

US EPA ARCHIVE DOCUMENT

Comments on Big River Reid

EPA HQ - No Comments

EPA Region - No Comments

State -

From: "Phelps, Scott (EEC)" <Scott.Phelps@ky.gov>
To: James Kohler/DC/USEPA/US@EPA
Date: 11/20/2009 01:41 PM
Subject: RE: Big Rivers Ash Inspection

There is one other comment that I think should be addressed concerning the mature tree. The Commonwealth of Kentucky has maintained a policy that trees with diameters larger than six inches are not to be removed from a dam because the removal causes more damage than leaving. The Corps of Engineers had a publication on this several years ago that I believe was the basis for our policy.

Scott Phelps P.E., C.F.M., Supervisor
Dam Safety and Floodplain
Compliance Section
Water Infrastructure Branch

From: "Phelps, Scott (EEC)" <Scott.Phelps@ky.gov>
To: James Kohler/DC/USEPA/US@EPA
Cc: "Wells, Gary (EEC)" <gary.wells@ky.gov>
Date: 11/03/2009 09:35 AM
Subject: FW: Comment Request on EPA's Draft Coal Ash Impoundment Assessment Reports

The only comment that I have is the following:

Page 11 Green Ash Pond

It is noted that previous KDEP inspection reports were not available for review. Those reports were with me at the plant. I asked if those needed to be reviewed but was told that as long as there were no major deficiencies then they did not need to be checked.

Scott Phelps P.E., C.F.M., Supervisor
Dam Safety and Floodplain
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Company -

See attached document from Thomas Shaw to Jim Kohler



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Mr. Jim Kohler, PE

Office of Resources Conservation and Recovery (5304P)

U.S. Environmental Protection Agency

1200 Pennsylvania Ave NW

Washington, D.C. 20460

RE: Draft Assessment Report for Big Rivers Electric Corporation's Reid/Green/HMPL facility response.

Dear Mr. Kohler:

Big Rivers Electric Corporation (BREC) appreciates the opportunity to provide comments on the Draft Assessment Report for Reid/Green/HMPL facility. The first comment is to correct a factual error regarding the megawatt capacity of the Reid, Green, and Henderson units. On page 3 of the report Section 2. Project/Facility Description "The coal-fired power station includes the Reid Station generating unit (96 MW, built 1966), the HMPL Station II with 2 units (365 MW, built 1973 and 1974), and the Green Station with 2 units (264 MW each, built 1979 and 1981).

Correction:

The coal-fired power station includes the Reid Station generating unit (72 MW gross capacity, commercial operation 1966), the HMP&L Station II with 2 units (H1 165 MW gross capacity, commercial operation 1973 and H2 172 MW gross capacity, commercial operation 1974), and the Green Station with 2 units (G1 250 MW gross capacity, commercial operation 1979 and G2 242 MW gross capacity, commercial operation 1981).

Comment on Deficiencies:

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Section 5. Conclusions

Reid/HMPL Ash Pond

Comment: The eastern outboard slope has been impacted by excavation which has resulted in a steep slope with poor vegetative cover that has experienced significant erosion.

Response: BREC contracted with Associated Engineers Inc. to prepare a specification to complete the suggested repairs. The specification has been delivered to BREC and the process to secure quotes for the work has begun. Repairs are expected to be completed by the end of 2010.

Comment: Minor seepage is discharging from toe drains. The toe area is poorly drained which has resulted in soft, wet soils and ponding water along portions of the toe.

Response: The toe area in question will be re-graded to promote drainage. The repair is expected to be completed by the end of 2010.

Comment: Significant rutting is occurring along the toe of the south and west outboard slope due to mower traffic over soft, wet areas described above.

Response: The area in question will be re-graded to promote drainage. The repairs are expected to be completed by the end of 2010.

Comment: A mature tree is growing on the crest of the east embankment.

Response: The tree along with the roots will be removed during the repairs to the east embankment. The roots will be removed to the extent possible under the direction of Associated Engineers Inc. The resulting excavation will be repaired with compacted soil. The repair is expected to be completed by the end of 2010.

Green Ash Pond

Comment: The west inboard slope is experiencing erosion due to wave action.

Response: BREC contracted with Associated Engineers Inc. to prepare a specification and drawings to repair the wave erosion. The specification and drawings have been completed. BREC is in the process of securing quotes for the repair. The repair is expected to be completed by the end of 2010.

Comment: The emergency outlet pipes are deteriorated and obstructed at the downstream end.

Response: BREC contracted with Associated Engineers Inc. to prepare a specification and drawings to repair the emergency outlet pipes. BREC is in the process of securing quotes for the repair. The obstructions have been removed and the final repair is expected to be completed by the end of 2010.

Comment on Recommendations:

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Section 6.2 Long Term Improvement

Reid/HMPL Ash Pond

Comment: Crest – fill ruts on crest and re-establish vegetative cover. Remove willow tree from crest of eastern dike.

Response: The ruts were filled with crushed stone to support vehicular traffic on the dam during inspections. The willow tree and roots on the eastern dike will be removed and the excavation will be repaired with compacted soil under the direction of Associated Engineers Inc.

Comment: Inboard slopes – repair eroded inboard slopes. Repairs should be completed in accordance with an engineered design. Inspect and maintain erosion that may develop on freeboard sections of all inboard slopes on a regular basis. Keep vegetation under control to allow for visual inspection of the exposed portion of the slope above the waterline.

Response: BREC has Associated Engineers Inc. under contract to inspect all dams on a quarterly basis. BREC will, under the direction of Associated Engineers, correct any erosion issues identified in the quarterly inspections. BREC will investigate increased mowing and herbicidal applications to maintain control of the vegetation.

Comment: Outboard slopes – restore the eastern slope to its design inclination and re-vegetate. The slope restoration should be performed in accordance with an engineered design with reference to the original design. Remove wooden poles embedded in slope and backfill with compacted fill consistent with the original design.

Response: BREC has Associated Engineers Inc. under contract to prepare a specification to complete the suggested repairs. The specification has been delivered to BREC and the process to secure quotes for the work has begun. The wooden poles were originally to secure a hydraulic dredge to remove ash from the pond. The poles will be removed and replaced with compacted fill.

Comment: Outboard toe – re-grade the swale along the toe to improve drainage. The swale may need to be lined with alternate materials, such as crushed stone or concrete to alleviate the soft soil condition. Consider installing a V-notch weir to monitor seepage flow rate. Remove wooden poles and fill with compacted material consistent with the dike design.

Response: The swale will be re-graded to improve the drainage. BREC will consider installing a V-notch weir to monitor the seepage flow rate. The wooden poles will be removed and replaced with compacted fill.

Comment: Additional studies – perform geotechnical investigation, cross – sectional topographic survey, and slope stability analyses of critical slopes. Install piezometers to check phreatic levels within the embankment. Analyze for normal pool with steady state seepage, maximum surcharge pool, and seismic loading conditions.

Response: BREC has contacted Associated Engineers Inc. to prepare an estimate to provide the proposed action items. BREC will review the proposal and determine an implementation schedule.

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Green Ash Pond

Comment: Inboard slopes – repair eroded inboard slopes. Repairs should be completed in accordance with an engineered design. Inspect and maintain erosion that may develop on freeboard section of all inboard slopes on a regular basis. Keep vegetation under control to allow for visual inspection of the exposed portion of the slope above the waterline.

Response: BREC contracted with Associated Engineers Inc. to inspect all dams on a quarterly basis. BREC will under the direction of Associated Engineers Inc. correct any erosion issues identified in the quarterly inspections. BREC will investigate increased mowing and herbicidal applications to maintain control of the vegetation.

Comment: Emergency outlet – replace emergency overflow pipes. Repairs should be completed in accordance with an engineered design.

Response: BREC contracted with Associated Engineers Inc. to provide a specification and drawings to replace the overflow pipes. The specification and drawings have been completed and BREC is in the process of obtaining quotations to replace the pipes. The replacement is expected to be completed by the end of 2010.

Comment: Outboard toe – regarded “sic” poorly drained swale along the west and south toe reducing ponding storm water.

Response: BREC will re-grade the swale to improve storm water runoff. The repair is expected to be completed by the end of 2010.

Comment: Additional studies – perform geotechnical investigation, cross – sectional topographic survey, and slope stability analyses of critical slopes. Install piezometers to check phreatic levels within the embankment. Analyze for normal pool with steady state seepage, maximum surcharge pool, and seismic loading conditions.

Response: BREC has contacted Associated Engineers Inc. to prepare an estimate to provide the proposed action items. BREC will review the proposal and determine an implementation schedule.

6.3 Monitoring and Future Inspection

Comment: O'Brien & Gere recommends continued participation in state bi-annual inspections. Consideration should be also given to independent inspections, such as the one conducted by Associated Engineers, Inc., by licensed dam safety engineers on at least a bi-annual basis. Consideration should be given to development of an O&M Plan that would establish a firm schedule for operations, maintenance, and inspection activities.

Response: BREC will continue to participate with the state on their bi-annual inspections. BREC has contracted Associated Engineers Inc. to conduct independent inspections on a quarterly basis. In addition to the quarterly inspections by Associated Engineers plant personnel trained by Associated Engineers Inc. conduct a monthly inspection of the dams. BREC will give consideration to development of an O&M Plan.

6.4 Time Frame for Completion of Repairs/Improvements

Comment: The majority of the identified deficiencies for both ponds were noted in the previous impoundment inspections by Associated Engineers, Inc. Based on our conversations with representatives of Big Rivers Electric and Associated Engineers, Inc, engineering designs for items such as erosion repairs, Reid/HMPL Pond east slope repair, and emergency overflow outlet pipe restoration are currently underway and are expected to be implemented upon completion of the design. We recommend that the owner continue toward this schedule as planned. We recommend that the other improvements and stability analysis recommended above be completed prior to the next scheduled inspection by KDEP. The results of the stability analysis should be provided to KDEP for review and formal filing.

Response: Associated Engineers Inc. completed the design and specifications for the above mentioned repairs, however, beginning a dirt work project in late November and extending into winter is not prudent. Repairs that are not weather dependent will commence after quotes have been received and reviewed. Repairs that are weather dependent are expected to be completed by the end of 2010. BREC has requested a proposal from Associated Engineers Inc, to develop a stability analysis as requested. BREC will review the proposal and determine an implementation schedule.

BREC understands at this time there is not a formal procedure in place to re-evaluate the dams after the recommendations have been completed. BREC is therefore, requesting that EPA develop a protocol to re-evaluate the current dam ratings to facilitate changes in the dam ratings after the repairs and recommendations have been completed.

If you have any additional questions concerning the responses provided please feel free to contact me at 270-844-6031 or by e-mail at tom.shaw@bigrivers.com.

Sincerely,

Thomas Shaw

Manager Environmental Service

Big Rivers Electric Corporation