

US EPA ARCHIVE DOCUMENT



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

January 7, 2011

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

VIA E-MAIL AND FEDERAL EXPRESS

Mr. William Marsan, Vice President
Indianapolis Power
One Monument Circle
Indianapolis, Indiana 46204-2901

Dear Mr. Marsan,

On April 29-30, 2010 the United States Environmental Protection Agency ("EPA") and its engineering contractors conducted a coal combustion residual (CCR) site assessment at the Harding Street Power Station. 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 Harding Street Power Station 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 Harding Street Power Station is enclosed. This report includes a specific rating for 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 Harding Street Power Station. 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 February 7, 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 or 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

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.

Please be advised that providing false, fictitious, or fraudulent statements of representation may subject you to criminal penalties under 18 U.S.C. § 1001.

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

Enclosure 2
Harding Street Power Station Recommendations

4.3 Maintaining and Controlling Vegetation Growth

Dense vegetation obscured observation of the north embankment exterior slope of Ash Pond 1 and the west embankment exterior slope of Ash Pond 4. Vegetation including shrubs, brush and saplings, was prevalent on both internal and external embankment slopes of Ash Ponds 2B and 3 and the interior slopes of Ash Pond 2A. Typical practice is to remove 4-inch diameter and larger woody growth. Tree roots can allow for the seepage of the retained water through the embankments. This may lead to internal erosion of the embankment, resulting in a slope failure. In addition, uprooting of trees during storms or other adverse conditions can create large voids in the embankment that are then susceptible to erosion. Brush also obscures the surface, limiting visual observations, provides a haven for burrowing animals, and retards growth of desirable grass vegetation.

CDM recommends that all trees and brush be cleared from the interior and exterior slopes of all ash pond embankments in accordance with the procedures outlined in “FEMA 534 Technical Manual for Dam Owners – Impacts of Plants on Earthen Dams”. CDM further recommends that stumps and all roots greater than 1 inch in diameter be removed. The area should then be graded to adjacent contours, using compacted structural fill and reseeded with desirable grass vegetation.

Areas of sparse vegetation observed on the exterior slope of Ash Pond 2. CDM recommends that IPL perform reseeding maintenance in these areas.

CDM recommends that vegetation be cut on a regular basis to ensure that adequate visual observations can be made during scheduled inspections.

4.4 Erosion Protection and Repair

Erosion rills, beaching, surficial slope failures, and subsequent loss of grass cover were observed on multiple embankment slopes of all ash ponds as discussed in Section 2.

CDM recommends corrective actions be taken for the specific conditions identified below:

-Deep erosion rills observed on the south embankment exterior slope of Ash Pond 2 and the north embankment exterior slope of Ash Pond 1:

- IPL should repair by placing and compacting select structural fill in the rills and grading to adjacent contours. The area should be reseeded with desirable grass vegetation. Repairs made to erosion rills on slopes exceeding 25 feet in length should include installation of temporary erosion resistant matting or sod after regrading.

-Deep erosion rills the south embankment interior slope of Ash Pond 2 and erosion rills observed on slopes of divider embankments:

- IPL should repair by placing and compacting select structural fill in the rills and grading to adjacent contours. Place rock riprap consisting of a heterogeneous mixture of irregular shaped rocks placed over the compact fill and a geotextile fabric, both extending at least 3 feet below the anticipated low water level. The maximum rock size and weight must be large enough to dissipate up the energy of the maximum anticipated wave action while holding the smaller stones in place.

IPL should note that caution will be required when working adjacent/below near vertical embankments created by surficial slides and scarps. Prior to start of work, the stability of the existing slope should be evaluated and a stabilization plan should be developed by a professional engineer as appropriate.

-Surficial slides and scarps on the south embankment interior slope of Ash Pond 2 and beaching and surficial slope failures observed on slopes of divider embankments:

- IPL should repair by excavating the un-compacted eroded materials and organics (grass, brush, other vegetation) in the slide area to neat lines at the slide limits down to competent undisturbed materials. Restore the embankment face to a slope no steeper than 2.5H: 1V or the original contour (whichever is flatter) with compacted select structural fill. Place rock riprap consisting of a heterogeneous mixture of irregular shaped rocks placed over the compact fill and a geotextile fabric, both extending at least 3 feet below the anticipated low water level. The maximum rock size and weight must be large enough to dissipate the energy of the maximum anticipated wave action while holding the smaller stones in place.

-Excavated south embankment of Ash Pond 1 at cinder pit sluice repair:

- Repair by removing un-compacted eroded materials to neat lines. Restore the embankment slope to a slope no steeper than 2.5H: 1V or the original contour (whichever is flatter) with compact select structural fill. Place rock riprap consisting of a heterogeneous mixture of irregular-shaped rocks placed over the compact fill and a geotextile fabric, both extending at least 3 feet below the anticipated low water level. The maximum rock size and weight must be large enough to break up the energy of the maximum anticipated wave action and hold the smaller stones in place.

-All repairs should be designed by a registered professional engineer experienced with earthen dam design.

4.5 Animal Control

Evidence of rodent burrows was observed on the west and south embankments of Ash Pond 3. Although not seen on other embankments, vegetation cover may have hidden additional rodent burrows.

CDM recommends that IPL accurately document areas disturbed by animal activity, remove the animals, and repair the areas to protect the integrity of the embankments.

4.6 Instrumentation

Currently no information about existing instrumentation was available to CDM. An earth embankment that is safe under current conditions may not be safe in the future if conditions change. Conditions that may change include changes in the phreatic surface, embankment deformation, or changes in seepage patterns.

CDM recommends installation of piezometers at selective locations so that parameters related to these conditions can be measured and preemptive measures can be taken in response to these observations.

4.7 Impoundment Hydraulic and Stability Analysis

IPL was not able to provide CDM with a hydraulic analysis showing the ability of the ash ponds to safely pass the 50% or 100% PMP 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 to 50% PMP.

CDM recommends IPL perform a complete study to confirm this opinion and update the study if operating parameters of the ponds change in the information regarding stability analyses performed prior, during, or post construction for any ash ponds, nor information regarding properties of the embankment and foundation soils. It is recommended that detailed stability analyses be performed for all ash ponds. The stability analyses for each pond should include a subsurface investigation program to determine the existing soil parameters in the embankments and foundation soils and the installation of piezometers to measure the phreatic surface.

CDM recommends IPL perform a study of the Ash Pond 2 embankment to determine the nature of the materials underlying the embankment and determine corrective measures required to address identified issues.

CDM was not provided with information regarding hydraulic analyses showing the ability of the Ash Pond Complex to safely pass the PMP event. It is recommended that detailed hydraulic analyses be performed to confirm the hydraulic stability of the Ash Pond Complex, and update the study if operating levels of the ponds change in the future or the embankment system is reclassified.

4.8 Inspection Recommendations

Based on the information reviewed by CDM it does not appear that IPL has adequate inspection practices. Currently inspection documentation prepared by plant personnel consist of limited checklists completed every two weeks for all five ponds to document the presence of any failures, erosion, vegetative cover in a “yes” or “no” format and to document operation conditions such as work activities. The inspection checklists are inadequate to document specific potential items that need to be addressed and the area where they are located.

CDM recommends that plant personnel develop more-detailed inspection documentation procedures to aid in ensuring that they are performing adequate inspections and adequately documenting observations over time. Documentation should include a sketch of relevant features observed, and 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. A staff gage should be installed at outlet structures to record water levels in the impoundments, if applicable. In addition, inspections should be made following heavy rainfall and/or high water events on the White River, 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 Emergency Action Plan

IPL does not have an Emergency Action Plan (EAP) for Ash Ponds 2 and 4, judged by CDM to be High Hazard structures. CDM recommends that IPL develop an EAP for Ash Ponds 2 and 4.