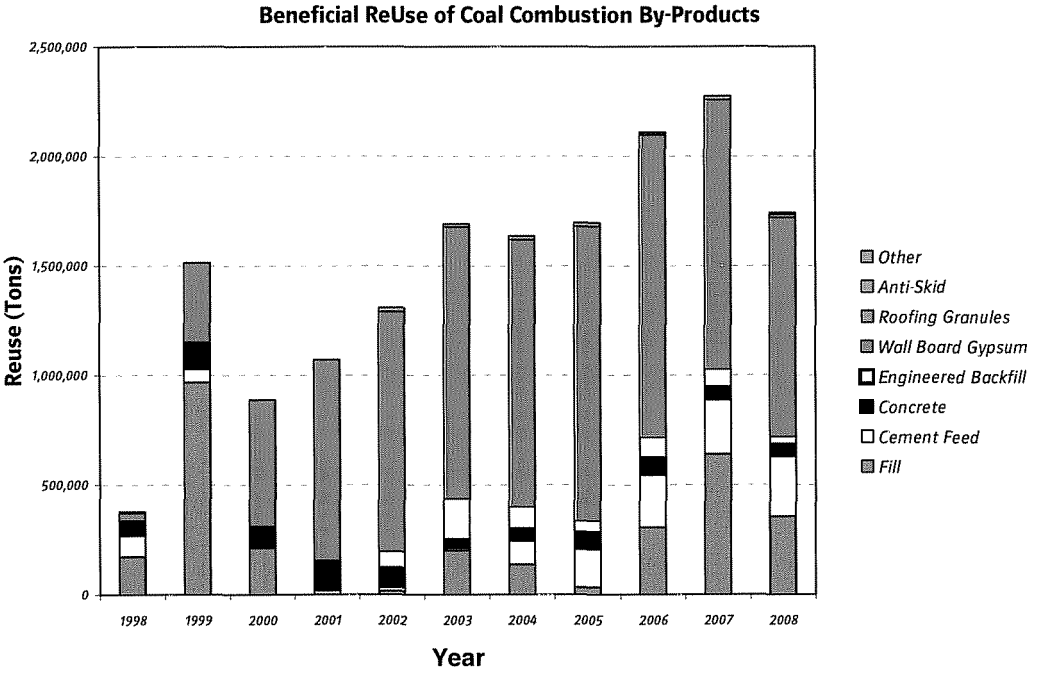
As utilities realized the potential economic benefit of reuse of the CCP that were traditionally disposed of on-site, they sought out markets for their uses. However, the recent increase of FGD installations across the nation has resulted in the market for reuse of CCP becoming oversaturated. This has caused, in many cases, the market for the use of CCP to transition from a revenue stream to a cost stream. Most utilities will now subsidize a project if the subsidy required is less than the cost for disposal in on-site storage facilities. Since the competing materials for CCP are typically natural soils or minerals that may be closer to the end user, transportation costs play a key role in the justification of a particular project.

In spite of the significant progress made in identifying CCP applications, it is estimated that 40 percent or less of the materials generated from coal combustion are reused in the United States.

Q. Please describe Project 25 in the LG&E 2009 Plan.

A. Project 25 seeks to recover the costs associated with beneficial reuse alternatives which, after an environmental and economic assessment, are deemed prudent for both the environment and for customers. The CCP material, if not beneficially reused, would increase cost to ratepayers associated with the management of CCP by accelerating construction that could otherwise have been deferred, or by increasing the required size/scope of onsite storage alternatives. As stated in Mr. Bellar's testimony, LG&E is seeking authorization to pursue and proceed with beneficial

reuse opportunities without being subject to amending the Company's Compliance Plan. Each reuse opportunity would be evaluated consistent with the analytical approach discussed in Mr. Schram's testimony. As mentioned in the CCP Strategy, the Companies continually seek economical and environmentally sound beneficial reuse opportunities and have a history of utilizing beneficial reuse of CCP. Historically, the Companies have successfully identified and negotiated beneficial reuse contracts for wall board production, cement kiln feed, and fill or backfill (see chart below). As discussed below, efforts are underway to expand the amount of the Companies' CCP reuse.



Although the Companies have been successful at executing beneficial reuse, as shown above, not all opportunities materialize. The table below summarizes a few recent opportunities. As evidenced in the table many opportunities pursued do not result in CCP leaving the site. Any one of the following may eliminate a potential

beneficial reuse opportunity from being implemented: (1) issues are identified during an environmental review of the potential reuse or location, (2) inability to meet the short lead times, (3) unfavorable economics or, (4) in the case of using CCP in a manufacturing process, negative impacts on product quality.

	Potential Partnership with	Possible Use	CCP Material	Current Status	Primary Reason for Not Pursuing
1	Florida Tile	Tile Manufacturing	Ash	Not Pursued	Negatively impacted product quality.
2	Charah	Cinder Blocks	Ash	Not Pursued	Negatively impacted product quality.
3	Lawrenceburg, Kentucky	Structural Fill	Ash	Not Pursued	Disapproval from Environmental Affairs Dep.
4	Ohio Valley Raceway	Structural Fill	Ash	Not Pursued	Disapproval from Environmental Affairs Dep.
5	West Point, Ky (2 sites)	Structural Fill	Various	Not Pursued	Disapproval from Environmental Affairs Dep.
6	Trans Ash Inc.	Roofing Granules	Ash	Not Pursued	CCP did not meet specifications
7	Universal Minerals	Blasting Grit	Ash	Not Pursued	CCP did not meet specifications
8	Site in Campton, Ky	Structural Fill	Ash	Not Pursued	Not economical
9	American Engineering	Structural Fill	Ash	Not Pursued	Not economical
10	Nugent Sand	Structural Fill	Ash	Not Pursued	Not economical
11	Trans Ash Inc.	Structural Fill	Gypsum	Pursuing	n/a
12	Holcim (US) Inc.	Cement Production	Ash	Pursuing	n/a
13	Merlu, LLC (Louisville Underground)	Structural Fill	Various	Pursuing	n/a
14	Synthetic Materials	Wallboard	Gypsum	Executed	n/a

Three specific economically and environmentally sound beneficial reuse opportunities included in Project 25 are the Synthetic Materials gypsum opportunity at the Trimble County station, the Holcim fly ash opportunity at the Trimble County station, and the Louisville Underground fixated calcium sulfite opportunity at the Cane Run station.

First, a contract was executed in December 2007 for the Trimble County station Synthetic Materials gypsum opportunity. The project consists of transporting gypsum for use in wallboard manufacturing. This reuse contract will divert at least 50% of the gypsum associated with Units 1 and 2 of the Trimble County station (approximately 300,000 tons/yr). No capital investment by the Companies is required for this opportunity. Page 2 of Exhibit JNV-1 outlines the anticipated annual operations and maintenance cost for this reuse. The economics associated with this reuse are presented in Mr. Schram's testimony.

A second opportunity is for the Trimble County station's fly ash to be taken by Holcim; this opportunity is currently in the final stages of negotiation and involves reusing fly ash from the Trimble County station in cement production. The opportunity consists of transporting fly ash by barge from Trimble County to a cement manufacturer in Genevieve County, Missouri. In Missouri, the fly ash will be used by Holcim as raw kiln feed (in place of clay that would have to be mined) in the cement clinker production process. This reuse opportunity has the potential to divert approximately 95% of Trimble County's fly ash (up to 350,000 tons starting in 2011; after the initial start up period of the kiln) from being placed in the existing ash pond or new landfill at Trimble County. This opportunity is the single largest beneficial reuse opportunity of fly ash known by the Companies that currently exists in the United States. The project requires the Companies to invest in a barge loadout and ash handling system at an estimated total cost of $11.5 million. The LG&E portion of this capital expenditure is approximately $4.51 million as shown on Page 1 of Exhibit JNV-1, Project 25. The ash, if not beneficially reused, will have to be stored in the new landfill, thereby increasing cost to customers of on-site management of CCP by accelerating the need to start construction of Phase II of the landfill by 8 years (forecasted to move to 2021 from 2029 without Holcim) and requiring a 3rd Phase of on-site construction (forecasted to begin in 2040).

A third beneficial reuse opportunity is currently being negotiated between Cane Run and Louisville Underground. The project consists of transporting CCP from Cane Run to the Louisville Underground project for use as structural fill. This reuse opportunity could divert over 6 million tons from an on-site landfill and

significantly reduce the capital requirement associated with Project 23 as described previously in this testimony.

Environmental regulations require the Companies to manage or otherwise prevent the discharge of CCP into the atmosphere and waterways. These projects provide an opportunity to significantly reduce CCP disposal costs by transporting CCP off site for beneficial reuse under strict environmental controls. Additionally, these specific beneficial reuse opportunities reduce the cost of managing CCP produced at the Trimble County and Cane Run stations and support the tenants of the Companies' CCP Strategy. Economic and environmental evaluations will be documented for all future beneficial reuse opportunities, and those opportunities found to be cost effective and environmentally sound will be executed under Project 25.

Q. Does the proposed project (Project 25) provide a cost effective way to both comply with environmental regulations and permits and a cost-effective means of managing CCP?

A. Yes. Mr. Schram's testimony provides details associated with the economics of three beneficial reuse opportunities, which reduce the cost of managing CCP produced at Trimble County and Cane Run and support the tenants of the CCP Management strategy. In addition, Mr. Schram's testimony outlines the evaluation process to be used for future beneficial reuse opportunities included in Project 25.

<u>Project 18 -- Trimble County Unit 2 Air Quality Control Systems</u>

Q. Is LG&E requesting to amend the Trimble County Unit 2 Air Quality Control System (Project 18)?

A. Yes. Recovery of the capital costs associated with the AQCS was approved in Case 2006-00208 and the Companies request the amendment to recover the incremental operation and maintenance costs associated with these systems. As indicated in Exhibit JNV-1 (page 2 of 2) the Companies anticipate that LG&E's portion of the incremental costs associated with operating and maintaining the AQCS at Trimble County will exceed $2.1 million dollars in 2011 (the first full year of operation).

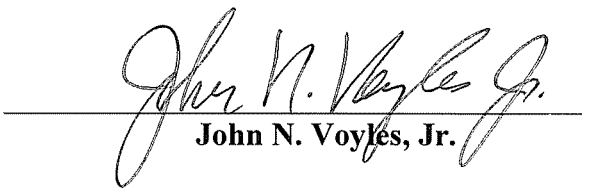
Q. Does this conclude your testimony?

A. Yes.

VERIFICATION

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

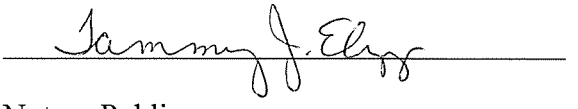
The undersigned, **John N. Voyles, Jr.**, being duly sworn, deposes and says he is Vice President, Transmission and Generation Services for Louisville Gas and Electric Company and an employee of E.ON U.S. Services, Inc., and that he has personal knowledge of the matters set forth in the foregoing testimony, and the answers contained therein are true and correct to the best of his information, knowledge and belief.



John N. Voyles, Jr.

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 24th day of June 2009.

(SEAL)



Notary Public

My Commission Expires:

November 9, 2010

John N. Voyles Jr.

Vice President, Transmission and Generation Services

E.ON U.S. LLC

220 West Main Street

Louisville, Kentucky 40202

(502) 627-4762

John Voyles was named to his current position in 2008. He has 33 years of experience in the utility industry.

Education

Rose-Hulman Institute of Technology, B.S. in Mechanical Engineering - 1976

Previous Positions

E.ON U.S. LLC

June 2008 – Present – Vice President, Transmission and Generation Services

2003 – 2008 – Vice President, Regulated Generation

LG&E Energy Corp.

February – May 2003 -- Director, Generation Services

Louisville Gas and Electric Company

1998 – 2003 -- General Manager, Cane Run, Ohio Falls and Combustion Turbines

1996 -1998 -- General Manager, Jefferson County Operations

1991-1995 -- Director, Environmental Excellence

1989 -1991 -- Division Manager, Power Production, Mill Creek

1984 – 1989 -- Assistant Plant Manager, Mill Creek

1982 – 1984 -- Technical and Administrative Manager, Mill Creek

1976 – 1982 -- Mechanical Engineer

Professional Development

Emory Business School – Management Development Program

Center for Creative Leadership (LaJolla, Ca)

University of Louisville –The Effective Executive

Harvard Business School – Finance for the Non-Financial Manager

MIT – Leading Innovation & Growth: Managing the International Energy Co.

Board/Committee Memberships

Fund for the Arts – Board Member

Ohio Valley Electric Co. (OVEC) – Board member and Executive Committee member

Electric Energy, Inc. – Board member

Edison Electric Institute (EEI) – Committee member Energy Supply Executive Advisory Committee

Electric Power Research Institute (EPRI) – Chairman, Research Advisory Committee

LOUISVILLE GAS AND ELECTRIC COMPANY
2009 ENVIRONMENTAL COMPLIANCE PLAN (Case No. 2009-00198)

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) Projected Capital Cost ($Million)
22	Fly & Bottom Ash, Fixated Calcium Sulfite	CCP Storage Landfill (Phase I)	Cane Run Station	401 KAR Chapter 45	Division of Waste Management - Landfill Permit	2015	$18.52 (E)
23	Fly & Bottom Ash, Gypsum	CCP Storage Ash Treatment Basin/Gypsum Storage (See Note 1)	Trimble County Station	401 KAR Chapter 5 KRS Chapter 151	Division of Water - KPDES Permit and Dam Construction Permit	2010	$12.82 (E)
24	Fly & Bottom Ash, Gypsum	CCP Storage Landfill (Phase I) (See Note 1)	Trimble County Station	401 KAR Chapter 5 401 KAR Chapter 45	Division of Waste Management - Landfill Permit Division of Water - KPDES Permit	2012	$36.68 (E)
25	Fly & Bottom Ash, Gypsum, Fixated Calcium Sulfite	Beneficial Reuse	Trimble County Station (see Note 2)	401 KAR Chapter 45	Permit-by-rule	2010	$4.51 (E)
			All Stations (see Note 3)			on-going	N/A
							$72.53

Note 1: Combined, the KU/LG&E costs account for 75% of the total TC CCP project costs. KU and LG&E's costs split 48% / 52% respectively.
Note 2: Barge Loading Facility for fly ash Beneficial Reuse opportunity
Note 3: O&M for Beneficial Reuse - see Page 2 of 2

LOUISVILLE GAS AND ELECTRIC COMPANY
2009 ENVIRONMENTAL COMPLIANCE PLAN (Case No. 2009-00198)

Project	Air Pollutant or Waste/By-Product To Be Controlled	Control Facility	Generating Station	Esitmated Annual Operations and Maintenance Costs (Through 2018)								
				2010	2011	2012	2013	2014	2015	2016	2017	2018
18	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 (See Note 1)	$ 1,328,398	$ 2,078,421	$ 2,457,617	$ 2,631,751	$ 2,702,173	$ 2,767,171	$ 2,834,519	$ 2,917,620	$ 2,972,968
22	Fly & Bottom Ash, Fixated Calcium Sulfite	CCP Storage Landfill (Phase I)	Cane Run Station	$ 21,573	$ 22,868	$ 2,952,681	$ 3,153,930	$ 3,343,166	$ 3,543,756	$ 3,756,381	$ 3,962,950	$ 4,101,442
23	Fly & Bottom Ash, Gypsum	CCP Storage Ash Treatment Basin/Gypsum Storage (See Note 2)	Trimble County Station	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
24	Fly & Bottom Ash, Gypsum	CCP Storage Landfill (Phase I) (See Note 3)	Trimble County Station	$ -	$ -	$ -	$ 1,137,576	$ 1,205,830	$ 1,278,180	$ 1,354,871	$ 1,436,163	$ 1,522,333
25	Fly & Bottom Ash, Gypsum, Fixated Calcium Sulfite	Beneficial Reuse	Trimble County Station (see Note 4)	$ 155,025	$ 328,653	$ 348,372	$ 369,275	$ 391,431	$ 414,917	$ 439,812	$ 466,201	$ 494,173
			Trimble County Station (see Note 4)	$ 273,000	$ 273,000	$ 273,000	$ 273,000	$ 273,000	$ 273,000	$ 273,000	$ 273,000	$ 273,000
			Cane Run Station (see Note 5)	$ 6,353,842	$ 3,442,996	$ 3,622,061	$ 4,126,864	$ 4,764,110	$ 4,922,442	$ 5,393,825	$ 5,717,455	$ 6,001,820
			All Stations	Note 6								

Note 1: Combined, the KU/LG&E costs account for 75% of the total TC AQCS O&M costs. KU and LG&E's costs split 81% / 19% respectively.
Note 2: Trimble County Ash Treatment Basin/Gypsum Storage do not incur any incremental O&M costs.
Note 3: Combined, the KU/LG&E costs account for 75% of the total TC CCP O&M costs. KU and LG&E's costs split 48% / 52% respectively.
Note 4: O&M for beneficial reuse
Note 5: O&M for beneficial reuse. Execution of this beneficial reuse opportunity would reduce the capital and O&M cost of Project 22.
Note 6: Expenses associated with future beneficial reuse projects will be incurred as opportunities are identified.

Exhibit JNV-2

Comprehensive Strategy For Management of Coal Combustion Byproducts For

Subsidiaries Kentucky Utilities and Louisville Gas and Electric

June 2009

E.ON U.S. Regulated Generation
Comprehensive Strategy for
Management of Coal Combustion Byproducts

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Executive Summary

Over 98% of Kentucky Utilities ("KU") and Louisville Gas and Electric ("LG&E") 2008's annual energy production was sourced from coal-fired generation. KU and LG&E (the "Companies" or "E.ON U.S.") anticipate coal-fired generation to be the primary source of energy for the foreseeable future. The coal combustion process produces various byproducts. Combustion of coal at the seven KU/LG&E generating stations is projected to increase coal combustion byproducts ("CCP") to over 4.7 million cubic yards by year-end 2011- the first full year of operation of the new coal-fired unit at Trimble County. With the existing fleet of generating units aging and Trimble County 2 scheduled to be placed in-service in 2010, the existing on-site disposal facilities are nearing maximum desired capacity. Complex issues associated with the comprehensive management of CCP for KU and LG&E have short and long-term operational and cost implications for all generating stations. As such, the Companies, in conjunction with qualified professional engineering firms, evaluate alternatives for CCP disposal to ensure continued operation of the low-cost units. Alternatives typically include on-site disposal and beneficial reuse. Opportunities for beneficial reuse of coal combustion byproducts have shifted from a net revenue position to a net cost position. Ultimately, the Companies select only the best CCP management plan based on economic and environmental criteria.

The Companies have been managing CCP at all of the coal-fired power plants for several decades. Currently, the Companies have identified a need for additional CCP storage capacity at four generating stations (E.W. Brown, Cane Run, Ghent and Trimble County) by the year 2014. The Companies currently are pursuing five beneficial reuse options. Four off-site options are: Holcim Cement and Synthetic Materials, Louisville Underground, and Trans Ash at Trimble County, Cane Run, and Ghent respectively. Additionally, gypsum is being used on-site at the E.W. Brown station. Execution of these options reduces the near-term on-site storage capacity requirement and the present value of the revenue requirements ("PVRR"). A summary of these options follows:

Station	Company	Approximate Amount of CCP	PVRR Benefit
Ghent	Trans Ash, Inc	1.5 million tons of gypsum	$ 2.4 million
Trimble County	Holcim (US) Inc	5.8 million tons of fly ash	$ 6.9 million
Trimble County	Synthetic Materials	6.0 million tons of gypsum	$ 72.3 million
Cane Run	Louisville Underground, LLC	6.0 million tons of spent scrubber material	$ 22.7 million

Even considering the reuse alternatives identified in the above table, presently, economic and environmentally responsible beneficial reuse projects can not satisfy the full need for additional storage requirements at all stations. As a result, the Companies must begin, or in the case of E.W. Brown, continue construction of on-site CCP management facilities in conjunction with the identified beneficial reuse opportunities.

Working with external experts, the Companies performed engineering studies at each of the four stations to identify alternatives. The studies contain various site reviews and detailed economic analyses of the various alternatives. As a result, the Companies have identified the phased construction of three new landfills (at Ghent, Trimble County and Cane Run generating stations) and continued construction of the second phase of the

E.W. Brown impoundments as the appropriate next steps for long-term, cost effective, and environmentally responsible management of CCP. Also identified were the expansion of the existing ash impoundment and the relining/commissioning of a gypsum impoundment, both located at the Trimble County station. The Companies' total costs of the next phase of these on-site facilities are shown below:

Station	Alternative	Phase	Cost of Phase ($million)[1]
Ghent	Landfill	1	203.97
Trimble County[2]	Impoundments	n/a	24.71
Trimble County[2]	Landfill	1	70.53
Cane Run[3]	Landfill	1	4.60
E.W. Brown	Impoundments	2	24.86
			328.66

1. Capital cost only.

2. Costs exclude any barge loadout costs associated with Holcim and IMEA/IMPA associated captial

3. In absence of Louisville Underground the capital cost of Phase I is projected to be $18.5 M.

Background

When coal is burned for power generation (reference *Figure 5*) the residues that remain are referred to as ash. There are, primarily, three types of ash: fly ash, boiler slag and bottom ash. Fly ash (*Figure 1*) is a fine, powdery material that can be removed from exhaust gases primarily by electrostatic precipitators. Boiler slag (*Figure 2*) is a molten ash, typically collected from cyclone type boilers[1] while bottom ash (*Figure 3*) refers to the heavier ash particles too large or heavy to be carried by the exhaust gases and either adhere to the walls of the boiler or fall to the bottom of the boiler where they are collected in bins or hoppers.

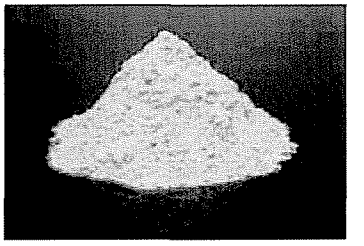

Figure 1: Fly Ash

Figure 2: Boiler Slag

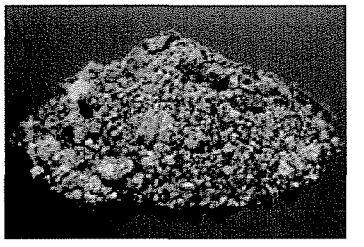

Figure 3: Bottom Ash

The capture of certain chemical components in boiler exhaust gases for environmental compliance (such as SO_2), depending on the specific flue gas desulfurization (or "FGD") technology used, forms a variety of materials with physical properties ranging from a wet sludge to a dry powdered material (*Figures 4 and 5*). For example, gypsum (calcium sulfate) is a wet product formed by a limestone based reagent in a wet scrubbing process. Dry scrubbers, and some wet scrubbing processes, produce a calcium sulfite material that can be blended with fly ash to create a fixated form of calcium sulfite.

Each of these materials, collectively referenced as coal combustion-by products ("CCP"), must be managed in a cost effective and environmentally responsible manner to support continued long-term station operation. This document intends to summarize recently completed evaluations in this area[2].

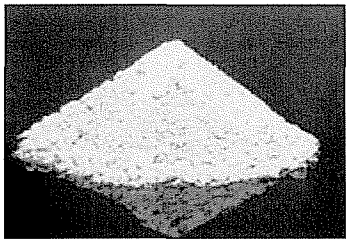

Figure 4: FGD Material

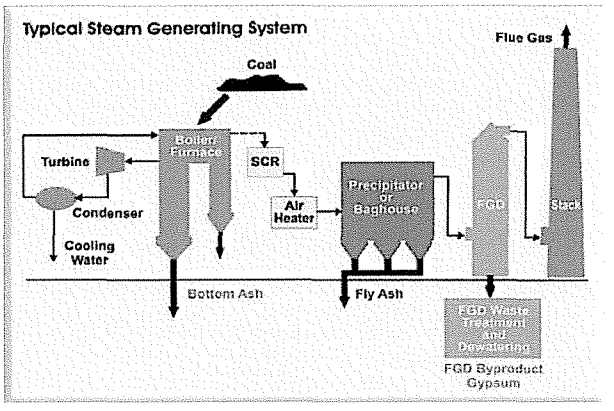

Figure 5: Typical Coal-Fired Steam Generation System

All Figures Used by Permission of the American Coal Ash Association

[1] As a point of fact, the Companies do not own or operate any cyclone type boilers.
[2] See References for a list of reports detailing the CCP management needs, available alternatives, associated evaluation and resulting tactical plan for each station identified in Table 2.

Historical CCP Management

Kentucky Utilities and Louisville Gas and Electric (the "Companies" " or "E.ON U.S.") have over 50 years of experience in the operation and maintenance of landfills and impoundments. With seven coal–fired generation facilities (approximately 95% of the Companies annual energy production is sourced from coal) resulting in about 3.6 million cubic yards (see *Figure 6*) of CCP formation in 2009, the Companies have had to periodically increase the size of existing on-site facilities to manage CCP (see *Table 1*). For example, E.W. Brown generating station's the main ash pond was originally commissioned in 1957 and was expanded in 1964, 1973, and 1990 to accommodate the CCP associated with continued operation of the unit. Additional impoundment expansions have been completed at Cane Run (1977), Ghent (1977, 1995, and 2003) and Mill Creek (1978) and expansions are in progress at the Cane Run and Mill Creek landfills. Each time the expansion was designed and conducted with sound engineering principles. The Companies have safely and competently managed all CCP facilities, performing frequent self-inspections (often utilizing external engineering companies proficient in impoundment design or inspection) and state inspections as required and the Companies remain committed to continuing to do so.

	Power Station	Facility Name	Year Commissioned	Materials Contained
1	E W Brown (KU)	Ash Pond	1957. Expanded 1964, 1973. 1990	Bottom Ash. Fly Ash, Other (Coal Fines. Process Water Drainage. Pyrites)
2	E W Brown (KU)	Auxiliary Pond	2008	Bottom Ash, Fly Ash, Other (Coal Fines. Process Water Drainage, Pyrites)
3	Ghent (KU)	Ash Pond Basin 1	1972. Expanded 1977	Bottom Ash, Fly Ash. Other (Coal Fines, Process Water Drainage, Pyrites. Treated Sanitary Wastewater)
4	Ghent (KU)	Secondary Ash Treatment Basin	1972	Bottom Ash, Fly Ash
5	Ghent (KU)	Ash Pond Basin 2	1995, Expanded 2003	Bottom Ash, Fly Ash, Other (Pyrites)
6	Ghent (KU)	Gypsum Stacking Facility	1995	Flue Gas Emission Controls Residual
7	Ghent (KU)	Gypsum Stack Surge/Reclaim Pond	1995	Flue Gas Emission Controls Residual
8	Green River (KU)	Main Ash Pond	1977	Bottom Ash, Fly Ash. Other (Coal Fines, Pyrites)
9	Green River (KU)	Scrubber Pond	1975	Flue Gas Emission Controls Residual
10	Green River (KU)	Ash Pond Number 2	1949	Bottom Ash, Fly Ash, Other (Coal Fines)
11	Green River (KU)	Finishing Pond Number 3	1949	Bottom Ash. Fly Ash
12	Green River (KU)	Former Ash Pond (current Coal Run-Off Pond)	1949	Bottom Ash, Fly Ash, Other (Coal Fines. Process Water Drainage, Pyrites. Treated Sanitary Wastewater)
13	Pineville (KU)	Ash Pond	1977	Bottom Ash, Fly Ash. Other (Coal Fines, Process Water Drainage. Pyrites)
14	Tyrone (KU)	Ash Pond	1977	Bottom Ash. Fly Ash, Other (Coal Fines, Process Water Drainage. Pyrites, Treated Sanitary Wastewater)
15	Tyrone (KU)	Finishing Pond	1977 (Estimated)	Bottom Ash. Fly Ash
16	Cane Run (LG&E)	Ash Pond	1972. Expanded 1977	Bottom Ash, Fly Ash. Other (Coal Fines, Process Water Drainage. Pyrites, Treated Sanitary Wastewater)
17	Cane Run (LG&E)	Clearwell Pond	1976, Expanded 1982	Flue Gas Emission Controls Residual
18	Cane Run (LG&E)	Dead Storage Pond	1976. Expanded 1982	Flue Gas Emission Controls Residual
19	Cane Run (LG&E)	EmergencyPond	1977	Flue Gas Emission Controls Residual. Other (Process Water Drainage)
20	Cane Run (LG&E)	Basin Pond	1976	Flue Gas Emission Controls Residual, Other (Process Water Drainage)
21	Mill Creek (LG&E)	Ash Pond	1972. Expanded 1978	Bottom Ash, Fly Ash, Flue Gas Emission Controls Residual. Other (Coal Fines. Process Water Drainage, Pyrites)
22	Mill Creek (LG&E)	Emergency Pond	1981	Flue Gas Emission Controls Residual
23	Mill Creek (LG&E)	Dead Storage Pond	1978	Flue Gas Emission Controls Residual
24	Mill Creek (LG&E)	Clearwell Pond	1978	Flue Gas Emission Controls Residual
25	Mill Creek (LG&E)	Construction Run Off Pond	1978	Flue Gas Emission Controls Residual
26	Trimble County (LG&E)	Ash Pond	1990	Bottom Ash, Fly Ash, Flue Gas Emission Controls Residual, Other (Coal Fines. Process Water Drainage. Pyrites, Treated Sanitary Wastewater)
27	Cane Run (LG&E)	Landfill	1982, Expansion in progress	Bottom Ash, Fly Ash. Poz-O-Tec. Flue Gas Emission Controls Residual
28	Mill Creek (LG&E)	Landfill	1982, Expansion in progress	Bottom Ash, Fly Ash. Poz-O-Tec. Flue Gas Emission Controls Residual

Table 1: Existing E.ON U.S. Impoundments/Landfills Containing CCP

In addition to the normal inspection processes described above, on December 22, 2008, the Tennessee Valley Authority ("TVA") experienced a breach in a CCP containment dike at its Kingston coal-fired generating station and released about 5.4 million cubic yards of coal ash. In response to this event E.ON U.S., and many other companies, stepped up the focus on ensuring the integrity of all their impoundments. By the week of January 12, 2009, less than one month after the breach at TVA, personnel within the Companies' Generation Engineering Department had completed visual inspections of all the Companies' state-regulated CCP impoundment structures utilizing the Kentucky Division of Water's, "Guidelines for Maintenance and Inspection of Dams in Kentucky," as a guideline[3]. The Kentucky Division of Water classifies dam structures as high, moderate or low hazard[4] structures based on the potential for damage that might occur to existing/future downstream developments resulting from a sudden breach of the dam. The hazard classification is based on the amount of potential damage in the event of failure and is not associated with current or past structural integrity.

Also in January 2009, the Companies updated the communications portion of each generating station's emergency action plan and retained ATC Associates ("ATC") to perform an independent third party visual assessment of all CCP impoundment facilities classified by the Kentucky Department of Environmental Protection ("KDEP") as high- or moderate hazard dams. Consistent with the state inspections and internal inspections (performed by E.ON U.S. personnel), ATC's visual assessment of the high- and moderate- hazard structures did not indicate any dam safety deficiencies for normal loading conditions with any of the KDEP classified CCP impoundments. In February 2009, the Companies engaged ATC to perform the same inspections at the CCP impoundments that the KDEP classifies as low-hazard facilities. Once again, ATC did not detect any dam safety deficiencies under normal loading conditions with any of the CCP impoundments classified by the KDEP as low-hazard.

Furthermore, the Companies have non-classified impoundments that do not meet KDEP's criteria for classification.[5] The Companies believe that these facilities require the same level of diligence as classified impoundments and labor to ensure their continued safe and environmentally responsible history of operation continues. To that end, the Companies asked ATC to assess the Companies' non-classified facilities, which ATC did in April 2009. ATC's final report on the non-classified facilities is expected to be completed in July of 2009.

In 2009 the Companies will be conducting more robust inspections on all KDEP classified impoundments, as well performing dam breach analyses with inundation mapping.

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[3] For "Guidelines for Maintenance and Inspection of Dams in Kentucky" see http://www.water.ky.gov/NR/rdonlyres/0FA1460E-9E9C-4F7E-8DB6-B8D1A354AA34/0/WRInsp_Guidelines_Dams.pdf

[4] Excluding the Dix Dam hydro generation facility, the Companies have 6 impoundments classified as "high hazard", 2 classified as "moderate hazard" and 4 classified as "low hazard" by the Kentucky Division of Water.

[5] Non-classified impoundments are impoundments whose dams are lower than the 25' and impound less than 80,667 cubic yards (50 acre-feet). The Companies have 16 non-classified CCP impoundments.

Future Needs

The Companies anticipate coal-fired generation to be the primary source of energy for the foreseeable future with total annual CCP production projected to increase to over 4.7 million cubic yards by year-end 2011- the first full year of operation of the new coal-fired unit at Trimble County (see *Figure 6*) and completion of the KU FGD installations. To allow continued low-cost coal-fired generation to be realized, additional alternatives to managing CCP have been identified and acted upon. Each of the Companies' generating stations is positioned slightly differently for having adequate on-site volume remaining in landfills or impoundments. *Table 2* summarizes each station's need for additional CCP management capacity. Seven of the Companies' active impoundments or landfills will reach their maximum desired capacity (or minimum desired remaining capacity) levels within 5 years. The maximum desired capacity is site specific based on unique characteristics of each facility (such as production, fuel quality, impoundment/landfill operations, etc).

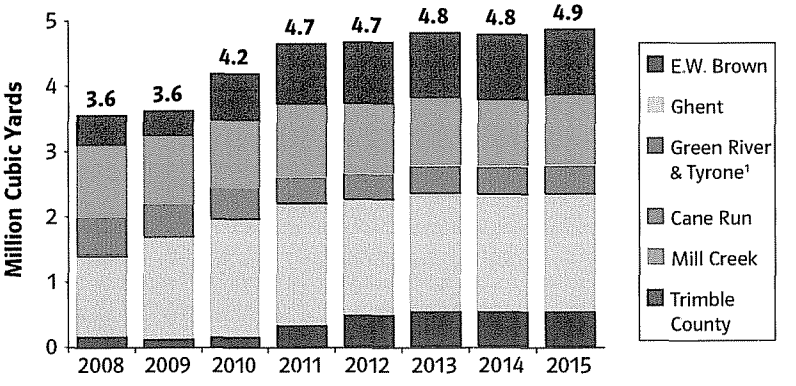


Figure 6: Recent and Forecasted KU/LG&E CCP Production

A detailed discussion of the Companies' needs, available alternatives, construction and operational costs, offsite disposal alternatives and beneficial reuse opportunities is beyond the intended scope of this summary document. That information, however, can be found in detailed individual reports associated with each generating station[6].

Station	Landfill or Impoundment	Year Need Identified
E.W. Brown	Ash Pond	2012
	Auxilary Pond	2014
Ghent	Gypsum Stacking	2012
	Ash Pond 1	Full
	Ash Pond 2	2012
Trimble County	Ash Pond	2010
Cane Run	Ash Pond	2011
	Landfill	2012
Green River	Ash Pond	2038
Mill Creek	Ash Pond	2025
	Landfill	2024
Tyrone*	Ash Pond	Inactive Reserve

** Tyrone station is on "inactive reserve", however, beneficial reuse opportunities are stil possible.*

Table 2: Year of Identified Need for E.ON U.S. Impoundments/ Landfills

Remaining storage capacity is typically included to allow for variability in forecasting CCP production, potential permitting issues associated with future on-site construction alternatives or weather/scheduling related construction delays. The site specific CCP management plan is reviewed in conjunction with the projected CCP production forecast and the remaining

[6] See References (attached) for a list of reports detailing the CCP management needs, available alternatives, associated evaluation and resulting tactical plan for each station identified in Table 2.

capacity. The current site specific CCP management plan is then validated or revised accordingly.

Alternatives for Management of CCP

Though additional federal and state regulations and public sentiment resulting from the TVA incident could have a material impact on the short- and long-term methods of managing CCP from coal-fired generating stations, at the present time expansion of existing facilities or new construction of the following general options exists[7]. For reference, the basic definitions of CCP management alternatives are:

1. ***Landfill***- a disposal facility where waste is placed in or on land; a facility where "dry" (actually moistened for fugitive dust control) coal combustion or flue gas cleaning byproducts are placed for disposal in or on land. Coal combustion or flue gas cleaning byproducts are transported to this facility directly from the coal-fired plant after they are produced or after they are dredged from storage impoundments that are used as interim facilities. The disposed materials remain in the landfill after closure. Also as these materials are dry and have the consistency of soil, dams or dikes are not required to provide stability. Most large landfills are divided into sections or cells and the coal combustion or flue gas cleaning byproducts are placed in layers that are referred to as lifts that can vary in thickness. Typically captive landfills designed and permitted to receive only coal combustion or flue gas cleaning byproducts are classified as mono-fills.
2. ***Surface Impoundment***- a facility or part of a facility which is a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials) which is designed to hold an accumulation of liquid wastes or materials containing free liquids and which is not an injection well; a type of waste management facility consisting of an excavated, a dammed or diked reservoir in which coal combustion and flue gas cleaning wastes are disposed of as a slurry or sludge.
    a. *Ash Pond*- an impoundment or surface impoundment used to store or dispose of ash primarily from the combustion of coal. A type of waste management facility consisting of an excavated, a dammed or diked reservoir in which coal ashes are stored for future removal or disposed of as a slurry or sludge. The coal ash solids settle out and leave relatively clear water at the surface that is discharged through a designed and managed outlet structure to a nearby stream, surface water or plant process water system. Ash pond designs reflect local site conditions, federal and state regulations, and whether fly ash, bottom ash, boiler slag or a combination of coal ashes are disposed in the ash pond. Though some electric utility generating power companies combine the ashes during storage or disposal, other power companies use separate ash ponds for fly ash, bottom ash and boiler slag. The ash pond is referred to as a bottom ash pond, fly ash pond, boiler slag pond when it receives one type of ash.

[7] The definitions that follow are based on American Coal Ash Association , Inc's Glossary of Terms Concerning The Management and Use of Coal Combustion Products (CCPs) Effective: April 2003. The ACAA website currently limits access to this document to ACAA members.

Also a large ash pond is referred to as an ash impoundment, ash reservoir, or surface impoundment.

b. *Gypsum Ponding/Stacking-* Gypsum is typically handled in sluice streams from FGD blowdown of hyrodroclone dewatering operations. This stream can be directed to an impoundment for simple settling of the solids or the solids can be managed in a stacking operation within the impoundment. The method used in the phosphate fertilizer industry and applied to the power industry for stacking the wet FGD byproduct (material) that is predominantly calcium sulfate (gypsum). It involves placement of the FGD byproduct slurry in an impoundment and stacking of the reclaimed settled solid in two operations. The primary operation accepts the FGD byproduct slurry directly from the scrubber in a diked or bermed ponding area (settling ponds). These settling ponds provide for primary settling of the FGD solids. The effluent from the ponds is decanted from the pond and either recycled back to the scrubber operation or sent to treatment and discharge. The solids that are settled in the primary/ponding operation are periodically excavated and placed into piles or stacks typically adjoining the ponds to minimize the distance for transporting the dewatered material. Draining/excavating and stacking/drying operations alternate between diked areas to enable continuous storage and excavated material is used to raise dikes and to increase the site capacity.

3. **Beneficial Reuse-** the use of or substitution of the coal combustion byproduct for another product based on performance criteria. For purposes of this definition, beneficial use includes, but is not restricted to, raw feed for cement clinker, concrete, grout, flowable fill, controlled low strength material; structural fill; road base/sub-base; soil- modification; mineral filler; snow and ice traction control; blasting grit and abrasives; roofing granules; mining applications; wallboard; waste stabilization/solidification; soil amendment and agriculture.

E.ON U.S. burns coal and utilizes specific flue gas cleaning technologies in the production of energy and makes every effort to make use of all environmentally responsible and economically prudent beneficial reuse alternatives as a way to manage the resulting CCP. In absence of a location to place CCP or a market in which to reuse CCP, the Companies' low-cost coal-fired generating units could no longer operate. The Companies continually seek economical and environmentally sound beneficial reuse opportunities and have a history of utilizing beneficial reuse CCP (see *Figure 7*). Historically, the Companies have successfully identified and negotiated beneficial reuse contracts for wall board gypsum production, cement feed, and fill or backfill. Efforts are underway to expand the Companies' presence in other reuse areas.

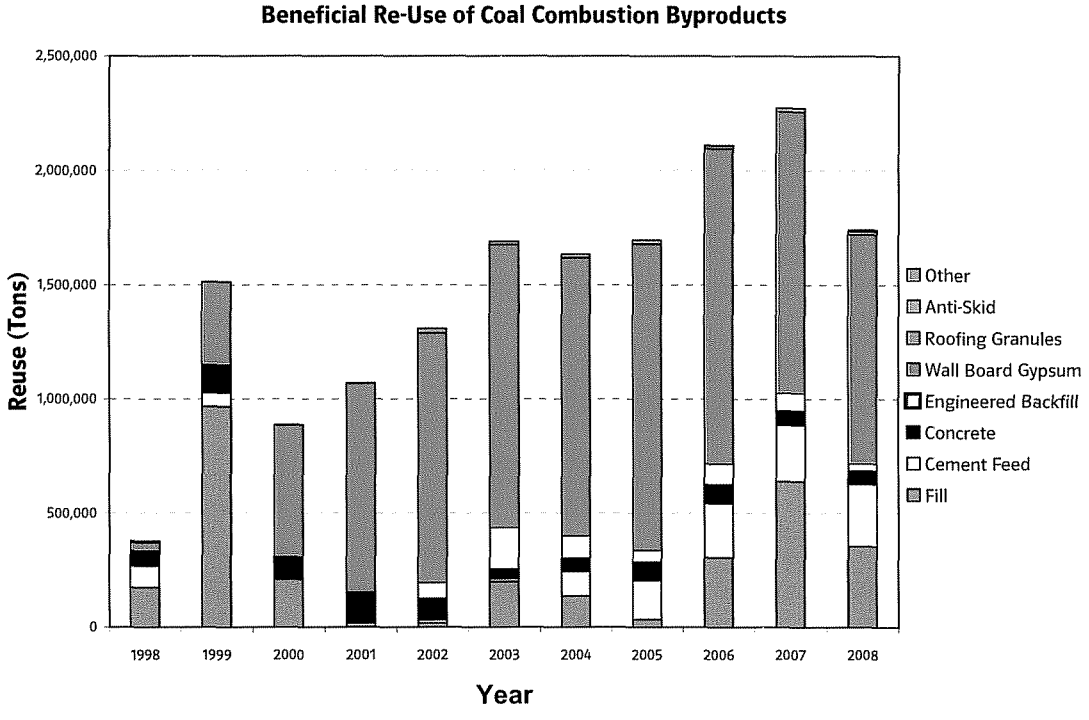


Figure 7: Historical Beneficial Reuse

Reuse of CCP has several interrelated benefits. First, it is environmentally friendly by conserving resources; for example, using synthetic gypsum from CCP to make wallboards displaces gypsum that would have to be produced by other means. Second, it alleviates the difficulty managing physical space constraints at the Companies' generating stations posed by the continuing production of, and the need to store, CCP. Third, because the Companies pursue only economical beneficial reuse opportunities, the Companies and their customers benefit from the cost-sayings associated with such beneficial reuse. The cost savings associated with beneficial reuse come primarily in the form of avoided CCP disposal costs, such as delaying the construction of new or expanded impoundments or landfills. The Companies experience has indicated that in order to maximize the amount of reuse and realize the above stated benefits in a rapidly changing beneficial reuse environment it is imperative that each reuse opportunity be expeditiously evaluated (from environmental assessment and rigorous evaluation to finalization of contract) as most reuse opportunities are rapidly changing and have temporary nature as other companies vie for access to the same opportunity.

However, it has been the experience of E.ON U.S. that insufficient amounts of economical and environmentally responsible beneficial reuse projects exist and, in order to maintain assurance that sufficient storage capacity exists, construction of on-site, special waste landfills (or impoundments) or utilization of municipally owned special waste landfills is inevitably required, even with an aggressive CCP reuse program. The Companies have significant experience with each alternative for managing CCP and subject each alternative to a thorough evaluation process to identify the short and long term plans for managing CCP at each station.

Regardless of whether landfills or impoundments are constructed, the phased approach to their construction is the approach the Companies are taking in regard to all of the proposed CCP projects. Phased construction consists of dividing a single project into multiple, but smaller individual projects. Permitting, engineering and design is completed for the entire project, and only the construction is phased. Utilizing the phased approach provides flexibility to react to unanticipated circumstances (a new reuse opportunity for example) and minimizes the cost impact associated with the project by better timing of the need for the project and the annual cost (or spend) associated with the project. For example, KU is currently utilizing the phased approach in the ash pond construction work in progress at E.W. Brown. The phased approach to landfill or ash pond construction allows any beneficial reuse opportunities that were unknown (or uneconomical) at the start of the project to be re-considered and, if cost effect, acted upon – which could further delay or even eliminate subsequent phases of the project.

Evaluation Process

The cost and operational exposure associated with not having a plan to manage CCP production in place at a specific generating station well in advance of the need is significant. To help minimize this risk, the Companies have developed a process for the identification of the necessary steps to cost effectively manage projected CCP volumes. Many of the components occur in parallel but, for simplicity, are briefly discussed individually below. Those steps are:

- identification of alternatives
- evaluation of alternatives,
- documentation of the analysis and
- identification of necessary refinements to the Companies implementation plan or CCP management strategy.

This CCP Evaluation Process helps to ensure that consistent and timely assessments are conducted and leverages the expertise in many areas within the Companies. As is currently the practice, the Companies are committed to continually reviewing their tactical plans in accordance with the CCP Management Strategy to ensure adequate on-site CCP storage capacity exists and to confirm the plans for future on-site storage are on schedule and continue to be cost effective. As such the CCP Evaluation Process is expected to be refined as additional experience in evaluating CCP evaluations is gained, as new environmental laws and regulations are promulgated, and as the CCP beneficial reuse market develops.

Identify Need for Additional Storage

Identification of the quantity of physical resources[8] needed to manage CCP production is a logical component of the process and comprises periodic reviews of each station's CCP production forecast to project when the existing on-site storage facilities and existing reuse contracts are no longer sufficient. Any timing or CCP capacity shortfall issues

[8] Physical resources are the "tools" currently in place to mange CCP production (including existing on site or off site reuse opportunities) and remaining on-site CCP storage capacity.

noted in the assessment which require a revision to the CCP Management Strategy are discussed.

The assessment of need begins with a determination of the remaining storage capacity of existing on-site facilities. The remaining storage capacity is quantified through engineering surveys of the storage facilities. Capacity is typically included to allow for variability in forecasting CCP production, potential permitting issues associated with future on-site construction alternatives or weather/scheduling related construction delays. The site specific CCP management plan is reviewed in conjunction with the projected CCP production forecast and the remaining capacity. The current site specific CCP management plan is validated or revised accordingly.

Identify Alternatives

With the timing of the need for additional storage known, a list of alternatives that could potentially provide the required additional storage capacity is formulated. This compilation of alternatives includes the current site specific CCP Management Plan, any new on-site construction alternatives, off-site options or any beneficial reuse alternatives that currently is (or is reasonably expected to be) available at the time of need. E.ON U.S. typically develops the list of alternatives and their associated projected capital construction and operational cost in conjunction with experienced external consultants.

Opportunities for beneficial reuse arise much more frequently than impoundments/ landfills reach capacity. Stated another way, reuse opportunities can come at any time, not just when a plan to meet a CCP disposal need is being developed. All beneficial reuse opportunities will be screened, discussed, evaluated and documented (in conjunction with the current plan) when their availability first becomes known- not solely when a need for additional storage capacity has been identified as the evaluation of each prudent reuse opportunity could provide a delay of the next phase of construction.

Opportunities for beneficial reuse of coal combustion byproducts are shifting from a net revenue position to a net cost position. Opportunities to move coal combustion byproducts off-site at little to no cost have been virtually eliminated due to

- increased competition in the market associated with the increased number of utility FGD retrofits producing high quality synthetic gypsum,
- NO_x compliance having a negative impact on (or deteriorating) ash quality and
- Utilities willing to pay to move their coal combustion byproducts off-site as a preferred alternative.

The CCP evaluation methodology allows for the impacts of each potential beneficial reuse to be understood, evaluated and supported with analytics, in a timely manner, so that short-lived cost effective, environmentally responsible options can be acted upon.

To confirm each of the alternatives on the list is viable, each is subjected to an environmental and operational impact assessment. Those alternatives that pass are then evaluated, quantified and documented and, if necessary, a revision is made to the site

specific CCP Management plan (which serves as the starting point for the next evaluation).

Evaluation, Documentation and Validation

While many factors impact decisions on how to proceed (such as safety, ability to acquire needed permit(s), etc.) present value of revenue requirements is used as the primary economic decision metric. In some instances, additional cost metrics (such as cost per cubic yard or cost per ton) may also be quantified. Documentation for the evaluation is typically produced in close proximity to completing the evaluation. Often the supporting documentation is the source from which many internal and external presentations or business cases discussing the issue are developed. As previously stated, documentation regarding the alternatives is typically developed in coordination with consultants, however, the economic evaluation and associated documentation summarizing the economic evaluation is developed within E.ON U.S. At each decision point (such as formulation of alternatives, evaluation of options, development of documentation), oversight is built into the process to serve as a check. The function of this validation step is to subject the alternatives, evaluation or documentation to extensive "what ifs" and to confirm that a better alternative or solution does not possibly exist. For example, is it possible that more favorable economics could not be achieved by selecting an alternative site or location?

Implementation

The final component of the evaluation process involves bring the identified strategy into reality and finalizing all remaining contractual issues and obtaining all necessary approvals (internal and external) to implement the contract. Internal approvals necessitate the development of a business case and presentation to senior management. Some projects may require a Certificate of Convenience and Necessity be obtained from the Kentucky Public Service Commission prior to beginning site construction. Additionally new permits (or permit modifications) are often required.

Site Specific CCP Management Plan

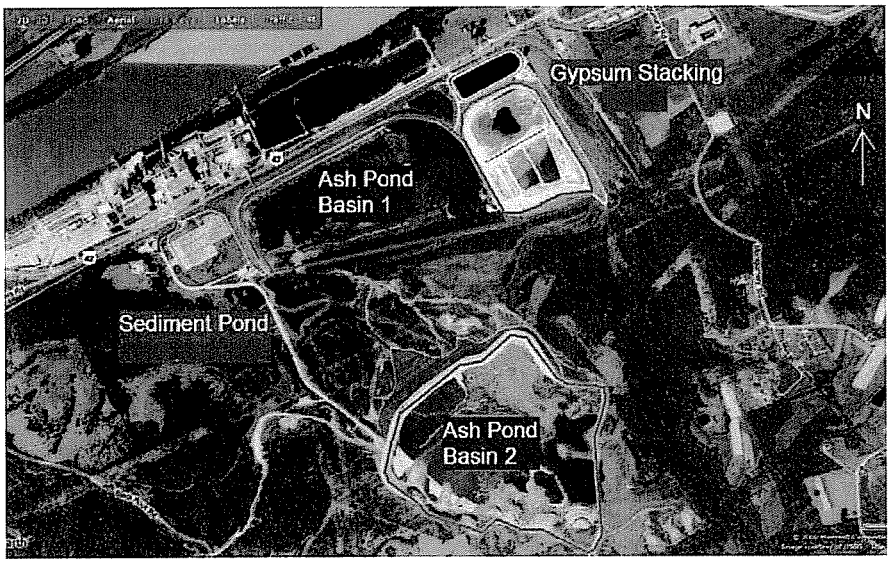
The following is a brief overview of the four generating stations within *Table 2* that are projected to have a need for additional CCP storage capacity by the end of 2014. Included for each station is a "Fact Box" which is a quick reference to CCP production, reuse and CCP management facilities (impoundments or landfills) currently in use at the station as well as the associated capital cost and in-service date of future CCP management facilities. An aerial photograph provides a point of reference and the current plan for CCP management is briefly noted. The information on each station is intended to provide a condensed summary of the detailed evaluations listed in the reference section of this document.

Ghent Generating Station

Ghent generating station is located in Carroll and Gallatin Counties, Kentucky and is comprised of four coal-fired generating units. Each unit is approximately 525 MW for a total station capacity of approximately 2,100 MW. The production of energy at the station produces three primary coal combustion byproducts: bottom ash, fly ash and gypsum and has three existing on-site storage basins for CCP: Ash Treatment Basins 1 and 2 and the Gypsum stacking facility. The site also includes a sediment pond which is a non-process pond receiving only rainfall runoff.

Ghent CCP Fact Box and Overview

		Fly Ash	Bottom Ash	Gypsum	Fixated Calcium Sulfite
Produced	CCP Produced	☑	☑	☑	☐
	2010 Total CCP Forecasted Production (tons)				*1,797,836*
Reuse	Any CCP Reused?	☑ Yes	☑ No		
	Predominant Historical Beneficial Reuse Application				*Wall Board*
	Annual Reuse Amount-(approx tons)	2005	2006	2007	2008
		430,607	*403,598*	*263,114*	*374,682*
CCP Facilities			Ash Pond 1	Ash Pond 2	Gypsum Stacking
	In-Service Date		*1972*	*1995*	*1994*
	Surface Area (acres)		*125*	*146*	*75*
	CCP Stored		*Ash*	*Ash*	*Gypsum*
	End of Life		*Full*	*2013*	*2013*
	Future CCP Management Plans				*Landfill (Phase I) + Reuse*
	In-Service Year/Capital Construction Cost (M$)				*2013/ $203.97 million*



As detailed in the report titled "*Coal Combustion Byproduct Plan for Ghent Station*" the existing on site CCP management facilities are projected to obtain their maximum desired capacity in early 2013. In preparation for this the Companies have evaluated numerous alternatives to allow Ghent Station to continue to provide low cost reliable energy into the future.

Ghent Station's CCP management plans includes the short-term proposal for beneficial reuse of 1.5 million tons of gypsum by Trans Ash, Inc. at total cost of $8.9 million (operating and maintenance cost only, reuse opportunity requires no capital) and building the first phase of an on-site landfill (to store both ash and gypsum) to be in-service in 2013 at a total capital cost of $203.97 million and a total operating and maintenance cost of $132.94 million (2010-2018).

E.W. Brown Generating Station

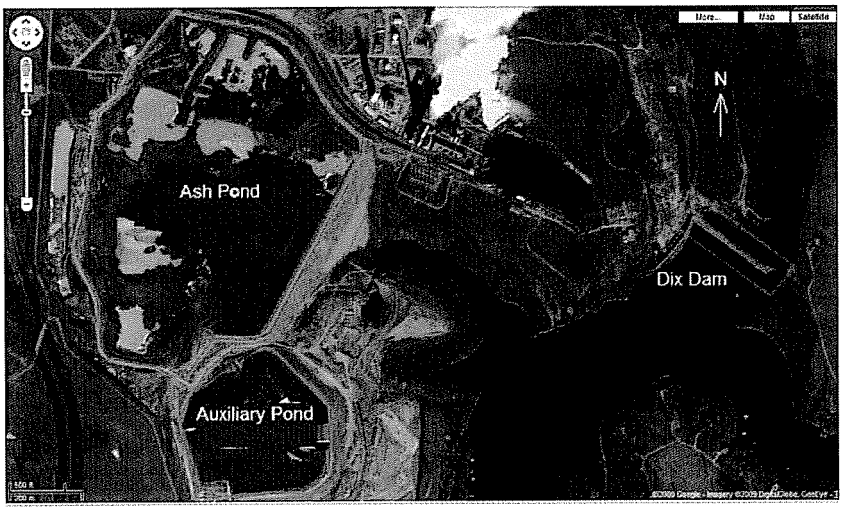
E.W. Brown generating station is located on Lake Herrington in Mercer County near Harrodsburg Kentucky and is comprised of three coal-fired generating units totaling approximately 697 MW. Presently, the production of energy at the station produces two primary coal combustion byproducts: bottom ash and fly ash. However, an FGD system, currently under construction for a summer 2010 commissioning, will control SO_2 emissions from the three units. The gypsum will be beneficially reused in the construction of the embankment for both ash treatment basins.

E.W. Brown CCP Fact Box and Overview

		Fly Ash	Bottom Ash	Gypsum	Fixated Calcium Sulfite
Produced	CCP Produced	☑	☑	☑ in 2010	☐
	2011 Total CCP Forecasted Production (tons)				*337,243*
Reuse	Any CCP Reused?	☑ Yes	☐ No		
	Predominant Historical Beneficial Reuse Application				*Fill*
	Annual Reuse Amount-(approx tons)	2005	2006	2007	2008
		0	*0*	*56,400*	*35,688*

		Main Pond	Auxiliary Pond 2
CCP Facilities	In-Service Date	*1990*	*2008*
	Surface Area (acres)	*126*	*35*
	CCP Stored	*Ash, Gypsum ('10)*	*Ash*
	End of Life	*2012*	*2012*
	Future CCP Management Plans	*Impoundment Expansions (Ph II) + Reuse*	
	In-Service Year/Capital Construction Cost (M$)	*2012/ $24.86 million*	

As detailed in the report titled "*Coal Combustion Byproduct Plan for E.W. Brown Station*" the existing on site CCP management facilities are projected to obtain their maximum desired capacity in 2012. In preparation for this the Companies have evaluated numerous alternatives to allow E.W. Brown Station to continue to provide low cost reliable energy into the future.



The current CCP production schedule identifies a need for the Phase 2 expansion at both the Auxiliary impoundment to an elevation of 900' (at a capital cost of $13.4 million) and the main Ash Treatment Basin to an elevation of 912' (at a capital cost of $9.82 million). Additional capital of $1.63 million associated with gypsum dewatering facilitates on-site beneficial reuse of approximately 3.9 million tons of gypsum in construction of the embankments. Total capital costs associated with this project total $24.86 million with no incremental operation and maintenance costs. These needs, and the proposed construction plan, remain consistent with the 2006 update to the Companies' 2004 ECR filing.

Cane Run Generating Station

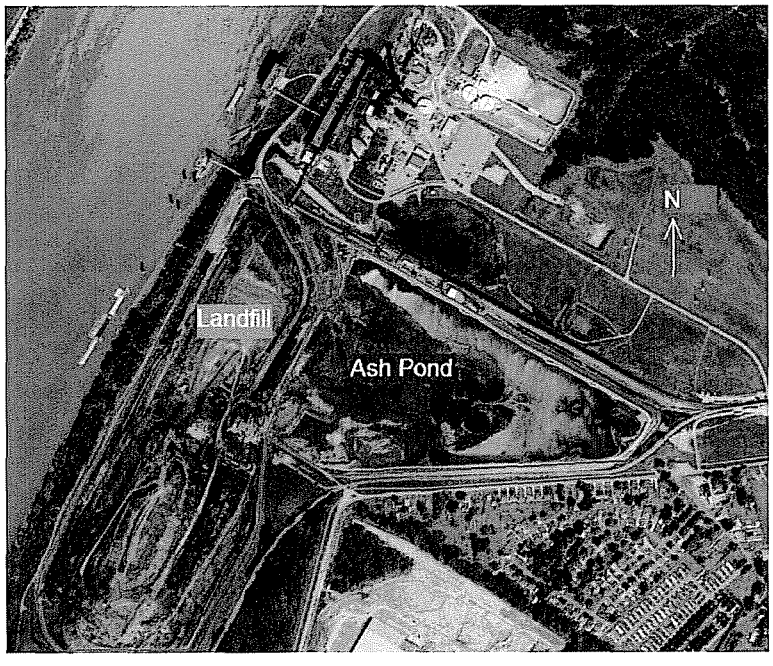
The Cane Run generating station is located in southwestern Jefferson County in Louisville, Kentucky and is comprised of three coal-fired generating units totaling approximately 563MW. The station produces three primary coal combustion byproducts: bottom ash, fly ash and fixated calcium sulfite and has two existing on-site storage basins for CCP: an Ash Treatment Pond and a landfill. The Cane Run station is the only generating station within E.ON U.S. that manages fixated calcium sulfite. Fixated calcium sulfite is a stabilized material that can be placed in a landfill.

Cane Run CCP Fact Box and Overview

		Fly Ash	Bottom Ash	Gypsum	Fixated Calcium Sulfite
Produced	CCP Produced	☑	☑	☐	☑
	2010 Total CCP Forecasted Production (tons)				*321,531*
Reuse	Any CCP Reused?	☑ Yes	☐ No		
	Predominant Historical Beneficial Reuse Application				*Fill*
	Annual Reuse Amount-(approx tons)	2005	2006	2007	2008
		5,310	*11,296*	*23,854*	*7,347*

		Ash Pond	Landfill
CCP Facilities	In-Service Date	*1972*	*1982*
	Surface Area (acres)	*40*	*110*
	CCP Stored	*Ash*	*Fixated Calcium Sulfite, Ash, FGD sludge*
	End of Life	*2011*	*2012*
	Future CCP Management Plans	*Landfill (Phase I) or Reuse*	
	In-Service Yr/Cap Constr Cost (M$)	*2015 @ $18.5 or 2010 @ $4.6 million*	

As detailed in the report titled "*Coal Combustion Byproduct Plan for Cane Run Station*" the existing on site CCP management facilities are projected to obtain their maximum desired capacity in 2011 and 2012. In preparation for this the Companies have evaluated numerous alternatives to allow Cane Run Station to continue to provide low cost reliable energy into the future.



While the on-site alternatives to manage Cane Run's CCP are well documented, a significant volume, economical beneficial reuse opportunity is currently under negotiations (Louisville Underground, LLC).

Engineering, design, permitting, construction and operation of Phase I of the Cane Run special waste landfill are projected to cost $18.52 million (capital) and $24.88 million (O&M through 2018). The cost for engineering, design and permitting (included in the

total capital cost above) is $4.60 million. To ensure sufficient on-site storage is available (long-term) should the reuse opportunity not be finalized or terminate unexpectedly, it is prudent execute the lower cost reuse alternative while moving forward with only the engineering, designing and permitting cost associated with Phase I ($4.6 million). Therefore, the Cane Run CCP management plan is to complete the engineering, designing and permitting of Phase I of the on-site landfill and execute the Louisville Underground contract at a capital cost of $4.60 million and an operating and maintenance cost (through 2018) of $44.60 million, respectively. In absence of the Louisville Underground opportunity the total capital cost of Phase I is projected to be $18.5 million.

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Trimble County Generating Station

The Trimble County generating station is located in Trimble County Kentucky and is comprised of one 514 MW coal-fired generating unit. A second coal-fired generating unit (760 MW) is currently under construction with an expected in-service date of mid-2010. The station produces three primary coal combustion byproducts: bottom ash, fly ash and gypsum. The station has one active impoundment that receives all CCP managed on site. A second impoundment (originally an Emergency Fly Ash Pond) was constructed at the same time as Unit 1 was being constructed but has never been placed into service. The company suspects that the original clay liner is in need of repair.

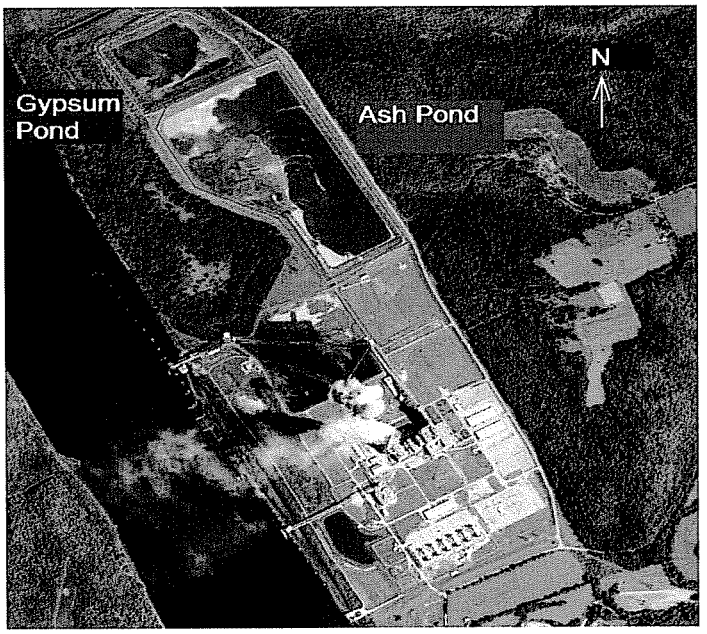
Trimble County CCP Fact Box and Overview

		Fly Ash	Bottom Ash	Gypsum	Fixated Calcium Sulfite
Produced	CCP Produced	☑	☑	☑	☐
	2011 Total CCP Forecasted Production (tons)				*1,093,390*
Reuse	Any CCP Reused?	☑ Yes	☐ No		
	Predominant Historical Beneficial Reuse Application				*Wall Board*
	Annual Reuse Amount-(approx tons)				
		2005	2006	2007	2008
		279,327	*288,835*	*238,706*	*224,642*

		Ash Pond
CCP Facilities	In-Service Date	*1991*
	Surface Area (acres)	*82*
	CCP Stored	*Ash & Gypsum Fines*
	End of Life	*2010*
	Future CCP Management Plans	*Impoundments/Landfill (Ph I) + Reuse*
	In-Service Year/Capital Construction Cost (M$)	
	CCP Treatment Basins	*2010/ $32.9 mill (100%); $24.7 mill (75%)*
	Reuse Capital (Barge Loadout)	*2010/ $11.6 million (100%); $8.7 million (75%)*
	Landfill	*2013/ $94.0 million (100%); $70.5 million (75%)*

Note: IMEA and IMPA have 25% ownership share. KU/LGE's costs correspond to 75%.

As detailed in the report titled "*Coal Combustion Byproduct Plan for Trimble County Station*" the existing ash pond is projected to obtain maximum desired capacity in 2010. In preparation for this the Companies have evaluated numerous alternatives to allow Trimble County to continue to provide low cost reliable energy into the future. A significant low-cost, long-term beneficial reuse opportunity utilizing more 350,000 tons of gypsum each year has been executed with Synthetic Materials. The associated costs are based on minimum take of 350,000 at 2.00 $/ton and utilized a barge load-out facility to be constructed, owned and operated by Synthetic Materials by March 2010. As mentioned, this contract has been executed, however, per the contract; no expenses will be incurred by the Companies until the barge load-out facility is completed.



Additionally, a second significant long-term beneficial reuse alternative that reuses approximately 95% of Trimble County's fly ash is currently in final stages of negotiations. This second opportunity requires a total capital investment of $11.57 million and approximately $8.74 million in O&M (through 2018). These opportunities are discussed in the report titled "*Coal Combustion Byproduct Plan for Trimble County Station for E.ON U.S. Subsidiaries Kentucky Utilities and Louisville Gas and Elec*tric" and have allowed significant long-term cost saving to be realized associated with CCP management at the Trimble County station.

Trimble County's short term CCP management plan includes vertical expansion of the dikes of the BAP (at a total capital cost of $25.36 million[9]) and, after completing the liner repair within the gypsum pond (formerly named the emergency fly ash pond), placing the gypsum pond into service (at a total capital cost of $7.58 million[10]).

Even with the significant reuse opportunities a long-term need exists to complete Phase I of the special waste landfill at Trimble County by 2013 at a total capital cost of $94.0 million[11] and an O&M cost of $20.3 million[12].

Therefore, Trimble County's CCP management plan currently is to move forward with the negotiations of the fly ash reuse opportunity, vertically expand the existing CCP treatment basin, place the gypsum storage basin into operation and complete Phase I of the special waste landfill.

Summary

The Companies have identified a need for additional CCP storage capacity at four generating stations (E.W. Brown, Cane Run, Ghent and Trimble County) by the year 2014. The Companies currently are pursuing five beneficial reuse options. Four off-site options are: Holcim Cement and Synthetic Materials, Louisville Underground, and Trans Ash at Trimble County, Cane Run, and Ghent respectively. Additionally, gypsum is being used on-site at the E.W. Brown station. Execution of these options reduces the near-term on-site storage capacity requirement and the present value of the revenue requirements ("PVRR"). A summary of these options follows:

Station	Company	Approximate Amount of CCP	PVRR Benefit
Ghent	Trans Ash, Inc	1.5 million tons of gypsum	$ 2.4 million
Trimble County	Holcim (US) Inc	5.8 million tons of fly ash	$ 6.9 million
Trimble County	Synthetic Materials	6.0 million tons of gypsum	$ 72.3 million
Cane Run	Louisville Underground, LLC	6.0 million tons of spent scrubber material	$ 22.7 million

Table 3: Future Beneficial Reuse Plans

Even considering the reuse alternatives identified in the above table, presently, economic and environmentally responsible beneficial reuse projects can not satisfy the full need for additional storage requirements at all stations. As a result, the Companies must begin, or

[9] Includes IMEA/IMPA cost allocation.
[10] Includes IMEA/IMPA cost allocation.
[11] Includes IMEA/IMPA cost allocation.
[12] Includes IMEA/IMPA cost allocation.

in the case of E.W. Brown, continue construction of on-site CCP management facilities in conjunction with the identified beneficial reuse opportunities.

Working with external experts, the Companies performed engineering studies at each of the four stations to identify alternatives. The studies contain various site reviews and detailed economic analyses of the various alternatives. As a result, the Companies have identified the phased construction of three new landfills (at Ghent, Trimble County and Cane Run generating stations) and continued construction of the second phase of the E.W. Brown impoundments as the appropriate next steps for long-term, cost effective, and environmentally responsible management of CCP. Also identified were the expansion of the existing ash impoundment and the relining/commissioning of a gypsum impoundment, both located at the Trimble County station. The Companies' total capital costs of the next phase of these on-site facilities are shown below:

Station	Alternative	Phase	Cost of Phase ($million)[1]
Ghent	Landfill	1	203.97
Trimble County[2]	Impoundments	n/a	24.71
Trimble County[2]	Landfill	1	70.53
Cane Run[3]	Landfill	1	4.60
E.W. Brown	Impoundments	2	24.86
			328.66

1. Capital cost only.

2. Costs exclude any barge loadout costs associated with Holcim and IMEA/IMPA associated captial

3. In absence of Louisville Underground the capital cost of Phase I is projected to be $18.5 M.

Table 4: Future On-Site CCP Related Construction Plans

List of Reference Documents

1. Coal Combustion Byproduct Plan for Ghent Station for E.ON U.S. Subsidiaries Kentucky Utilities and Louisville Gas and Electric (June 2009)
2. Coal Combustion Byproduct Plan for E.W. Brown Station for E.ON U.S. Subsidiaries Kentucky Utilities and Louisville Gas and Electric (June 2009)
3. Coal Combustion Byproduct Plan for Cane Run Station for E.ON U.S. Subsidiaries Kentucky Utilities and Louisville Gas and Electric (June 2009)
4. Coal Combustion Byproduct Plan for Trimble County Station for E.ON U.S. Subsidiaries Kentucky Utilities and Louisville Gas and Electric (June 2009)

Due to the voluminous nature of the exhibit, please see the compact disc included with this filing.

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Exhibit JNV-7

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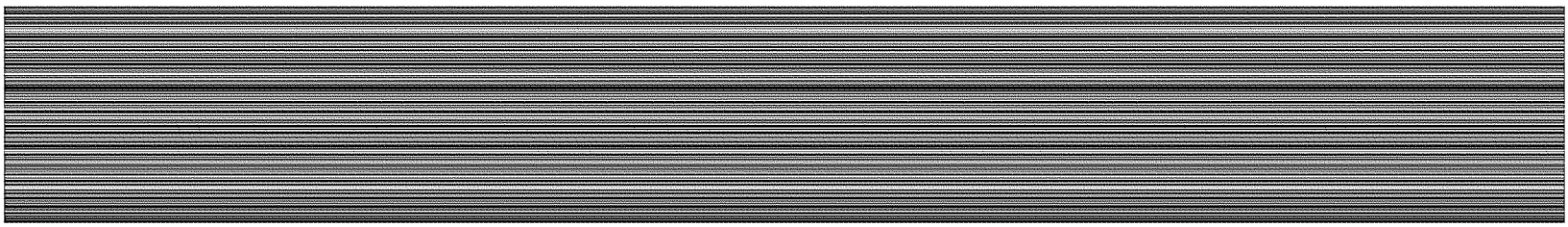

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COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2009 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	))))))	CASE NO. 2009-00198

DIRECT TESTIMONY OF
CHARLES R. SCHRAM
DIRECTOR, ENERGY PLANNING, ANALYSIS & FORECASTING
LOUISVILLE GAS AND ELECTRIC COMPANY

Filed: June 26, 2009

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

A. My name is Charles R. Schram. My position is Director – Energy Planning, Analysis & Forecasting for E.ON U.S. Services Inc., which provides services to Louisville Gas and Electric Company ("LG&E") and Kentucky Utilities Company ("KU" or "the Company"). 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. Please describe your job responsibilities.

A. I am responsible for the development of load forecasts, market analysis, and the long term planning of utility generation. As pertains to this proceeding, the Generation Planning group performed the analyses discussed below under my direction.

Q. Have you previously testified before this Commission?

A. Yes. I have testified previously in Case No. 2008-00521.[1]

Q. Are you sponsoring any exhibits?

A. Yes. I am sponsoring the following two exhibits which were prepared under my direction and supervision:

Exhibit CRS-1 *Coal Combustion Byproduct Plan for Cane Run Station*

Exhibit CRS-2 *Coal Combustion Byproduct Plan for Trimble County Station*

Q. What is the purpose of your testimony?

[1] In the Matter of: *An Examination of the Application of the Fuel Adjustment Clause of Louisville Gas and Electric Company from November 1, 2006 through October 31, 2008.*

A. The purpose of my testimony is to explain the methods by which the Company analyzed the projects included in LG&E's 2009 Environmental Compliance Plan ("2009 Plan") and to present the final recommendations related to the most cost effective method of complying with applicable environmental laws and regulations.

Q. What is the nature of the projects in LG&E's 2009 Plan?

A. LG&E's 2009 Plan is focused entirely on the process of handling, transporting and storing coal combustion byproducts ("CCP") in a safe, cost-effective manner and in compliance with all applicable environmental regulations at the Cane Run and Trimble County Stations. Further, the 2009 Plan describes certain opportunities to use CCP in a beneficial manner that reduces the quantity of CCP ultimately stored at LG&E's generating stations.

The Company's strategy for managing CCP is presented in Mr. Voyles' testimony, and the methods for identifying current storage capacity and future needs are discussed in Exhibit JNV-2.

Q. Please describe the identification, evaluation and recommendation methods that LG&E used to finalize its 2009 Plan projects.

A. The CCP storage needs are defined by forecasting the production of CCP and comparing this to the available storage capacity. Remaining storage capacity is determined by periodic sounding surveys (sonar maps of ash ponds) performed by third party consultants. The expected life of the existing storage capacity is based on the forecast of CCP production for all stations as a function of the expected coal usage for each unit. The Companies compile information regarding the cost

of generation for each unit (fuel, variable operation and maintenance costs ("O&M"), emission costs, etc.), a description of the generation capabilities of each unit (capacity, heat rate curve, commitment parameters, emission rates, availability schedules, etc.), a load forecast, the market price of electricity, and the volumetric ability (transfer capability) to access the market. All of this information is brought together in the well established production costing software PROSYM™[2]. This state-of-the-art software is used to model the economic operation of the Companies' generating system. The projected coal usage data provided by this model is checked for reasonableness by comparing the results to historical data. The preparation of the forecast by experienced analysts spending significant amounts of time developing models and assumptions, gathering input data, and reviewing results also improves the likelihood of a reasonable forecast.

LG&E evaluated the various on-site storage, off-site storage and beneficial reuse options by calculating the present value of revenue requirements ("PVRR") of the capital and O&M costs for each alternative. The PVRR was calculated over the expected life of each alternative. Alternatives were also compared on the basis of costs per-unit volume of storage created to normalize any storage capacity differences between the alternatives.

Q. Please discuss the evaluation of Project 22, Cane Run Landfill.

[2] The PROSYM™ model has formed the foundation of prior analyses involving certificates of convenience and necessity for new generating plants, environmental cost recovery for pollution control equipment, and the fuel adjustment clause.

A. As described in Mr. Voyles' testimony, LG&E's Cane Run station ("Cane Run") produces three primary CCP: bottom ash, fly ash, and fixated calcium sulfite, which are currently stored and treated in a main pond and a landfill. Exhibit CRS-1 Section 4 contains the CCP needs assessment, which forecasts that the main pond will reach capacity in 2011, and the current landfill will reach capacity in 2012. LG&E contracted with GAI Consultants, Inc. to develop potential on-site storage alternatives as described in Mr. Voyles' testimony. Four landfill alternatives, summarized in Exhibit CRS-1 Section 5.1, were selected for further economic evaluation. An option for off-site disposal in a commercial landfill was also evaluated. Based on cost estimates and qualitative factors for these alternatives, the cost effective option to meet Cane Run's 20-year CCP storage needs has been identified as a landfill to store fixated calcium sulfite. In addition, a beneficial reuse opportunity with Louisville Underground, described in Exhibit CRS-1 Section 5.2, was evaluated. If finalized with the current terms, the beneficial reuse option would largely replace the landfill construction. While initial landfill expenditures would still be required to maintain the option for a phased landfill in the event of an unexpected end to the beneficial reuse agreement, as long as the beneficial reuse agreement is in effect under current terms, the construction of landfill phases would be delayed indefinitely.

Q. Is Project 22, Cane Run Landfill, a cost-effective means of complying with environmental regulations and permits?

A. Yes. Exhibit CRS-1 Section 6 presents the results of LG&E's analysis of the cost-effectiveness of the landfill project at Cane Run. The evaluation

methodology previously described was used to compare selected options for ash and fixated calcium sulfite disposal at Cane Run.

For on-site storage, as shown in Exhibit CRS-1 Section 6.1, Alternative 7 results in a PVRR of [redacted] million, $0.8 million, or 1%, lower than Alternative 10. The per unit costs (PVRR) for Alternative 7 and Alternative 10 are [redacted] per cubic yard and [redacted] per cubic yard, respectively. However, the beneficial reuse proposal evaluated in Exhibit CRS-1 Section 6.2 is a lower cost alternative, at [redacted] million PVRR ([redacted] per cubic yard for the 20 year period). Exhibit CRS-1 Section 6.3 also evaluates the cost of off-site landfill disposal at [redacted] million PVRR, or [redacted] per cubic yard.

To ensure a robust and comprehensive evaluation, the Company revaluated Alternatives 7 and 10 assuming that the beneficial reuse contract is executed. The purpose of the reevaluation was to optimize the landfill option given the decreased storage needs resulting from the assumed beneficial reuse. Alternative 10 requires less capital through year seven of the evaluation, which results in a PVRR of [redacted] per cubic yard of storage created during that period. This compares to the Alternative 7 PVRR of [redacted] per cubic yard for the same period. With beneficial reuse, Alternative 10 is a favorable option. Therefore, based on the results of LG&E's longstanding evaluation methods, Project 22 (Alternative 10), coupled with the Cane Run beneficial reuse project included as part of Project 25 (Beneficial Reuse) is the cost-effective means of providing for the long-term storage requirements at Cane Run.

Q. Please discuss the evaluation of Project 23, Trimble County Ash Treatment Basin and Gypsum Storage Pond.

A. The Companies' Trimble County station ("Trimble County") produces three forms of CCP: bottom ash, fly ash and gypsum, which are currently stored in the ash treatment basin or beneficially reused offsite. Further details are provided in Mr. Voyles' testimony. As explained in detail in Exhibit CRS-2 Section 4, the ash treatment basin is expected to reach capacity in 2010. Trimble County also has an existing emergency fly ash pond, now known as the gypsum storage pond. The gypsum storage pond was built during the construction of Trimble County Unit 1, but was never placed in service.

The following options were evaluated to meet the CCP storage requirements at Trimble County beginning prior to 2013:

- Extending the ash treatment basin dikes by reusing bottom ash which increases its capacity to 2.1 MCY (million cubic yards),
- Replacing the existing clay liner with a synthetic liner for the gypsum storage pond which will provide 1.05 MCY of gypsum storage,
- Continue existing beneficial reuse of gypsum, and
- Disposing of CCP in an off-site commercial landfill.

Exhibit CRS-2 Section 6.1 describes the evaluation of the above alternatives. This includes a review of total PVRR and PVRR per unit of storage for each of the alternatives. The preferred plan to meet the pre-2013 storage needs has been identified as a combination of the continuing beneficial reuse of gypsum via the

existing agreement with Synthetic Materials, Inc. ("Synthetic Materials"), the ash treatment basin expansion, and the gypsum storage pond liner.

Q. Is Project 23, Trimble County Ash Treatment Basin and Gypsum Storage Pond, a cost-effective means of complying with environmental regulations and permits?

A. Yes. Exhibit CRS-2 Section 6.1 presents the results of the Companies' analysis of the cost-effectiveness of the ash treatment basin, gypsum storage pond, and Synthetic Materials beneficial reuse project at Trimble County. The evaluation methodology previously described was used to compare options for CCP management at Trimble County. The total PVRR of this approach is [redacted] million for the bottom ash and gypsum storage ponds project, plus [redacted] million for the beneficial reuse project for a total PVRR of $43.2 million. This is 50% less costly than off-site landfill disposal, which has a PVRR of [redacted] million. On a PVRR per-unit of volume basis, the ponds and beneficial reuse components are [redacted] per cubic yard and [redacted] per cubic yard, respectively. Off-site landfill disposal cost is $30.71 per cubic yard. Therefore, based on the results of the Companies' longstanding evaluation methods, Project 23 is the cost effective method for pre-2013 CCP management at Trimble County.

Q. Please discuss the evaluation of Project 24, CCP Storage (Landfill) at Trimble County.

A. For post-2013 storage, three landfill alternatives were evaluated. These are discussed in Mr. Voyles' testimony and summarized in Exhibit CRS-2 Section 5.2. In addition, off-site landfill disposal and further beneficial reuse were evaluated.

The three landfill alternatives consist of the following configurations as described in Exhibit CRS-2 Section 5.2.1:

- Case 16 is a two landfill configuration, which separates ash and gypsum storage. Total capacity is 26.8 MCY.
- Case 21 is a common landfill for ash and gypsum with a total capacity of 28.1 MCY.
- Case 23 is a common landfill for ash and gypsum with a total capacity of 30.0 MCY.

The primary difference in Case 21 and Case 23 involves phase storage capacity and timing of phases. Phase 1 of Case 21 develops 8.0 MCY of storage by 2013, while Phase 1 of Case 23 develops 13.9 MCY of storage in the same timeframe.

The Companies also identified an opportunity for long-term beneficial reuse for up to 95% of the station's fly ash, as noted in Exhibit CRS-2 Section 5.2.2. The current proposal would use 5.9 MCY of fly ash over a 20 year period for cement manufacturing.

Q. Is Project 24, CCP Storage (Landfill) at the Trimble County station, a cost-effective means of complying with environmental regulations and permits?

A. Yes. Exhibit CRS-2 Section 6.2 presents the results of the Companies' analysis of the cost-effectiveness of the landfill project at Trimble County. The evaluation methodology previously described was used to compare the on-site landfill options as well as the off-site landfill disposal alternative.

The PVRR of the recommended landfill option (Case 21) is [redacted] million for 32.5 MCY of capacity (includes 4.4 MCY of gypsum reuse with Synthetic Materials), $26 million less than the Case 23 landfill option, $56 million less than the Case 16 landfill option, and $385 million less than the off-site landfill disposal alternative. Unit cost for Case 21, Case 23, Case 16, and the off-site landfill are [redacted] per cubic yard, [redacted] per cubic yard, [redacted] per cubic yard, and [redacted] per cubic yard, respectively.

In addition to the landfill evaluation, the Companies also evaluated beneficial reuse opportunities (included as part of Project 25), as described in Exhibit CRS-2 Section 6.2.1. The current reuse proposal for 5.9 MCY of fly ash results in a PVRR of [redacted] million, or [redacted] per cubic yard, for the 20 year term. Combining this opportunity with the Case 21 landfill discussed above results in a project with a PVRR of [redacted] million for 38.4 MCY of storage, or [redacted] per cubic yard. Pursuing the beneficial reuse opportunity would allow the second phase of the on-site landfill to be delayed by eight years.

Q. Please describe Project 25, Beneficial Reuse

A. The Companies will continue to seek and evaluate beneficial reuse opportunities for CCP. These opportunities typically involve the use of CCP for a feedstock for a specific product, such as cement or wallboard, or for structural fill. As discussed in the CCP strategy document contained in Mr. Voyles's testimony, the market for coal combustion byproducts has changed dramatically over the past decade from a suppliers market to a buyer or user market. As shown in the evaluation for the 2009 Plan and the attached Exhibits to my testimony, the

Companies have implemented a methodology to evaluate beneficial reuse opportunities and CCP storage alternatives. Project 25 seeks to recover the costs associated with beneficial reuse alternatives which, after an environmental and economic assessment, are prudent for both the environment and ratepayers.

Currently, as described in Mr. Voyles's testimony, LG&E is pursuing three beneficial reuse opportunities. The first involves the reuse of CCP from the Cane Run station for structural fill opportunities as described above in the evaluation of Cane Run's CCP storage alternatives. The second involves the reuse of fly ash from the Trimble County station for use in cement production as described above in the evaluation of Trimble County's CCP storage alternatives. The third opportunity is a contract with Synthetic Materials that includes the reuse of gypsum at Trimble County station. All three of these opportunities are included as part of Project 25. As previously discussed by Mr. Bellar and Mr. Voyles, Project 25 is also intended to include future opportunities that are determined to be economical using the same evaluation procedures as described in my testimony.

Q. Please describe how future CCP beneficial reuse opportunities to be included in Project 25 will be evaluated.

A. The Companies will continue to use the PVRR methodology consistent with other projects in the 2009 Plan to evaluate beneficial reuse opportunities and on-site storage alternatives. In general, the evaluation is based upon the principle that the cost per ton to remove CCP for a beneficial reuse opportunity should be less than the cost per ton to store the CCP on-site, considering both the variable operational

cost of disposal in the current on-site storage phase plus any fixed and variable costs of storage capacity created in future phases. Therefore, the Companies' goal is to capture beneficial reuse opportunities which minimize current disposal cost and minimize future disposal cost by deferring construction of future phases.

Since beneficial reuse projects will create additional storage space relative to an existing phased construction plan, the screening process will normalize the cost on a per cubic yard basis. In practice, after the execution of a beneficial reuse project, the timing of subsequent phases of an existing on-site storage plan will be reexamined. This will occur before a current on-site storage phase reaches capacity.

The table below identifies the pertinent data that will be used to evaluate future beneficial reuse opportunities. The template would be completed for 1) an on-site storage plan and 2) an on-site storage plan with beneficial reuse. The on-site storage alternative (without beneficial reuse) will be limited to the avoidable portion of the plan for current and subsequent phases; previously incurred capital costs are not considered. The avoidable portion will include the variable O&M cost of the current on-site storage phase and the entire cost of any future storage phases. The beneficial reuse alternative will also include the cost to haul the CCP to the off-site beneficial reuse location, and capture the savings associated with deferrals of capital and O&M associated with future phases. Beneficial reuse opportunities may result in the delay or deletion of future phases of on-site storage.

	Annual Revenue Requirements ($000)									
	Capital					O&M				Total
	Phase 1	Phase 2	Phase 3	Other	Total Capital	Non-Power	Power	Beneficial Reuse	Total O&M	
2009										
2010										
2011										
2012										
2013										
2014										
2015										
2016										
2017										
2018										
2019										
2020										
2021										
2022										
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2027										
2028										
2029										
2030										
2031										
2032										
2033										
2034										
2035										
2036										
2037										
2038										
2009 PVRR										
Thousand Cubic Yards									$/CY	

Q. Are CCP beneficial reuse opportunities a cost effective means for CCP storage?

A. The Companies' believe that CCP beneficial reuse opportunities are a cost effective means for CCP storage if the opportunities meet the evaluation criteria described above.

Q. Does this conclude your testimony?

A. Yes.

VERIFICATION

COMMONWEALTH OF KENTUCKY)
) SS:
COUNTY OF JEFFERSON)

The undersigned, **Charles R. Schram**, being duly sworn, deposes and says he is Director, Energy Planning, Analysis & Forecasting 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.

CHARLES R. SCHRAM

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 24th day of June 2009.

Notary Public (SEAL)

My Commission Expires:

November 9, 2010

Appendix A

Charles R. Schram

Director – Energy Planning, Analysis & Forecasting
E.ON U.S. Services Inc.
220 West Main Street
Louisville, Kentucky 40202
(502) 627-3250

Education

Master of Business Administration
University of Louisville, 1995
Bachelor of Science – Electrical Engineering
University of Louisville, 1984
E.ON Academy General Management Program: 2002-2003
Center for Creative Leadership, Leadership Development Program: 1998

Professional Experience

E.ON U.S.

Director, Energy Planning, Analysis & Forecasting	May 2008 – Present
Manager, Transmission Protection & Substations	2006 – 2008
Manager, Business Development	2005 – 2006
Manager, Strategic Planning	2001 – 2005
Manager, Distribution System Planning & Eng.	2000 – 2001
Manager, Electric Metering	1997 – 2000
Information Technology Analyst	1995 – 1997

U.S. Department of Defense – Naval Ordnance Station

Manager, Software Integration	1993 – 1995
Electronics Engineer	1984 – 1993

Coal Combustion Byproduct
Plan for Cane Run Station
For

Subsidiaries
Kentucky Utilities and
Louisville Gas and Electric

June 2009

1. Executive Summary

Louisville Gas and Electric Company's ("LG&E's") Cane Run station ("Cane Run") produces three primary coal combustion byproducts ("CCP"): bottom ash, fly ash and fixated calcium sulfite, which are currently stored in a main pond and a landfill. These storage areas are forecast to reach capacity in 2011, creating a need for additional CCP storage. A variety of on-site and off-site CCP storage options have been considered to meet the storage needs at Cane Run. The recommended options were identified after evaluations of engineering cost estimates, associated revenue requirements, and qualitative merits.

LG&E contracted an engineering consultant to develop potential on-site storage alternatives. Of multiple options considered, four were selected for further economic evaluation. Based on cost estimates and qualitative factors for these alternatives, the most favorable on-site storage option has been identified as a common landfill to store fixated calcium sulfite. In addition to on-site storage, off-site beneficial reuse and off-site commercial land fill disposal were also evaluated.

LG&E has identified an opportunity to contract with a third party to remove ash and fixated calcium sulfite to be reused as structural fill. This reuse option is potentially a lower-cost alternative to both off-site landfill disposal and an on-site landfill to meet the CCP storage needs at Cane Run. However, terms for the beneficial reuse proposal are still under negotiation.

Pursuing the on-site landfill, including finalizing landfill design and filing the applicable permits, is necessary to serve as a "backstop" in the event that beneficial reuse terms are ultimately unfavorable or the opportunity is terminated unexpectedly. The associated costs for the on-site landfill and beneficial reuse are:

- Beneficial reuse of 6.0 million cubic yards ("MCY") of CCP by a third party from 2010 to 2030 ($[redacted] million present value of revenue requirements ("PVRR")) at a cost of $[redacted] per cubic yard, and
- Building and operating an on-site landfill to store fixated calcium sulfite from 2010 to 2030 ($[redacted] million PVRR) at a cost of $[redacted] per cubic yard.

2. Background

The Cane Run Generating Station, located in southwest Jefferson County, Kentucky, is comprised of three coal fired generating units totaling 563 MW in net capacity. Each unit has an individual Flue Gas Desulfurization ("FGD") system that controls SO_2 emissions. The station produces three primary coal combustion byproducts ("CCP"): bottom ash, fly ash and fixated calcium sulfite, a blend of fly ash, scrubber sludge, and lime. The Cane Run station has two existing on-site storage basins for CCP, the Main Pond and Landfill, pictured below in Figure 1:

Figure 1: Current Cane Run Plant CCP Storage

The Main Pond is used to treat and store bottom ash and fly ash which are byproducts of burning coal. At the end of 2008[1], the Main Pond had a remaining available capacity of approximately 86,000 cubic yards. Cane Run is forecasted to produce approximately 35,000 cubic yards of ash annually, thus depleting the capacity in the main pond in 2011.

The landfill is used to treat and store fixated calcium sulfite. Fixated calcium sulfite is produced by blending fly ash with scrubber sludge and lime. As of January 2009[2], the landfill remaining usable capacity was determined to be 1.1 MCY. Based on the plant's expected fixated calcium sulfite annual production of 0.3 MCY, the site can store approximately 3.6 years of additional fixated calcium sulfite production.

Currently, Cane Run does not have an existing contract for beneficial reuse for any of the CCPs. However, beneficial reuse opportunities are evaluated as they become available.

[1] The available capacity of the main pond at the end of June 2009 is forecasted to be approximately 67,000 cubic yards.
[2] The available capacity of the landfill at the end of June 2009 is forecasted to be approximately 0.92 MCY

3. Process and Methodology

KU and Louisville Gas and Electric Company (collectively "the Companies") develop the most effective plan for meeting the CCP storage needs at each generating station. The process of identifying the plan consists of the three following primary tasks which are performed by several departments within the Companies.

- Needs assessment
- Development of alternatives
- Comparison of alternatives

The CCP storage needs are defined by forecasting the production of CCP over the applicable planning period as compared to the existing storage capacity. The Project Engineering department and the applicable generating station are responsible for providing an estimate of remaining capacity.

The expected life of the existing storage capacity is based on the forecast of CCP production, which is developed by Generation Planning for all stations as a function of the expected coal usage for each unit. The Companies compile information regarding the cost of generation for each unit (fuel, variable O&M, emission costs, etc.), a description of the generation capabilities of each unit (capacity, heat rate curve, commitment parameters, emission rates, availability schedules, etc.), a load forecast, the market price of electricity, and the volumetric ability (transfer capability) to access the market. All of this information is brought together in the PROSYM™[3] software, which is used to model the economic operation of the Companies' generating system. The projected coal usage data provided by this model is checked for reasonableness by comparing the results to historical data.

The Project Engineering department develops alternatives for on-site CCP storage solutions and their associated costs. Any alternatives for off-site disposal such as beneficial reuse or off-site landfilling are provided by the generating stations' staff and a CCP team. The cash flows for selected options are summarized and provided to Generation Planning for evaluation.

The Generation Planning department evaluates the storage and disposal options received from Project Engineering to determine the PVRR associated with the capital expenditures and O&M expenses of each option. This analysis is performed using the Capital Expenditure Recovery module of the Strategist®[4] software model.

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[3] The PROSYM™ model has formed the foundation of prior analyses involving certificates of convenience and necessity for new generating plants, environmental cost recovery for pollution control equipment, and the fuel adjustment clause.

[4] Strategist® is a proprietary, state-of-the-art resource planning computer model. The Capital Expenditure Recovery module is used to quantify the revenue requirements impact associated with capital projects.

4. Needs Assessment

The following capacities were provided by Project Engineering and the Cane Run station to Generation Planning:

- As of January 2009, the remaining available capacity of the Main Pond is 86,000 cubic yards.[5]
- Approximately 480,000 cubic yards of bottom ash can be used as construction material in creating the new on-site landfill.
- The remaining available capacity of the landfill is 1.1 MCY as of January 2009.[6]

The expected life of the remaining capacity of the main pond and landfill were estimated by forecasting the CCP production of ash and fixated calcium sulfite at Cane Run. The quantity of ash produced at Cane Run is estimated at a coal specification of 11.5% ash by weight of the total quantity of coal used, or approximately 11.5 tons of ash per 100 tons of coal. Converting to volumetric measurement, assuming ash production consists of 80% fly ash and 20% bottom ash by weight, approximately 11.5 cubic yards of total ash is produced per 100 tons of coal. All of the bottom ash and 5% of the fly ash is stored in the main pond. Almost 95% of the fly ash is used in making fixated calcium sulfite.

The chemical reaction by which fixated calcium sulfite is produced results in net fixated calcium sulfite production of approximately 22% by weight of the total quantity of coal burned[7] or approximately 22 tons of fixated calcium sulfite per 100 tons of coal. Converting to volumetric measurement, approximately 25 cubic yards of fixated calcium sulfite is produced per 100 tons of coal burned.

The forecasted CCP production volume for Cane Run is shown in Table 1 and depicted graphically in Figures 2 and 3 based on the forecasted coal burn shown in Table 2. Table 2 also contains the historical quantities of coal burned as a comparison to the forecast. Cane Run generation is forecasted to be less than the last five years of generation due to the lower demand and energy forecast, lower market prices for electricity, and the installation of FGDs at Ghent and Brown stations, which will further reduce their production cost relative to Cane Run.

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[5] Based on expected coal burn, Generation Planning forecasts that by the end of 2009, the remaining capacity of the Main Pond will be 48,000 cubic yards.

[6] Based on expected coal burn, Generation Planning forecasts that by the end of 2009, the remaining capacity of the landfill will be 0.75 MCY.

[7] Fuel specification assumptions include SO_2 content of approximately 5.85 lb/mmBTU and heat content of 22.57 mmBTU/ton.

Table 1: CCP Production Forecast (MCY)

CCP Production Forecast *(MCY)*			
	Fly Ash[1]	Bottom Ash[1]	Fixated calcium sulfite[2]
2009	0.01	0.04	0.35
2010	0.01	0.03	0.33
2011	0.01	0.03	0.28
2012	0.01	0.03	0.28
2013	0.01	0.03	0.30

1: Wet Storage *2: Dry Storage*

Table 2: Cane Run Coal Usage (Million Tons)

Cane Run Coal Burned (M Tons)	
Historical	
2004	1.6
2005	1.7
2006	1.7
2007	1.7
2008	1.6
Forecast	
2009	1.4
2010	1.3
2011	1.1
2012	1.1
2013	1.2

The forecasted generation and the resulting coal usage at Cane Run correspond to an average capacity factor of approximately 51%. In 2004-2008, Cane Run's capacity factor was approximately 66%, so the impact of a higher than expected capacity factor was also evaluated. Assuming a capacity factor of 67%, equivalent to 90% of the maximum capacity factor during 2000-2008, the increased CCP production rate would accelerate the need for construction of the landfill phases in addition to increasing the volumetric need for beneficial reuse or off-site disposal. This case is discussed in more detail in Appendix 4.

Figures 2 and 3 show the forecasted cumulative CCP production at the end of each year compared to the expected available capacity at the end of 2009. With current forecasts for ash production and without any additional on-site capacity or off-site disposal or reuse, the Main Pond is expected to reach maximum desired capacity in 2011 as shown in Figure 2 and the landfill is expected to reach maximum desired capacity in 2012 as shown in Figure 3.

Figure 2: Main Pond Capacity

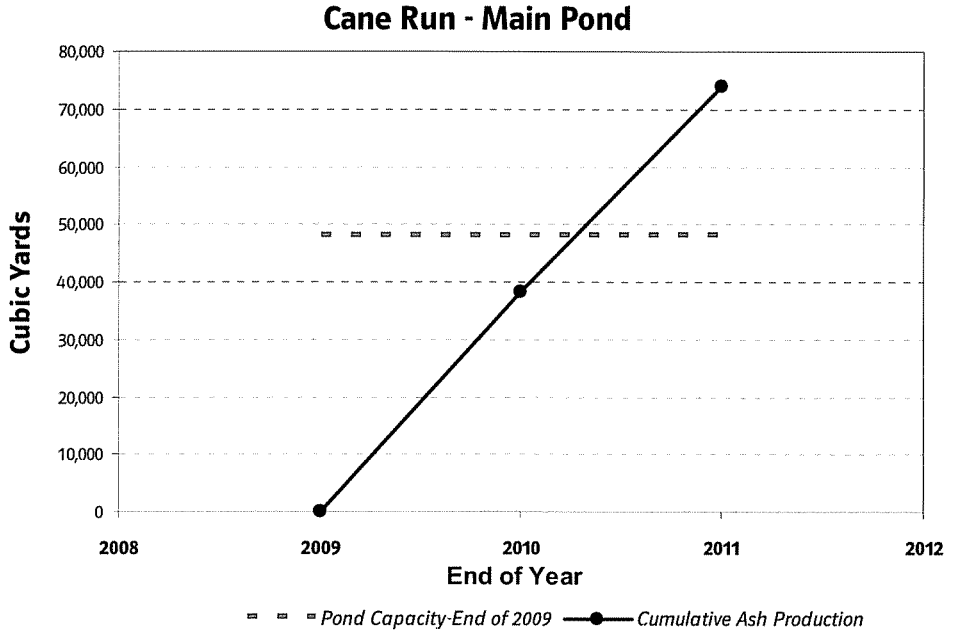
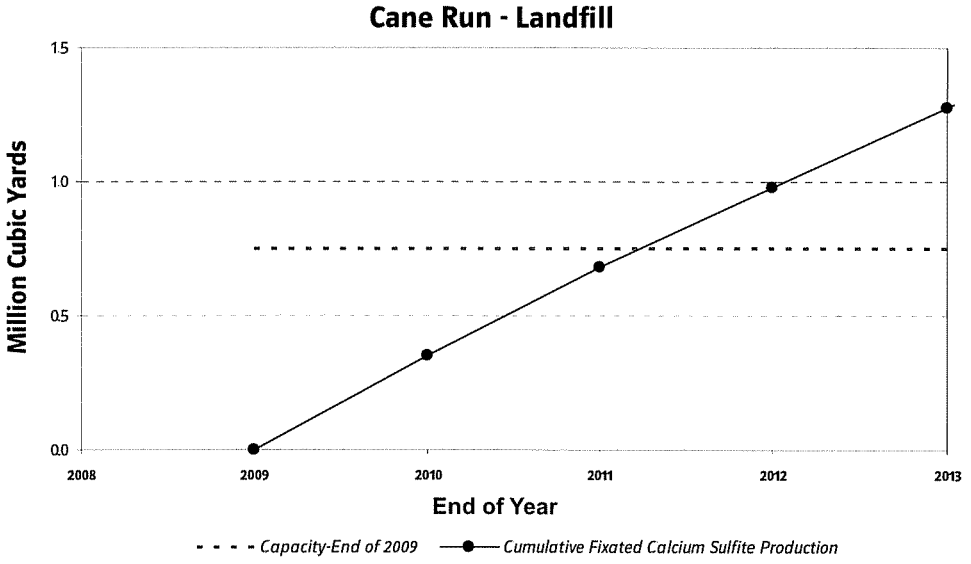


Figure 3: Landfill Capacity



In summary, the needs assessment indicates that additional CCP disposal alternatives will be needed for ash in 2011 and fixated calcium sulfite at Cane Run by 2012.

5. Development of Alternatives

In the case of CCP solutions for Cane Run, three sets of options for evaluation were developed:

- On-site CCP Storage
- Off-site Beneficial Reuse
- Off-site Landfill Disposal

5.1 On-site CCP Storage

To meet the long-term storage needs at Cane Run, LG&E contracted GAI Consultants, Inc., Pittsburgh, PA ("GAI") to provide both an Initial Siting Study ("ISS") and a Draft Supplemental Conceptual Design Study of CCP storage alternatives at Cane Run[8]. The ISS identified ten potential alternatives based on combinations of a number of variables, including site locations, and relocation of transmission lines and other storage ponds.

As a result of this study, four on-site alternatives shown in Table 3 were selected for further consideration. In the process of developing the Final Conceptual Design Study, GAI refined the cost estimates for these alternatives in addition to other detailed engineering tasks.

An on-site landfill is assumed to store only fixated calcium sulfite, since this is the highest volume CCP at Cane Run. 480,000 cubic yards of bottom ash from the main pond will be utilized in constructing the new landfill, which will extend the life of the main pond by another 14 years. The existing storage facilities will then have adequate capacity to store bottom ash and fly ash once the new landfill is operational.

Table 3: Alternatives for CCP

		On-Site					
Alternative		**7**	**8**	**9**	**10**	**Beneficial Reuse**	**Off-Site Landfill**
Description		1 Landfill	1 Landfill	1 Landfill	1 Landfill		
Total Capacity *(MCY)*		5.76	5.76	5.76	5.76	6.0	5.83
Nominal Cost *($M)*	**Capital**						
	O&M						

[8] The Initial Siting Study and the Draft Supplemental Conceptual Design Study are shown in Exhibit JNV-7.

Each of the cases for on-site long-term storage was designed to hold twenty years of fixated calcium sulfite production. Table 4 shows the construction periods, the in-service years, and the capacity for each phase of the on-site cases.

Table 4: Construction Phases for On-Site Storage Options

Case		7	8	9	10
Phase 1	**Construction**	2009-11	2009-11	2009-11	2009-12
	In-Service	2012	2012	2012	2012
	Capacity *(MCY)*	0.72	1.38	0.47	1.66
Phase 2	**Construction**	2012-13	2014-15	2011-12	2015-16
	In-Service	2014	2016	2013	2017
	Capacity *(MCY)*	1.71	0.75	2.47	0.84
Phase 3	**Construction**	2018-19	2017-18	2020-21	2018-19
	In-Service	2020	2019	2023	2020
	Capacity *(MCY)*	1.04	1.50	0.75	1.78
Phase 4	**Construction**	2023	2022-2023	2022-2023	2025
	In-Service	2024	2024	2024	2026
	Capacity *(MCY)*	2.29	2.13	2.07	1.48

Alternatives 7 and 10. The construction schedule of Alternative 7 consists of four phases beginning in 2009 and ending in 2023. Figure 4 shows the phases' cumulative design capacity compared to the forecasted cumulative CCP production. The construction schedule of Alternative 10 also consists of four phases beginning in 2009 but ending in 2025. Figure 5 shows the phases' cumulative design capacity compared to the forecasted cumulative CCP production.

While Alternatives 7 and 10 are similar in overall build-out, they differ in the timing of phases. Both Alternatives 7 and 10 do not require new land acquisition or flood plain mitigation, but transmission lines and dead storage ponds still need to be relocated. These storage ponds are used to store the flue gas emission controls residue.

Figure 4: Long-Term Needs Assessment – Alternative 7

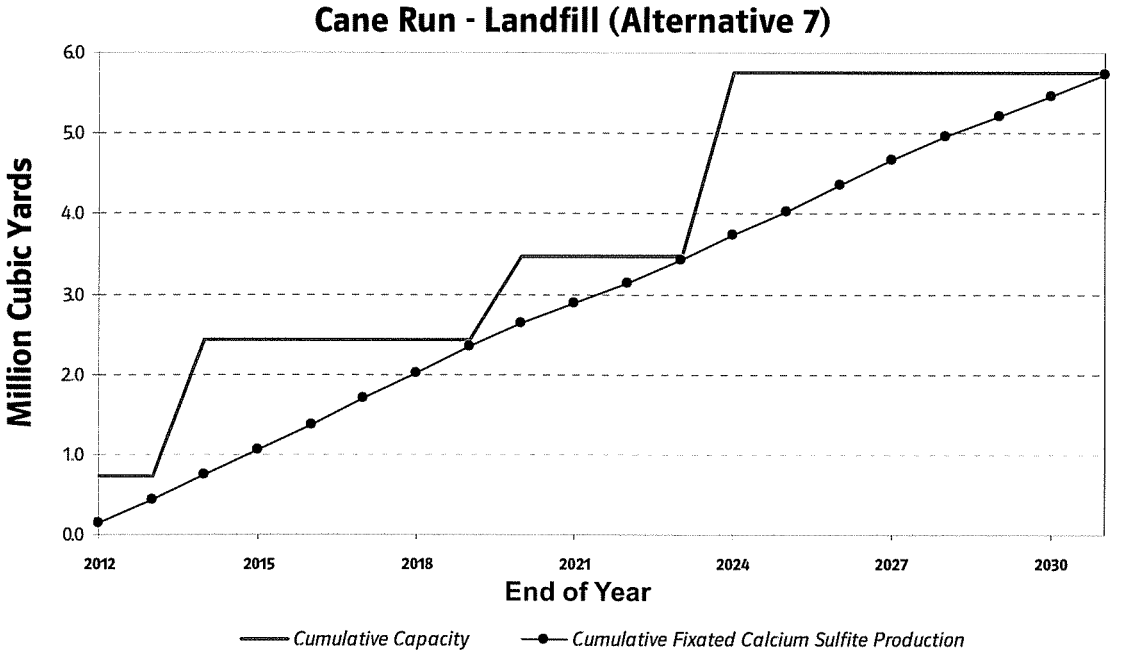
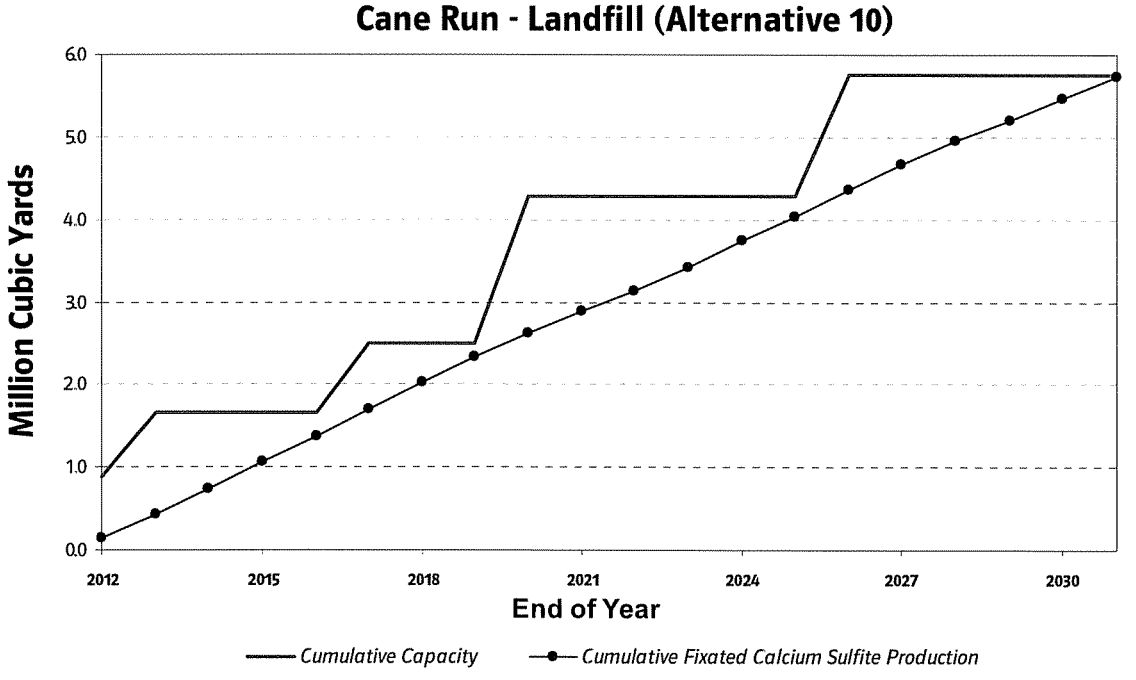


Figure 5: Long-Term Needs Assessment – Alternative 10



Alternatives 8 and 9. The construction schedule of Alternative 8 consists of four phases beginning in 2009 and ending in 2023. Figure 6 shows the phases' cumulative design capacity compared to the forecasted cumulative CCP production. The construction schedule of Alternative 9 also consists of four phases beginning in 2009 and ending in 2023. Figure 7 shows the phases' cumulative design capacity compared to the forecasted cumulative CCP production.

Although Alternatives 8 and 9 have the same cumulative design capacity as Alternative 7 and 10, both Alternatives 8 and 9 impact a wider wetland area, which increases the cost of the following required permits:

- US Army Corps of Engineers,
- Kentucky Division of Water, and
- Kentucky Division of Waste Management.

In addition, both Alternatives 8 and 9 will require land acquisition for disposal site, flood mitigation, and borrow area. These alternatives also require the relocation of transmission lines and the dead storage ponds.

Figure 6: Long-Term Needs Assessment – Alternative 8

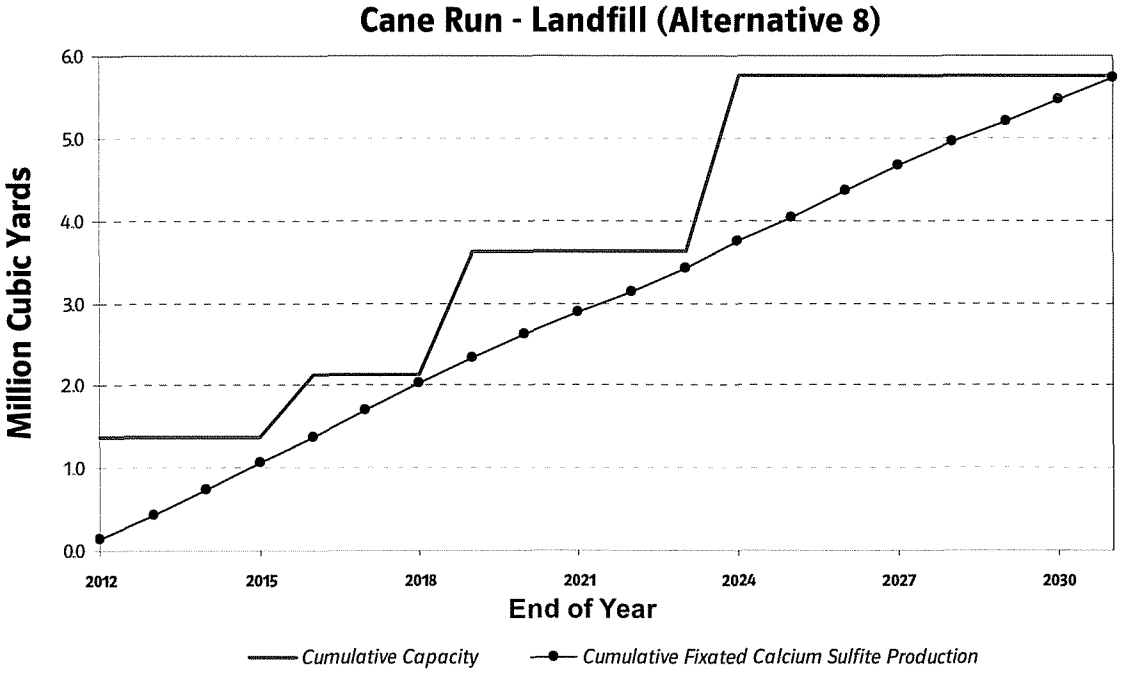
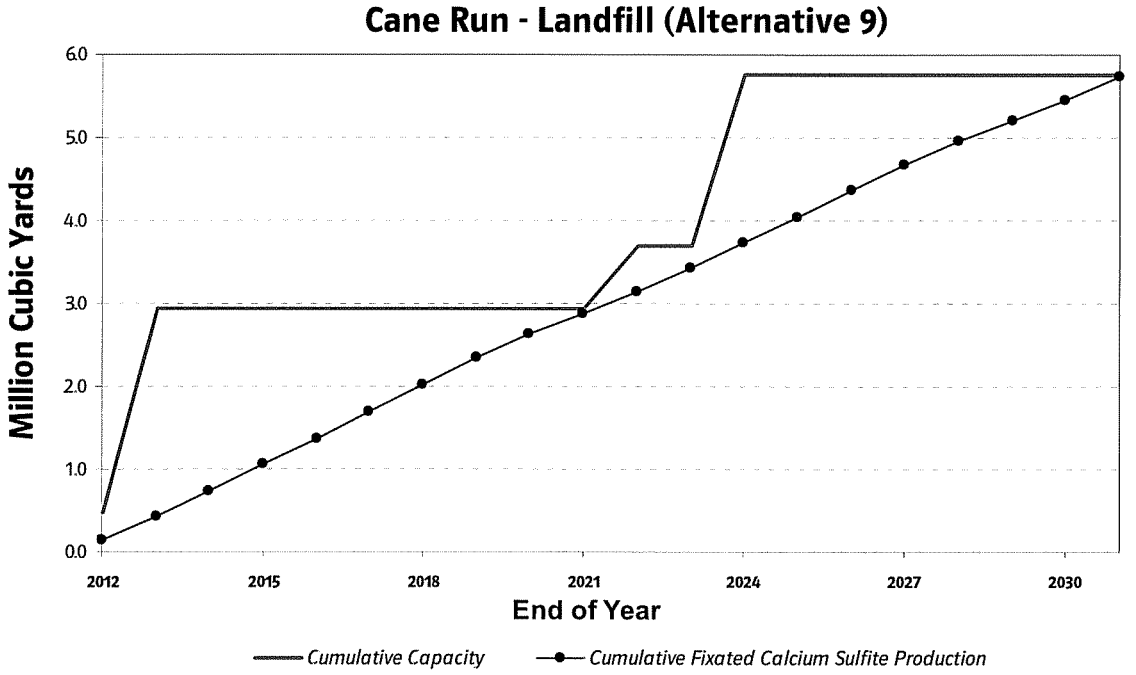


Figure 7: Long-Term Needs Assessment – Alternative 9



5.2 Off-site Beneficial Reuse

The station in conjunction with the CCP Team has identified an opportunity for long-term beneficial reuse with an underground storage facility, to beneficially reuse 6 MCY of CCP as structural fill at an estimated 2009 base cost of $[redacted] per cubic yard[9], subject to fuel adjustments. Consistent with LG&E's CCP management strategy, this fill location has been evaluated and confirmed as appropriate for beneficial reuse as it is not in an environmentally sensitive area.

Even though the beneficial reuse opportunity is large enough to displace the new landfill for the next 20 years, the Company will need to still pursue the initial development of the landfill opportunity. Capital will be spent to finalize landfill design, file the necessary permits, and perform necessary sedimentation control measures. Incurring this capital is necessary to serve as a "backstop" in the event that the reuse opportunity does not occur or is terminated unexpectedly.

5.3 Off-site Landfill Disposal

As an alternative to building on-site storage facilities, use of an existing off-site commercial landfill for storing future CCP was also considered as an option. The off-site landfill disposal is estimated to cost $[redacted] per cubic yard[10].

[9] $[redacted] per CY as stored is equivalent to $[redacted]/ton as hauled. This cost includes loading, transportation and tipping fees.

[10] $[redacted] per cubic yard is equivalent to $[redacted] per ton as hauled for transport and storage at Valley View landfill near Sulphur, KY, approximately 40 miles from Cane Run. Cost components per ton are $[redacted] for

6. Comparison of Alternatives

Table 5: PVRR Analysis Summary of Selected Alternatives (Based on GAI conceptual design study level I engineering)
(2009 PVRR million $)

Alternative	7	8	9	10	Beneficial Reuse	Off-Site Landfill
PVRR						
Capital	[redacted]					
O&M						
Total						
Delta to Least Cost Case	*Least Cost*	*34.92*	*52.73*	*0.8*	*Least Cost*	*90.5*
Capacity *(MCY)*	5.76	5.76	5.76	5.76	6.0	5.83
Unit Cost *(2009 PVRR $/CY)*	[redacted]					

6.1 On-Site Storage

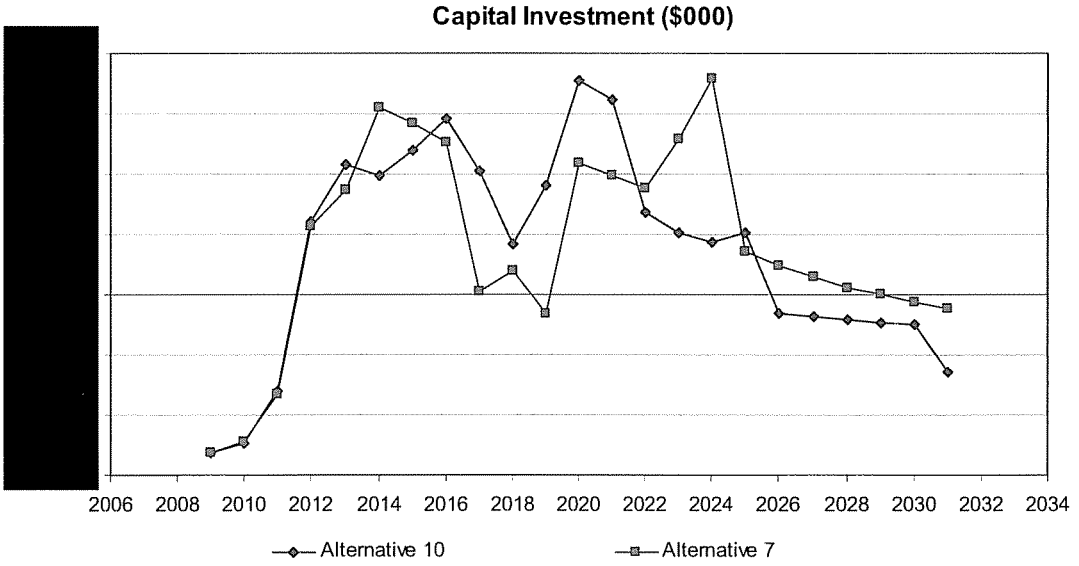
Each of the four alternatives (alternatives 7, 8, 9, 10) selected in the engineering studies consists of a single landfill to store fixated calcium sulfite and includes four separate phases that vary in capacity and dates of construction. A comparison of the PVRR of the alternatives is shown in Table 5 above.

Alternatives 7 and 10: Alternative 7 is $0.8 million PVRR favorable to Alternative 10 over 20 years, a 1% difference. However, through 2015, Alternative 10 is $0.36 million PVRR favorable to Alternative 7 as shown in Figure 8. Alternative 10 requires less capital in phase 1 due to:

- The relocation of dead storage ponds during the second year of construction compared to the first year of construction for Alternative 7.
- The relocation of six 138kV transmission towers is delayed from 2012 to 2015 with Alternative 10 compared to Alternative 7, which also coincides with a planned outage.

excavating and loading, $[redacted] for hauling, and $[redacted] for landfill tipping fee. This quoted tipping fee is slightly below the listed rates of $[redacted]/ton for other regional public landfills.

Figure 8: Annual Revenue Requirements for Capital Investment Alternative 7 vs. Alternative 10



Alternatives 8 and 9. On a PVRR basis, both Alternatives 8 and 9 are significantly more expensive than Alternatives 7 and 10, $35 million and $53 million, respectively. The difference in cost is driven by the following:

- Alternatives 8 and 9 impact a wider wetland area, so permit costs are nearly twice that of Alternatives 7 and 10.
- Alternative 8 requires 60 acres of land acquisition for disposal site, flood mitigation and borrow area at a total cost of $6.5 million, while Alternative 9 requires 120 acres at a cost of $13 million.

Projected cash flows for the alternatives are shown in Appendix 2. The annual revenue requirements associated with all of the evaluated alternatives are detailed in Appendix 3.

6.2 Beneficial Reuse

An underground storage facility has proposed using ash and fixated calcium sulfite as construction fill. This facility can reuse up to 6 MCY of ash and fixated calcium sulfite. This results in a PVRR of $[redacted] per cubic yard, which is favorable to the on-site alternatives.

6.3 Off-site Disposal

The off-site landfill option (in Table 5 above) consists only of O&M costs, but this option is the highest cost alternative due to the high unit cost of off-site landfill disposal, which is $[redacted] per cubic yard (PVRR). Reducing the escalation to 2%, the unit cost is $[redacted] (PVRR) per cubic yard, which is still higher than that of Alternative 7 and Alternative 10.

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A breakeven cost for off-site landfill disposal of $[redacted] per cubic yard would result in PVRR equal to that of Alternative 7 or Alternative 10.

The financial assumptions related to the analysis of these cases are shown in Appendix 1, the projected cash flows are shown in Appendix 2, and the annual revenue requirements are detailed in Appendix 3.

7. Recommendations

The needs assessment demonstrates a need for additional CCP storage capacity at the Cane Run station by 2011. Various options including on-site disposal landfills, off-site disposal landfills and beneficial reuse have been analyzed.

In summary:

- Beneficial reuse with a third party is the lowest cost alternative and $[redacted] million favorable PVRR to building the on-site landfill in Alternative 10. The cost of reusing 6 MCY of CCP by an underground storage facility results in $[redacted] million PVRR.

- Considering the potential for beneficial reuse and the capital profile of Alternatives 7 and 10 in the early years, building alternative 10 at a total cost of $[redacted] million PVRR is the most favorable on-site storage option. Less capital is required through 2015 for Alternative 10 Phase 1 at PVRR of $[redacted] per cubic yard compared to Alternative 7 Phase 1 at a cost of $[redacted] per cubic yard due to delaying the relocation of the dead storage ponds and transmission towers.

While beneficial reuse is the least-cost CCP storage plan, the contract is not finalized. Therefore, finalizing on-site landfill design and filing required permits while continuing the negotiations is recommended.

Further details regarding the status of this project and the expected construction schedule are shown in Appendix 5.

Appendix 1

Analysis Assumptions

- Study Period: 20-year period for O&M costs impacts (2009-2038)
  42-year period for capital costs impacts (2009 through book life of final project phase).

  The revenue requirements associated with capital costs are determined via the Capital Expenditure and Recovery module of the Strategist production and capital costing software. Capital projects with a 20-year tax life and an in-service date after 2018 would have the last years of their life excluded from the revenue requirement calculation if capital costs impacts were halted at 2038. Doing so would have the effect of underestimating the capital cost of alternatives and would favor construction of new projects. Therefore, to completely account for capital projects costs over their lifetime, the revenue requirements associated with new capital projects were extended through the end of their book life.

- Capital and O&M costs associated with the addition of new environmental projects will be subject to recovery through the Environmental Cost Recovery mechanism.

- Financial data
  - Discount rate: 7.64%
  - Income tax rate: 38.9%
  - Insurance rate: 0.07%
  - Property tax rate: 0.15 %
  - Percentage of debt in capital structure: 47.51%
  - Debt interest rate/weighted cost of debt: 4.34%
  - Return on equity: 10.63%
  - Environmental projects book life (non-transmission): 5-8 years
  - Environmental projects book life (transmission): 40 years
  - Environmental projects tax life (years): 20 years
  - Annual capital and O&M escalation rate: 6%
  - Cost contingency included in estimates: 20%

- CCP data
  - Coal ash content: 11.5%
  - Coal SO_2 content: ~5.85 lb/mmBTU
  - FGD removal efficiency:
    Units 1, 3, 4 85%
    Unit 2 (currently Unit 1) 90%

Appendix 2

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Alternative 7 ($M)	Landfill			
	Construction Phase	Capital	O&M	Total
2008	1	[redacted]		
2009	1			
2010	1			
2011	1			
2012	2			
2013	2			
2014	2			
2015	2			
2016	2			
2017	2			
2018	3			
2019	3			
2020	3			
2021	3			
2022	3			
2023	4			
2024	4			
2025	4			
2026	4			
2027	4			
2028	4			
2029	4			
2030	4			
2031	4			
Total				

Alternative 8 ($M)	Landfill			
	Construction Phase	Capital	O&M	Total
2008	1	[redacted]		
2009	1			
2010	1			
2011	1			
2012	1			
2013	1			
2014	2			
2015	2			
2016	2			
2017	3			
2018	3			
2019	3			
2020	3			
2021	3			
2022	4			
2023	4			
2024	4			
2025	4			
2026	4			
2027	4			
2028	4			
2029	4			
2030	4			
2031	4			
Total				

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Alternative 9 ($M)	Landfill			
	Construction Phase	Capital	O&M	Total
2008	1	[redacted]		
2009	1			
2010	1			
2011	1			
2012	2			
2013	2			
2014	2			
2015	2			
2016	2			
2017	2			
2018	2			
2019	2			
2020	3			
2021	3			
2022	4			
2023	4			
2024	4			
2025	4			
2026	4			
2027	4			
2028	4			
2029	4			
2030	4			
2031	4			
Total				

Alternative 10 ($M)	Landfill			
	Construction Phase	Capital	O&M	Total
2008	1	[redacted]		
2009	1			
2010	1			
2011	1			
2012	1			
2013	1			
2014	1			
2015	2			
2016	2			
2017	2			
2018	3			
2019	3			
2020	3			
2021	3			
2022	3			
2023	3			
2024	3			
2025	4			
2026	4			
2027	4			
2028	4			
2029	4			
2030	4			
2031	4			
Total				

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Louisville Underground ($M)	Landfill & Beneficial Reuse			
	Construction Phase	Capital	O&M	Total
2008	1	[redacted]		
2009	1			
2010	1			
2011	1			
2012	1			
2013	1			
2014	1			
2015	1			
2016	1			
2017	1			
2018	1			
2019	1			
2020	1			
2021	1			
2022	1			
2023	1			
2024	1			
2025	1			
2026	1			
2027	1			
2028	1			
2029	1			
2030	1			
2031	1			
Total				

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6% esc.	Off-Site Landfill ($M)	
	Capital	O&M
2009	[redacted]	
2010		
2011		
2012		
2013		
2014		
2015		
2016		
2017		
2018		
2019		
2020		
2021		
2022		
2023		
2024		
2025		
2026		
2027		
2028		
2029		
2030		
2031		
Total		

2% esc.	Off-Site Landfill ($M)	
	Capital	O&M
2009	[redacted]	
2010		
2011		
2012		
2013		
2014		
2015		
2016		
2017		
2018		
2019		
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2030		
2031		
Total		

Appendix 3

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Alternative 7

	Annual Revenue Requirements ($000)										
	Capital							O&M			Total
	Pre-Phase	Phase1	Phase2	Phase3	Phase4	Transmission	Total Capital	Landfill	Beneficial Reuse	Total O&M	
2009	[redacted]										
2010											
2011											
2012											
2013											
2014											
2015											
2016											
2017											
2018											
2019											
2020											
2021											
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2051											
2052											
2053											
2054											
2055											
2009 PVRR											

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Alternative 8

	Annual Revenue Requirements ($000)										
	Capital							O&M			Total
	Pre-Phase	Phase1	Phase2	Phase3	Phase4	Transmission	Total Capital	Landfill	Beneficial Reuse	**Total O&M**	
2009	[redacted]										
2010											
2011											
2012											
2013											
2014											
2015											
2016											
2017											
2018											
2019											
2020											
2021											
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2052											
2053											
2054											
2055											
2009 PVRR											

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Alternative 9

	Annual Revenue Requirements ($000)										
	Capital							O&M			Total
	Pre-Phase	Phase1	Phase2	Phase3	Phase4	Transmission	Total Capital	Landfill	Beneficial Reuse	Total O&M	
2009											
2010											
2011											
2012											
2013											
2014											
2015											
2016											
2017											
2018											
2019											
2020											
2021											
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2055											
2009 PVRR											

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Alternative 10

	Annual Revenue Requirements ($000)										
	Capital							O&M			Total
	Pre-Phase	Phase1	Phase2	Phase3	Phase4	Transmission	Total Capital	Landfill	Beneficial Reuse	**Total O&M**	
2009											
2010											
2011											
2012											
2013											
2014											
2015											
2016											
2017											
2018											
2019											
2020											
2021											
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2053											
2054											
2055											
2009 PVRR											

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Beneficial Reuse

	Annual Revenue Requirements ($000)										
	Capital							O&M			Total
	Pre-Phase	Phase1	Phase2	Phase3	Phase4	Transmission	Total Capital	Landfill	Beneficial Reuse	Total O&M	
2009											
2010											
2011											
2012											
2013											
2014											
2015											
2016											
2017											
2018											
2019											
2020											
2021											
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2050											
2051											
2052											
2053											
2054											
2055											
2009 PVRR											

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Off-Site Landfill (O&M Only)

6% escalation	Annual Revenue Requirements ($000)		Present Value	Cumulative PV
	Capital	O&M	2009 $	2009 $
2009				
2010				
2011				
2012				
2013				
2014				
2015				
2016				
2017				
2018				
2019				
2020				
2021				
2022				
2023				
2024				
2025				
2026				
2027				
2028				
2029				
2030				
2031				
2009 PVRR				

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Off-Site Landfill (O&M Only)

2% escalation	Annual Revenue Requirements ($000)		Present Value	Cumulative PV
	Capital	O&M	2009 $	2009 $
2009				
2010				
2011				
2012				
2013				
2014				
2015				
2016				
2017				
2018				
2019				
2020				
2021				
2022				
2023				
2024				
2025				
2026				
2027				
2028				
2029				
2030				
2031				
2009 PVRR				

Appendix 4

High Capacity Factor Sensitivity Analysis on Generation

Cane Run generation is forecasted to drop in the near term compared to recent history as seen in Figure 5. Generation Planning evaluated a higher than forecast capacity factor to determine the impact on CCP production (Table 5). Assuming a capacity factor of 67%, equivalent to 90% of the maximum historical capacity factor (2000-2008), the CCP production rate would result in accelerating the construction of the landfill phases in addition to increasing the need for more beneficial reuse or off-site disposal. The cost impact of the accelerated construction is approximately $9 million PVRR with an increased O&M of approximately $8 million PVRR for off-site landfill. Another impact is the life of the landfill which will be reduced by 4 years.

Figure A4-1: Cane Run Plant Capacity Factor

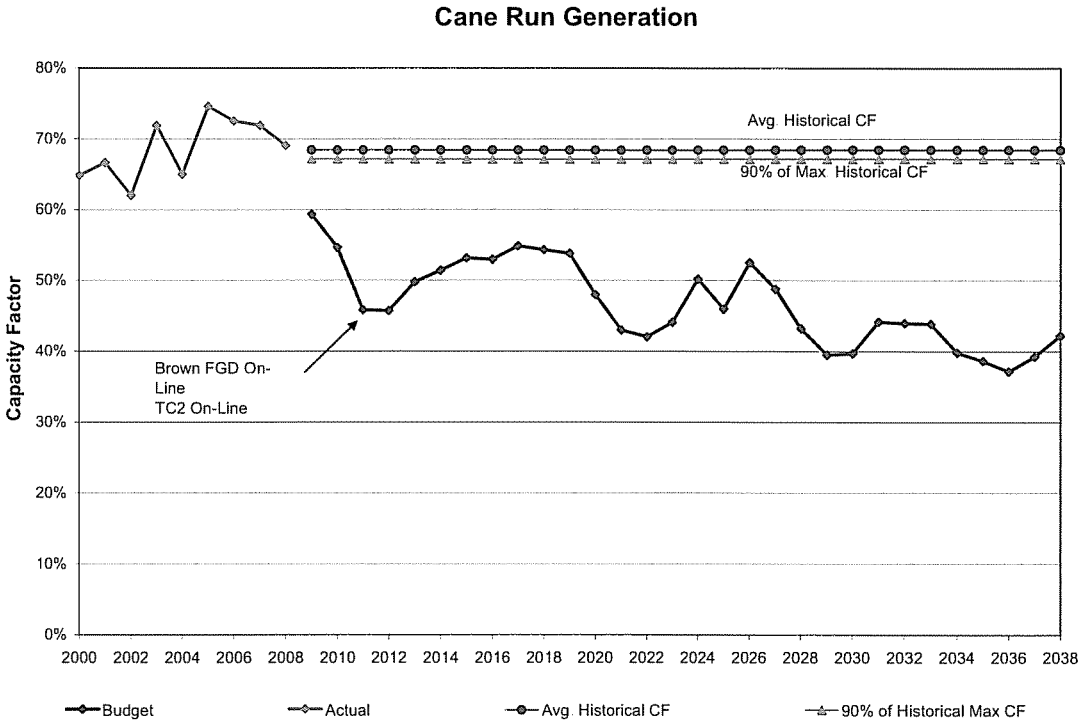

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Table A4-1: PVRR Analysis Summary of Selected Alternatives with High Capacity Factor (2009 PVRR million $)

	PVRR Capital ($M)	PVRR O&M ($M)	PVRR Total ($M)	Delta to Min	Rank
Alternative 7	[redacted]				1
Alternative 7- HCF					3
Alternative 10					2
Alternative 10- HCF					4

For the high capacity factor case of 67%, alternative 10 is still within 1% of alternative 7. By constructing phases sooner than scheduled, CCPs can be stored until 2027 with an additional present value revenue requirement cost of less than $9 million as shown in Table 5. In this sensitivity, beneficial reuse of CCP by an underground storage facility as construction fill will be required until phase 1 of the new landfill is available for use.

Appendix 5

Landfill Project Status

Detailed Design

The detailed design phase for Alternative 10 is currently in progress. Site work has been limited to field surveys to identify streams, wetlands, and cultural and historic structures, as well as providing ground control for a recent aerial survey. In addition to various survey works, several soil borings were drilled as well as the installation of ground water monitoring wells in and around the proposed landfill locations.

During the detailed design phase, the permitting of the site will also be developed. Preliminary meetings have been held with the Kentucky Division of Waste Management, the Kentucky Division of Water, and the US Army Corp of Engineer to solicit input into the permitting requirements for a landfill at this site. The permit applications to these agencies should be submitted by the end of 2009.

Construction Schedule

The preliminary design for the Special Waste Landfill consists of constructing it in five distinct vertical and horizontal expansions based on Alternative #10. The number and size of each expansion phase will be developed during the upcoming final design phase. Per state and federal regulations, a landfill closure plan will be developed during the final design and approved as part of the landfill permitting process.

Risks

The risks associated with the project include the following:

- Discovery of unknown geotechnical issues
- Litigation and intervention of the 401/404 permits for Sites C/D could delay the construction of this section of the work
- Failure of major components during start-up
- Unseasonable weather, such as exceptionally heavy rainfall, late spring, or early onset of winter.
- Engineering design failure of a component of design
- Contractor delays due to shortage of materials or manpower issues
- Change(s) in regulations

Exhibit CRS-2

Coal Combustion Byproduct
Plan for Trimble County Station
For

Subsidiaries
Kentucky Utilities and
Louisville Gas and Electric

June 2009

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1. Executive Summary

Kentucky Utilities and Louisville Gas and Electric Company's (collectively "the Companies") Trimble County station ("Trimble") produces three primary coal combustion byproducts ("CCP"): bottom ash, fly ash and gypsum, which are currently stored in the Bottom Ash Pond ("BAP") or beneficially reused. The BAP is expected to reach capacity in 2010, creating a need for additional CCP management solutions. Trimble also has an existing Emergency Fly Ash Pond, now known as the Gypsum Storage Pond ("GSP"), located just north of the BAP. The GSP was built during the construction of Trimble's Unit 1, but was never placed in service. The GSP needs a liner to meet regulations to store gypsum.

A variety of on-site and off-site CCP storage options were considered to meet management or disposal needs at Trimble. The most effective solutions were identified through a needs analysis and economic analysis based on engineering cost estimates.

To partially address the near-term need (prior to 2013) for CCP storage capacity, a beneficial reuse opportunity for gypsum was identified. The gypsum will be used in the manufacturing of wallboard. This reuse option is significantly lower cost than transporting CCP to an off-site landfill, but the volume is not sufficient to meet the entire near-term storage need. The remaining near-term CCP storage need will be met by expanding on-site storage, including extending the bottom ash pond dikes and lining the gypsum storage pond.

For post-2013 storage needs, the Companies contracted an engineering consultant to develop potential on-site storage alternatives. Of multiple options considered, three landfill options were selected for further economic evaluation. Based on cost estimates and qualitative factors for these alternatives, the most favorable option is a single on-site landfill to store both ash and gypsum. In addition, Trimble and the CCP Team have identified an opportunity for long-term beneficial reuse with a large cement producer to beneficially reuse 95% of fly ash produced at Trimble. The fly ash reuse is in addition to continuing the gypsum reuse opportunity. The reuse of fly ash is a lower cost alternative to sending the CCP to an off-site landfill or the construction of additional on-site storage.

In summary, the cost-effective and environmentally sound CCP disposal options for Trimble are:

- Near-Term:
  - Beneficial reuse of 1.1 million cubic yards ("MCY") of gypsum (approximately 50% of annual gypsum production as specified by the contract) by SynMat, Inc. in 2010 through 2012 (Present Value of Revenue Requirements ("PVRR") of $[redacted] million), or $[redacted] per cubic yard;
  - Extending the BAP dikes and lining the GSP in 2010 (PVRR of $[redacted] million) or $[redacted] per cubic yard.

- Longer-Term:
  - The construction of a new on-site landfill and conveyor system to store both ash and gypsum by 2013 (PVRR of $[redacted] million for 32.5 MCY of storage);
  - Beneficial reuse of 5.9 MCY of fly ash (PVRR of $[redacted] million)
  - Continued beneficial reuse of gypsum by SynMat (PVRR of $[redacted] million)

2. Background

The Companies' Trimble County station is comprised of one coal-fired generating unit rated at 495 MW. A second coal-fired steam boiler, rated at 750 MW, is scheduled to begin commercial operation during 2010. The station produces three primary coal combustion byproducts ("CCP"): bottom ash, fly ash and gypsum.

Trimble has two existing on-site storage basins for CCP as follows:

- Bottom Ash Pond (BAP)
- Gypsum Storage Pond (GSP)

The BAP is currently used to store all CCPs except for a quantity of gypsum that is beneficially reused off-site. Gypsum is produced by Trimble's flue gas desulfurization ("FGD") system, which use limestone reagent to remove sulfur dioxide from flue gas. As of February 2009[1], the BAP's remaining capacity was estimated at 150,000 cubic yards.

Almost 90%[2] of the gypsum produced by the current generating unit is currently shipped off-site for beneficial reuse by Synthetic Material ("SynMat")[3]. This contract began in 2008 and runs through 2027. With the second generating unit beginning operation in 2010, SynMat has a minimum annual volume obligation of 300,000 cubic yards per year (approximately 50% of total gypsum production).

Trimble is forecast to produce approximately 0.4 MCY of CCP in 2009 of which 0.26 MCY of gypsum is reused, thus leaving only 0.14 MCY to be deposited in the BAP. Based on this, the BAP is expected to last through 2009.

The GSP is not currently and has never been in service. However, with the installation of a liner, the GSP will have a maximum desired storage capacity of 1.05 MCY.

---

[1] A bathymetric survey of BAP was conducted by HDR/Quest/Rudy for GAI Consultants in February 2009.
[2] Gypsum sales to SynMat was 205,000 tons in 2008. However, their purchases declined late in 2008 as the economy slowed.
[3] The Companies identify economically and environmentally favorable options to beneficially reuse CCP, consistent with the Companies' Comprehensive Strategy for Management of CCP shown in Exhibit JNV-2.

3. Process and Methodology

The Companies develop the most effective plan for meeting the CCP storage needs at each generating station. The process of identifying the plan consists of the three following primary tasks which are performed by several departments within the Companies.

- Needs assessment
- Development of alternatives
- Comparison of alternatives

The CCP storage needs are defined by forecasting the production of CCP over the applicable planning period and comparing this production to the maximum desired storage capacity. The Project Engineering department and the applicable generating station are responsible for providing an estimate of remaining capacity.

The expected life of the existing storage capacity is based on the forecast of CCP production, which is developed by Generation Planning for all stations as a function of the expected coal usage for each unit. The Companies compile information regarding the cost of generation for each unit (fuel, variable O&M, emission costs, etc.), a description of the generation capabilities of each unit (capacity, heat rate curve, commitment parameters, emission rates, availability schedules, etc.), a load forecast, the market price of electricity, and the volumetric ability (transfer capability) to access the market. All of this information is brought together in the PROSYM[4] software, which is used to model the economic operation of the Companies' generating system. The projected coal usage data provided by this model is checked for reasonableness by comparing the results to historical data.

The Project Engineering department develops alternatives for on-site CCP storage solutions and their associated costs. Any alternatives for off-site disposal such as beneficial reuse or off-site landfilling are provided by the generating stations' staff and a CCP team. The cash flows for selected options are summarized and provided to Generation Planning for evaluation.

The Generation Planning department evaluates the storage and disposal options received from Project Engineering to determine the present value of revenue requirements ("PVRR") associated with the capital expenditures and O&M expenses of each option. This analysis is performed using the Capital Expenditure Recovery module of the Strategist[5] software model.

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[4] The PROSYM model has formed the foundation of prior analyses involving certificates of convenience and necessity for new generating plants, environmental cost recovery for pollution control equipment, and the fuel adjustment clause.

[5] Strategist® is a proprietary, state-of-the-art resource planning computer model. The Capital Expenditure Recovery module is used to quantify the revenue requirements impact associated with capital projects.

4. Needs Assessment

The following capacities were provided by Project Engineering and Trimble:

- As of February 2009, the remaining available capacity of the BAP is 150,000 cubic yards. This is equivalent to a year end 2008 capacity of approximately 174,000 cubic yards, considering the historical CCP production rate and beneficial reuse volume.
- Approximately 150,000 cubic yards of bottom ash can be used as construction material in extending the BAP dikes.

The expected life of the remaining capacity of the BAP was estimated by forecasting the CCP production of ash and gypsum at Trimble. The quantity of ash produced at Trimble is estimated at a coal specification of 11.3% ash by weight of the total quantity of coal used, or approximately 11.3 tons of ash per 100 tons of coal. Converting to volumetric measurement, assuming ash production consists of 80% fly ash and 20% bottom ash by weight, approximately 9.8 cubic yards of total ash is produced per 100 tons of coal.[6]

The chemical reaction by which gypsum is produced results in a net gypsum production of approximately 18% by weight of the total quantity of coal used,[7] or approximately 18 tons of gypsum per 100 tons of coal. Converting to volumetric measurement for the BAP, approximately 19 cubic yards of gypsum is produced per 100 tons of coal.

The forecasted CCP production volume for Trimble is shown in Table 1 and depicted graphically in Figure 1 and Figure 2, based on the forecasted coal burn shown in Table 2. Table 2 also contains the historical quantities of coal burned as a comparison to the forecast. The increase in coal burn during the 2010-2013 period results from the second Trimble generating unit, scheduled to begin operation in mid 2010.

Table 1: CCP Production Forecast (MCY)

CCP Production Forecast *(MCY – wet storage)*			
	Fly Ash	**Bottom Ash**	**Gypsum**
2009	0.12	0.03	0.24
2010	0.24	0.06	0.42
2011	0.32	0.08	0.53
2012	0.32	0.09	0.54
2013	0.32	0.09	0.58

[6] Density assumptions for wet storage are 1.08 tons/CY for bottom ash, 0.88 tons/CY for fly ash and 0.945 tons/ CY for gypsum. Density assumptions for dry storage are 1.15 tons/CY for fly ash and 1.22 for gypsum.

[7] Fuel specification assumptions include SO_2 content of approximately 6.34 lb/mmBTU for High Sulfur (HS) coal and 0.8 lb/mmBTU for Powder River Basin (PRB) coal and a heat content of 22.3 mmBTU/ton for HS coal and 17.6 mmBTU/ton for PRB coal.

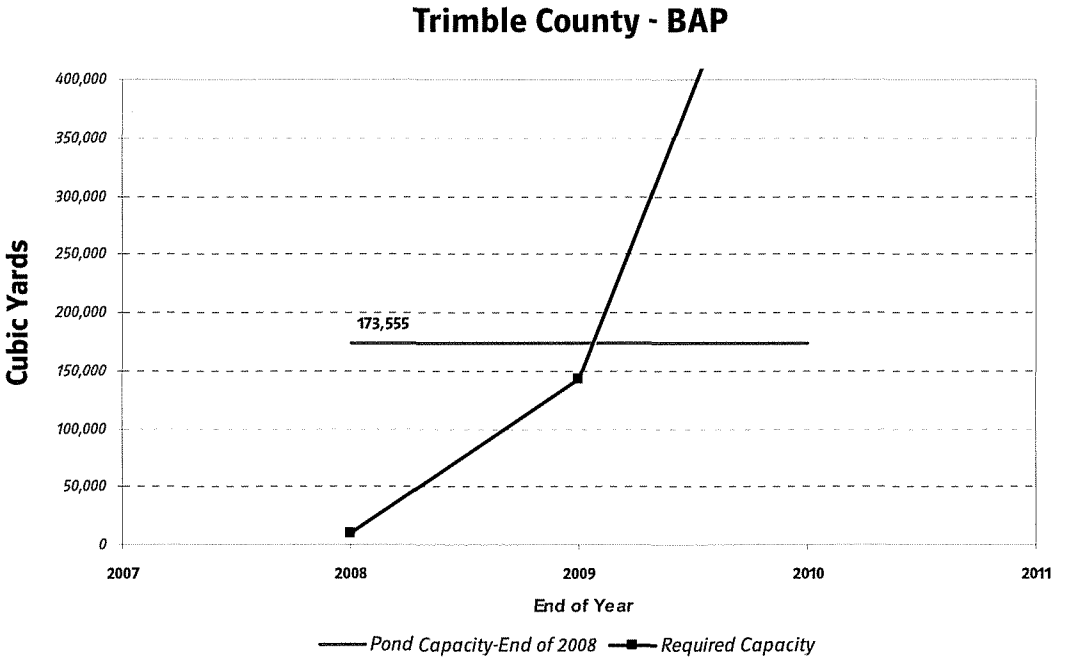
Table 2: Trimble Coal Usage (Million Tons)

Trimble Coal Usage *(M Tons)*	
Historical	
2004	1.7
2005	1.7
2006	1.9
2007	1.6
2008	1.9
Forecast	
2009	1.6
2010	3.1
2011	4.0
2012	4.1
2013	4.1

The forecasted generation and the resulting coal usage at Trimble correspond to an average capacity factor of approximately 84%. This relatively high capacity factor is consistent with Trimble's low production cost. Since Trimble is already modeled as a base load station, the risk of significantly underestimating CCP production is low. However, reduction in load or unexpected outages at Trimble could affect the capacity factor and lower future CCP production.

Figures 1 shows the forecasted cumulative CCP production at the end of each year compared to the available capacity at the end of 2008. The illustrated CCP production is net of 300,000 cubic yards taken by SynMat. Without additional on-site capacity or off-site storage, the BAP is expected to reach maximum desired capacity in early 2010, as shown in Figure 1.

Figure 1: BAP Capacity



5. Development of Alternatives

In the case of CCP solutions for Trimble, Project Engineering and the CCP team developed two sets of options for evaluation:

1. Short term storage options to meet 2009-2012 requirements
2. Long term storage options to meet 2013-2050 requirements.

Construction timelines limit the alternatives prior to 2013. These options were evaluated independently, leading to a recommendation for short-term and long-term solutions.

5.1 Short-Term Storage Options

As a result of the BAP nearing capacity, the station in conjunction with the CCP Team considered three options to meet CCP disposal needs: on-site storage, beneficial reuse and offsite landfill disposal as shown in Table 3 below.

Table 3: Alternatives for Short-Term Storage

Description		Expanding BAP/ Lining GSP	Beneficial Reuse	Off-Site Landfill
Total Maximum Desired Capacity *(MCY)*		3.15*	1.08	2.84 minimum
Nominal Cost *($M)*	**Capital**			
	O&M[8]			

* *Total capacity includes 0.15 MCY created in the BAP as result of excavating 0.15 MCY of ash from the BAP to be used in constructing the new landfill.*

5.1.1 Short-Term On-Site Storage

For the on-site storage option, Trimble contracted MACTEC Engineering and Consultants Inc., Louisville, KY ("MACTEC") to provide alternatives that would meet the short term gap. The most favorable solution identified involves extending the existing BAP dikes and lining the GSP to gain incremental storage. After the extension, the BAP usable capacity will be 2.1 MCY, assuming ash storage only.

The GSP will be used to store gypsum and gypsum fines. In addition, the GSP provides a means of discharging surplus service water to the river. (Unlike the GSP, the BAP is a closed system that does not discharge water into the river. The EPA prohibits the discharge of water that has come in contact with fly ash.)

5.1.2 Short-Term Beneficial Reuse

Trimble in conjunction with the CCP Team negotiated with Synthetic Material (SynMat), a company specializing in reusing gypsum in wall board production, to beneficially reuse 50% of the gypsum produced annually at a base cost of $[redacted] per cubic yard[9]. The

[8] The O&M figures in Table 3 include the cost for power to operate the on-site storage alternatives. The power costs are used to compare options but and not used to calculate ECR billing factors.

[9] $[redacted] per cubic yard is equivalent to $[redacted] per ton per the contract

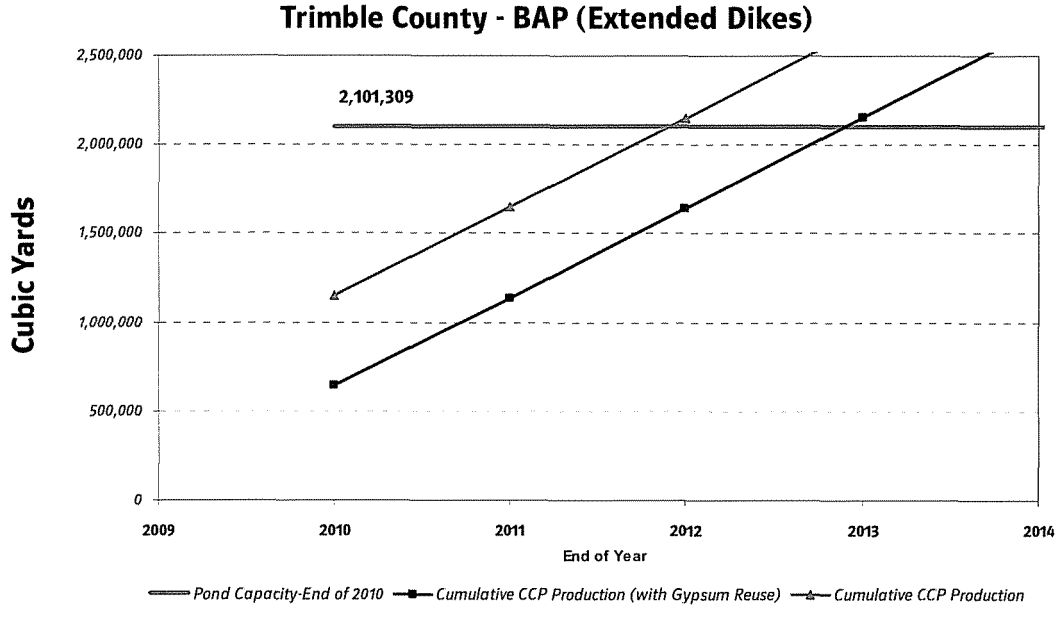
agreement has a minimum take of 300,000 cubic yards. This option is the most favorable but it does not provide sufficient disposal volume to eliminate the need for on-site construction. The SynMat contract specifies a minimum gypsum reuse of 350,000 tons per year (300,000 cubic yards) until 2027 at $[redacted] per cubic yard, not subject to increases.

5.1.3 Short-Term Off-Site Landfill Disposal

The third option is the use of an existing off-site commercial landfill. For 2009, the total unit cost of storage in the closest off-site landfill was estimated to be $[redacted] per cubic yard[10].

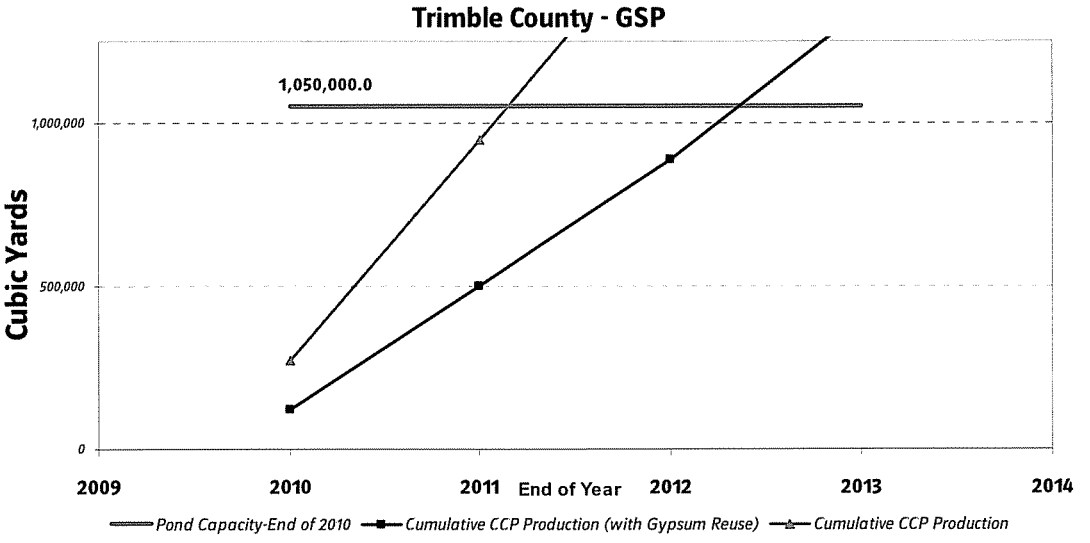
As shown in Figures 2 and 3, by extending the dikes and reusing 300,000 cubic yards of gypsum, the BAP and the GSP will reach capacity in 2013. Without the reuse with SynMat, the BAP and the GSP will reach capacity in 2012. An on-site landfill will not be available before 2013.

Figure 2: BAP (Extended Dikes) Capacity



[10] $[redacted] per cubic yard is equivalent to $[redacted] per ton as hauled for transport and storage at Valley View landfill near Sulphur, KY, approximately 8 miles from Trimble. Cost components per ton are $[redacted] for excavating and loading, $[redacted] for hauling, and $[redacted] for landfill tipping fee. This quoted tipping fee is slightly below the listed rates of $[redacted]/ton for other regional public landfills.

Figure 3: GSP (Lined) Capacity



5.2 Long-Term Storage Options

Three options were also considered for Trimble's long term storage needs: on-site storage, beneficial reuse and offsite landfill disposal.

5.2.1 Long-Term On-Site Storage

To meet the long-term storage needs at Trimble, the Companies contracted MACTEC to provide the Initial Siting Study ("ISS") of CCP storage alternatives at Trimble.[11] The ISS identified over 26 potential alternatives based on combinations of variables, including storage and transport methods, site locations, and relocation of transmission lines. As a result of this study, three on-site alternatives shown in Table 4 were selected for further consideration. Each alternative includes a leachate treatment wetland and sediment basin at the mouth of ravine B, as well as improvements along the main ravine channel and associated costs for stream mitigation. Both ash and gypsum will be transported to the landfills via conveyor belts.

[11] The Draft Interim Report of Initial Conceptual Design Study id shown in Exhibits JNV-5 for Landfill Storage of CCP Materials

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Table 4: Alternatives for Long-Term Storage

		On-Site				
Case		**16**	**21**	**23**	**Beneficial Reuse**	**Off-Site Landfill**
Description		2 Landfills	1 Landfill	1 Landfill		
Ash		Lower Ravine B	Landfill Ravine B	Landfill Ravine B	Holcim	Off-Site
Gypsum		Upper Ravine B			SynMat	
Total Capacity *(MCY)*		26.8	28.1	30.0	9.5	27.0 needed
Nominal Cost *($M)*	**Capital**					
	O&M[12]					

Each of the alternatives for on-site long-term storage was designed to hold at least 35 years of CCP production, assuming expected densities for the CCP stored, and will be constructed in a phased approach in ravine "B". Table 5 shows the construction periods, the in-service years, and the capacity for each phase of the on-site cases.

Table 5: Construction Phases for On-Site Storage Options

Case		**16**		**21**	**23**
Site		Lower Ravine B	Upper Ravine B	Ravine B	Ravine B
Phase 1	**Construction**	2011-12	2012-13	2011-12	2011-12
	In-Service	2013	2014	2013	2013
	Capacity *(MCY)*	16.1	10.7	8.0	13.9
Phase 2	**Timing**	--	--	2021-22	2029-30
	In-Service	--	--	2024	2032
	Capacity *(MCY)*	--	--	14.8	4.2
Phase 3	**Timing**	--	--	2040-41	2034-35
	In-Service	--	--	2043	2037
	Capacity *(MCY)*	--	--	5.3	11.9
Total Capacity		**16.1**	**10.7**	**28.1**	**30.0**

[12] The O&M figures in Table 4 include the cost for power to operate the on-site storage alternatives. The power costs are used to compare options, but are not used to calculate ECR billing factors.

Case 16. Case 16 consists of separate landfills for ash and gypsum. The gypsum landfill will be located in upper ravine B and the ash landfill will be located in lower ravine B as shown in Figure 4. Two separate conveyor belts are required to move the ash and gypsum to the appropriate landfills. The ash landfill will be constructed in one phase, in service in 2013, with a capacity of 16.1 MCY and a peak elevation of 1,020 ft. The gypsum landfill will also be constructed in one phase, in service in 2014, with a capacity of 10.7 MCY and a peak elevation of 980 ft.

The fly ash landfill will reach capacity in 2061 with no beneficial reuse and in 2074 with beneficial reuse (95% fly ash reuse from 2010 until 2029). The gypsum landfill will reach capacity in 2040 with 50% gypsum reuse (300,000 cubic yards annually from 2008-2027). Figure 5 shows the capacity of the fly ash landfill compared to the forecasted fly ash production both including and excluding the effect of the expected fly ash reuse. Figure 6 shows the capacity of the gypsum landfill compared to the forecasted gypsum production, including and excluding the effect of the expected gypsum reuse.

Figure 4: Site Illustration-Case 16

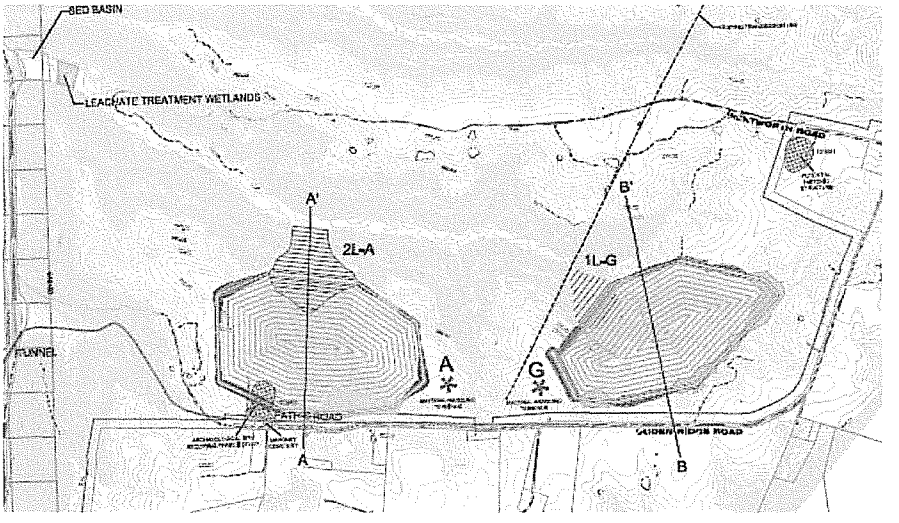


Figure 5: Fly Ash Landfill Capacity-Case 16

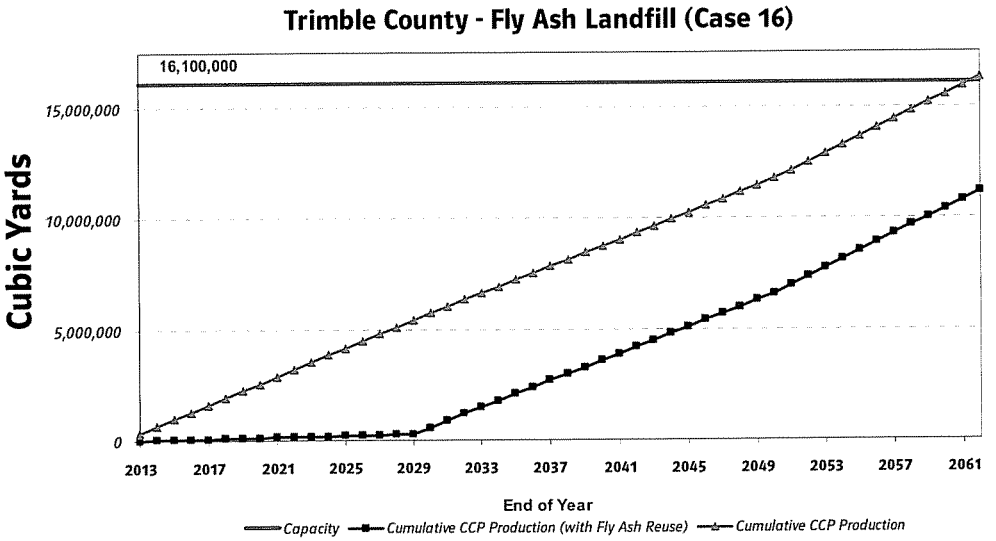
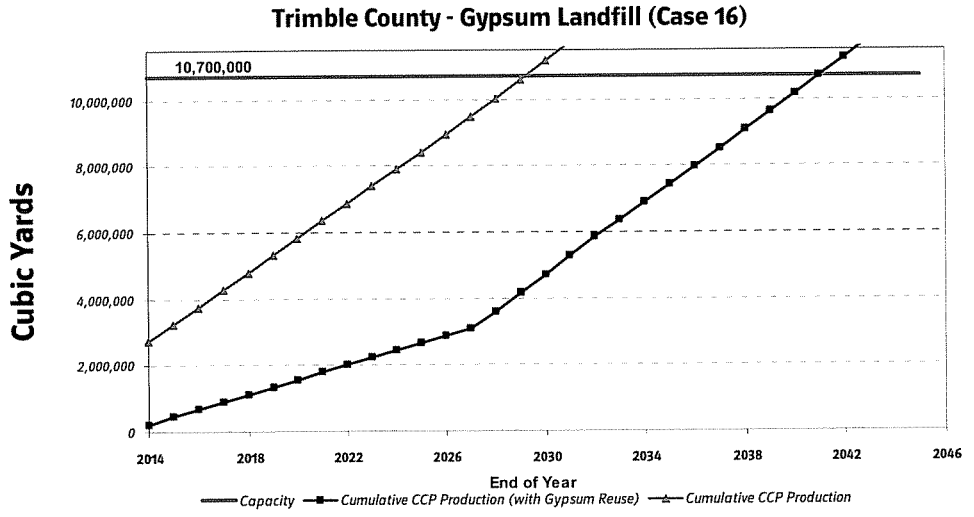


Figure 6: Gypsum Landfill Capacity-Case 16



Case 21. Case 21 consists of a common on-site landfill for both ash and gypsum as shown in Figure 7. A common conveyor belt will be used to transport both gypsum and fly ash, which will be handled and stored separately. Phase 1 of the landfill will be in service in 2013 with a total capacity of 28.1 MCY and a peak elevation of 880 feet. This landfill will be constructed in three phases.
The landfill in case 21 will be sufficient to store the CCP produced at Trimble until 2057, including both fly ash and gypsum reuse as shown in Figure 8 (95% fly ash reuse from 2010 until 2029 and 300,000 cubic yards annually of gypsum reuse from 2008-2027). Figure 8 shows the phased cumulative design capacity of this landfill compared to the forecasted cumulative CCP production both including and excluding the effect of the expected gypsum and fly ash reuse.

Figure 7: Site Illustration-Case 21

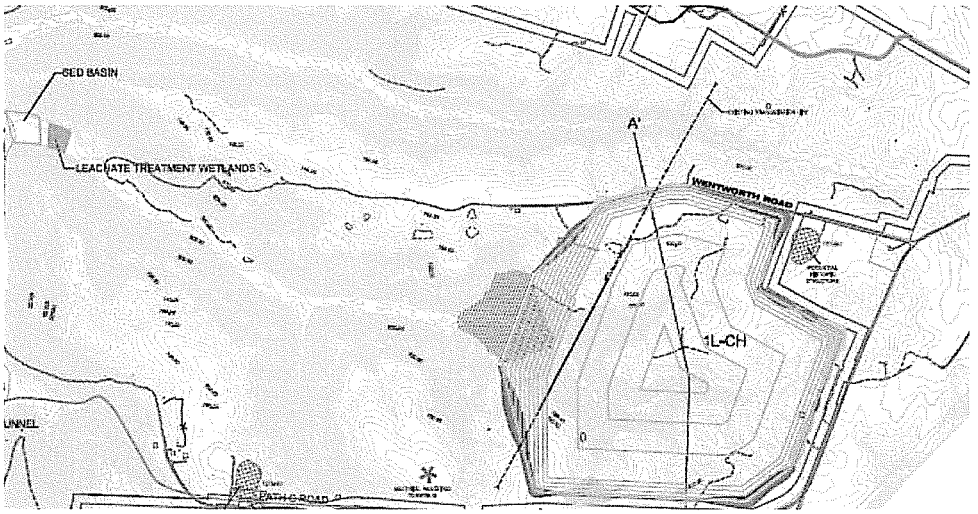
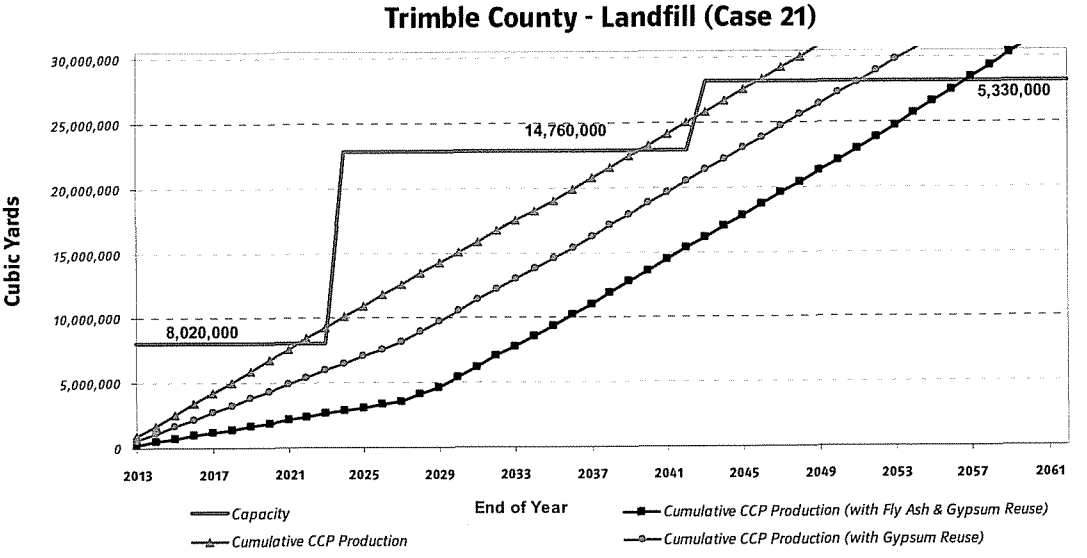


Figure 8: Ash and Gypsum Landfill Capacity-Case 21


Trimble County - Landfill (Case 21)
Cubic Yards
30,000,000
25,000,000
20,000,000
15,000,000
10,000,000
5,000,000
0
8,020,000
14,760,000
5,330,000
2013
2017
2021
2025
2029
2033
2037
2041
2045
2049
2053
2057
2061
End of Year
Capacity
Cumulative CCP Production
Cumulative CCP Production (with Fly Ash & Gypsum Reuse)
Cumulative CCP Production (with Gypsum Reuse)

Case 23. Case 23 consists of a common on-site landfill for both ash and gypsum as shown in Figure 9. One conveyor belt will be used to transport both gypsum and fly ash, which will be handled and stored separately. The landfill will be in service in 2013 with a total capacity of approximately 30 MCY and a peak elevation of 910 feet. This landfill will be constructed in three phases. This alternative requires land acquisition for access road construction and stormwater diversion.

The landfill in Case 23 will be sufficient to store the CCP produced at Trimble until 2059, including both fly ash and gypsum reuse as shown in Figure 10. (95% fly ash reuse from 2010 until 2029 and 300,000 cubic yards annually of gypsum reuse from 2008-2027). Figure 10 shows the phased cumulative design capacity of the landfill compared to the forecasted gypsum production, both including and excluding the effect of the expected gypsum and fly ash reuse.

Figure 9: Site Illustration-Case 23

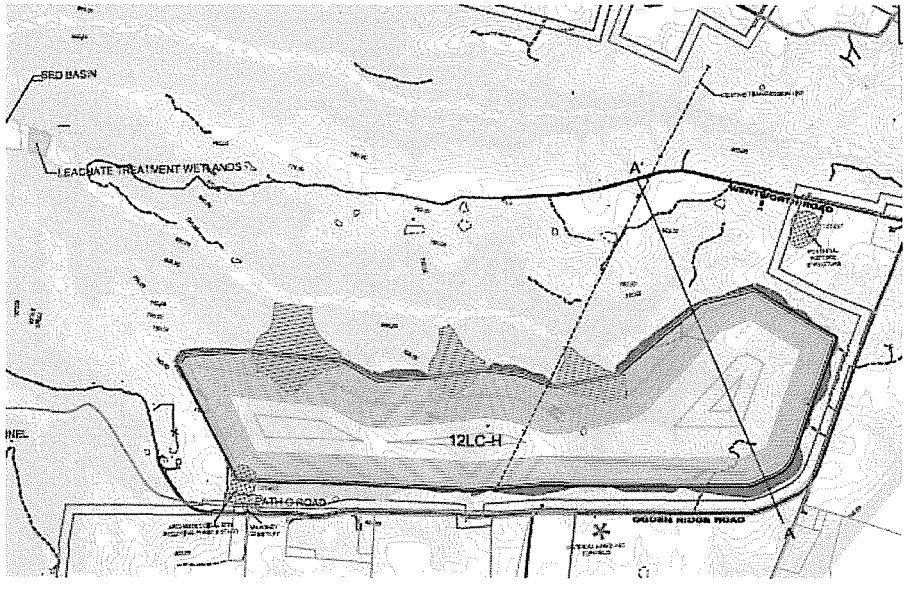


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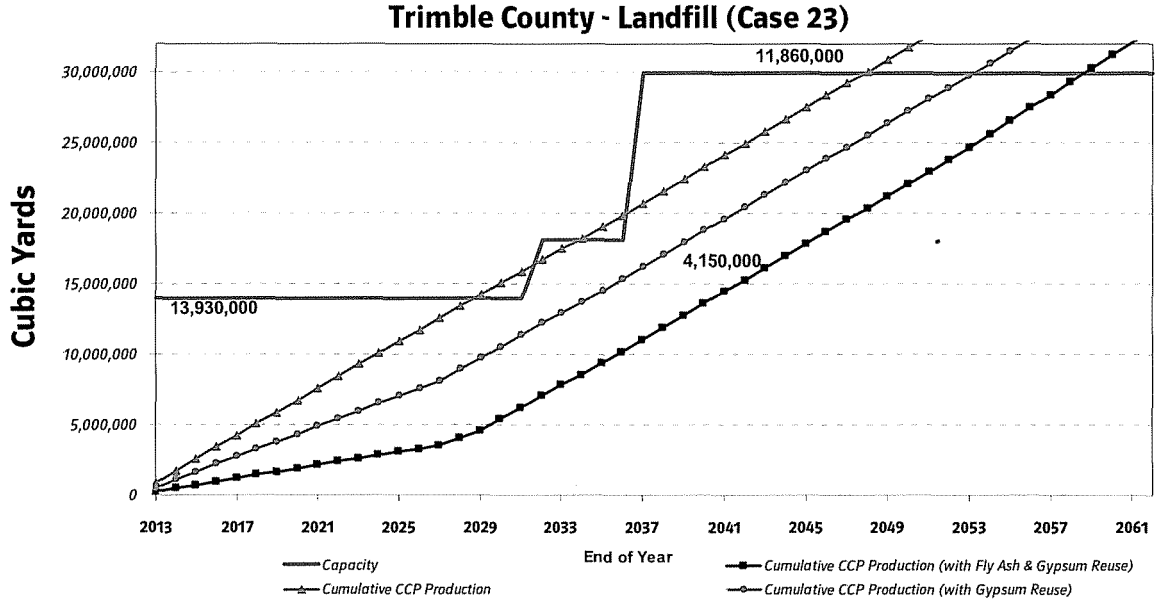
Figure 10: Ash and Gypsum Landfill Capacity-Case 23



This figure, as well as Figures 5, 6, and 8, demonstrates that the designs for the timing and volume of capacity additions for each of the cases considered are reasonable compared the forecasted CCP production.

5.2.2 Long-Term Beneficial Reuse

Trimble and the CCP Team have identified an opportunity for long-term beneficial reuse with one of the largest cement producers to beneficially reuse 95% of fly ash produced annually at Trimble. The contract is under negotiation and will involve constructing a barge loading facility at a cost of $[redacted] million to transfer the fly ash from Trimble to the cement production site. The contract term is expected to span 20 years, from mid 2010 until 2029, thus beneficially reusing 5.9 MCY of ash. This beneficial reuse opportunity will result in delaying phases 2 and 3 of the selected landfill as shown in Figures 11 and 12.

The existing gypsum beneficial reuse contract with SynMat is assumed to continue until 2027, with a minimum annual take of 300,000 cubic yards annually at a base cost of $[redacted] per cubic yard.

On a combined basis, both beneficial reuse contracts cover 11.3 MCY of CCP, which does not eliminate the need of on-site storage or off-site disposal.

Figure 11: Ash and Gypsum Landfill Capacity-Case 21 with Beneficial Reuse

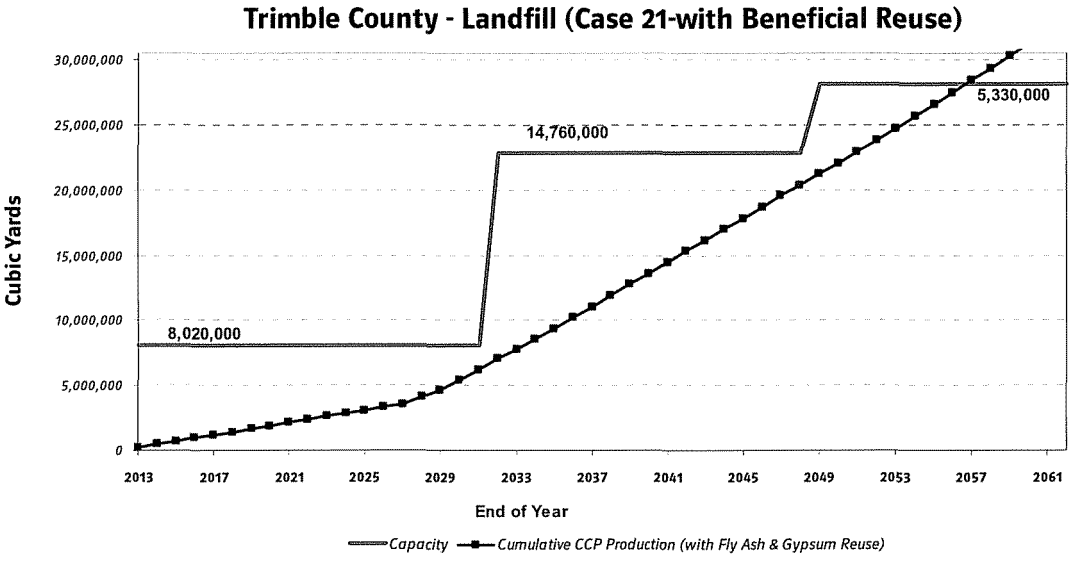
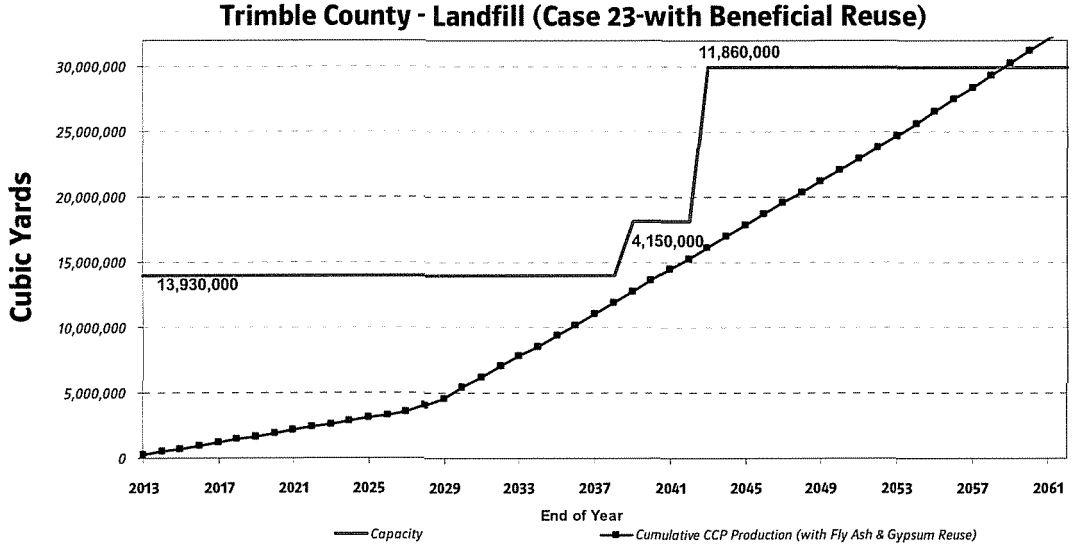


Figure 12: Ash and Gypsum Landfill Capacity-Case 23 with Beneficial Reuse



5.2.3 Long-Term Off-Site Landfill Disposal

The third option is to dispose of CCP in an existing off-site commercial landfill. This option requires moving 27.0 MCY of CCP, which is the cumulative CCP production at Trimble from 2013 until 2057 at an estimated nominal cost of $[redacted] per cubic yard.

6. Comparison of Alternatives

6.1 Short-Term Alternatives

The pre-2013 disposal analysis compares the cost of on-site storage (extending the BAP dikes and relining the GSP) to the beneficial reuse initiative and to the cost of off-site landfill disposal. As seen in Table 6, the beneficial reuse with SynMat is the least-cost option, but does not fully meet the short term capacity needs. On a PVRR basis, the combination of expanding the BAP, lining the GSP, and beneficial reuse is 50% less costly than the off-site landfill option.

Table 6: PVRR Analysis Summary of Short-Term Alternatives
(2009 PVRR million $)

Alternatives	**Expanding BAP/ Lining GSP**	**Beneficial Reuse**	**Off-Site Landfill**
PVRR			
Capital	[redacted]		
O&M			
Total			
Delta to Least Cost Case	*39.6*	*Least Cost*	*85.4*
Capacity *(MCY)*	3.15	1.08	2.84
Unit Cost *(2009 PVRR $/CY)*	[redacted]		

6.2 Long-Term Alternatives

The long-term storage evaluation (summarized in Table 7) compares the cost of three on-site storage alternatives, in addition to disposal in an off-site commercial landfill. The financial assumptions related to the analysis of these cases are shown in Appendix 1, the projected cash flows are shown in Appendix 2, and the annual revenue requirements are detailed in Appendix 3.

The following is a brief comparison of the results:

Case 16. Case 16 consists of separate landfills for ash and gypsum constructed in a single phase and two conveyor systems requiring $106 million higher capital costs through 2013 compared to Case 21. Case 16 also requires $13.2 million more in O&M than Case 21 due to material handling costs associated with operating two landfills.

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Case 21. Case 21 consists of a common on-site landfill for both ash and gypsum. This is least cost on a PVRR basis by $26 million. This option is also lowest cost on a PVRR per unit volume basis at $[redacted] per cubic yard. The favorable capital profile of this project results from the single landfill approach compared to Case 16, which includes separate landfills for ash and gypsum.

Cases 23. Case 23 consists of a single landfill for both ash and gypsum similar to Case 21, but with alternate phase volume and timing. Case 23 requires land acquisition at a cost of $[redacted] million compared to Case 21, which does not require additional land. Case 23 involves higher upfront capital costs driven by a larger phase 1 (13.9 MCY), compared to phase 1 of case 21 (8 MCY). The O&M of Case 23 is $13 million greater than Case 21 due to:

- Additional capacity - The landfill in Case 23 stores two more years of CCP compared to the landfill in Case 21.
- Two loading bases - Case 23 requires two loading bases: one for fly ash and one for gypsum compared to one loading base for both CCPs in Case 21.

Off-site landfill. The off-site landfill option consists only of O&M costs, but this option is the highest-cost alternative due to the high unit cost of off-site landfill disposal (PVRR per unit volume of $[redacted] per cubic yard). The projected cash flows are shown in Appendix 2, and the annual revenue requirements are detailed in Appendix 3.

Table 7: PVRR Analysis Summary of Long-Term Alternatives
(2009 PVRR million $)

Case	16	21	23	Off-Site Landfill
PVRR				
Capital	[redacted]			
O&M				
Total				
Delta to Least Cost Case	*56*	*Least Cost*	*26*	*385*
Capacity *(MCY)*	31.2	*32.5*	*34.4*	*31.0*
Unit Cost *(2009 PVRR $/CY)*	[redacted]			

The quantities in Table 7 include 4.4 MCY of gypsum reuse at an O&M cost of $[redacted] million PVRR (which is approximately 300,000 cubic yards of gypsum annually from 2013-2027). The gypsum beneficial reuse with SynMat continues to be the least cost option in the long-term CCP management at Trimble. The PVRR of building a landfill according to Case 21 is $[redacted] million with beneficial reuse and $[redacted] million with no gypsum reuse. Without gypsum reuse, Case 21 PVRR would increase by $73 million.

6.2.1 Long-Term Beneficial Reuse

After identifying Case 21 as the most effective long-term CCP option, a potential long-term beneficial reuse opportunity was also considered. Holcim has proposed a 20 year reuse of up to 5.9 MCY of fly ash for cement manufacturing. This quantity is in addition

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to the 5.4 MCY (1 MCY in short-term and 4.4 MCY in long-term) gypsum reuse with SynMat.

The reuse proposal has a PVRR of $[redacted] million for the 5.9 MCY, resulting in a PVRR per-unit of $[redacted] per cubic yard. This is favorable to the PVRR per-unit cost of Case 21 of $[redacted] per cubic yard. Combining this reuse opportunity with Case 21 diverts material from the proposed landfill and results in net O&M savings of $5 million PVRR for the landfill. While the need for the proposed on-site landfill remains, the second phase is delayed by eight years and the third phase is delayed by six years, resulting in $7 million lower PVRR for the landfill's capital expenditures.

Overall, combining Case 21 with fly ash reuse results in a $21 million higher PVRR, but reuse includes an additional 5.9 MCY of capacity, leading to an 8% reduction in per-unit cost as detailed in Table 8.

Table 8: PVRR Analysis Summary of Long-Term Beneficial Reuse (2009 PVRR million $)

	Excluding Long-Term Fly Ash Beneficial Reuse (Case 21)	**Including Long-Term Fly Ash Beneficial Reuse (Case 21-H)**
PVRR		
Capital	[redacted]	[redacted]
O&M	[redacted]	[redacted]
Total	[redacted]	[redacted]
Delta to Least Cost Case	*Least Cost*	*21*
Volume *(MCY)*	32.5	38.4
Unit Cost *(2009 PVRR $/CY)*	[redacted]	[redacted]

7. Recommendations

The needs assessment demonstrates a need for additional CCP storage capacity at Trimble by 2010. Analysis of the options provided by Project Engineering demonstrates that the cost effective alternatives to meet Trimble's CCP storage needs are:

- Pre-2013:
  - Beneficial reuse of 1.1 MCY of gypsum (approximately 50% of annual gypsum production as specified by the contract) by SynMat, Inc. in 2010 through 2012 (PVRR of $[redacted] million or $[redacted] per cubic yard)
  - Extending the BAP dikes and lining the GSP (PVRR of $[redacted] million or $[redacted] per cubic yard).
- Post-2013:
  - Continue beneficial reuse of gypsum by SynMat (PVRR of $[redacted] million O&M or $[redacted] per cubic yard)
  - Construct a new on-site landfill to store both ash and gypsum to be in-service by 2013. The PVRR is $[redacted] million, comprised of $[redacted] million capital and $[redacted] million O&M ($[redacted] per cubic yard on a PVRR basis).

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- Beneficial reuse of 5.9 MCY of fly ash by Holcim. The PVRR is $[redacted] million, comprised of $[redacted] million capital and $[redacted] million O&M ($[redacted] per cubic yard on a PVRR basis).

The pre-2013 solution of expanding the BAP, lining the GSP and utilizing beneficial reuse is 50% less on a PVRR basis than disposal at an off-site commercial landfill. This option meets Trimble's CCP needs through 2012.

The post-2013 solution will require a total (PVRR) of $[redacted] million in capital: $[redacted] million for on-site storage construction and $[redacted] million for building a barge loading system for fly ash reuse. O&M (PVRR) totals $[redacted] million: $[redacted] million for storing and operating the landfill, $[redacted] million for fly ash handling for beneficial reuse, and $[redacted] million for gypsum handling related to SynMat beneficial reuse.

Further details regarding the status of this project and the expected construction schedule are shown in Appendix 4.

Appendix 1

Analysis Assumptions

- Study Period: 43-year period for operational costs impacts (2009-2052)
  63-year period for capital costs impacts (2009 through tax life of final project phase).

  The revenue requirements associated with capital costs are determined via the Capital Expenditure and Recovery module of the Strategist production and capital costing software. To completely account for capital projects costs over their lifetime, the revenue requirements associated with new capital projects were included beyond the operational study period through the end of their tax life.

- Capital and O&M costs associated with the addition of new environmental projects will be subject to recovery through the Environmental Cost Recovery ("ECR") mechanism. O&M costs for electrical power usage required to operate equipment related to CCP storage are included when comparing alternatives (noted as "Power" in Appendix 2) but are not included as recoverable costs for calculation of ECR billing factors.

- Financial data
  - Discount rate: 7.76%
  - Income tax rate: 38.9%
  - Insurance rate: 0.07%
  - Property tax rate: 0.15 %
  - Percentage of debt in capital structure: 47.22%
  - Debt interest rate/weighted cost of debt: 4.55%
  - Return on equity: 10.63%
  - Environmental projects book life (non-transmission): 14-16 years
  - Environmental projects book life (transmission): 40 years
  - Environmental projects tax life (years): 20 years
  - Annual capital and O&M escalation rate: 6%
  - Cost contingency included in estimates: 20%
  - E.ON US overhead included in capital costs 3.5%

- CCP data
  - Coal ash content: 11.32%
  - HS Coal SO_2 content: ~6.34 lb/mmBTU
  - PRB Coal SO_2 content: ~0.8 lb/mmBTU
  - HS Coal heat content: 22.3 mmBTU/ton
  - PRB Coal heat content: 17.6 mmBTU/ton
  - FGD removal efficiency: Units 1&2 98%

Appendix 2

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Projected Cash Flows

Annual Cash Flows Short-Term Options ($M)			
	On-Site Storage	Beneficial Reuse	Off-Site Landfill
2009	[redacted]		
2010			
2011			
2012			
Total			

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Annual Cash Flows ($M)												
Case 16	Capital					O&M					Total
	Fly Ash Landfill	Gypsum Landfill	Final Cap Gypsum Landfill	Final Cap Fly Ash Landfill	Total Capital	Non-Power	Power	Beneficial Reuse Gypsum	Beneficial Reuse Fly Ash	Total O&M	
2009	[redacted]										
2010											
2011											
2012											
2013											
2014											
2015											
2016											
2017											
2018											
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2060											
2061											
2062											
2063											
Total											

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Annual Cash Flows ($M)											
Case 21	Capital					O&M					Total
	Phase 1	Phase 2	Phase 3	Final Cap	Total Capital	Non-Power	Power	Beneficial Reuse Gypsum	Beneficial Reuse Fly Ash	Total O&M	
2009											
2010											
2011											
2012											
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2062											
2063											
Total											

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Annual Cash Flows ($M)													
Case 21 With Holcim	Capital						O&M					Total
	Phase 1	Phase 2	Phase 3	Final Cap	Capital Holcim	Total Capital	Non-Power	Power	Beneficial Reuse Gypsum	Beneficial Reuse Fly Ash	Total O&M	
2009	[redacted]											
2010												
2011												
2012												
2013												
2014												
2015												
2016												
2017												
2018												
2019												
2020												
2021												
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2063												
Total												

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Annual Cash Flows ($M)													
Case 23	Capital						O&M					Total
	Phase 1	Phase 2	Phase 3	Final Cap	Capital Holcim	Total Capital	Non-Power	Power	Beneficial Reuse Gypsum	Beneficial Reuse Fly Ash	Total O&M	
2009	[redacted]											
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Total												

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Off-Site Landfill (O&M only) ($M)

	Capital	Beneficial Reuse Gypsum	O&M (6% infl.)	Total O&M (6% infl.)
2009	[redacted]			
2010				
2011				
2012				
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Total				

Off-Site Landfill (O&M only) ($M)				
	Capital	Beneficial Reuse Gypsum	O&M (2% infl.)	Total O&M (2% infl.)
2009				
2010				
2011				
2012				
2013				
2014				
2015				
2016				
2017				
2018				
2019				
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2021				
2022				
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Total				

Appendix 3

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On-Site Storage and SYNMAT- Short-Term Option

	Annual Revenue Requirements ($000)						
	Capital			O&M			Total
	BAP	GSP	Total Capital	Storage	Beneficial Reuse	Total O&M	
2009	[redacted]						
2010							
2011							
2012							
2013							
2014							
2015							
2016							
2017							
2018							
2019							
2020							
2021							
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2009 PVRR							

Off-Site Landfill Disposal - Short-Term Option

	Annual Revenue Requirement		
	Capital	O&M	Total
2009	[redacted]		
2010			
2011			
2012			
2013			
2009 PVRR			

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Case 16

	Annual Revenue Requirements ($000)										
	Capital					O&M					Total
	Fly Ash Landfill	Gypsum Landfill	Final Cap Gypsum Landfill	Cap Fly Ash Landfill	**Total Capital**	Non-Power	Power	Beneficial Reuse Gypsum	Beneficial Reuse Fly Ash	**Total O&M**	
2009	[redacted]										
2010											
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2017											
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2081											
2082											
2083											
2009 PVRR											

CONFIDENTIAL INFORMATION REDACTED

Case 21

	Annual Revenue Requirements ($000)										
	Capital					O&M					Total
	Phase 1	Phase 2	Phase 3	Final Cap	**Total Capital**	Non-Power	Power	Beneficial Reuse Gypsum	Beneficial Reuse Fly Ash	**Total O&M**	
2009	[redacted]										
2010											
2011											
2012											
2013											
2014											
2015											
2016											
2017											
2018											
2019											
2020											
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2073											
2009 PVRR											

CONFIDENTIAL INFORMATION REDACTED

Case 21 with Holcim

	Annual Revenue Requirements ($000)											Present Value
	Capital						O&M					Total
	Phase 1	Phase 2	Phase 3	Final Cap	Capital Holcim	Total Capital	Non-Power	Power	Beneficial Reuse Gypsum	Beneficial Reuse Fly Ash	Total O&M	
2009	[redacted]											
2010												
2011												
2012												
2013												
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2016												
2017												
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2080												
2009 PVRR												

CONFIDENTIAL INFORMATION REDACTED

Case 23

	Annual Revenue Requirements ($000)										
	Capital					O&M					Total
	Phase 1	Phase 2	Phase 3	Final Cap	**Total Capital**	Non-Power	Power	Beneficial Reuse Gypsum	Beneficial Reuse Fly Ash	**Total O&M**	
2009	[redacted]										
2010											
2011											
2012											
2013											
2014											
2015											
2016											
2017											
2018											
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2009 PVRR											

CONFIDENTIAL INFORMATION REDACTED

Off-Site Landfill (O&M Only)

6% Inflation	Annual Revenue Requirements ($000)			
	Capital	Beneficial Reuse Gypsum	O&M	Total
2009	[redacted]			
2010				
2011				
2012				
2013				
2014				
2015				
2016				
2017				
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2019				
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2021				
2022				
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2009 PVRR				

CONFIDENTIAL INFORMATION REDACTED

Off-Site Landfill (O&M Only)

2% Inflation	Annual Revenue Requirements ($000)			
	Capital	Beneficial Reuse Gypsum	O&M	Total
2009				
2010				
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2009 PVRR				

Appendix 4

Project Status *(As of May 2009)*

Scope for Trimble County Station CCP Storage in Ravines A and/or B

For Ravines A and/or B development includes:

- Removal of marketable timber from Ravines A and/or B
- Development of Sediment/Leachate Collection Basins at the west end of Ravines A and/or B
- Clear-cut removal of timber in the first phase of development
- Development of a road/access system from the BAP/GSP area to the Ravine by means of a highway bridge crossing existing State Road 1838 and connecting to the existing Wentworth Road. Wentworth Road is a county road that divides Ravine A and B.
- Development of landfill and/or impoundment structures for Ravines A and/or B. As indicated above, this is currently being studied by MACTEC in the Initial Siting Study.
- Mitigation of the loss of the stream(s) in Ravines A and/or B, by development an 80-acre wetland on LG&E-owned Dickey Farm at the north end of the property and re-working of the existing Corn Creek from the LG&E property to the north for approximately 6-miles to the intersection with State Road 625 near Joyce Mills Road.
- Development of any required CCP treatment facilities, including gypsum dewatering, fly ash pug mills, bottom ash dewatering bins, etc.

Path Forward for Station County CCP Storage in Ravines A and B

The Path Forward for the development of the Ravines for Trimble County Generating Station will include:

- Completion of the Water Balance Issues as a result of the KPDES Permit withdrawal.
- Completion of the Initial Siting Study by MACTEC in late April, 2009
- Development of Capital Cash Flows, O&M Cash Flows, and resulting NPV's of 10 alternative by MACTEC by the end of April.
- Completion of the Final Conceptual Engineering (Level I Engineering) Study by early 4th Quarter, 2009.
- Selection of engineer for the Civil Detail Engineering by 4th Quarter, 2009.
- Selection of engineer for the Mechanical Detail Engineer for the CCP transportation systems, by 4th Quarter, 2009.
- Completion of Detailed Design by 2nd Quarter of 2010.
- Filing of 401/404 Permit Application by 3rd Quarter, 2009.
- Filing of Kentucky Dam Safety Permit for Sediment Retention Ponds by 4th Quarter of 2009.
- Filing of Kentucky Division of Waste Management, if landfills are the selected method of CCP Storage, by 2nd Quarter, 2010.
- Removal of Marketable Timber start in 2nd Quarter of 2010
- Start Construction in the Ravines, 3rd Quarter of 2010
- Start Stream Mitigation on Corn Creek, 3rd Quarter of 2010.
- Anticipated approval of 401/404 Permits by 1st Quarter, 2011.
- Anticipated approval of Kentucky Dam Safety Permits for Sediment Retention Ponds by 2nd Quarter of 2010.
- Anticipated approval of Kentucky Division of Waste Management, if landfills are selected, by 4th Quarter 2011.

Risk for Trimble County Station CCP Storage in Ravines A and/or B

The risk associated with the development of Ravines A and/or B includes the following:

- Discovery of unknown geotechnical issues
- Litigation and intervention of the 401/404 permits for Ravines A and/or B could delay the construction of this section of the work. This is likely due to the condition of the streams in Ravines A and/or B.
- Litigation and intervention of the KYDWM Special Waste Landfill permit or the KYDOW Dam Safety Permit.
- Unseasonable weather, such as exceptionally heavy rain in the fall, late spring, early on-set of winter, etc.
- Contractor delays due to shortage of materials or manpower issues
- Rejection of the EPA Region IV of the discharge of Gypsum Return Water to the Ohio River as part of the E.ON U.S. revised KPDES Permit application
- Unforeseen and unprecedented requirements by EAP Region IV on discharge of Gypsum Return Water to the Ohio River
- Change in regulations

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2009 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	))))))	CASE NO. 2009-00198

DIRECT TESTIMONY OF
SHANNON L. CHARNAS
DIRECTOR, UTILITY ACCOUNTING AND REPORTING
LOUISVILLE GAS AND ELECTRIC COMPANY

Filed: June 26, 2009

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

A. My name is Shannon L. Charnas. I am the Director, 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. Have you previously testified before this Commission?

A. Yes, I have presented testimony before the Commission in several ECR proceedings, in the Companies' depreciation study proceedings, Case Nos. 2007-00564 and 2007-00565 and most recently in the Companies' base rate cases, Case Nos. 2008-00252 and 2008-00251.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to explain LG&E's reporting and accounting for the operation and maintenance expenses associated with the pollution control projects in LG&E's 2009 Environmental Compliance Plan ("2009 Plan"), to demonstrate that the environmental compliance costs LG&E proposes to recover through its surcharge are not already included in existing rates and to discuss the accounting treatment of costs included in base rates when applicable.

Recording and Tracking of Environmental Surcharge Expenses

Q. Is LG&E seeking recovery of operation and maintenance expenses associated with some of the Projects included in its proposed 2009 Plan?

A. Yes, LG&E is seeking recovery of operating and maintenance ("O&M") expenses for Projects 22 and 24 which relate to ash handling at new landfill facilities and at Project 25, which relates to beneficial reuse of coal combustion byproducts ("CCP") at all plants. LG&E is also seeking recovery of the operating and maintenance expenses to be incurred when the Air Quality Control Systems ("AQCS"), being installed on Trimble County Unit 2 ("TC2"), go in service. The capital cost of the AQCS is included in LG&E's 2006 Compliance Plan[1] as Project No. 18. The estimated O&M costs are contained on page 2 in Exhibit JNV-1.

No O&M expenses for Project No. 23 will be recovered through LG&E's environmental surcharge.

Q. How will LG&E identify the O&M expenses associated with these projects in its 2009 Plan?

A. LG&E's accounting system permits the tracking of costs in accordance with the Federal Energy Regulatory Commission's ("FERC") Uniform System of Accounts. LG&E intends to use FERC Account No. 502, Steam Expenses – Operation, 506, Miscellaneous Steam Power Expenses and 512, Maintenance of Boiler Plant, to identify and track the O&M expenses associated with these

[1] In the Matter of: *The Application of Louisville Gas and Electric Company for Approval of Its 2006 Compliance Plan for Recovery by Environmental Surcharge* (Case No. 2006-00208).

projects. LG&E will use subaccounts to track specific expenses and location codes to track expenses by unit.

Q. Has similar accounting proven to be successful in previous ECR cases?

A. Yes, tracking the costs using this accounting methodology has proven to be successful in the past. The costs in these accounts are clearly detailed on Environmental Surcharge Report Form ES 2.50.

Q. What book depreciation rates will be used in the calculation of the depreciation expense for the new capital projects?

A. The book depreciation rates to be used for the new capital projects at all existing units will be the existing depreciation rate for that group of assets. These rates were approved by the Commission as part of the most recent base rate case, Case No. 2008-252.

Q. What deferred income taxes are associated with pollution control facilities?

A. Deferred income taxes are recorded for all book versus tax temporary timing differences. The new capital projects are eligible for accelerated tax depreciation and amortization. These assets will generally fall into a 20-year Modified Accelerated Cost Recovery System 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 pollution control facilities are calculated.

A. Pollution control facilities 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 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 February 5, 2009 in Case No. 2008-00252. In making that determination, the Commission evaluated the reasonableness of LG&E's regulated return from Kentucky jurisdictional operations using the twelve month period ending April 30, 2008, as the test period, adjusted for known and measurable changes. No capital expenditures for the new pollution control facilities in this case were incurred by LG&E during or prior to the twelve month period ending April 30, 2008, or included as adjustments thereto, for which LG&E is seeking recovery in this case.

Q. Are any of the operation and maintenance expenses for the new pollution control facilities in this case already included in existing rates?

A. No. As previously explained, all O&M expenses for which LG&E is seeking recovery in this filing are associated with new pollution control projects. In addition, there is no O&M associated with Project No. 18 for the AQCS in existing base rates. Therefore, LG&E's existing rates do not include any O&M related to these projects.

Q. Will any of the projects included in the 2009 Plan have an impact on operation and maintenance expenses that are already included in existing rates?

A. It is possible that projects in the 2009 Plan could affect the operation and maintenance expenses associated with CCP management at the Cane Run or Trimble County stations. LG&E will continually review operation and maintenance expenses that are already included in existing base rates. To the extent that those expenses are impacted by the projects included in the 2009 Plan, LG&E will recognize the impact in the surcharge calculations consistent with the Commission's orders.

Q. Will the installation of the new pollution control facilities replace or cause existing facilities to be removed from service?

A. No.

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 24th day of June, 2009.

Tammy J. Ely (SEAL)
Notary Public

My Commission Expires:

November 9, 2010

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 Andersen LLP

1995 – Senior Auditor
1993 – 1994 – Audit Staff

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2009 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	))))))	CASE NO. 2009-00198

DIRECT TESTIMONY OF
ROBERT M. CONROY
DIRECTOR, RATES
LOUISVILLE GAS AND ELECTRIC COMPANY

Filed: June 26, 2009

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

A. My name is Robert M. Conroy. I am the Director – 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' most recent rate cases, fuel adjustment clauses, and environmental surcharge mechanisms.

Q. Are you sponsoring any exhibits?

A. Yes. I am sponsoring five exhibits, identified as Exhibits RMC-1, RMC-2, RMC-3, RMC-4 and RMC-5. These exhibits are:

Exhibit RMC-1	Proposed LG&E Environmental Cost Recovery Surcharge Tariff
Exhibit RMC-2	Proposed LG&E Environmental Cost Recovery Surcharge Tariff (redline)
Exhibit RMC-3	Current LG&E Environmental Surcharge Monthly Reports
Exhibit RMC-4	Proposed LG&E Environmental Surcharge Monthly Reports
Exhibit RMC-5	2009 ECR Plan Customer Bill Impact

Q. What is the purpose of your testimony?

A. My testimony addresses how the environmental surcharge under LG&E Electric Rate Schedule Environmental Cost Recovery Surcharge ("ECR") tariff will be calculated

to include the costs incurred in connection with the new pollution control projects in LG&E's 2009 Environmental Compliance Plan ("2009 Plan").

Q. Is LG&E proposing any changes to its Environmental Cost Recovery Surcharge tariff?

A. Yes. LG&E is proposing an addition to the components of the ECR Revenue Requirement ("E(m)"), 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 LG&E's 2009 Plan?

A. No. LG&E will use the currently approved methodologies for calculating the environmental surcharge as specified by the Commission in Case Nos. 2000-386[1] ("2001 Plan"), 2002-00147[2] ("2003 Plan"), 2004-00421[3] ("2005 Plan"), and 2006-00208[4] ("2006 Plan"). The calculation of the monthly Environmental Surcharge billing factor will continue to consolidate the 2001, 2003, 2005, and 2006 Plans and, if approved, the proposed 2009 Plan. However, LG&E is proposing to add a component to the determination of E(m).

Q. Why is LG&E proposing to add a component to the determination of E(m)?

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[1] In the Matter of: *Application of Louisville Gas and Electric 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 Louisville Gas and Electric Company for Approval of Its 2002 Compliance Plan for Recovery by Environmental Surcharge*

[3] In the Matter of: *The Application of Louisville Gas and Electric Company for Approval of Its 2004 Compliance Plan for Recovery by Environmental Surcharge*

[4] In the Matter of: *The Application of Louisville Gas and Electric Company for Approval of Its 2006 Compliance Plan for Recovery by Environmental Surcharge*

A. LG&E is proposing to add a component to E(m) to separately identify the costs associated with coal combustion byproduct ("CCP") beneficial reuse opportunities from the O&M expense currently included in the monthly filings. The E(m) would be determined as follows:

E(m) = [(RB / 12) (ROR+(ROR -DR)(TR/(1-TR)))] + OE - BAS + BR, where:

RB is the Total Environmental Compliance Rate Base.
ROR is the Rate of Return on Environmental Compliance Rate Base, designated as the overall rate of return.
DR is the Debt Rate.
TR is the Composite Federal and State Income Tax Rate.
OE is the Operating Expenses that includes operation and maintenance recovery authorized in previous ECR Compliance Plans.
BAS is the total proceeds from by-product and allowance sales.
BR is the operation and maintenance expenses (and/or revenues, if applicable) associated with beneficial reuse opportunities.

Q. What is the benefit of adding a component to the determination of E(m)?

A. The benefit of adding a component to the determination of E(m) is to provide the Commission with reporting that clearly identifies the costs associated with beneficial reuse opportunities that are included in the monthly filings. In addition, as discussed below, LG&E is adding an additional form, ES Form 2.60, to specifically identify the beneficial reuse operation and maintenance expense for each opportunity pursued by the Company. Together, these changes will facilitate the Commission's ongoing oversight and scrutiny of the costs associated with the beneficial reuse opportunities available to LG&E from time to time.

Q. Will the monthly reporting forms used for calculating the environmental surcharge change if the Commission approves recovery of LG&E's 2009 Plan?

A. Yes. LG&E is proposing to change the format of several monthly reporting forms to reflect the recovery of the costs associated with the 2009 Plan. Exhibit RMC-3 contains the forms LG&E currently uses when filing its monthly environmental surcharge report. Exhibit RMC-4 shows the illustrative monthly environmental surcharge report forms LG&E is proposing in this case.

Q. Please describe the modifications that LG&E is proposing as a result of the 2009 Plan.

A. The calculation of the monthly billing factor for recovery of the cost of LG&E's 2009 Plan will be consistent with the methodology approved by the Commission in Case No. 2006-00208 and used to calculate the recovery of the cost of LG&E's current Environmental Compliance Plans. ES Form 1.00 will continue to show the 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. 2000-386, 2002-00147, 2004-00421, and 2006-00208.

The plant, construction work in progress and depreciation expense for the 2001, 2003, 2005 and 2006 Plans are currently reported on ES Form 2.10. This form is being expanded to include the 2009 Plan projects for which LG&E is seeking cost recovery.

The pollution control equipment operation and maintenance expenses for the 2001, 2005, and 2006 Plans are currently reported on ES Form 2.50. This form is

being expanded to include the incremental operation and maintenance expenses associated with the 2009 Plan projects as discussed in Ms. Charnas's testimony. The operation and maintenance expenses for Project 18 will be shown with the 2006 Plan.

Consistent with LG&E's most recent rate case, ES Form 3.10 is being revised to remove the revenues associated with the STOD Program Cost Recovery Factor, Merger Surcredit and Value Delivery Surcredit. ES Form 3.00 is being revised to remove the STOD Program Cost Recovery Factor Revenues beginning with the February 2010 expense month. Since LG&E reported STOD Program Cost Recovery Factor Revenues in January and February 2009 and ES Form 3.00 includes the current 12-months revenues, LG&E will continue to use the existing ES Form 3.00 for the December 2009 and January 2010 expense months.

Q. What modifications to the forms are necessary to clearly identify the costs associated with CCP Beneficial Reuse to be included in the determination of E(m)?

A. LG&E is proposing to add a new form ES Form 2.60 to track and report the costs associated with cost-effective beneficial reuse opportunities. As explained in Mr. Schram's testimony, LG&E will conduct a detailed evaluation of each beneficial reuse opportunity. For the opportunities that LG&E determines to be cost effective and that should be pursued, the evaluation results will be provided to the Commission as an attachment to the monthly filing in the first month the beneficial reuse costs are reported. The sum of the current month O&M expense for all plans shown on ES Form 2.50 and the current month Beneficial Reuse expense shown on ES Form 2.60

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.

LG&E is proposing to modify ES Forms 1.10 and 2.00 to separately identify the operation and maintenance costs, and/or revenues if applicable, associated with the beneficial reuse opportunities.

Q. Does the relief requested by LG&E in this case have any effect on the existing electric base rates?

A. No. Ms. Charnas's testimony affirms that none of the costs of the new pollution control facilities was incurred prior to or during the 12-month period ending April 30, 2008 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 the proposed 2009 Plans. To the extent that the installation of the new pollution control facilities causes existing facilities to be replaced or retired, the cost of which facilities is already included in existing rates, LG&E will credit the net plant balance of retired or replaced plant against the amount of the capital expenditure to be recovered through the surcharge in accordance with past Commission orders. LG&E has been removing such amounts from the surcharge as necessary in the monthly calculation of the surcharge factor. LG&E will continually review operation and maintenance expenses that are already included in existing base rates. To the extent that those expenses are impacted by the projects included in the 2009 Plan, LG&E will recognize the impact in the surcharge calculations consistent with the Commission's orders.

Q. Has LG&E estimated the impact of the new projects on the Environmental Cost Recovery Surcharge?

A. Yes. The table below shows the estimated annual impact on Total E(m), Jurisdictional E(m) and the incremental MESF associated with the projects contained in the 2009 Plan. As shown in the table, the estimated impact on a residential customer using 1,000-kilowatt hours per month is expected to be $0.71 per month initially in 2010, upon approval by the Commission. It is estimated that this amount will increase to a maximum of $0.87 per month in 2014. Exhibit RMC-5 shows the details of the impact on the calculation of the environmental surcharge and a residential customer for 2009 through 2018.

Environmental Cost Recovery Surcharge Summary

	2010	2011	2012	2013	2014
Total E(m) - ($000)	$10,455	$10,896	$13,426	$16,341	$16,901
12 Month Average Jurisdictional Ratio	76.68%	76.68%	76.68%	76.68%	76.68%
Jurisdictional E(m) - ($000)	$8,017	$8,356	$10,295	$12,530	$12,960
Forecasted Jurisdictional R(m) - (million)	852	946	1,009	1,101	1,131
Incremental MESF	0.94%	0.88%	1.02%	1.14%	1.15%
Residential Customer Impact					
Monthly bill (1,000 kWh per month)	$0.71	$0.67	$0.77	$0.86	$0.87

Q. What is your recommendation to the Commission?

A. Based on my testimony, the Commission should approve (1) the 2009 Plan proposed in this case for the purpose of recovering the costs of pollution control facilities in that plan through the environmental surcharge beginning with the expense month of December 2009 and for bills rendered on and after January 28, 2010; (2) the proposed ECR Tariff; and (3) the proposed reporting formats.

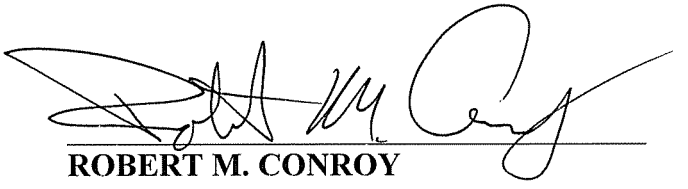
Q. Does this conclude your testimony?

A. Yes it does.

VERIFICATION

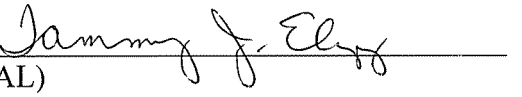
COMMONWEALTH OF KENTUCKY)
) **SS:**
COUNTY OF JEFFERSON)

The undersigned, **Robert M. Conroy**, being duly sworn, deposes and says he is the Director – 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 24th day of June 2009.



(SEAL)
Notary Public

My Commission Expires:

November 9, 2010

APPENDIX A

Robert M. Conroy

Director – 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

Essentials of Leadership, London Business School, 2004.

Center for Creative Leadership, Foundations in Leadership program, 1998.

Registered Professional Engineer in Kentucky, 1995.

Previous Positions

Manager, Rates	April 2004 – Feb. 2008
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.

Louisville Gas and Electric Company

P.S.C. Electric No. 7, First Revision of Original Sheet No. 87
Cancelling P.S.C. Electric No. 7, Original Sheet No. 87

Adjustment Clause **ECR**

Environmental Cost Recovery Surcharge

APPLICABLE

In all territory served.

AVAILABILITY OF SERVICE

To electric rate schedules RS, VFD, GS, CPS, IPS, CTOD, ITOD, RTS, IS, LS, RLS, LE, TE, FAC, and DSM. T

RATE

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

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

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

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

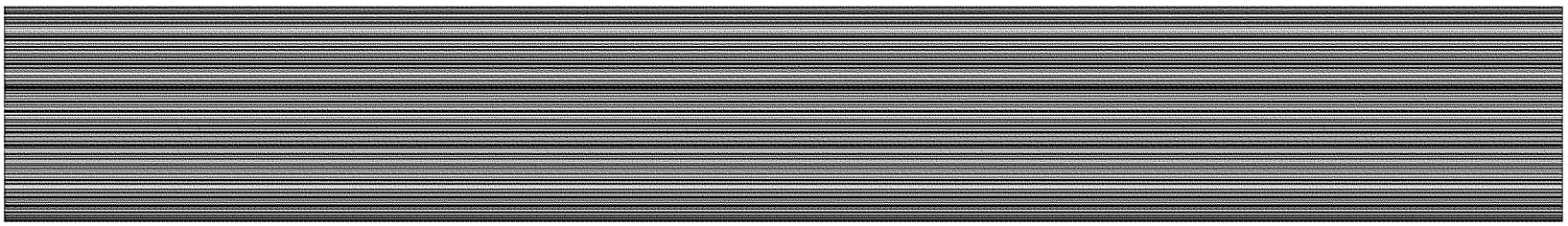
1) For all Plans, E(m) = [(RB/12) (ROR + (ROR – DR) (TR / (1 – TR))] + OE - BAS + BR
   a) RB is the Total Environmental Compliance Rate Base.
   b) ROR is the Rate of Return on Environmental Compliance Rate Base, designated as the overall rate of return [cost of short-term debt, long-term debt, preferred 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 prior amended ECR Plan proceedings. T
   f) BAS is the total proceeds from by-product and allowance sales.
   g) BR is the operation and maintenance expenses, and/or revenues if applicable, associated with Beneficial Reuse. T T

2) Total E(m) (sum of each approved environmental compliance plan revenue requirement) is multiplied by the Jurisdictional Allocation Factor to arrive at the 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 schedule to which this mechanism is applicable and automatic adjustment clause revenues for the Fuel Adjustment Clause and the Demand-Side Management Cost Recovery Mechanism 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.

Date of Issue: June 26, 2009
Date Effective: With Bills Rendered On and After January 28, 2010
Issued By: Lonnie E. Bellar, Vice President, State Regulation and Rates, Louisville, Kentucky



Louisville Gas and Electric Company

P.S.C. Electric No. 7, First Revision of Original Sheet No. 87
Cancelling P.S.C. Electric No. 7, Original Sheet No. 87

Adjustment Clause **ECR**

Environmental Cost Recovery Surcharge

APPLICABLE

In all territory served.

AVAILABILITY OF SERVICE

To electric rate schedules RS, VFD, GS, CPS, IPS, CTOD, ITOD, RTS, IS, LS, RLS, LE, TE, FAC, and DSM.

Deleted: VDF

RATE

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

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

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

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 + BR
   a) RB is the Total Environmental Compliance Rate Base.
   b) ROR is the Rate of Return on Environmental Compliance Rate Base, designated as the overall 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 prior amended ECR Plan proceedings.
   f) BAS is the total proceeds from by-product and allowance sales.
   g) BR is the operation and maintenance expenses, and/or revenues if applicable, associated with Beneficial Reuse.

Deleted: Case Nos. 2000-386, 2002-147, 2004-00421 and 2006-00208

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2) Total E(m) (sum of each approved environmental compliance plan revenue requirement) is multiplied by the Jurisdictional Allocation Factor to arrive at the 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 schedule to which this mechanism is applicable and automatic adjustment clause revenues for the Fuel Adjustment Clause and the Demand-Side Management Cost Recovery Mechanism 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: February 9, 2009

Deleted: July 1, 2005 Refiled: February 9, 2009

Deleted: 2004-00421 dated June 20, 2005

Date of Issue: June 26, 2009
Date Effective: With Bills Rendered On and After January 28, 2010
Issued By: Lonnie E. Bellar, Vice President, State Regulation and Rates, Louisville, Kentucky

Issued by Authority of an Order of the KPSC in Case No. 2009-00198 dated

Exhibit RMC-3

ES FORM 1.00

LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT

Calculation of Monthly Billed Environmental Surcharge Factor - MESF
For the Month Ended:

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. 2007-00379	=	3.62%
MESF	=	

Effective Date for Billing:

Submitted by: _____

Title: Director, Rates

Date Submitted: _____

ES FORM 1.10

LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT

Calculation of Total E(m) and
Jurisdictional Surcharge Billing Factor

For the Month Ended:

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 / 1 BESF, from Case No. 2007-00379	=	
(ROR + (ROR - DR) (TR / (1 - TR)))	=	10 98%
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)	=
Adjustment for Over/Under-collection pursuant to Case No	=
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

LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT

Revenue Requirements of Environmental Compliance Costs
For the Month Ended:

Determination of Environmental Compliance Rate Base

	Enviromental Compliance Plan
Eligible Pollution Control Plant	
Eligible Pollution CWIP Excluding AFUDC	
Subtotal	
Additions:	
Inventory - Emission Allowances per ES Form 2.31, 2.32 and 2.33	
Cash Working Capital Allowance	
Deferred Debit Balance -- Mill Creek Ash Dredging	
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	
less investment tax credit amortization	
Monthly Property and Other Applicable Taxes	
Monthly Insurance Expense	
Monthly Emission Allowance Expense from ES Form 2.31, 2.32 and 2.33	
Monthly Permitting Fees	
Amortization of Monthly Mill Creek Ash Dredging	
Less : Operating Expenses Associated with Retirements or Replacements	
Occuring Since Last Roll-In of Surcharge into Existing Rates	
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 3.62%)	
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)	

LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Plant, CWIP & Depreciation Expense

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	Deferred Tax Balance as of	Monthly ITC Amortization Credit	Monthly Depreciation Expense	Monthly Property Tax Expense
				(2)-(3)+(4)				
2001 Plan:								
Project 6 - LGE NOx								
Subtotal								
Less Retirements and Replacement resulting from implementation of 2001 Plan								
Net Total - 2001 Plan:								
2003 Plan:								
Project 7 - Mill Creek FGD Scrubber Conversion								
Project 8 - Precipitator Upgrades - All Plants								
Project 9 - Clearwell Water System - Mill Creek								
Project 10 - SO_2 Absorber Trays - Mill Creek 3 & 4								
Subtotal								
Less Retirements and Replacement resulting from implementation of 2003 Plan								
Net Total - 2003 Plan:								
2005 Plan:								
Project 11 - Special Waste Landfill Expansion at Mill Creek								
Project 12 - Special Waste Landfill Expansion at Cane Run Station								
Project 13 - Scrubber Refurbishment at Trimble County Unit 1								
Project 14 - Scrubber Refurbishment at Cane Run Unit 6								
Project 15 - Scrubber Refurbishment at Cane Run Unit 5								
Project 16 - Scrubber Improvements at Trimble County Unit 1								
Subtotal								
Less Retirements and Replacement resulting from implementation of 2005 Plan								
Net Total - 2005 Plan:								

LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Plant, CWIP & Depreciation Expense

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	Deferred Tax Balance as of	Monthly ITC Amortization Credit	Monthly Depreciation Expense	Monthly Property Tax Expense
				(2)-(3)+(4)				
2006 Plan:								
Project 18 - TC2 AQCS Equipment								
Project 19 - Sorbent Injection								
Project 20 - Mercury Monitors								
Project 21 - Mill Creek Opacity and Particulate Monitors								
Subtotal								
Less Retirements and Replacement resulting from implementation of 2006 Plan								
Net Total - 2006 Plan:								
Net Total - All Plans:								

ES FORM 2.30

LOUISVILLE GAS AND ELECTRIC 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							
2010							
2011							
2012							
2013							
2014							
2015							
2016							
2017							
2018							
2019							
2020							
2021							
2022							
2023							
2024							
2025							
2026							
2027							
2028							
2029 - 2038							

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

LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Inventory of Emission Allowances (SO_2) - Current Vintage Year

For the Month Ended:

	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 KU							
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

LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Inventory of Emission Allowances (NOx) - Ozone Season Allowance Allocation

For the Month Ended:

	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 KU:							
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

LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Inventory of Emission Allowances (NOx) - Annual Allowance Allocation

For the Month Ended:

	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 KU:							
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

LOUISVILLE GAS AND ELECTRIC 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

LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Pollution Control - Operations & Maintenance Expenses
For the Month Ended:

O&M Expense Account	Cane Run	Mill Creek	Trimble County	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				
Ashpond Dredging Expense				
Total 2005 Plan O&M Expenses				
2006 Plan				
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				

LOUISVILLE GAS AND ELECTRIC 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

LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Reconciliation of Reported Revenues

For the Month Ended:

	Revenues per 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		
Total Kentucky Jurisdictional Revenues for Environmental Surcharge Purposes =		
Non -Jurisdictional Revenues		
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		
Merger Surcredit		
Merger Surcredit - Non Jurisdictional		
Value Delivery Surcredit		
Miscellaneous		
Total Company Revenues per Income Statement =		

ES FORM 1.00

LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT

Calculation of Monthly Billed Environmental Surcharge Factor - MESF
For the Month Ended:

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: Director, Rates

Date Submitted: _____

ES FORM 1.10

LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT

Calculation of Total E(m) and
Jurisdictional Surcharge Billing Factor

For the Month Ended:

Calculation of Total E(m)

E(m) = [(RB / 12) (ROR+(ROR -DR)(TR/(1-TR)))] + OE - BAS + BR, 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
BR	=	Beneficial Reuse Operating Expenses

		Environmental Compliance Plans
RB	=	
RB / 12	=	
(ROR + (ROR - DR) (TR / (1 - TR)))	=	
OE	=	
BAS	=	
BR	=	
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)	=
Adjustment for Over/Under-collection pursuant to Case No.	=
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

LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT

Revenue Requirements of Environmental Compliance Costs
For the Month Ended:

Determination of Environmental Compliance Rate Base

	Enviromental Compliance Plan
Eligible Pollution Control Plant	
Eligible Pollution CWIP Excluding AFUDC	
Subtotal	
Additions:	
Inventory - Emission Allowances per ES Form 2.31, 2.32 and 2.33	
Cash Working Capital Allowance	
Deferred Debit Balance -- Mill Creek Ash Dredging	
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

	Environmental Compliance Plan
Monthly Operations & Maintenance Expense	
Monthly Depreciation & Amortization Expense	
less investment tax credit amortization	
Monthly Property and Other Applicable Taxes	
Monthly Insurance Expense	
Monthly Emission Allowance Expense from ES Form 2.31, 2.32 and 2.33	
Monthly Permitting Fees	
Amortization of Monthly Mill Creek Ash Dredging	
Less : Operating Expenses Associated with Retirements or Replacements	
Occuring Since Last Roll-In of Surcharge into Existing Rates	
Total Pollution Control Operations Expense	

Determination of Beneficial Reuse Operating Expenses

	Environmental Compliance Plan
Total Beneficial Reuse 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 3.62%)	
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)	

LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Plant, CWIP & Depreciation Expense

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	Deferred Tax Balance as of	Monthly ITC Amortization Credit	Monthly Depreciation Expense	Monthly Property Tax Expense
				(2)-(3)+(4)				
2001 Plan:								
Project 6 - LGE NOx								
Subtotal								
Less Retirements and Replacement resulting from implementation of 2001 Plan								
Net Total - 2001 Plan:								
2003 Plan:								
Project 7 - Mill Creek FGD Scrubber Conversion								
Project 8 - Precipitator Upgrades - All Plants								
Project 9 - Clearwell Water System - Mill Creek								
Project 10 - SO_2 Absorber Trays - Mill Creek 3 & 4								
Subtotal								
Less Retirements and Replacement resulting from implementation of 2003 Plan								
Net Total - 2003 Plan:								
2005 Plan:								
Project 11 - Special Waste Landfill Expansion at Mill Creek								
Project 12 - Special Waste Landfill Expansion at Cane Run Station								
Project 13 - Scrubber Refurbishment at Trimble County Unit 1								
Project 14 - Scrubber Refurbishment at Cane Run Unit 6								
Project 15 - Scrubber Refurbishment at Cane Run Unit 5								
Project 16 - Scrubber Improvements at Trimble County Unit 1								
Subtotal								
Less Retirements and Replacement resulting from implementation of 2005 Plan								
Net Total - 2005 Plan:								

LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Plant, CWIP & Depreciation Expense

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	Deferred Tax Balance as of	Monthly ITC Amortization Credit	Monthly Depreciation Expense	Monthly Property Tax Expense
				(2)-(3)+(4)				
2006 Plan:								
Project 18 - TC2 AQCS Equipment								
Project 19 - Sorbent Injection								
Project 20 - Mercury Monitors								
Project 21 - Mill Creek Opacity and Particulate Monitors								
Subtotal								
Less Retirements and Replacement resulting from implementation of 2006 Plan								
Net Total - 2006 Plan:								
2009 Plan:								
Project 22 - Cane Run CCP Storage (Landfill - Phase I)								
Project 23 - Trimble County Ash Treatment Basin (BAP/GSP)								
Project 24 - Trimble County CCP Storage (Landfill - Phase 1)								
Project 25 - Beneficial Reuse								
Subtotal								
Less Retirements and Replacement resulting from implementation of 2009 Plan								
Net Total - 2009 Plan:								
Net Total - All Plans:								

Note 1: Trimble County projects for the 2009 Plan are proportionately shared by KU at 48% and LG&E at 52%

LOUISVILLE GAS AND ELECTRIC 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							
2010							
2011							
2012							
2013							
2014							
2015							
2016							
2017							
2018							
2019							
2020							
2021							
2022							
2023							
2024							
2025							
2026							
2027							
2028							
2029 - 2038							

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.

LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Inventory of Emission Allowances (SO_2) - Current Vintage Year

For the Month Ended:

	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 KU							
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

LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Inventory of Emission Allowances (NOx) - Ozone Season Allowance Allocation

For the Month Ended:

	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 KU:							
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.

LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Inventory of Emission Allowances (NOx) - Annual Allowance Allocation

For the Month Ended:

	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 KU:							
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

LOUISVILLE GAS AND ELECTRIC 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

LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT

Pollution Control - Operations & Maintenance Expenses
For the Month Ended:

O&M Expense Account	Cane Run	Mill Creek	Trimble County	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				
Ashpond Dredging Expense				
Total 2005 Plan O&M Expenses				
2006 Plan				
506109 - Sorbent Injection Operation				
512102 - Sorbent Injection Maintenance				
506110 - Mercury Monitors Operation				
512103 - Mercury Monitors Maintenance				
502006 - Scrubber Operations				
512005 - Scrubber Maintenance				
506104 - NOx Operation -- Consumables				
506105 - NOx Operation -- Labor and Other				
512101 - NOx Maintenance				
506001 - Precipitator Operation				
512011 - Precipitator Maintenance				
Total 2006 Plan O&M Expenses				
2009 Plan				
512017 - Ash Handling Maintenance				
501251 - Ash Handling Operation				
501201 - Bottom Ash Disposal				
502001 - Other Waste Disposal				
Total 2009 Plan O&M Expenses				
Current Month O&M Expense for All Plans				

Note 1: Trimble County projects for the 2009 Plan are proportionately shared by KU at 48% and LG&E at 52%.

ES FORM 2.60

LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Beneficial Reuse - Operations & Maintenance Expenses
For the Month Ended:

Third Party	O&M Expense Account	Plant	Total O&M
			0.00

LOUISVILLE GAS AND ELECTRIC 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)
Month	Base Rate Revenues	Fuel Clause Revenues	DSM Revenues	Environmental Surcharge Revenues	Total (2)+(3)+(4)+(5)	Total Excluding Environmental Surcharge (6)-(5)	Total Including Off-System Sales (See Note 1)	Total (6)+(8)	Total Excluding Environmental Surcharge (9)-(5)
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 (7) / Column (10) =									
							Note 1 - Excludes Brokered Sales, Total for Current Month =		

ES FORM 3.10

LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Reconciliation of Reported Revenues

For the Month Ended:

	Revenues per Form 3.00	Revenues per Income Statement
Kentucky Retail Revenues		
Base Rates (Customer Charge, Energy Charge, Demand Charge)		
Fuel Adjustment Clause		
DSM		
Environmental Surcharge		
Total Kentucky Jurisdictional Revenues for Environmental Surcharge Purposes =		
Non -Jurisdictional Revenues		
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		
Miscellaneous		
Total Company Revenues per Income Statement =		

Louisville Gas and Electric Company
Environmental Cost Recovery Surcharge Summary

	2010	2011	2012	2013	2014
Total E(m) - ($000)	$10,455	$10,896	$13,426	$16,341	$16,901
12 Month Average Jurisdictional Ratio	76.68%	76.68%	76.68%	76.68%	76.68%
Jurisdictional E(m) - ($000)	$8,017	$8,356	$10,295	$12,530	$12,960
Forecasted Jurisdictional R(m) - (million)	852	946	1,009	1,101	1,131
Incremental MESF	0.94%	0.88%	1.02%	1.14%	1.15%
Residential Customer Impact					
Monthly bill (1,000 kWh per month)	$0.71	$0.67	$0.77	$0.86	$0.87

Revenue Requirements Summary
2009 Amended Plan - LG&E

		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Project 18	**TC2 AQS O&M**										
	Revenue Requirement										
	Eligible Plant	-	-	-	-	-	-	-	-	-	-
	Less: Retired Plant	-	-	-	-	-	-	-	-	-	-
	Less: Accumulated Depreciation	-	-	-	-	-	-	-	-	-	-
	Plus: Accumulated Depreciation on retired plant	-	-	-	-	-	-	-	-	-	-
	Less: Deferred Tax Balance	-	-	-	-	-	-	-	-	-	-
	Plus: Deferred Tax Balance on retired plant	-	-	-	-	-	-	-	-	-	-
	Environmental Compliance Rate Base	-	-	-	-	-	-	-	-	-	-
	Rate of return	10.82%	10.67%	10.67%	10.67%	10.67%	10.67%	10.67%	10.67%	10.67%	10.67%
		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Operating expenses	-	1,328,398	2,078,421	2,457,617	2,631,751	2,702,173	2,767,171	2,834,519	2,917,621	2,972,968
	Annual Depreciation expense	-	-	-	-	-	-	-	-	-	-
	Less depreciation on retired plant	-	-	-	-	-	-	-	-	-	-
	Annual Property Tax expense	-	-	-	-	-	-	-	-	-	-
	Total OE	$ -	$ 1,328,398	$ 2,078,421	$ 2,457,617	$ 2,631,751	$ 2,702,173	$ 2,767,171	$ 2,834,519	$ 2,917,621	$ 2,972,968
	Total E(m)	-	1,328,398	2,078,421	2,457,617	2,631,751	2,702,173	2,767,171	2,834,519	2,917,621	2,972,968

Revenue Requirements Summary
2009 Amended Plan - LG&E

		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Project 22	**Cane Run Landfill (Phase I)**										
	Revenue Requirement										
	Eligible Plant	3,439,366	4,067,346	4,156,101	4,250,181	4,300,043	4,352,897	4,408,922	4,468,309	4,531,259	4,597,986
	Less: Retired Plant	-	-	-	-	-	-	-	-	-	-
	Less: Accumulated Depreciation	-	-	-	-	(183,791)	(377,930)	(574,568)	(773,855)	(975,949)	(1,181,019)
	Plus: Accumulated Depreciation on retired plant	-	-	-	-	-	-	-	-	-	-
	Less: Deferred Tax Balance	-	-	-	-	8,022	(34,721)	(69,508)	(96,813)	(117,020)	(130,521)
	Plus: Deferred Tax Balance on retired plant	-	-	-	-	-	-	-	-	-	-
	Environmental Compliance Rate Base	3,439,366	4,067,346	4,156,101	4,250,181	4,124,274	3,940,246	3,764,846	3,597,641	3,438,290	3,286,446
	Rate of return	10.82%	10.67%	10.67%	10.67%	10.67%	10.67%	10.67%	10.67%	10.67%	10.67%
		$ 372,293	$ 434,164	$ 443,638	$ 453,681	$ 440,241	$ 420,597	$ 401,874	$ 384,026	$ 367,016	$ 350,808
	Operating expenses	20,352	21,573	22,868	24,240	25,694	27,236	28,870	30,602	32,438	34,384
	Annual Depreciation expense	-	-	-	-	183,791	194,139	196,638	199,287	202,094	205,070
	Less depreciation on retired plant	-	-	-	-	-	-	-	-	-	-
	Annual Property Tax expense	-	5,159	6,101	6,234	6,375	6,174	5,962	5,752	5,542	5,333
	Total OE	$ 20,352	$ 26,732	$ 28,969	$ 30,474	$ 215,860	$ 227,549	$ 231,470	$ 235,640	$ 240,074	$ 244,787
	Total E(m)	392,645	460,896	472,607	484,155	656,101	648,146	633,344	619,666	607,090	595,595

Revenue Requirements Summary
2009 Amended Plan - LG&E

		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Project 23	**TC Ash Treatment Basin (BAP/GSP)**										
	Revenue Requirement										
	Eligible Plant	5,122,532	12,822,224	12,822,224	12,822,224	12,822,224	12,822,224	12,822,224	12,822,224	12,822,224	12,822,224
	Less: Retired Plant	-	-	-	-	-	-	-	-	-	-
	Less: Accumulated Depreciation	-	(19,340)	(483,505)	(947,669)	(1,411,834)	(1,875,998)	(2,340,163)	(2,804,327)	(3,268,492)	(3,732,656)
	Plus: Accumulated Depreciation on retired plant	-	-	-	-	-	-	-	-	-	-
	Less: Deferred Tax Balance	-	(164,245)	(328,483)	(467,987)	(584,674)	(680,187)	(756,168)	(814,032)	(855,194)	(893,618)
	Plus: Deferred Tax Balance on retired plant	-	-	-	-	-	-	-	-	-	-
	Environmental Compliance Rate Base	5,122,532	12,638,638	12,010,236	11,406,567	10,825,716	10,266,039	9,725,893	9,203,865	8,698,538	8,195,949
	Rate of return	10.82%	10.67%	10.67%	10.67%	10.67%	10.67%	10.67%	10.67%	10.67%	10.67%
		$ 554,487	$ 1,349,097	$ 1,282,019	$ 1,217,581	$ 1,155,579	$ 1,095,837	$ 1,038,180	$ 982,456	$ 928,516	$ 874,868
	Operating expenses	-	-	-	-	-	-	-	-	-	-
	Annual Depreciation expense	-	19,340	464,165	464,165	464,165	464,165	464,165	464,165	464,165	464,165
	Less depreciation on retired plant	-	-	-	-	-	-	-	-	-	-
	Annual Property Tax expense	-	7,684	19,204	18,508	17,812	17,116	16,419	15,723	15,027	14,331
	Total OE	$ -	$ 27,024	$ 483,369	$ 482,673	$ 481,976	$ 481,280	$ 480,584	$ 479,888	$ 479,191	$ 478,495
	Total E(m)	554,487	1,376,121	1,765,388	1,700,254	1,637,555	1,577,117	1,518,764	1,462,344	1,407,707	1,353,363

Revenue Requirements Summary
2009 Amended Plan - LG&E

		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Project 24	**TC CCP Storage (Landfill - Phase I)**										
	Revenue Requirement										
	Eligible Plant	222,988	222,988	17,927,561	36,676,276	36,676,276	36,676,276	36,676,276	36,676,276	36,676,276	36,676,276
	Less: Retired Plant	-	-	-	-	-	-	-	-	-	-
	Less: Accumulated Depreciation	-	-	-	-	(1,272,361)	(2,600,042)	(3,927,724)	(5,255,405)	(6,583,086)	(7,910,767)
	Plus: Accumulated Depreciation on retired plant	-	-	-	-	-	-	-	-	-	-
	Less: Deferred Tax Balance	-	-	-	-	(36,657)	(506,438)	(905,471)	(1,239,238)	(1,512,439)	(1,729,773)
	Plus: Deferred Tax Balance on retired plant	-	-	-	-	-	-	-	-	-	-
	Environmental Compliance Rate Base	222,988	222,988	17,927,561	36,676,276	35,367,257	33,569,796	31,843,081	30,181,633	28,580,751	27,035,736
	Rate of return	10.82%	10.67%	10.67%	10.67%	10.67%	10.67%	10.67%	10.67%	10.67%	10.67%
		$ 24,137	$ 23,803	$ 1,913,658	$ 3,914,968	$ 3,775,239	$ 3,583,371	$ 3,399,054	$ 3,221,705	$ 3,050,820	$ 2,885,900
	Operating expenses	-	-	-	-	967,296	1,025,334	1,086,854	1,152,065	1,221,189	1,294,460
	Annual Depreciation expense	-	-	-	-	1,272,361	1,327,681	1,327,681	1,327,681	1,327,681	1,327,681
	Less depreciation on retired plant	-	-	-	-	-	-	-	-	-	-
	Annual Property Tax expense	-	334	334	26,891	55,014	53,106	51,114	49,123	47,131	45,140
	Total OE	$ -	$ 334	$ 334	$ 26,891	$ 2,294,671	$ 2,406,121	$ 2,465,649	$ 2,528,869	$ 2,596,001	$ 2,667,281
	Total E(m)	24,137	24,137	1,913,992	3,941,860	6,069,910	5,989,491	5,864,703	5,750,574	5,646,822	5,553,180

Revenue Requirements Summary
2009 Amended Plan - LG&E

		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Project 25	**Beneficial Reuse**										
	Revenue Requirement										
	Eligible Plant	1,079,764	4,513,413	4,513,413	4,513,413	4,513,413	4,513,413	4,513,413	4,513,413	4,513,413	4,513,413
	Less: Retired Plant	-	-	-	-	-	-	-	-	-	-
	Less: Accumulated Depreciation	-	(6,808)	(170,193)	(333,579)	(496,964)	(660,350)	(823,735)	(987,121)	(1,150,507)	(1,313,892)
	Plus: Accumulated Depreciation on retired plant	-	-	-	-	-	-	-	-	-	-
	Less: Deferred Tax Balance	-	(57,814)	(115,626)	(164,731)	(205,805)	(239,425)	(266,170)	(286,539)	(301,028)	(314,553)
	Plus: Deferred Tax Balance on retired plant	-	-	-	-	-	-	-	-	-	-
	Environmental Compliance Rate Base	1,079,764	4,448,791	4,227,594	4,015,103	3,810,643	3,613,638	3,423,507	3,239,753	3,061,878	2,884,968
	Rate of return	10.82%	10.67%	10.67%	10.67%	10.67%	10.67%	10.67%	10.67%	10.67%	10.67%
		$ 116,879	$ 474,881	$ 451,270	$ 428,588	$ 406,763	$ 385,734	$ 365,438	$ 345,824	$ 326,837	$ 307,953
	Operating expenses	-	6,781,867	4,044,649	4,243,433	4,769,138	5,428,541	5,610,358	6,106,637	6,456,655	6,768,993
	Annual Depreciation expense	-	6,808	163,386	163,386	163,386	163,386	163,386	163,386	163,386	163,386
	Less depreciation on retired plant	-	-	-	-	-	-	-	-	-	-
	Annual Property Tax expense	-	1,620	6,760	6,515	6,270	6,025	5,780	5,535	5,289	5,044
	Total OE	$ -	$ 6,790,294	$ 4,214,794	$ 4,413,333	$ 4,938,793	$ 5,597,951	$ 5,779,524	$ 6,275,557	$ 6,625,330	$ 6,937,423
	Total E(m)	116,879	7,265,175	4,666,064	4,841,921	5,345,556	5,983,685	6,144,962	6,621,381	6,952,167	7,245,375

Revenue Requirements Summary
2009 Amended Plan - LG&E

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total E(m) - All LG&E Projects	1,088,147	10,454,728	10,896,472	13,425,806	16,340,874	16,900,613	16,928,944	17,288,483	17,531,407	17,720,482
	1,088,147	10,454,728	10,896,472	13,425,806	16,340,874	16,900,613	16,928,944	17,288,483	17,531,407	17,720,482
Total Revenue Requirements										
Project 18	-	1,328,398	2,078,421	2,457,617	2,631,751	2,702,173	2,767,171	2,834,519	2,917,621	2,972,968
Project 22	392,645	460,896	472,607	484,155	656,101	648,146	633,344	619,666	607,090	595,595
Project 23	554,487	1,376,121	1,765,388	1,700,254	1,637,555	1,577,117	1,518,764	1,462,344	1,407,707	1,353,363
Project 24	24,137	24,137	1,913,992	3,941,860	6,069,910	5,989,491	5,864,703	5,750,574	5,646,822	5,553,180
Project 25	116,879	7,265,175	4,666,064	4,841,921	5,345,556	5,983,685	6,144,962	6,621,381	6,952,167	7,245,375
Total	1,088,147	10,454,728	10,896,472	13,425,806	16,340,874	16,900,613	16,928,944	17,288,483	17,531,407	17,720,482
	-	-	-	-	-	-	-	-	-	-
12 Month Average Jurisdictional Ratio	76.68%	76.68%	76.68%	76.68%	76.68%	76.68%	76.68%	76.68%	76.68%	76.68%
Jurisdictional Allocation	834,400	8,016,773	8,355,505	10,295,020	12,530,318	12,959,531	12,981,255	13,256,953	13,443,229	13,588,213
Forecasted 12-Month Retail Revenue	778,413,576	852,058,810	945,514,250	1,008,786,330	1,101,411,960	1,130,694,020	1,198,938,250	1,240,886,920	1,292,381,370	1,322,560,460
Billing Factor	0.11%	0.94%	0.88%	1.02%	1.14%	1.15%	1.08%	1.07%	1.04%	1.03%
LGE Residential Bill Impact										
Customer Charge	$5.00	$5.00	$5.00	$5.00	$5.00	$5.00	$5.00	$5.00	$5.00	$5.00
Energy - 1,000 Kwh @ $0.06303	$63.03	$63.03	$63.03	$63.03	$63.03	$63.03	$63.03	$63.03	$63.03	$63.03
FAC billings (Apr 09 factor - $0.00574/kWh)	$5.74	$5.74	$5.74	$5.74	$5.74	$5.74	$5.74	$5.74	$5.74	$5.74
DSM billings (Apr 09 factor - $0.00193/kWh)	$1.93	$1.93	$1.93	$1.93	$1.93	$1.93	$1.93	$1.93	$1.93	$1.93
ECR billings (Apr 09 factor: 2.17%)	$1.64	$1.64	$1.64	$1.64	$1.64	$1.64	$1.64	$1.64	$1.64	$1.64
Additional ECR factor	$0.08	$0.71	$0.67	$0.77	$0.86	$0.87	$0.82	$0.81	$0.79	$0.78