

US EPA ARCHIVE DOCUMENT



Stantec

Stantec Consulting Services Inc.
10509 Timberwood Circle
Louisville KY 40223-5301
Tel: (502) 212-5000
Fax: (502) 212-5055

July 8, 2013

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Mr. John C. Kammeyer, PE
Vice President
Tennessee Valley Authority
1101 Market Street, LP 5G
Chattanooga, Tennessee 37402

Re: Response to Recommendations
USEPA CCR Impoundment Assessment
Cumberland Fossil Plant (CUF)
Cumberland City, Tennessee

Dear Mr. Kammeyer:

As requested, Stantec has reviewed the Request for Action Plan letter from USEPA dated June 13, 2013, which contains recommendations by USEPA's consultant Dewberry and Davis, LLC relative to their CCR impoundment assessment conducted at TVA's Cumberland Fossil Plant.

The purpose of this letter is to address the Dewberry recommendations. Dewberry's recommendations followed by Stantec's corresponding responses and TVA's proposed action plan are provided below.

Recommendations Regarding the Structural Stability

1) Install the planned lined ponds in the Gypsum Disposal Area as soon as possible for receiving and settling the gypsum slurry that must be sluiced to the Gypsum Disposal Area whenever the dewatering facility has an outage. Re-evaluate the piping potential factor of safety after the lined ponds have been in place for about a year, to check whether or not the elimination of sluice water in the gypsum stack reduces the seepage exit gradients sufficiently to result in acceptable factors of safety against piping. Closely monitor the seepage conditions at the critical section in the interim. If the seepage exit gradients have not sufficiently abated, develop and implement a remedial measure to lower the exit gradients and achieve an acceptable factor of safety against piping failure.

2) Install the additional piezometers around and in the Dry Ash Stack as recommended by Stantec and monitor pore-water pressures periodically as the Dry Ash Stack is filled. If or when the piezometer measurements indicate a significant increase in pore-water pressures in the underlying materials, immediately perform a slope stability analysis to verify that an

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acceptable factor of safety exists. If the calculated minimum factor of safety is marginal or below, cease filling operations and allow time for the pore-water pressures to dissipate to normal levels. Do not begin filling again until pore-water pressures have stabilized and an acceptable factor of safety exists.

Response/Action Plan:

- 1) Construction of the FML-Lined Gypsum Settling Channels project has been completed. Sluicing to the stack has been discontinued and has not occurred for over three years. Since sluicing has stopped, piezometer levels in the gypsum have lowered. Stantec has revised the seepage analysis and current factors of safety are adequate. TVA will continue to collect piezometer data and ensure that an acceptable factor of safety against piping is maintained.
- 2) On June 7, 2013 Stantec and URS jointly submitted an *Instrumentation and Monitoring Plan* for all CCR disposal facilities at each of the fossil plants. This plan includes the following:
 - description of instrumentation and purpose at each facility
 - data collection, interpretation, and reporting procedures
 - results of threshold stability analysis
 - response procedures for exceedance events
 - recommendations for additional instrumentation and/or abandonment, where applicable

TVA will implement these procedures and recommendations for all plants, including Cumberland Fossil Plant's facilities.

Recommendations Regarding the Field Observations

No significant problems were observed in the field assessment that would require special attention outside of routine maintenance. The minor issues observed, mostly small eroded areas or areas of seepage and poor drainage, should be addressed by TVA's routine maintenance activities.

These include:

- 1) Repair minor erosion at various locations.*
- 2) Continue to mow/ maintain vegetation along slopes.*
- 3) Continue to monitor and document known seepage per seepage action plan.*
- 4) Provide positive slope to promote drainage into perimeter ditch.*

Response/Action Plan: As reported previously in the response to the Draft report (Stantec letter dated October 16, 2012), TVA has repaired the issues described in items 1) and 4). Regarding items 2) and 3), TVA's Routine Handling, Operations and Maintenance (RHO&M) group will continue the ongoing inspection and maintenance program to maintain vegetation, and identify and repair any noted deficiencies.

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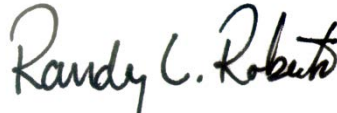
We appreciate the opportunity to provide these responses. If you have any questions or need additional information, please call.

Sincerely,

STANTEC CONSULTING SERVICES INC.



Stephen H. Bickel, PE
Senior Principal



Randy L. Roberts, PE
Principal

/cdm

Cc: Roberto L. Sanchez, PE
Michael S. Turnbow

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