an E.ON company

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

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

Robert M. Conroy
Director - Rates
T 502-627-3324
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robert.conroy@lge-ku.com

November 8, 2010

RE: ***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:

As indicated in the data responses in the above-referenced docket, Louisville Gas and Electric Company and Kentucky Utilities Company committed to provide copies of the ATC Associates Impoundment Facilities Assessment Report. Enclosed please find an original and eight (8) copies of the Final Assessment Report Letter in the above-referenced docket. Also enclosed please find nine (9) copies of the report appendices on cd.

Should you have any questions concerning the enclosed, please contact me at your convenience.

Sincerely,

Robert M. Conroy

Enclosures

cc: Parties of Record

 In November 2010, E.ON U.S. LLC was renamed LG&E and KU Energy LLC.

2009 GROWING SEASON
VISUAL SITE ASSESSMENT REPORT
28 IMPOUNDMENT FACILITIES

E.W. BROWN
GHENT STATION
GREEN RIVER STATION
PINEVILLE STATION
TYRONE STATION
CANE RUN STATION
MILL CREEK STATION
TRIMBLE COUNTY STATION

E.ON U.S.

ATC PROJECT NO. 27.11000.9G11

MARCH 19, 2010

PREPARED FOR:

E.ON U.S.
220 WEST MAIN STREET
LOUISVILLE, KENTUCKY 40202

ATTENTION: MR. DAVID MILLAY P.E.

ASSOCIATES INC.

2009 GROWING SEASON
VISUAL SITE ASSESSMENT REPORT
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PREPARED FOR:

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220 WEST MAIN STREET
LOUISVILLE, KENTUCKY 40202

ATTENTION: MR. DAVID MILLAY P.E.

March 19, 2010

E.ON U.S.
220 West Main Street
Louisville, Kentucky 40202
502-627-2468 phone
502-693-0479 fax
David.Millay@eon-us.com

Attention: Mr. David Millay P.E.
Civil Engineer

Re: **2009 Growing Season**
Visual Site Assessment Report
28 Impoundment Facilities
Various Kentucky Power Stations
ATC Project No. 27.11000.9G11

Dear Mr. Millay:

ATC Associates Inc. (ATC) has completed our 2009 Growing Season, Visual Site Assessments of 28 pond facilities, at eight E.ON U.S. power stations in Kentucky. This report includes 12 pond facilities classified as "dams" by the Kentucky Energy and Environment Cabinet, Division of Water, Dam Safety Section (KDSS), and 16 ponds which are not classified and do not have a hazard rating or an identification number.

Our field observations were made during the months of October and November, 2009. These assessments were performed in general accordance with safety inspection protocols published in "Guidelines for Maintenance and Inspection of Dams in Kentucky" prepared by the Kentucky Natural Resources and Environmental Protection Cabinet, Division of Water, dated July 1985, and our proposal number 27-09-0044R dated September 24, 2009.

Report Terminology
The following terminology will be utilized in this report:

Pond: A facility consisting of an excavation, a soil embankment or a combination of both that impounds water or solids. A pond is typically composed of an area impounding water, an excavation slope or an impounding embankment and a spillway to discharge water. Descriptions of various pond configurations used by the US EPA are shown on Figure 1 (Appendix A); these descriptions will be utilized in this Assessment Report.

Embankment: A compacted earthen mound placed under controlled conditions that serve to impound water or solids. An embankment could be classified as either a dam or a berm depending of the height and volume of material retained.

Dam: An embankment that impounds water or solids that meets the KRS 151 definition. In general a dam is 25 or more feet in height or has an impounding capacity of fifty or more acre-feet at the lowest point on the top of the dam. Height is measured from the natural bed of the stream or watercourse at the downstream toe of the embankment to the low point in the top of the dam.

Berm: An embankment that impounds water or solids that does not meet the KY Department for Natural Resources and Environmental Protection definition of a dam.

Assessment Activities

The scope of these assessments was limited to an examination of readily observable surficial features of the ponds, a review of information provided to us and performing approximate height and slope measurements of the impoundments. Due to time constraints two field teams were deployed by ATC to perform the field assessments. Team number 1 consisted of Mark J. Schuhmann P.E. and Josh English E.I.T. Team number 2 consisted of Don Bryenton P.E. and Brent Miller. In general our field teams were accompanied by one or more E.ON U.S. representatives. Our assessments did not include any test drilling, material testing, precise physical measurements of pond features, detailed calculations to verify spillway capacities or embankment stability, or other engineering analyses. Although the visual assessments were conducted by experienced personnel in accordance with generally accepted methods, the assessments should not be considered as a warranty or guaranty of the future safety of the facilities.

All the ponds addressed by this assessment were located at existing or former power stations and generally consisted of an excavated pond enclosed on one or more sides with an earthen embankment. The ponds generally receive minimal storm water runoff, with the majority of water inflow resulting from the sluicing of CCP (Coal Combustion byProducts) and other power generation process water into the impoundments. **Table 1** summarizes the facilities assessed by ATC during this phase of work. The aerial photographs of the ponds shown in Appendices of this report were flown in 2008.

Table 1- Summary of Assessed Ponds

		Pond Type [1]	Secondary Spillway Present	No. Findings Growing Season Inspections	Condition Rating Growing Season Inspections [2]
E.W. Brown	Main Ash Pond	Cross Valley/Diked	Yes	3	S
	Auxiliary Pond	Cross Valley/Diked	Yes	3	S
Ghent	ATB 1	Side Hill	No	8	S
	ATB 2	Cross Valley/Diked	Yes	7	S
	Gypsum Stack	Diked	Yes	6	S
	Sediment	Cross Valley	Yes	10	F
	Secondary	Incised	Yes	3	S
	GSSRP	Incised	No	0	S
Green River	Main Ash Pond	Side Hill	No	17	P
	Scrubber Pond	Side Hill/Diked	No	8	S
	Ash Pond 2	Side Hill	No	18	P
	Finishing Pond	Cross Valley	No	11	U
	Coal Runoff Pond	Side Hill	No	8	F
Pineville	Main Ash Pond	Side Hill	No	4	F
Tyrone	Main Ash Pond	Side Hill/Incised	No	14	F
	Finishing Pond	Side Hill/Incised	No	16	P
Cane Run	Main Ash Pond	Diked/Incised	No	1	S
	Emergency Pond	Diked/Incised	No	6	P
	Dead Storage Pond	Diked/Incised	No	5	F
	Basin Pond	Diked/Incised	No	3	F
	Clearwell Pond	Incised	No	1	S
Mill Creek	Main Ash Pond	Diked/Incised	No	15	CP
	GPP Drainage Pond	Incised	No	3	F
	Clearwell Pond	Diked/Incised	Yes	2	F
	Emergency Pond	Incised	No	2	F
	Construction Runoff Pond	Side Hill/Incised	No	10	F
	Dead Storage Pond	Incised	No	2	S
Trimble County	Bottom Ash Pond	Diked/Incised	No	17	F

S – Satisfactory
F – Fair
CP- Conditionally Poor
P – Poor
U – Unsatisfactory

Note 1: See Appendix A
Note 2: See Pond Assessment Forms

This summary report includes the following items for each pond assessed:

- Site Vicinity Map
- Findings and Recommendations Table
- Dam Assessment Form
- Photographs
- Site Plan with Photographs
- Site Plan with GPS Locations

Tables of daily rainfall amounts preceding our field assessment dates are also included for each power station to allow the reader to infer the ground moisture conditions prior to our field assessment activities. This data was obtained through the www.weatherunderground.com web site for the nearest rain gage to the power plant site.

Findings and Recommendations

The findings and recommendations summarized in the appendices to this report are grouped by Power Station and by pond facility. The findings and recommendations are categorized with a priority level of High, Moderate, or Normal (described in "Findings and Recommendations" Tables). Several of the ponds observed were either under construction, not currently in operation or designated for closure within two years. These ponds may have a footnote assigned to priority rating of a specific finding or recommendation indicating one of the following:

1. Pond not currently in use – implement the item prior to the pond being placed back into service.
2. Pond currently under construction – resolve the item prior to increasing the operating water level in the pond.
3. Pond designated for closure within two years – implement the item only if the time frame for closure is delayed for more than 2 years from the assessment date

The recommendations provided in the Findings and Recommendations Tables are specific to each pond facility; however, we have developed five general recommendations that apply to all the facilities.

1. Prepare or update an Operation and Maintenance Manual for each facility. The manual will allow rapid assessments of any variations in the day to day operation of each facility, will assist in troubleshooting problems, and will provide a source of data for future plant personnel responsible for the management of the facility. **Normal Priority**

2. Continue regular facility inspections. These inspections will allow changes in the facility to be observed in a timely fashion and allow preventative measures to be taken as part of regular maintenance rather than on an emergency basis. The personnel conducting the inspections should receive training on the proper inspection techniques, the specific items that should be inspected, the frequency of inspections and the documentation that is required. The inspection regime should also include a regular (yearly) assessment by either outside consultants or E.ON US corporate personnel not routinely assigned to a power station. **High Priority**

3. Evaluate each unclassified pond facility to determine the appropriate hazard rating (low, moderate or high) using guidelines published in Department for Natural Resources and Environmental Protection, Division of Water, Engineering Memorandum No. 5. **Normal Priority**

4. Obtain a topographic map with elevation contours to assist in evaluating the facilities. **Normal Priority**

5. Evaluate each pond facility with an embankment to determine whether a redundant method to prevent or safely control impounded water from overtopping the embankment crest is needed. The Findings and Recommendations page for each pond describes whether the ponds have emergency or secondary spillways. Published literature indicates that progressive erosion of the embankment crest during an overtopping event is one of the most common causes of embankment failure. **Normal Priority**

Discussion

The appendices to this report contain a page of Findings and Recommendations for each pond assessed. Discussion and clarification of specific recommendations are provided below.

Sixteen of the ponds addressed by this report are currently not classified by the KY Division of Water, Dam Safety Branch as "Dams", and therefore do not have a State Dam ID number. However 401 KAR 4:030, which is the regulation which dictates the engineering standards for "*dams and all other impounding obstructions which might create a hazard to life and/or property*", may apply to 10 of the 16 unclassified ponds, since most impound CCP or fluids using an obstruction and are not incised ponds. Therefore determining a hazard rating for each structure appears to be appropriate. A rating would also assist in prioritizing the remedial actions recommended in this report.

Trees, woody vegetation and brush were observed on the slopes, near the embankment toe and on the crest of some of the pond embankments we assessed. Kentucky Revised Statutes (KRS), Title XII – Conservation and State Development, Chapter 151 – Geology and Water Resources, Section .293 – Certificates of Inspection, Paragraph 8f, state that dam slopes be "free of trees". ATC has discussed this requirement with State dam safety personnel. We understand their intent is to limit the chance that an uprooted tree would cause a breech of the dam, or to prevent tree roots triggering seepage through the dam. However, on several of these sites natural riverbank slopes with trees were present and were part of the impounding embankment. Each existing tree on riverbank slopes should be evaluated on an individual basis before removal. In general, ATC recommends that trees and large vegetation be removed from the following areas:

- Man Made Embankment Slopes,
- Dam Crest,
- Groin ditches,
- Spillway intake or discharge channels,
- Within 10 feet of the embankment toe.

Where tree removal is warranted we recommend the trees be cut flush with the ground surface. Our primary reason for this recommendation is to provide an impounding structure that is easily mowed and allows ready visual observations of all components to be made at all times. Large tree stumps remaining after cutting should be monitored for signs of seepage as the root mass decays. Several of the structures assessed currently have sparse to minimal grass cover on the slopes. Removal of trees and woody vegetation should always be accompanied with erosion control measures such as seeding and placing straw on slopes to establish a stand of grass.

Our Findings and Recommendations table for each structure include suggestions to "Evaluate" or "Monitor" specific items associated with each structure. In this report "Evaluate" should be interpreted to mean - additional data is required for a qualified individual such as an engineer to determine whether:

- Such an evaluation has been made previously,
- Past evaluations are valid for the current structure in its current configuration and use, and
- Additional engineering analyses are needed.

In this report "Monitor" should be interpreted to mean – observe that specific item during future follow-up assessments and during regular inspections to observe and document any changes noted from the preceding assessment.

We appreciate the opportunity to provide our assessment services to you. If you have any questions concerning information contained in this report, or if the condition of the facilities should change significantly from that described herein, please do not hesitate to call either of the undersigned.

Sincerely,

ATC Associates Inc.

Mark J. Schuhmann P.E.
Principal Engineer
KY License 12,500

Josh English, E.I.T.
Staff Engineer

APPENDICES

APPENDIX A	**GENERAL INFORMATION**
APPENDIX B	**E.W. BROWN**
APPENDIX C	**GHENT STATION**
APPENDIX D	**GREEN RIVER STATION**
APPENDIX E	**PINEVILLE STATION**
APPENDIX F	**TYRONE STATION**
APPENDIX G	**CANE RUN STATION**
APPENDIX H	**MILL CREEK STATION**
APPENDIX I	**TRIMBLE COUNTY STATION**