Comments on PacifiCorp Energy's Naughton Facility

EPA HQ: None

EPA Region:

From:	Joseph Byron/R8/USEPA/US
To:	James Kohler/DC/USEPA/US@EPA
Date:	11/05/2009 06:32 PM
Subject:	Re: Comment Request on EPA's Draft Coal Ash Impoundment Assessment Reports

Page 1:
My last name is spelled “Byron”

I would prefer to ask the facility to demonstrate that the hazard ratings they have assigned FGD #1, the South Ash Pond and the North Ash Pond are sufficiently protective through inundation studies. I have also included language that follows the path laid out in the report.

Page 2:
These impoundments have been given a “significant” hazard rating, as shown on the EPA checklist included Appendix A, ~~based on the potential for environmental damage in the event of a catastrophic failure of the impoundment dikes~~. By current EPA definition dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

The Pacific Naughton FGD #1 impoundment was “**Unclassified**" this does not address potential environmental damage or economic losses from damages to adjoining lands from a release caused as a result of a FGD #1 dam/dike failure. Thus, by current EPA definition, the FGD #1 impoundment has a **SIGNIFICANT** hazard potential.

The **Low** Hazard Potential Classifications for the Pacific Naughton South Ash Pond impoundment and the Pacific Naughton North Ash Pond impoundment did not address potential environmental damage or economic losses from damages to adjoining lands from a release caused as a result of a dam/dike failure. Thus, by current EPA definition, the South Ash Pond and the North Ash Pond have **SIGNIFICANT** hazard potentials.

Page 3:
The permit ~~became effective~~ was renewed on August 1, 2008 ~~(Note this permit covers all discharges from the Naughton Power Station site.)~~

Page 49, Image 32
Southwest access road along FGD #2 Pond. Dike begins around ~~closet~~ closest Power Pole.

State: None (per telephone correspondence with Larry Stockdale, 11/4/09)

Company: See attached letter dated November 19, 2009

PACIFICORP ENERGY
A MIDAMERICAN ENERGY HOLDINGS COMPANY

Naughton Power Plant
P. O. Box 191
Kemmerer, Wyoming 83101

November 19, 2009

Stephen Hoffman
Office of Resource Conservation and Recovery (5304P)
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, D.C. 20460

Subject: PacifiCorp comments regarding the draft Site Assessment for Coal Ash Impoundments at PacifiCorp Energy Naughton Facility.

Dear Mr. Hoffman:

On October 30, 2009, PacifiCorp Energy received a request to review and comment on the Assessment of Dam Safety Coal Combustion Surface Impoundments (Task 3) Draft Report for the PacifiCorp Energy Naughton Facility. The site assessment was conducted on September 9-10, 2009, by Environmental Protection Agency (EPA) representatives and Clough Harbour & Associates (CHA) to evaluate the safety of coal combustion waste impoundments at the plant. The attached comments constitute PacifiCorp's response to the content, specific findings, and recommendations within the draft report.

Prior to EPA's site assessment, PacifiCorp contracted with a firm specializing in dams and complex geotechnical studies to do an evaluation of all company owned coal combustion waste impoundments. The conclusion of the company's independent evaluation was very similar to the results of EPA's site assessment. More specifically, the conclusion reached by both evaluations is that the impoundments at the Naughton Plant exhibit no signs of structural instability.

PacifiCorp is conducting additional geotechnical studies consistent with the company's independent evaluation. The results of the studies will be used in conjunction with the recommendations provided by EPA's site assessment to implement comprehensive inspection and maintenance procedures, as necessary. PacifiCorp is committed to responsible environmental stewardship and safety at each of its facilities.

Stephen Hoffman
November 19, 2009

If you require further clarification of the information contained in the attached document, please contact Brett Shakespear at (801) 220-2575, or via email at Brett.Shakespear@PacifiCorp.com.

Sincerely,

Angie Skinner
Managing Director

Enclosure

Stephen Hoffman
November 19, 2009

PacifiCorp Response to Draft Report

Figure 5A

The drawing notation states "Incised Area See Note".

> **PacifiCorp Response:** No notes are located on Figure 5A. PacifiCorp is unclear which note the figure references.

2.3.1 Embankments and Crest

The downstream slopes are vegetated primarily with crested wheatgrass, although occasional sage bushes (Photo 43) are present. Photos 34, 40, and 42 show the general conditions of the vegetation. As these photos show, the vegetation is very sparse in some areas, with apparent growth hampered by prevailing direction the slopes face. Occasional erosion rills were noted, such as that shown in Photo 18. Numerous animal burrows were observed along the downstream slopes. Photos 41, 42, 44, and 46 show the ranges of sizes of these animal burrows. In general the slopes appear fairly uniform, and did not exhibit signs of movement.

> **PacifiCorp Response:** Section 2.3.1 describes conditions at FGD Pond #2, but references Photo 18. Photo 18 shows the upstream slope of FGD #1. The statement likely refers to Photo 48.

2.4.1.2 Embankments and Crest – Main Dike

Occasional erosion rills, animal burrows, and sage bushes were observed on the downstream slope of the Main Dike. These types of features are shown in Photos 73, 79, and 82. The downstream toe contains a blanket drain that daylights at the toe. The lower area of the embankment is protected with small rip rap.

> **PacifiCorp Response:** PacifiCorp is unclear which blanket drain is being mentioned in this paragraph.

2.4.2 North Ash Pond Outlet Control Structure and Discharge Channel

There are two discharge structures associated with the North Ash Pond complex. The first is a decant structure that discharges water from the primary basin into the clearwater basin, which is shown in Photos 59, and 62. The discharge end of the outlet pipe into the clearwater basin is shown in Photo 63. The discharge area is protected with rip rap.

The second discharge is a drop inlet in the clearwater basin, which is located near the west end of the Main Dike. Photo 76 shows this discharge end of this second outlet control structure. The outflow discharges through a v-notch weir into a rip rap lined

channel. During our site visit, the discharge was not filling the weir box to the bottom of the weir and was seeping out between the bottom and end plates of the weir box.

PacifiCorp Response: The weir box was repaired September 15, 2009.

A rip rap lined discharge channel parallels the toe of the embankment as shown in Photos 77 and 78. Near the mid-point of the Dike, the discharge channel rejoins the original drainage feature across which the Main Dike was constructed. A V-notch weir was observed in the downstream channel, but flow has eroded around the weir and is no longer going through the weir. It is unclear why this weir structure is in place, which is shown in Photos 80 and 81.

PacifiCorp Response: The weir structure mentioned in this paragraph is located on Bureau of Land Management Property. It is not owned or maintained by PacifiCorp and is not associated with the North Ash Pond.

Figures and Photos

PacifiCorp Response (Figure 9A): The location of photo 8 does not appear in the Figure 9A.

PacifiCorp Response (Photo 24): The photo caption should read, "Downstream slope at south corner of southwest dike ...."

PacifiCorp Response (Photo 27): The photo caption should read, "...slope of southwest dike..."

PacifiCorp Response (Photo 29): The photo caption should read, "...mid section of southwest dike..."

PacifiCorp Response (Photo 55): The photo caption should read, "Breached dike separating east and west clear water pond."

PacifiCorp Response (Photo 72): The photo caption should read, "Upstream slope of Main Dike looking west."

PacifiCorp Response (Photo 77): The photo caption should read, "Downstream toe of Main Dike looking east from main dike outfall. Cat tails are in rip rap lined discharge channel."

PacifiCorp Response (Photo 80): The photo caption should read, "Former weir structure along discharge channel beyond the toe of the main dike. The weir is located on BLM property and is not used by the Naughton plant. Discharge channel has bypassed the weir structure on the east side."

PacifiCorp Response (Photo 81): The photo caption should read, "Discharge channel bypassing weir structure, located on BLM property."

PacifiCorp Response (Photo 91): The photo caption should read, "Northeast dike crest looking northwest from clearwater pond berm intersection (north abutment)."

PacifiCorp Response (Photo 99): The photo caption should read, "Discharge channel from control structure, looking northeast."

4.2 Filling of Depressions, Erosion Rills, and Animal Burrows

We recommend depressions on the FGD #1 Pond dike where the sluice lines formerly crossed the crest be backfilled. Ongoing maintenance of backfilling erosion rills and animal burrows should be backfilled. Measures should be taken to discourage burrowing animals from inhabiting the embankment areas.

PacifiCorp Response: PacifiCorp is unclear concerning the recommendation "depressions on the FGD #1 Pond dike where the sluice lines formerly crossed the crest be backfilled." The sluice lines that cross the crest are covered with material and no depressions could be observed along the crest.

4.3 Vegetation Control

CHA understands that PacifiCorp is reluctant to mow the vegetation on the embankments because of the difficulty in establishing and maintaining vegetative growth. CHA understands that crested wheatgrass is appropriate for animal forage and haying, which would suggest it can be cut at least once a year. We recommend PacifiCorp discuss vegetation cutting options with the Wyoming office of the Natural Resources Conservation Service (NRCS) or co-op extension. Cutting of the grass will help deter burrowing animals and allow for better inspection of the embankments immediately after mowing.

PacifiCorp Response: PacifiCorp will discuss options for deterring burrowing animals with the Wyoming Natural Resources Conservation Service by March 31, 20010. PacifiCorp is reluctant to mow the slopes because many of the slopes are steep, mowing the vegetation may damage the dikes by increasing erosion problems and by leaving the clippings behind induce further animal burrowing activities. There is also a safety concern of rolling equipment down the side of the slopes. After consulting with the Natural Resources Conservation Service, PacifiCorp will incorporate its recommendations, as appropriate, into the routine monthly inspections and repairs.

4.4 Cracking

CHA observed cracks in three locations; the northeast dike on FGD #1 Pond, the East Saddle Dike of the North Ash Pond, and on the Intermediate Dike of the North Ash Pond. These cracks appeared shallow, (two feet deep or less) and there were not signs of movement of the slopes around them. However, these cracks should be monitored closely for signs of increasing length, depth, or movement on the slopes.

> **PacifiCorp Response:** The cracks noted in the dikes will be monitored on a bi-annual basis during routine impoundment inspections. Stakes will be used to monitor the length, width, and depth of the cracks. Initial bi-annual monitoring will be completed on or before May 31, 2010.

4.5 Seepage Monitoring

CHA observed the areas of seepage that PacifiCorp described in the kick-off meeting. Two additional areas were observed that may be seepage or may be related to ponded water from high flows in the South Ash Pond discharge channel. CHA recommends that monitoring structures such as V-notch weirs be installed in the areas of known seepage so quantitative measurements can be made and compared over time.

> **PacifiCorp Response:** All of the seepage areas noted during the site assessment were discussed in the kickoff meeting prior to observation during the site assessment. Prior site investigations by geotechnical experts determined that seepage at these locations may be related to blanket drains incorporated into the embankment sections at various locations. Seepage due to the blanket drains would be considered normal and would not require the installation of a monitoring structure. PacifiCorp will install monitoring structures at areas of known seepage not associated with blanket drains by November 30, 2010, in order to measure flows at the seepage areas. If it is determined that measurements cannot be collected by using a monitoring structure, other means of measuring flow will be determined by consulting the Wyoming State Engineers office. Flows will be measured and recorded during routine, bi-annual inspections.

CHA recommends that the areas of standing water and possible seepage to the northwest of the south ash pond outlet structure and to the southeast of the point where the discharge channel veers away from the dike, respectively, be evaluated to understand the source of constant moisture in these areas, and corrective actions be taken to reduce standing water in these areas.

> **PacifiCorp Response:** Reviews of "As-Constructed" drawings show that blanket drains were incorporated into the construction of the impoundment embankments. The existence of blanket drains in the embankments explains the apparent seepage at the locations identified on the South Ash Pond. The installation of piezometers in the embankments in these locations will confirm the water levels in the

embankment and confirm the embankment design. Please refer to PacifiCorp's response to EPA's recommendation for Section 4.6 below.

4.6 Phreatic Surface Monitoring

There are no piezometers installed in the embankments. The stability analyses for the North and South Ash Pond embankments were performed with some assumed phreatic surface elevations. Monitoring of the actual phreatic surface is an approach to confirm that the embankments are performing as designed and CHA recommends installing piezometers for this evaluation. Because the FGD Ponds are lined, there should not be a phreatic surface in the embankments. However, piezometric monitoring can confirm that this is the case and that therefore, the embankments and liner are performing as designed.

PacifiCorp Response: PacifiCorp will review the original design drawings by February 26, 2010. Piezometers will be installed at locations identified by the original drawings. The piezometers will be installed by October 30, 2010. When the piezometers have been installed, initial data will be reviewed by a geotechnical professional to confirm the status of the embankments, and routine monitoring will be schedule as recommended by the geotechnical professional.

4.7 Hydrologic Design

Based on the EPA hazard classification, the FGD #2 Pond should be designed for a ½ PMF design storm and the FGD #1, North and South Ash Ponds should be designed for a full PMF. Because the Naughton Plant is in a region that is on the outer limits of the applicable region for the method for developing the PMP, and because the impoundments were designed for two back-to-back 100-years storms, which in this arid region may be similar in magnitude to a PMP, CHA recommends that PacifiCorp evaluate the PMP for this site, and compare the impacts of this design storm on the impoundments.

PacifiCorp Response: PacifiCorp will engage the services of a qualified engineering firm to evaluate the PMP for the plant location, and the effect any potential change of the PMP would have on storm events. The evaluation will be completed by September 30, 2010.