LG&E KU

PPL companies

John N. Voyles
Vice President, Transmission
and Generation Services

LG&E and KU Energy LLC
220 West Main Street
P.O. Box 32010
Louisville, KY 40232
T 502-627-4762
F 502-627-4165
john.voyles@lge-ku.com

VIA CERTIFIED MAIL/RETURN RECEIPT REQUESTED

July 27, 2011

Mr. Stephen Hoffman
US Environmental Protection Agency
Two Potomac Yard
2733 S. Crystal Drive
5th Floor, N-237
Arlington, VA 22202-2733

RE: Plan for Addressing Recommendations in Site Assessment Report
Kentucky Utilities Company
Pineville Station Ash Pond

Dear Mr. Hoffman:

This is a response on behalf of Kentucky Utilities Company (KU) to EPA's June 27, 2011 letter requesting KU to inform you of our plans to address the recommendations in EPA's site assessment report for the Pineville Station Ash Pond. Specifically, this response covers how KU intends to address the recommendations made by EPA's engineering contractor, AMEC, as a result of a site assessment conducted at the Pineville facility on August 5, 2010. The attached (Table 1) restates AMEC's recommendations (in italics) and KU's specific plans and schedules for implementing each of the recommendations.

In conducting their assessment, AMEC utilized guidelines issued by the Mine Safety and Health Administration (MSHA). However, the MSHA guidelines are aimed at coal slurry ponds found at mine sites rather than the CCR impoundments found at a power plant. The MSHA guidelines are not legally applicable to our impoundments and differ substantially from the regulations that are applicable to our facilities. As you know, over the past two years EPA has assessed impoundments at several other facilities owned by KU or its affiliates. None of the EPA contractors conducting the assessments of our facilities used MSHA guidelines. In fact, of the dozens of assessments of power plant impoundments that EPA has conducted across the nation, we are unaware of any EPA contractor, other than AMEC, using MSHA guidelines. Consequently, we object to the use of MSHA guidelines

for the assessments of our facilities because they are inappropriate from a technical standpoint, legally inapplicable and inconsistent with past EPA practice. In the present situation where EPA is conducting nation-wide assessments to determine whether CCR impoundments pose any significant risk to the public, it is particularly inappropriate for EPA to apply differing standards depending on the EPA contractor that conducts the assessment.

KU will continue to comply with applicable regulations and take necessary actions to ensure the structural integrity of our CCR impoundments. We believe the Pineville Ash Pond is in satisfactory condition and in compliance with all applicable Kentucky dam safety regulations.

Please contact either of the following individuals if you have any questions regarding this response.

Primary: David Millay at (502) 627-2468 or David.Millay@lge-ku.com
Secondary: Michael Winkler at (502) 627-2338 or Michael.Winkler@lge-ku.com

Sincerely,

Attachment:

Table 1 - KU Response to EPA Contractor Recommendations for Pineville Station Ash Pond

cc: David Millay, LG&E and KU Services
Michael Winkler, LG&E and KU Services
Gary Wells, Kentucky Division of Water

Table 1– KU Response to EPA Contractor Recommendations for Pineville Station Ash Pond

	Impoundment	EPA Contractor Recommendation	KU Plan	KU Schedule
1	Pineville Ash Pond	*In order to confirm that the impoundment will not be overtopped during a design storm event, as well as determine whether acceptable freeboard conditions exist, the appropriate design storm rainfall (per MSHA guidelines), or 100-year, 24-hour (6.3 inches per Bell County, KY), should be applied to the impoundment "s entire tributary watershed to determine the resulting water surface elevation in the pond. Accurate impoundment volumes and embankment elevations must be utilized in any model that is used to determine the structure "s storage and/or routing capabilities.*	KU utilizes Kentucky dam safety regulations rather than MSHA guidelines to evaluate the performance of Coal Combustion Residual (CCR) impoundments. In KU's opinion, Kentucky regulations provide an appropriately conservative design storm rainfall. KU completed a comprehensive Hydrologic and Hydraulic (H&H) analysis and concluded that the Pineville Ash Pond performs in accordance with Kentucky dam safety regulations. KU will continue to operate and maintain the Pineville Ash Pond to meet applicable state regulations. KU has completed actions to implement this recommendation.	H&H analysis report completed in January, 2011. No further action scheduled.
2	Pineville Ash Pond	*Based upon additional information provided by KU on January 26, 2011, in AMEC "s opinion, the analyses that were provided address the ability of the impoundment to safely control or pass the appropriate design storm event once, as KU stated, the southwest embankment corner of the pond is raised to an elevation of 1,014 feet. With this improvement to the crest elevation, a uniform freeboard of nearly 2.0 feet will be maintained for this less than fully operational impoundment. AMEC recommends repairs to portions of the crest that will create elevation uniformity be completed in 2011.*	KU plans to raise the crest to a minimum elevation of 1014 feet.	Crest raise scheduled to be complete by the end of 2011.

Table 1 (continued) – KU Response to EPA Contractor Recommendations for Pineville Station Ash Pond

	Impoundment	EPA Contractor Recommendation	KU Plan	KU Schedule
5	Pineville Ash Pond	*The friction angle value of 30 degrees used for the CCW (ash) in the analysis appears high. More typical ash friction values are 28 degrees for compacted, 24 degrees for loosely compacted, and 11 degrees for uncompacted material. Consideration should be given to lowering strength values to account for exhibited lower strengths or inconsistencies within the fill or foundation materials. Lowering the friction value by one or two degrees, or more for weaker soils would be conservative and more appropriate. More layering of the embankment materials is needed to model these lower strength materials.*	Per MACTEC's *Addendum A Report of Geotechnical Exploration and Slope Stability Analyses KU Pineville Power Station – Ash Pond Fourmile, Bell County, Kentucky:* *"As stated on page 18 of our report, MACTEC has extensive experience with CCW at LG&E-KU facilities in Kentucky and with other similar facilities in the southeastern United States. Laboratory testing (both triaxial and direct shear tests) of CCW from other facilities indicated friction angles of 28 to over 42 degrees. We selected 30 degrees to provide, in our opinion, the appropriate level of conservatism."* KU agrees with MACTEC and believes it is unnecessary to lower strength values. KU has completed actions to implement this recommendation.	Addendum A-Stability analysis report completed in January, 2011. No further action scheduled.
6	Pineville Ash Pond	*Consideration should also be given to allowing some time for water levels in the piezometers to develop and stabilize.*	Per MACTEC's *Addendum A Report of Geotechnical Exploration and Slope Stability Analyses KU Pineville Power Station – Ash Pond Fourmile, Bell County, Kentucky:* *"The phreatic surfaces were modeled based on water level data from piezometers installed in the crest of the embankment, as well as observations of the downstream face and toe of the embankment."* As shown on *Table 2* from MACTEC's *Addendum A*, piezometer readings appear stable after being read on three separate occasions from August 2010 thru January, 2011. KU has completed actions to implement this recommendation.	Addendum A-Stability analysis report completed in January, 2011. No further action scheduled.
7	Pineville Ash Pond	*Some of the analyses presented appear limited to a circular surface; different types of failure surfaces should be analyzed and optimized.*	Per MACTEC's *Addendum A Report of Geotechnical Exploration and Slope Stability Analyses KU Pineville Power Station – Ash Pond Fourmile, Bell County, Kentucky:* *"Circular surface failure is the accepted industry standard and appropriate for this analysis. In addition, Table 6 indicates that the calculated factors of safety are much greater than the minimum required by the Commonwealth of Kentucky"* KU agrees with MACTEC and believes it is unnecessary to analyze additional failure surfaces. KU has completed actions to implement this recommendation.	Addendum A-Stability analysis report completed in January, 2011. No further action scheduled.

Table 1 (continued) – KU Response to EPA Contractor Recommendations for Pineville Station Ash Pond

	Impoundment	EPA Contractor Recommendation	KU Plan	KU Schedule
8	Pineville Ash Pond	*The analyses should include a discussion on how each parameter was derived and data sheets of the computer runs should be included to facilitate review.*	Per MACTEC's *Addendum A Report of Geotechnical Exploration and Slope Stability Analyses KU Pineville Power Station – Ash Pond Fourmile, Bell County, Kentucky:* *"Page 18 of our report clearly describes the soil parameter selections. The material input parameters (e.g., total and saturated unit weights, cohesion, and angle of internal friction) used for each loading condition for each cross section analyzed, as well as the horizontal acceleration for seismic loading, where applicable, are presented on the respective ST ABL6H plots included in our report. The embankment geometry, including material layering and piezometric surface, is presented graphically on the respective STABL6H plots."* KU has completed actions to implement this recommendation.	Addendum A-Stability analysis report completed in January, 2011. No further action scheduled.
9	Pineville Ash Pond	*Two piezometers were recently installed, August 2010, as part of the stability analysis investigation. It would be prudent for KU to maintain and protect these instruments, and document monitoring frequently until base line phreatic readings are apparent. After that time, a regular inspection and reading frequency should be maintained and the results evaluated by an engineer. Monitoring should include pond and river levels and should include additional readings and evaluation in response to elevated pond levels or specific rainfall events.*	KU plans to continue to maintain and protect piezometers on the Pineville Ash Pond. Qualified KU staff periodically monitors and records these instrument readings. KU plans to continue having documentation periodically evaluated by engineers.	Instrument maintenance, monitoring, and evaluation ongoing.
10	Pineville Ash Pond	*AMEC recommends that, at minimum, additional instrumentation be installed at the crest and toe of critical slopes. Installation should occur as budgets allow, or immediately upon development of future problems.*	KU plans to consult with a qualified geotechnical engineer and install additional instrumentation as recommended.	If recommended, additional instrumentation installation is scheduled to be completed in 2011.
11	Pineville Ash Pond	*Additional information provided by KU included two additional piezometers readings as discussed in Section 3.5.1. AMEC recommends KU continue the current instrument monitoring and review practices. AMEC reiterates our recommendations for frequency of readings and the inclusion of pond and river levels.*	Qualified KU staff periodically monitors and records piezometer readings at least twice a year and more frequently if needed. KU plans to continue having documentation evaluated by engineers as part of scheduled yearly comprehensive inspections.	Instrument maintenance, monitoring, and evaluation ongoing.

Table 1 (continued) – KU Response to EPA Contractor Recommendations for Pineville Station Ash Pond

	Impoundment	EPA Contractor Recommendation	KU Plan	KU Schedule
12	Pineville Ash Pond	*AMEC recommends that the current inspection program by the plant be expanded to include at least monthly documented inspections which identify potential problems, areas inspected, instrumentation monitoring, and pond and river levels.*	Qualified KU staff routinely conducts and documents inspections for the Pineville Ash Pond at least twice a month.	Routine monitoring ongoing.
13	Pineville Ash Pond	*AMEC has reviewed provided information consisting of one inspection record conducted by ATC on October 23, 2009 for the Pineville Ash Pond. This inspection indicates there are past inspections by an engineer. We recommend this type of annual inspection program and report by a Professional Engineer be continued at least yearly, in addition to the recommended monthly inspections by facility personnel, for this ash pond.*	KU plans to continue inspections for the Pineville Ash Pond using professional engineers on a yearly basis.	Yearly inspections scheduled.