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

April 19, 2011

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

VIA E-MAIL AND FEDERAL EXPRESS

Mr. Ross Crysup
IPA Operations Inc.
P.O. box 8
Fannin, Texas 77960

Dear Mr. Crysup:

On June 21, 2010 the United States Environmental Protection Agency ("EPA") and its engineering contractors conducted a coal combustion residual (CCR) site assessment at the Coleto Creek facility. The purpose of this visit was to assess the structural stability of the impoundments or other similar management units that contain "wet" handled CCRs. We thank you and your staff for your cooperation during the site visit. Subsequent to the site visit, EPA sent you a copy of the draft report evaluating the structural stability of the units at the Coleto Creek facility and requested that you submit comments on the factual accuracy of the draft report to EPA. Your comments were considered in the preparation of the final report.

The final report for the Coleto Creek facility is enclosed. This report includes a specific rating or each CCR management unit and recommendations and actions that our engineering contractors believe should be undertaken to ensure the stability of the CCR impoundment(s) located at the Coleto Creek facility. These recommendations are listed in Enclosure 2.

Since these recommendations relate to actions which could affect the structural stability of the CCR management units and, therefore, protection of human health and the environment, EPA believes their implementation should receive the highest priority. Therefore, we request that you inform us on how you intend to address each of the recommendations found in the final report. Your response should include specific plans and schedules for implementing each of the recommendations. If you will not implement a recommendation, please explain why. Please provide a response to this request by May 19, 2011. Please send your response to:

Mr. Stephen Hoffman
US Environmental Protection Agency (5304P)
1200 Pennsylvania Avenue, NW
Washington, DC 20460

If you are using overnight of hand delivery mail, please use the following address:

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

You may also provide a response by e-mail to hoffman.stephen@epa.gov

This request has been approved by the Office of Management and Budget under EPA ICR Number 2350.01.

You may assert a business confidentiality claim covering all or part of the information requested, in the manner described by 40 C. F. R. Part 2, Subpart B. Information covered by such a claim will be disclosed by EPA only to the extent and only by means of the procedures set forth in 40 C.F.R. Part 2, Subpart B. If no such claim accompanies the information when EPA receives it, the information may be made available to the public by EPA without further notice to you. If you wish EPA to treat any of your response as "confidential" you must so advise EPA when you submit your response.

EPA will be closely monitoring your progress in implementing the recommendations from these reports and could decide to take additional action if the circumstances warrant.

You should be aware that EPA will be posting the report for this facility on the Agency website shortly.

Given that the site visit related solely to structural stability of the management units, this report and its conclusions in no way relate to compliance with RCRA, CWA, or any other environmental law and are not intended to convey any position related to statutory or regulatory compliance.

If you have any questions concerning this matter, please contact Mr. Hoffman in the Office of Resource Conservation and Recovery at (703) 308-8413. Thank you for your continued ongoing efforts to ensure protection of human health and the environment.

Sincerely,
/Suzanne Rudzinski/, Director
Office of Resource Conservation and Recovery

Enclosures

4.3 Maintaining and Controlling Vegetation Growth

Tall vegetation and brush obscured visual observations of the exterior slopes. In particular, this is the case on the, north, west, and east embankments around the perimeter of both impoundments. As identified in section 3.5 of this report, IPA performs routine maintenance that includes mowing grass on embankment slopes once per year and semi-annual assessment of vegetation conditions. CDM recommends that vegetation be cut more frequently to ensure that adequate visual observations can be made by IPA's personnel during routine inspections.

Live and dead mesquite trees up to 12 inches in diameter were observed on the embankments. CDM recommends the mesquite trees including the root ball be removed and filled with compacted fill under the supervision of a qualified professional engineer familiar with earthen dam design. CDM also recommends continued maintenance and removal of brush.

4.4 Erosion Protection and Repair

The north embankment exterior slope of the Secondary Pond had erosion rills and subsequent loss of grass cover resulting from concentrated water flow. These erosion rills should be filled in with compacted fill and be stabilized. CDM recommends ongoing maintenance to reduce erosion from run-off. This may include minor grading to divert surface runoff, establishment of vegetative cover, or other measures.

An animal borrow was observed on the exterior slope of the Primary Ash Pond southeast embankment. Hog wallows were also observed at the toe of the Primary Ash Pond east embankment. Animal control measures should be implemented to reduce embankment disturbance. All affected areas should be backfilled with compacted fill, graded to match the surrounding topography, and seeded.

4.5 Impoundment Hydraulic and Stability Analysis

IPA did not provide CDM with a hydraulic analysis demonstrating the ability of the impoundments store safely pass or store the applicable design storm, which appears to be the 50% PMF event. However, a preliminary evaluation performed by CDM suggests there is enough storage capacity at the current operating pool levels to safely store precipitation from the full PMF, which exceeds the Code requirements. CDM recommends IPA perform a detailed complete study to confirm this conclusion and update the study if operating levels of the pond change in the future.

Based on CDM's review of available information for the impoundments, the following analyses are recommended to confirm that the embankments are adequately stable under the loading conditions outlined in Section 3.

- The geometry of the embankments is not consistent the cross sections previously evaluated, which may not be the most critical with respect to slope stability. An evaluation should be made to determine the most-critical embankment cross sections. The most-critical cross sections should be analyzed relative to slope stability. CDM recommends that the stability of a cross section through the divider embankment between the Primary Ash and Secondary Ponds also be evaluated under all appropriate loading conditions, including rapid drawdown.
- Evaluate the stability of the embankments under maximum surcharge pool (flood) conditions.

- Evaluate the stability of the interior and exterior slopes under seismic and steady-state seepage loading conditions.
- Perform a liquefaction potential analysis.
- Evaluate the stability of the interior slope under rapid drawdown loading conditions. While a rapid drawdown is not a scenario that has a high probability of occurrence, it should be demonstrated that stability under rapid drawdown conditions meets the industry recommended factor of safety since the development of a catastrophic condition in one of the impoundments may create a rapid drawdown situation.
- The existing stability analyses should be re-evaluated considering the current normal pool level.
- All analyses should be performed under the direction of a registered professional engineer experienced in earthen dam design.

4.6 Instrumentation

Plant personnel record water levels in the some of the monitoring wells at the ponds on a semi-annual basis. CDM recommends that wells be read at a minimum of a quarterly basis to establish an adequate data base of seasonal water level fluctuations for use in slope stability analyses and to evaluate potential development of unstable embankment conditions. CDM also recommends that it be determined if the other monitoring wells function and, if functional, if they can be utilized as part of the water level monitoring program.

CDM recommends that maximum allowable water level elevations in monitoring wells and piezometers be established based on the results of slope stability analysis. Based on the maximum water levels, threshold values should be determined for use in the evaluation of water level data and assessment of potentially unstable conditions during routine inspections.

4.7 Seepage Control

Significant amounts of seepage were observed at the Plant impoundments, particularly along the southeast and east embankment of the Primary Ash Pond. The seepage observed near the subsurface drain system may be an indication that the system is not functioning properly. CDM recommends inspecting the drain and cleaning the system to determine if it is functioning properly. If the system is not functioning properly, a registered professional engineer experienced in earthen dam design should be engaged to address the seepage condition.

Uncontrolled seepage was observed in multiple areas along the eastern and southeastern embankment of the Primary Ash Pond. It is our understanding that, in general, seepage may be considered non-compliant from an environmental perspective relative to TPDES permit requirements depending on the concentration of the constituents in the seepage water. It is also our understanding that seepage areas at this site have been inspected and evaluated by the TCEQ and the USEPA Region 6, and that no permit compliance issues have been identified. However, CDM recommends that IPA monitor the seepage on the Primary Ash Pond southeast and east embankments and evaluate alternative methods of seepage control to address geotechnical concerns. Such methods may include:
- Installation of a cut-off wall; or
- Installation of a filter berm or subsurface drains connected to a toe drain and discharge sump to control and collect seepage water.

4.8 Inspection Recommendations

Currently inspections are carried out by daily "drive-by" rounds by plant personnel and every 10 years by an outside consultant. There is no written checklist used for daily inspections to document specific potential items that need to be addressed and the area where they are located. The last documented inspection performed by plant personnel was January 9, 2009, using the TCEQ inspection checklist and the last inspection performed by professional engineer was done in 1993 by Geraghty & Miller. Based on the information reviewed by CDM, it does not appear that IPA has adequate inspection practices. As previously discussed, IPA has scheduled a professional engineer to perform an assessment of the impoundments in the first quarter of 2011.

CDM recommends that plant personnel develop detailed inspection documentation procedures to aid in ensuring that they are performing adequate inspections during their daily inspections and to adequately document observations over time. Documentation should include a sketch of relevant features observed. The documentation should be periodically reviewed to identify if conditions are worsening and/or if significant changes are occurring which could lead to additional maintenance issues or safety concerns. Inspection procedures should include a mechanism to address identified deficiencies before they worsen and become a safety concern. Detailed inspections should be carried out at a minimum on an annual basis. In addition to the above documentation, procedures should be developed for recording data from existing piezometers, monitoring wells, and the staff gage. In addition, inspections should be made following heavy rainfall events, and the occurrence of these events should be documented. It is recommended that inspection records be retained at the facility for a minimum of three years.

4.9 Operations

No stoplogs were observed at the inlet structure in the Primary Ash Pond at the time of the site visit.CDM recommends IPA have stop logs readily available to control flow between the impoundments in the unlikely event that a catastrophic condition develops in one of the embankments. Although the catwalk for the inlet structure has handrails, CDM recommends a life preservation device be installed at the inlet structure. It is our understanding that a life preserver has been staged at this location since our site visit.

There is no formal operations and maintenance manual for the impoundments. CDM recommends that an operation and maintenance outline be developed that highlights a list of procedures for the maintenance of the embankments and operational procedures for the impoundments and appurtenant structures.

There is no formal emergency action plan (EAP) for the impoundments. Both impoundments have a low hazard classification. However, failure or misoperation of the impoundments could result in a condition that needs to be managed from an environmental and property damage standpoint. It is recommended that the existing plant-wide emergency action plan be updated to include impoundment-specific emergency procedures, identify roles and responsibilities, and provide a means to facilitate internal and external communication necessary to manage an impoundment failure. Impoundment emergency procedures should include coordination with GBRA relative to the impact on the three dams on Coleto Creek Reservoir and to mitigate the environmental impact in the event of an unintended release of breach in the impoundments.

4.10 Capital Improvements

As previously discussed, the CCW impoundments were originally designed and constructed for two power plant units but only one unit was constructed. On June 14, 2010, IPA announced plans to construct Unit 2, which is a 650-MW coal-burning unit at the Plant. An anticipated online date for Unit-2 is sometime in 2015. As such, IPA should consider any potential changes to proposed ash management practices and any capital improvements or modifications to the impoundments that may be necessary to ensure the longevity and safe operation of the CCW impoundments.