

US EPA ARCHIVE DOCUMENT



DUKE ENERGY OHIO, INC.
139 E. 4th Street
Cincinnati, OH 45202

Via E-Mail and Overnight Courier

April 12, 2010

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

RE: US EPA Request/ICR # 2350.01
Miami Fort Station
11021 Brower Road
North Bend, Ohio 45052

Dear Mr. Hoffman,

Duke Energy Ohio, Inc. (Duke Energy) received and has reviewed the final report for Miami Fort Station that resulted from the site assessment of Ash Basins A and B conducted by the United States Environmental Protection Agency (EPA) and its engineering contractors on October 6-7, 2009. Duke Energy supports the EPA's objective to ensure ash basin dam safety. We remain committed to operating and maintaining all of our coal ash basin dams safely.

The impoundment facilities at Miami Fort are currently under the regulatory authority of the Ohio Department of Natural Resources, Division of Water (ODNR). The ODNR conducts an assessment/inspection of the impoundments at a minimum of once every five years. Duke Energy also plans to continue its rigorous internal inspection program.

Duke Energy remains committed to meeting all state and federal requirements and to managing its coal combustion byproducts impoundments in a very safe and responsible manner. Duke is confident, based on ongoing monitoring, maintenance and inspections, that each of Duke's ash basin dams has the structural integrity necessary to protect the public and the environment.

EPA's report on the Miami Fort Station facilities supports this conclusion and found that acceptable performance is expected in accordance with the applicable safety regulatory criteria. EPA's contractor did, however, make several recommendations to address minor deficiencies and secondary studies/investigations to provide further assurance of continued structural integrity. Duke Energy responds to each of these recommendations as follows:

4.1 Acknowledgement of Management Unit Condition

CHA presents recommendations for maintenance and further studies to bring these facilities into Satisfactory in the following sections. In addition to the items outlined below, CHA recommends that the required remedial measures outlined in the ODNR 2009 Dam Safety Inspection Reports for Ash Pond A and Ash Pond B be implemented.

RESPONSE:

Duke Energy will continue to comply with the required remedial measures outlined in the ODNR 2009 Dam Safety Inspection Reports for Ash Pond A and Ash Pond B in accordance with our agreement with ODNR. This recommendation is considered complete.

4.2 Topographic Survey

An updated topographic survey of the Ash Pond A and Ash Pond B area should be completed to serve as the basis for future engineering evaluations and design. It should incorporate all surface features, drainage courses and identified seepage areas to allow for a full evaluation of the facility.

RESPONSE:

A topographic survey of Ash Ponds A and B will be performed by June 30, 2011. The survey will include all surface features, drainage courses and seepage areas.

4.3 Maintaining and Controlling Vegetation Growth

The grass cover on Ash Pond A and Ash Pond B appears to be reasonably maintained with only isolated areas of mild cover loss. This practice should continue. Previous recommendations from the ODNR recommended that heavier vegetation be removed and that herbicide treatments be employed to control weeds and woody growth particularly in Ash Pond A rip rap areas. CHA recommends that vegetation be cut prior to each quarterly inspection performed by Duke representatives so that adequate visual inspections can be made.

RESPONSE:

Duke Energy will continue maintaining grass cover in accordance with our current vegetation management practices. Heavier vegetation has been removed in the Ash Pond A rip rap areas and will be maintained in accordance with Duke Energy's current vegetation management practices. Vegetation will be cut, as needed, prior to quarterly inspections performed by Duke Energy representatives. This recommendation is considered complete.

4.4 General Crest Areas and Slopes

These areas typically had intermittent erosion rills, likely exacerbated when grading activities pushed loose material to the crest edge and sheet flow became concentrated during rain events. In addition several erosion features were noted to be covered with grass. These erosion rills should be filled in with compacted material and otherwise stabilized. When grading activities push material to the crest edge, a concerted attempt should be made to compact these areas prior to the next rain event.

Several surface sloughs were noted in over-steepened areas. These areas should be re-graded to a flatter slope where possible and reseeded or armored with a stone material. Monitoring of these areas should be conducted to check for any continued movement.

RESPONSE:

The small rills identified during the inspection have been repaired and reseeded. Duke Energy will continue to monitor for erosion rills during the regular inspections conducted by the Station. Rills identified during inspections will be filled in with compacted material and/or be otherwise stabilized. If grading activities push material to the crest edge, a concerted attempt will be made to compact these areas prior to the next rain event.

The small surface sloughs identified during the inspection have been repaired and reseeded. Any future surface sloughs will be noted during regular inspections conducted by the Station and appropriate actions will be taken to address these areas. Monitoring of these areas will be conducted during regular Station inspections to check for any movement. This recommendation is considered complete.

4.5 Ash Pond Spillway

Vegetation had started to establish itself in the skimmer for Ash Pond A. Although it has not become a problem presently as this outfall is not currently used, removal is recommended to maintain this area before the vegetation fouls the tower outfall or prevents the skimmer from working effectively.

The ODNR has recommended that the outfall be inspected for structural integrity using video cameras. This would be preferable under a low flow or no flow condition.

RESPONSE:

Vegetation will be removed from the skimmer for Ash Pond A by June 30, 2010.

The outfall for Pond A will be inspected for structural integrity using video cameras by December 31, 2010.

4.6 Ash Pond A and Ash Pond B South Dike

Normal pool of the Ohio River is at about Elev. 455 feet as shown in the D'Appalonia design Report. These drawings also indicate a design level at about Elev. 460 feet and a staged construction considering a water level at Elev. 492 feet suggesting that routine high water levels are likely to submerge the downstream toe. During the site visit, slope protection such as rip rap was not observed on Ash Pond B and was only partially evident in this area on Ash Pond A.

CHA recommends an analysis of the flood level water velocities in the area of the down stream slope to determine if rip rap or some similar slope protection is warranted.

RESPONSE:

An analysis of the flood level water velocities in the area of the downstream slope on Ash Pond A and B will be conducted in conjunction with the stability studies listed in recommendation 4.8 by December 30, 2011 to determine if rip rap or some similar slope protection is warranted.

4.7 Ash Pond Hydraulic Analysis

Duke was not able to provide CHA with a hydraulic analysis showing the ash pond's ability to safely pass the 50 % PMP event. However, preliminary analyses performed by CHA suggest there is enough storage capacity at the current operating pool to safely withstand this rainfall event. We recommend Duke perform a complete study to confirm this, and update the study if operating levels of the pond change in the future.

RESPONSE:

Duke Energy will perform a study to confirm that there is enough storage capacity at the current operating pool to safely withstand the 50% PMP rainfall event by December 30, 2011, and will update the study if operating levels of the pond change in the future in a way that could negatively impact the storage capacity. The initial study will be done in conjunction with the stability analyses in recommendation 4.8.

4.8 Additional Stability Analyses

Based on our review of available information for the ash ponds we recommend that the following tasks be performed to confirm that the embankments are indeed stable under the various loading conditions outlined in Section 3.3.

- *Verifying that the present steady state factor of safety for the downstream slope was calculated at the maximum storage pool elevation and determining the factor of safety of the upstream slope for this load case.*
- *Determining steady state factors of safety on the upstream and downstream slopes at the maximum flood elevation.*
- *Determining seismic factors of safety on the upstream and downstream slopes at the maximum storage pool.*
- *A liquefaction analysis should be performed considering the underlying soil strata.*
- *Determine the appropriate material properties for use in the analysis and complete an investigation to determine the phreatic surface within the embankment.*
- *CHA recommends a rapid drawdown analysis be performed for the current conditions.*

RESPONSE:

Duke Energy will perform the following tasks by December 30, 2011:

- Verify that the present steady state factor of safety for the downstream slope was calculated at the maximum storage pool elevation and determine the factor of safety of the upstream slope for this load case.
- Determine steady state factors of safety on the upstream and downstream slopes at the maximum flood elevation.
- Determine seismic factors of safety on the upstream and downstream slopes at the maximum storage pool.
- Perform a liquefaction analysis considering the underlying soil strata.
- Determine the appropriate material properties for use in the analysis and complete an investigation to determine the phreatic surface within the embankment.
- Perform a rapid drawdown analysis for the current conditions.

If you have any questions regarding the above responses, please contact Ed Sullivan at our corporate offices at 980-373-3719 or via e-mail.

Sincerely,
Duke Energy Ohio, Inc.



Michael Sharp
General Manager, Miami Fort Station
Midwest Commercial Generation