Allegheny Energy

Environment, Health & Safety

800 Cabin Hill Drive
Greensburg, PA 15601

FEDEX and EMAIL

May 20, 2010

Mr. Stephen Hoffman
US Environmental Protection Agency
Two Potomac Yard
2733 S. Crystal Yard
5th Floor: N-237
Arlington, VA 22202-2733
hoffman.stephen@epa.gov

Dear Mr. Hoffman:

R. PAUL SMITH POWER STATION
WILLIAMSPORT, MD
LAGOON DAM #3 AND LAGOON DAM #4
LOCATED IN BERKELEY COUNTY, WV
ALLEGHENY ENERGY SUPPLY COMPANY, LLC
COMMENTS TO THE ASSESSEMENT OF DAM SAFETY COAL COMBUSTION SURFACE IMPOUNDMENTS FINAL REPORT

Allegheny Energy Service Corporation as an agent for Allegheny Energy Supply Company, LLC (Allegheny Energy) is responding with their comments on the Final Report of the Assessment of the Dam Safety Coal Combustion Surface Impoundments for the R. Paul Smith Power Station.

The Final Report was transmitted to Allegheny Energy under an EPA email letter dated April 21, 2010 from Mr. James Kohler, Environmental Engineer. The report is understood to have been prepared in conjunction with an October 20, 2009 site assessment along with our comments that were submitted to your office regarding the Draft Report on January 26, 2010.

Allegheny Energy thanks the Environmental Protection Agency (EPA) and their subcontractor, CHA for their review of our comments regarding the Draft Report and appreciates the opportunity to respond to comments made by the EPA in the April 21, 2010 Final Report.

As requested we have responded to each of your recommendations and have provided a schedule for implementing each of the recommendations. Some of the recommendations from the Draft Report have already been completed and those comments are included under the appropriate recommendation.

4.2 Upstream Slopes

EPA Comment:

In reviewing historic documents for Ash Ponds #3 and #4, there were several mentions of portions of the upstream slopes of the dikes being over excavated during pond dredging operations. CHA observed this type of situation on the north end of the Ash Pond #3 dike. Proposed improvements to the Ash Pond #4 upstream slopes include leaving a buttress of deposited fly ash in place after each dredging. Careful survey control and monitoring of contractor activities is needed to ensure that dredging operations do not alter the slope angles needed to meet the required factors of safety with regard to slope stability.

In addition, before Ash Pond #3 is put back into service, the upstream slope in the northeast corner of the pond should be repaired with compacted soil having similar characteristics to the design properties of the dam and placed to the designed slope angle.

Allegheny Energy Response:
The over-excavated portion of the inside slope of the Ash Pond #3 east dike was restored to a slope of 3H: 1V using compacted soil under the continuous monitoring of TRIAD Engineering, Inc. of Hagerstown, MD, and the repairs were documented in their report dated April 8, 2010. The entire inside slope of the east dike is now composed of only compacted soil and not fly ash. This will eliminate excessive removal of fly ash in future cleanouts of Pond 3.

The requirements for maintaining a fly ash buttress in Pond 4 are documented on the GAI Consultants' Drawing G-E001 dated 10/8/09 that specifies the required size of the buttress and the surveying required to control the size of the buttress. Allegheny Energy will have the buttress surveyed for correct geometry both during and following the clean out, and will assure that the geometry of the buttress meets the requirements of Drawing G-E001 at that time.

4.3 Downstream Slopes on Ash Pond #4

EPA Comment:
Surface soils were quite soft on the downstream slope of Ash Pond #4 and were subject to sloughing underfoot while walking on the slopes. Irregularity in the slope surface and review of previous reports suggested that surface sloughing is an ongoing situation on the Ash Pond #4 dikes. In addition to general softness and grading irregularities, CHA observed erosion rills, and possible bulge areas as discussed in Section 2.3.1. CHA recommends quantitative monitoring of the downstream slope surfaces to provide better information regarding the nature of slope movements and changes.

Continued removal of brush and small shrubs is required. Trees between Ash Pond #4 and the Potomac River for the most part start just beyond the toe of the east dike. However, in a few locations, there are large trees within the toe of the dike. CHA recommends at least a 10-foot buffer zone between the toe of the dike and tree growth.

Some of the trees from beyond the toe of the east dike have branches nearing contact with upper portions of the slope. CHA recommends these branches be cut to facilitate access on the slope, and to prevent branches from rooting on the slope of the dike.

Allegheny Energy Response:
Allegheny Energy will establish eight survey monuments near the outside edges of the crest of the dikes. Six will be adjacent to existing piezometers along the east dike and two will be near the centers of the north and south dikes. In addition, eight survey monuments will be established on the slopes below the crest monuments. All of these locations will detect any significant movement that would threaten the integrity of the dikes. Allegheny Energy will perform an initial survey of the plan locations and elevations of the monuments twice in the same month. After that, the monuments will be surveyed annually (or if visual observations indicate that movements might be occurring), and the results will be evaluated as a part of the formal inspection of the pond by an independent engineering firm. If significant movements are detected visually or by survey, they will be evaluated immediately and repaired, if needed. The survey monuments will be installed by October 31, 2010 and the initial surveys of these monuments will be completed by November 30, 2010.

The recommended brush and tree removal and branch trimming was accomplished by March 30, 2010.

4.4 Tree Removal on Ash Pond #3 Buttress

EPA Comment:
The stone fill buttress on the east dike of Ash Pond #3 is heavily covered in trees. Trees on embankments can compromise the integrity of the slope by creating scarps if trees fall over from age or during a storm, and roots penetrating into the embankment can provide preferential paths for seepage. In addition, these trees make inspection of the toe of the buttress difficult. Therefore, CHA recommends the trees along the buttress be removed.

Allegheny Energy Response:
The recommended tree removal was accomplished by December 28, 2009.

4.5 Monitoring Instrumentation

EPA Comment:
CHA recommends piezometers be installed on the Ash Pond #3 dikes to evaluate the phreatic surface with relation to the phreatic surfaced assumed for the stability analyses. Routine monitoring of the phreatic surface should be established with corresponding elevations of the water and ash levels within the pond at the time of measurement for a comprehensive understanding of the embankment behavior.

Allegheny Energy Response:
Three piezometers will be installed near the outside crests of the dikes at the critical sections used to evaluate stability of the dikes. The piezometers will extend 20 feet below grade at Sections A-A (south dike) and C-C (north dike) and 30 feet below grade at Section B-B (east dike). These piezometers will have sand backfill zones from their bottoms to within 5 feet of the ground surface. These depths will monitor the level of seepage through the embankments of the dikes. It should be noted that a ground water monitoring well (GM-107) already exists at Section B-B. It indicates that the level of seepage is lower than that assigned in the stability analyses. However, the zone of monitoring extends deeper than the base of the embankment, and that well may or may not be representative of the level of seepage through the embankment. The new piezometers will be installed by November 30, 2010, and the measurements from the initial results of the measurements from the piezometers will be evaluated immediately. Subsequent measurements will be evaluated on an ongoing basis, and will also be evaluated in the formal annual inspection report.

4.6 Evaluation of Conditions from Potomac River Flooding

EPA Comment:
CHA understands that the Ash Pond #3 dikes were raised in 1980 to be 3.4 feet higher than the water surface elevation attained by the Potomac River at Williamsport during Hurricane Agnes in 1972. A brief review of historical flood records suggests that Hurricane Agnes has crested in the vicinity of Williamsport higher than the flows from Hurricane Agnes at least five times since 1936. CHA recommends that a comprehensive, probabilistic analysis of flood elevations in the Potomac River at Williamsport be performed. This analysis should include estimated river velocities at the stream banks to evaluate the adequacy of the rip rap protection on Ash Pond #3 and whether bank armoring is needed on Ash Pond #4.

Allegheny Energy Response:
The statements above still contain errors that were previously identified by Allegheny Energy in comments on the Draft EPA report. The Pond 3 Dikes were raised to elevation 380 in 1980 to be 3.4 feet higher than the elevation attained by the Potomac River during the 1936 flood of record. Thus, Allegheny Energy anticipates that overtopping of the crest of Pond 3 is a very low probability for the remaining life of this facility.

However, a comprehensive, probabilistic analysis of flood elevations in the Potomac River at Williamsport will be performed as recommended above. This analysis will include estimated river velocities at the stream banks to evaluate the adequacy of the rip rap protection on Ash Pond #3 and whether bank armoring is needed on Ash Pond #4. The results of this analysis will be provided by November 15, 2010.

We appreciate the opportunity to comment on the Final Report and will be pleased to answer any questions regarding this information. Should you have any questions or require any additional information, please contact Gary Haag, P.E. (724) 830-5459.

Sincerely,

Daniel C. McIntire
Vice President, Generation Operations

Cc: F. Barry Newman, P.E.
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