

US EPA ARCHIVE DOCUMENT



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

Via E-Mail and Overnight Courier

April 27, 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
W.C. Beckjord Station
747 US Route 52
New Richmond, Ohio 45157

Dear Mr. Hoffman,

Duke Energy Ohio, Inc. (Duke Energy) received and has reviewed the final report for W.C. Beckjord Station (Beckjord) that resulted from the site assessment of Ash Basins A, B, C and C Extension conducted by the United States Environmental Protection Agency (EPA) and its engineering contractors on October 8-9, 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 Beckjord 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 an 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 Energy is confident, based on ongoing monitoring, maintenance and inspections, that each of Duke Energy's ash basin dams has the structural integrity necessary to protect the public and the environment.

Although these impoundments have been successfully operated for years, Duke Energy recognizes the need to continually evaluate the structural integrity with respect to existing conditions. EPA's contractor made recommendations as a result of the inspection at Beckjord. Duke Energy responds to each of these recommendations as follows:

4.2 Maintaining Vegetation Growth

Vegetation obscured visual observations of the north and west dikes of Ash Pond A. Trees and brush should be cleared from all of the interior and exterior slopes of all the ash pond dikes. On impoundments with either standing water, or high water levels within the deposited ash (i.e., not at the surface of the ash, but not as low as the toe of the dike either), tree roots can allow for seepage of the retained water through the dikes, which could lead to internal erosion such as is the concern in an impoundment with free water. Internal erosion would weaken the dike, and could result in a slope failure.

Additionally, the uprooting of trees during storms can create large voids in the embankment that are then susceptible to erosion. Considering the progressive erosion that could occur during a storm which blows the tree over during heavy rains (i.e., hurricane type storm systems) progressive erosion could potentially result in enough loss of soil from the dike to create an unstable situation, which if failure occurs could result in a release of ash.

CHA recommends that vegetation be cut on a regular basis to ensure that adequate visual observations are being made by Duke Representatives during routine inspections.

RESPONSE:

Brush has been removed from the exterior of the east dike of Pond A. Removal of brush and small trees from the rest of the inactive Pond A will be completed by June 30, 2010.

An evaluation of the removal of any larger trees on Pond A will be made as part of the stability analyses addressed in recommendation 4.7 in this letter. The analyses will be completed by December 30, 2011.

Trees and brush have been cleared from the interior and exterior slope of Pond B, Pond C and Pond C Extension dikes. Vegetation will be cut on a regular basis, as needed, to ensure that adequate visual observations are being made by Duke personnel during routine inspections. This recommendation is considered complete.

4.3 Erosion Protection and Repair

Erosion rills, sinkholes and subsequent loss of grass cover were observed on multiple embankment slopes of the Ash Pond A, Ash Pond B, Ash Pond C and Ash Pond C Extension as discussed in Sections 2.2.1, 2.3.1, 2.4.1 and 2.5.1, respectively. Thinning and loss of grass cover due to concentrated flow was noted on the embankment slopes. CHA recommends filling all rills and sinkholes and re-seeding these areas.

RESPONSE:

The sinkhole on the east dike of Pond C was observed by ODNR during their most recent inspection and required an engineering fix. Before the EPA inspection, plans had been initiated to repair the sinkhole in the east dike of Pond C. During the fall of 2009, after the EPA inspection, an engineered repair was made to this sinkhole in coordination with ODNR. This

repair is complete. The slough on the west dike of C is currently being investigated and an engineering fix is being developed. The repair will be complete by October 30, 2011.

The smaller rills and erosion spot repairs will be completed by December 30, 2010.

Some of the repairs in this recommendation will require engineered solutions that need permits approved by ODNR. All repairs will be completed within six months of obtaining the permits. Repairs should be completed no later than October 30, 2012, weather permitting.

4.4 Animal Control

Evidence of animal burrows and slides were observed on the south dike of Ash Pond A, east dike of Ash Pond C and on the south and west dikes of Ash Pond C Extension. CHA recommends Duke Energy to make note of areas disturbed by animal activity, trapping of the animals responsible, and repair to the areas to protect the integrity of the dikes. Although not seen on other dikes, vegetation cover hides these features.

RESPONSE:

Duke Energy has engaged in successful animal trapping activities and has addressed all the animal activity identified during the inspection. In addition, Duke Energy will repair the animal burrow and slides observed during the inspection no later than September 30, 2010.

In addition, as has been ongoing practice, Duke will note areas disturbed by animal activity during regular inspections, trap animals or use other means considered appropriate to deal with burrowing animals as necessary, and make repairs to the areas as necessary.

4.5 Repair of Surficial Sloughs

Active and/or grassed-over sloughs were observed on the exterior slopes of Ash Pond A (east dike), Ash Pond B (east dike), Ash Pond C (east, south, west dikes), and Ash Pond C Extension (east, south, west dikes). These areas of slough should be repaired. It should be noted that plans and specifications for repairing slides on the Ash Pond C east dike have been approved as part of the Phase II of the 2003 repairs. Also as outlined in the OH DNR inspection reports the areas of slough and overall stability of the dikes must be monitored monthly until the repairs are made.

RESPONSE:

Some of the recommendations in 4.5 are duplicative of items in 4.3. Those answers provided in 4.3 are incorporated here by reference. The following items are not addressed in 4.3 and will be addressed here:

The Phase II modification to the east dike of Pond C is already designed and is permitted by ODNR. This modification will be complete by November 30, 2012.

As outlined in the ODNR inspection reports, the areas of sloughs, as identified in 4.3, and overall stability of the dikes are being monitored monthly until the repairs are made.

4.6 Monitoring of Unknown Pipe Outlet Ash Pond B

The OH DNR Inspection Report for the Ash Pond B notes that Duke Energy personnel should monitor the unknown pipe outlet every six months for changes in flow or for cloudy or muddy discharge. This pipe was investigated in the 2007 repair of Ash Pond B, but its purpose could not be determined. Any changes in the discharge from this pipe could indicate conditions requiring more frequent monitoring or repair. If changes are observed a qualified engineer should be contacted immediately to investigate the changed condition.

RESPONSE:

Duke Energy personnel are monitoring the unknown pipe outlet during quarterly site inspections for changes in flow or for cloudy or muddy discharge. This monitoring item has been added to the pond monitoring inspection sheet. If changes are observed a qualified engineer will be contacted expeditiously to investigate the changed condition. This recommendation is considered complete.

4.7 Stability Analysis

It is recommended that detailed stability analyses be performed for the Ash Pond A, Ash Pond B, Ash Pond C and Ash Pond C Extension impoundments.

The stability analyses for each pond should include a subsurface investigation to determine existing soil parameters in the embankments and foundation soils and the installation of piezometers to determine the current phreatic surface.

RESPONSE:

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

- Detailed stability analyses will be performed for Pond B and Pond C impoundments.
- Detailed stability analyses will be performed for Pond A, and Pond C Extension impoundments OR an acceptable alternative plan will be determined, as these impoundments are inactive and do not contain water.
- The stability analyses for each pond will include a subsurface investigation to determine existing soil parameters in the embankments and foundation soils and the installation of additional piezometers to augment existing instrumentation, as deemed necessary, to determine the current phreatic surface. Enough time has been built into the schedule to take the needed core samples, install piezometers, allow the phreatic surface levels to stabilize and collect sufficient data for the analysis. Usually a minimum of six months of readings, and preferably 9-12 months, is needed to perform proper analyses.

4.8 Inspection Recommendations

CHA recommends that plant personnel develop more detailed inspection procedures to ensure they are performing adequate inspections. Inspection procedures should include the recording of

data from existing piezometer and inclinometers in the embankments. In addition, inspections made following heavy rainfall and/or high water events on the Ohio River should be documented. It is recommended that records of inspection be retained at the facility for a minimum of three years.

RESPONSE:

Duke Energy has developed a more detailed inspection procedure. It is currently undergoing review and will be completed by July 30, 2010.

Duke Energy already records data from existing piezometer and inclinometers in the embankments as part of its inspections and will continue to do so.

Inspections made following heavy rainfall and/or high water events on the Ohio River will be documented. Records of inspection will be retained at the facility for a minimum of three years. This recommendation will be completed by July 30, 2010.

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.



David Beck
General Manager, W.C. Beckjord Station
Midwest Commercial Generation