UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

DEC 16 2015

Ms. Brenda Brickhouse
Vice President
Tennessee Valley Authority
Environmental Permits & Compliance
1101 Market Street, BR 4A
Chattanooga, Tennessee 37402-2801

Dear Ms. Brickhouse:

After the catastrophic release of coal ash from the Tennessee Valley Authority's (TVA) Kingston, Tennessee facility in December 2008, the U.S. Environmental Protection Agency (EPA), in collaboration with the States, undertook a nationwide, comprehensive effort to assess the structural integrity of surface impoundments and similar units that contain coal combustion residuals (CCR). The purpose of the assessments was to determine whether the units were structurally stable, or whether any corrective measures were needed, and, if so, to work with each facility to secure its commitment to complete any necessary corrective measures.

The units at TVA's facilities have been assessed by the EPA contractors who are experts in dam safety, working under the direction of the EPA. You have received a final report containing recommendations for corrective measures or studies needed to ensure the ongoing structural integrity of your impoundments and you have submitted an action plan to the EPA setting out how you plan to implement the recommendations. We thank you for your cooperation throughout this process. We have enclosed (at the conclusion of this letter) a list of the facilities your company owns or operates and that were assessed during assessment Round 11.

EPA's assessment effort was an extraordinary effort undertaken due to the critical need to ensure the structural integrity of these units. The EPA was able to bring dam safety experts in quickly and to subject these units to careful scrutiny. The assessments, analyses, reports, and recommendations constitute a critical body of information which serves all of us in our ongoing efforts to protect human health and the environment. For complete information on structural integrity assessments, analyses, reports, and recommendations, please visit EPA's website http://www3.epa.gov/epawaste/nonhaz/industrial/special/fossil/surveys2/.

The assessments, however, reflect the condition of each unit at the point in time during which the assessment took place. Going forward, an ongoing, routine program to assess these units and take any needed corrective measures is required to ensure the units' continued structural integrity. The continuing

responsibility to ensure that these units are structurally sound lies with you. However, as you are aware, agencies within your State have an important role in the ongoing monitoring and oversight of these units. We are therefore providing all of the information that you have sent to EPA to the appropriate State agency for their use in their routine monitoring and oversight of these units and expect that they will be the primary point of contact with respect to the continued oversight of these units. However, should EPA become aware of a situation where there is a threat of release or other potential endangerment to human health or the environment, EPA may take appropriate action. In such circumstances, EPA will coordinate with your State agency to ensure that measures protective of human health and the environment are taken in a timely fashion.

The action plans for three of TVA's facilities have not fully responded to EPA's assessment recommendations and they are therefore not complete. TVA's Bull Run, Colbert, and Kingston Fossil Plants, each have at least one CCR unit that does not have a completed determination showing that the liquefaction potential for soils and materials under the design seismic event do not pose a safety concern. Specifically:

Bull Run Fossil Plant - In a letter to the EPA dated December 16, 2014, TVA informed EPA (and also copied Tennessee's Department of Environment and Conservation (TN DEC)) that the results of the embankment liquefaction potential analysis for Bottom Ash Disposal Area 1 and Gypsum Disposal Area 2A yielded factors of safety that did not meet the minimum criteria used during EPA's assessment effort (i.e., a factor of safety of 1.0 or greater for post-liquefaction slope stability). In a subsequent letter dated May 1, 2015, TVA indicated that these units will cease receiving CCR by October 19, 2015, and close by April 17, 2018. In this same letter, TVA also stated that seismic stability of these units will be addressed during closure of these facilities.

Colbert Fossil Plant – In a letter to the EPA dated October 27, 2014, TVA informed the EPA (and also copied Alabama's Department of Environmental Management (AL DEM)) that the results of an embankment liquefaction potential analysis of Ash Pond 4 yielded factors of safety that did not meet the minimum criteria used during EPA's assessment effort (i.e., a factor of safety of 1.0 or greater for post-liquefaction slope stability). In a subsequent letter dated May 1, 2015, TVA indicated that it intends to implement soil improvement actions of potentially liquefiable soils at the Colbert Fossil Plant, which is anticipated to be completed by December 2015. In this same letter, TVA also stated that the receipt of CCR at the Colbert Fossil Plant will cease in April 2016.

Kingston Fossil Plant – In a letter to the EPA dated June 4, 2014, TVA informed the EPA (and also copied TN DEC) that the results of the embankment liquefaction potential analysis of Stilling Pond (Pond C) yielded factors of safety that did not meet the minimum criteria used during EPA's assessment effort (i.e., a factor of safety of 1.0 or greater for post-liquefaction slope stability). In a subsequent letter dated May 1, 2015, TVA indicated that this unit will cease receiving CCR by October 19, 2015, and close by April 17, 2018. In this same letter, TVA also stated that seismic stability of these units will be addressed during closure of these facilities.

Until determined otherwise, the underlying potential for liquefaction-induced failure of these units remain a concern that should be addressed by taking necessary actions to ensure that these units will be

structurally sound. Going forward, I ask that you give these units particular attention and that you continue to work closely with the appropriate regulatory officials in the States of Alabama and Tennessee.

Finally, as you are aware, the EPA issued a final rule on April 17, 2015 that establishes a comprehensive set of requirements for the disposal of coal combustion residuals in surface impoundments (and landfills). Among the requirements, the rule establishes structural integrity criteria and requires certain owners and operators to conduct periodic structural integrity related assessments to help prevent the damage associated with structural failures of surface impoundments. Some of your units may be subject to the requirements in this rule which became effective on October 19, 2015. If you have any questions on any aspect of these new requirements, please call Mr. Patrick M. Kelly, P.E., Environmental Engineer, of my staff at (703) 308-7271. For more information on the final rule, please visit EPA's website: http://www2.epa.gov/coalash/coal-ash-rule.

We again thank you for your cooperation throughout the assessment process and encourage you to continue your efforts to ensure the structural integrity of these units.

Sincerely,

Barnes Johnson, Director
Office of Resource Conservation and Recovery

cc: Mr. Lyle Bentley, Chief, Dam Safety Program, Tennessee Department of Environment & Conservation
Mr. Robert J. Martineau, Jr., Commissioner, Tennessee Department of Environment & Conservation
Mr. Lance R. LeFleur, Director, Alabama Department of Environmental Management
Mr. Leslie A. Durham, P.E., Office of Water Resources, Alabama Department of Economic & Community Affairs

Enclosure

List of Facilities Assessed by EPA

Company	Facility	Location	Round
Tennessee Valley Authority	Colbert Fossil Plant	Tuscumbia, AL	11
Tennessee Valley Authority	Widows Creek Fossil Plant	Stevenson, AL	11
Tennessee Valley Authority	Paradise Fossil Plant	Drakesboro, KY	11
Tennessee Valley Authority	Shawnee Fossil Plant	West Paducah, KY	11
Tennessee Valley Authority	Allen Fossil Plant	Memphis, TN	11
Tennessee Valley Authority	Bull Run Fossil Plant	Clinton, TN	11
Tennessee Valley Authority	Cumberland Fossil Plant	Cumberland City, TN	11
Tennessee Valley Authority	Gallatin Fossil Plant	Gallatin, TN	11
Tennessee Valley Authority	John Sevier Fossil Plant	Rogersville, TN	11
Tennessee Valley Authority	Johnsonville Fossil Plant	New Johnsonville, TN	11
Tennessee Valley Authority	Kingston Fossil Plant	Harriman, TN	11
Tennessee Valley Authority	Watts Bar Fossil Plant	Rhea County, TN	11