

US EPA ARCHIVE DOCUMENT

COMMENTS

Comments received for CHA Draft Report (*December 18, 2009*, CHA Project No. 20085.1030.1510) for the Assessment of Dam Safety of Coal Combustion Surface Impoundments Dayton Power & Light Company – JM Stuart Station, Aberdeen, OH. Comments include;

- EPA comments - None;
- OH DNR comments received on January 5, 2010 and January 28, 2010; and
- Dayton Power & Light Company comments received on January 28, 2010.

FW Comments on Draft Report Dayton Power and Light JM Stuart Plant
From: Harris IV, Warren
Sent: Wednesday, February 03, 2010 2:21 PM
To: Everleth, Jennifer; Adnams, Katy
Subject: FW: Comments on Draft Report: Dayton Power and Light JM Stuart Plant

Attachments: Comments on Dayton Power and Light JM Stuart.doc; Company Comments on Draft Report.pdf; Ohio State Comments on Draft Reports.pdf

-----Original Message-----

From: Kohler, James@epamail.epa.gov [mailto:Kohler, James@epamail.epa.gov]
Sent: Wednesday, February 03, 2010 11:52 AM
To: dennis.a.miller@mco.com; Hargraves, Malcolm; Harris IV, Warren
Cc: Hoffman, Stephen@epamail.epa.gov
Subject: Comments on Draft Report: Dayton Power and Light JM Stuart Plant

Dennis/CHA:

EPA/state/company comments are attached, please address as appropriate. As before: we will be including these comments as a separate document and posting to the web along with the draft and final reports.

Please note: changes do not need to be made to your recommendations or any other parts of the report based on these comments unless you feel the additional information provided in the comments warrants a change.

If there is any question about how to address a comment, please inform Steve and myself and we can discuss.

Thank you!

Jim

(See attached file: Comments on Dayton Power and Light JM Stuart.doc) (See attached file: Company Comments on Draft Report.pdf) (See attached file: Ohio State Comments on Draft Reports.pdf)

Jim Kohler, P. E.
Environmental Engineer
LT, U.S. Public Health Service
U.S. Environmental Protection Agency
Office of Resource Conservation and Recovery
Phone: 703-347-8953
Fax: 703-308-0514

Comments

EPA HQ – None.

EPA Region – None.

State -

From: "Brian Queen" <brian.queen@epa.state.oh.us>
To: James Kohler/DC/USEPA/US@EPA
Cc: "Craig Butler" <Craig.Butler@epa.state.oh.us>, "Dan Harris" <dan.harris@epa.state.oh.us>, "Dave Chenault" <dave.chenault@epa.state.oh.us>, "Dave Schuetz" <dave.schuetz@epa.state.oh.us>, "George Elmaraghy" <George.Elmaraghy@epa.state.oh.us>, "Jeff Hines" <Jeff.Hines@epa.state.oh.us>, "Jim Sferra" <jim.sferra@epa.state.oh.us>, "Jim Simpson" <Jim.Simpson@epa.state.oh.us>, "Jon Bernstein" <Jon.Bernstein@epa.state.oh.us>, "Pam Allen" <pam.allen@epa.state.oh.us>, "Paul Novak" <Paul.Novak@epa.state.oh.us>, "Rich Fox" <rich.fox@epa.state.oh.us>
Date: 01/05/2010 10:41 AM
Subject: Draft Coal Ash Impoundment Assessment Reports

Dear Mr. Kohler

Thank you for providing Ohio EPA the opportunity to review the Draft Coal Ash Impoundment Assessment Reports. We appreciate you keeping us involved in this process. If US EPA decides to issue press releases for these facilities we would appreciate seeing them before they're released as you did for AEP Philip Sporn.

The reports' descriptions of the facilities field evaluations and the assessments of the loading conditions appear to be accurate for all six facilities and we have no comments at this time.

Thanks

Brian Queen
(740) 380-5420
brian.queen@epa.state.oh.us

Also: See letter dated January 28, 2010 (comments from Ohio State Dam Safety Engineering Program).

Company – See letter dated January 28, 2010.

Comments

EPA HQ – None.

EPA Region – None.

State -

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Also: See letter dated January 28, 2010 (comments from Ohio State Dam Safety Engineering Program).

Company – See letter dated January 28, 2010.



Ohio Department of Natural Resources

TED STRICKLAND, GOVERNOR

SEAN D. LOGAN, DIRECTOR

David Hanselmann • Chief

Division of Soil & Water Resources

January 28, 2010

Jim Kohler, P.E.
Environmental Engineer
LT, U.S. Public Health Service
U.S. Environmental Protection Agency
Office of Resource Conservation and Recovery
(Letter provided by email)

RE: Assessment of Dam Safety Coal Combustion Surface Impoundments Draft Reports for Conesville Generation Station, Muskingum River Power Plant, JM Stuart Station, W.C. Beckjord Station, Miami Fort Generating Station, and Kyger Creek Power Station

Dear Mr. Kohler:

Thank you for the opportunity to join Clough, Harbour, & Associates (CHA) on their inspections of the dams at the power stations referenced above and to provide comments on the draft report. The reports were very thorough in the areas of dam safety that were reviewed. Although some typographical errors were noted, they have not been listed in this letter and it is expected that they will be recognized and corrected during CHA's final revisions to the reports. The comments provided below are in reference to more general concepts for the evaluations.

Hydrologic and Hydraulic Design – General

Section 3.2 of each report provides an evaluation of hydrologic and hydraulic design of each impoundment. The reports refer to Ohio Administrative Code (OAC) Rules for design flood and freeboard. The Dam Safety Engineering Program interprets these rules as follows. For a Class II upground reservoir with at least half of its impoundment as open water, the structure can inherently store the 50% probable maximum flood, and the appropriate evaluation considers overfilling prevention (OAC Rule 1501:21-13-03) and available freeboard (OAC Rule 1501:21-13-07). Also, the required freeboard is not added to pool elevation during the design flood – it is based on the maximum operating level.

1501:21-13-03 (D) Every upground reservoir shall have an overflow or other device to preclude overfilling the reservoir during normal filling operations. Local watershed drainage into the reservoir must also be included in the design of the overflow device if applicable.

1501:21-13-07 Sufficient freeboard shall be provided to prevent overtopping of the top of the dam due to passage of the design flood and other factors including, but not limited to, ice and wave action. The chief may approve a lower freeboard requirement if the dam is armored against overtopping erosion.

(A) For class I and class II dams that are upground reservoirs, the minimum elevation of the top of the dam shall be at least five feet higher than the elevation of the designed maximum operating pool level unless otherwise approved by the chief.

Structural Stability and Adequacy - General

Section 3.3 of each report provides an evaluation of structural stability and adequacy. The reports refer to Table 3-1 of the US Army Corps of Engineer's Engineering Manual 1110-2-1902. A copy of a portion of this section from the Miami Fort Generating Station report has been included for reference as well as a copy of Table 3-1 from the manual.

In performing a review of the structural adequacy and stability of Ash Pond A and Ash Pond B, CHA has compared the computed factor of safety provided in the original design documents for the ash ponds with minimum required factors of safety as outlined by the U.S. Army Corps of Engineers in EM 1110-2-1902, Table 3-1. The guidance values for minimum factor of safety are provided in Table 3.

Table 4 - Minimum Safety Factors Required

Load Case	Required Minimum Factor of Safety
Steady State Conditions at Present Pool or Maximum Storage Pool Elevation	1.5
Rapid Draw-Down Conditions from Present Pool Elevation	1.3
Maximum Surcharge Pool (Flood) Condition	1.4
Seismic Conditions from Present Pool Elevation	1.0
Liquefaction	1.3

From the Miami Fort Generating Station report

EM 1110-2-1902
 31 Oct 03

**Table 3-1
 Minimum Required Factors of Safety: New Earth and Rock-Fill Dams**

Analysis Condition ¹	Required Minimum Factor of Safety	Slope
End-of-Construction (including staged construction) ²	1.3	Upstream and Downstream
Long-term (Steady seepage, maximum storage pool, spillway crest or top of gates)	1.5	Downstream
Maximum surcharge pool ³	1.4	Downstream
Rapid drawdown	1.1-1.3 ^{4,5}	Upstream

¹ For earthquake loading, see ER 1110-2-1806 for guidance. An Engineer Circular, "Dynamic Analysis of Embankment Dams," is still in preparation.

² For embankments over 50 feet high on soft foundations and for embankments that will be subjected to pool loading during construction, a higher minimum end-of-construction factor of safety may be appropriate.

³ Pool thrust from maximum surcharge level. Pore pressures are usually taken as those developed under steady-state seepage at maximum storage pool. However, for pervious foundations with no positive cutoff steady-state seepage may develop under maximum surcharge pool.

⁴ Factor of safety (FS) to be used with improved method of analysis described in Appendix G.

⁵ FS = 1.1 applies to drawdown from maximum surcharge pool; FS = 1.3 applies to drawdown from maximum storage pool.

For dams used in pump storage schemes or similar applications where rapid drawdown is a routine operating condition, higher factors of safety, e.g., 1.4-1.5, are appropriate. If consequences of an upstream failure are great, such as blockage of the outlet works resulting in a potential catastrophic failure, higher factors of safety should be considered.

From the Engineering Manual

The analysis condition for end-of-construction has been eliminated from the tables in CHA reports, which is appropriate considering the age of these structures. However, CHA has included analysis conditions for seismic and liquefaction, which are not specifically addressed in Table 3-1. Table 3-1 does refer to ER 1110-2-1806; this document provides guidance but does not note specific factors of safety. The appropriate references for these factors of safety should

be noted. In addition, it is important to note that the table is intended for new construction, and the manual provides allowances for reducing the factors of safety for dams that have been in operation for long periods of time.

c. Factors of safety. Acceptable values of factors of safety for existing dams may be less than those for design of new dams, considering the benefits of being able to observe the actual performance of the embankment over a period of time. In selecting appropriate factors of safety for existing dam slopes, the considerations discussed in Section 3-1 should be taken into account. The factor of safety required will have an effect on determining whether or not remediation of the dam slope is necessary. Reliability analysis techniques can be used to provide additional insight into appropriate factors of safety and the necessity for remediation.

In particular, the slope stability analysis for the Muskingum River Units 1-4 Bottom Ash Pond included four scenarios that have factors of safety below 1.5 but above 1.42. Considering the age of the structure, the current and historic operation of the impoundment as a pumped-storage facility with a static pool, and the location of the failure planes with respect to releasing the impoundment, further discussion for considering these factors of safety acceptable should be provided.

Muskingum River Power Plant Report

Section 4.2 should include monitoring the seeps at the downstream toe of Muskingum River Lower Fly Ash Dam.

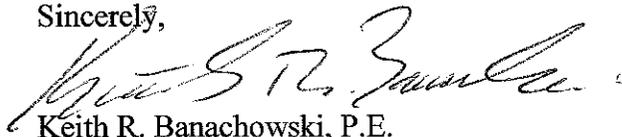
W.C. Beckjord Station

According to the as-built plans for Beckjord Ash Pond C Extension Dam and field investigation, the 30-inch-diameter concrete pipe that connects to Ash Pond C has not been plugged. However, the overflow pipe in the southwest corner that consists of a 54-inch-diameter CMP riser and 36-inch-diameter Corban reinforced fiberglass pressure pipe has been plugged with concrete.

Table 2 should be corrected to include a normal pool elevation of 518.0 for Beckjord Ash Pond C Extension Dam.

The Division of Soil & Water Resources looks forward to continuing cooperation with US Environmental Protection Agency in investigating and improving the conditions of coal ash impoundments. Please contact me at 614/265-6738 if you have any questions.

Sincerely,



Keith R. Banachowski, P.E.

Program Manager

Dam Safety Engineering Program

Division of Soil & Water Resources

Comments

EPA HQ – None.

EPA Region – None.

State -

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Also: See letter dated January 28, 2010 (comments from Ohio State Dam Safety Engineering Program).

Company – See letter dated January 28, 2010.



Working For You Today and Tomorrow

January 28, 2010

VIA OVERNIGHT DELIVERY

Mr. Stephen Hoffman
U.S. Environmental Protection Agency
Two Potomac Yard
2733 South Crystal Drive, 5th Floor, N-5237
Arlington, VA 22202-2733

Dear Mr. Hoffman:

The Dayton Power and Light Company (DP&L) has received the draft report dated December 28, 2009 related to the site assessment of the coal combustion residual impoundments at the J. M. Stuart Electric Generating Station. The site assessment was conducted on October 27-28, 2009 by U.S. EPA's engineering contractor, CHA. The cover letter accompanying the draft report requests that comments on the draft report be submitted to USEPA by January 28, 2009 (*sic*) and provides for a business confidentiality claim covering all or part of the information.

CONFIDENTIALITY CLAIM

DP&L is claiming business confidentiality for both the draft and final reports associated with its site assessment of the coal combustion residual impoundments at J. M. Stuart Electric Generating Station and for the comments submitted in this letter in their entirety, a claim which is being made in accordance with 40 C.F.R. Part 2, Subpart B.

According to the criteria established by 40 C.F.R. Part 2, Subpart B, § 2.208, the documents for which confidential treatment is requested are entitled to confidential treatment because 1) this claim is timely and has not been waived, 2) DP&L has taken reasonable measures to protect the confidentiality of the information and intends to continue to take such measures, 3) the information is not reasonably obtainable without DP&L's consent, and 4) the disclosure of the information is likely to cause substantial harm to DP&L's competitive position.

All of the documents for which confidential treatment is requested help DP&L maintain its competitive position. DP&L protects the confidentiality of this information by making it available only to employees, agents and contractors of DP&L who need to know the information. DP&L does not permit disclosure of this information to other persons. Public access to the documents will cause substantial harm to DP&L because competitors could then freely benefit from the experience and knowledge that DP&L has gained over many years in business. The Agency should protect this information from further disclosure.

COMMENTS ON THE DRAFT REPORT

Conclusions/Recommendations – General Comments

The draft report should discuss the rating given to each pond and the reasons for that rating. Section 4.0 of the draft report contains conclusions and recommendations as a result of the October 27-28, 2009 site assessment conducted by CHA, and Section 4.1 of the draft report includes the statement "...the management units referenced herein... were found to be in the following condition: Poor." Section 4.1 of the draft report does not explain how the rating of "Poor" was determined for the entire group of ash ponds at J. M. Stuart Station. Section 4.1 of the draft report goes on to say that "A management unit found to be in poor condition is defined as one in which a safety deficiency is recognized for any required loading condition..." The overall rating of "Poor" conveys the false impression that all of the ponds are in poor condition and present a safety hazard. DP&L expressly disagrees with any assessment assigning a poor rating to the impoundments at J. M. Stuart Station based on any safety deficiency. Independent engineering inspections of the J. M. Stuart Station ash impoundments confirm that there is no imminent threat of failure associated with any pond. This is verified by the lack of such concerns in the completed field inspection checklist forms included as Appendix A of the draft report.

The J. M. Stuart ash ponds were designed and installed over different periods in the history of the station and therefore were subject to the design and construction standards in place at the time. Pond 10, for example, was completed in 2001 following a detailed design and permitting process and is the subject of routine inspections conducted by the Ohio Department of Natural Resources (ODNR). The remaining ponds are subject to routine DP&L inspection and maintenance.

Documentation Not Provided by DP&L

The draft report contains notations that sufficient information was not provided to allow the contractor to complete their evaluation. To the extent specific information was available during the October 27-28, 2009 onsite assessment, it was provided. In response to written requests subsequent to the onsite assessment, supplemental information was provided. However, DP&L did not receive any further written requests for specific documents and therefore should not be held accountable for not providing information not specifically requested. Additional information regarding the J. M. Stuart ash pond system is provided as attachments to this letter

Operation, Maintenance & Inspection Manual and Emergency Action Plan

Section 4.5 of the draft report recommends that DP&L implement a documented inspection program. DP&L does have a formal OM&I Plan and EAP for Pond 10, as required by ODNR (see Attachment 3.5) and has been implementing an informal program for the remaining ponds. DP&L is in the process of completing the development of formal OM&I Plans and EAP's for these remaining ponds.

Analysis of 50% PMP Event

Section 4.7 of the draft report refers to the lack of an analysis of the 50% Probable Maximum Precipitation event for all of the ponds at Stuart. This analysis was a part of the design of Pond 10 and provided to ODNR in the permit application (see Attachment 2.3). Ohio Administrative Code 1501: 21-13-02 (referenced in Section 3.2 of the draft report), which specifies the minimum design flood for

various classes of dams, carries an effective date of 12/9/99 and therefore was not in effect at the time the other ash ponds at J. M. Stuart Station were designed and constructed. The regulation dictates an analysis of a dam's ability to accommodate the additional water volume associated with a flooding event either immediately in the vicinity or upstream of the dam before the additional volume would either overflow the dam structure or cause a dam failure. The ash ponds accept flow from plant processes, as well as very localized runoff from directly within the pond structure. They do not accept flow from rivers, streams, or other tributaries, so the impact on the pond and dam from a PMP event is expected to be easily accommodated, as indicated by the Pond 10 analysis.

Comments on Section 1.0 – Introduction & Project Description

1. Page 1 includes a table of individuals involved in the site assessment. The first column header is "Company or Organization" but appears to include individuals' names. The second column header is "Name and Title" but appears to include organizations and titles. In addition, the title for Scott Arentsen as listed ("Environmental Manager") should be Environmental Specialist.
2. Page 2, Section 1.2 – the identification line for Pond 7 should be modified to "Pond 7/7A" since Pond 7A is a subdivision of Pond 7.
3. Page 3, Section 1.2.1 – references Ohio State Permit No. 0IB00049*ND as having been issued to DP&L. This permit version has only been issued as a draft and the facility is currently operating pursuant to NPDES Permit 0IB00049*MD.
4. Page 3, Section 1.2.1 – the last sentence refers to the original Landfill 9 PTI being reportedly issued in 1984 but a permit number was not available. This information was provided to CHA via email on 12/15/09 in response to an inquiry received 12/9/09. The original Landfill 9 PTI number is 06-1179 and was issued on 4/16/84. This correspondence is included as Attachment 1.
5. Page 3, Section 1.3 – the first sentence identifies J. M. Stuart Station as being north of the town of Springdale, Ohio. This should be east of Aberdeen, Ohio.
6. Page 3, Section 1.3 – the last sentence needs a period.
7. Page 4, Section 1.3.1 – the word "pipe" in the first sentence of the third paragraph should be changed to "piping" since multiple pipes are used to transport fly ash to Pond 3A.
8. Page 5, Section 1.3.2 – the section title should be "Bottom Ash Pond 5".
9. Page 5, Section 1.3.2 – the second sentence references Figure 5B. Figure 5B was not included in the draft report. Related to this, pages 15 and 16 of the draft report are not included.
10. Page 6, Section 1.3.3 – the second sentence following Table 2 states that the western side of Ponds 6 and 7A is bounded by an earth dike. "7A" should be "7".
11. Page 6, Section 1.3.3 – the fourth sentence following Table 2 needs a period. It is also unclear what the meaning of the phrase "has been founded" is.
12. Page 7, Section 1.3.3 – the last sentence in the first paragraph at top of page indicates that information on the divider dike between Ash Ponds 7 and 7A has not been provided. Please see Attachment 2.
13. Page 7, Section 1.3.4 – references that CHA has not received information regarding the design and construction of Ash Pond 10. Please see Attachments 3.1-3.4.
14. Page 8, Section 1.6 – references documents provided by AEP. This should be changed to DP&L.

Comments on Section 2.0 – Field Assessment

1. Page 20, Section 2.1 – the last sentence in the first paragraph references Site Photo Location Maps (Figures 8A through 8D). Figure 8D (Site Photo Location Map for Pond 6 and Pond 7/7A) was not included in the draft report.

2. Page 22, Section 2.2.1 – in the last sentence of the section, the word “it” should be removed.
3. Page 25, Section 2.5.1 – the last sentence on the page states that outlet pipes from the Pond 3A outfall convey water through the western wall area of Pond 6. The word “pipes” in this sentence should be “pipe” as there is only one outlet pipe from Pond 3A. This section should also include the outlet pipe from Pond 10 as entering Pond 6 in this area.
4. Page 26, Section 2.5.1 – the second full paragraph on the page discusses riprap placed on the upstream slope of the east dike of Pond 6 stating that the granular surface and low vegetative cover made the surface susceptible to intermittent erosion. This riprap was placed to prevent erosion due to wave action on the downwind end of the pond.
5. Page 27, Section 2.5.2 – the second sentence references water from Pond 6 flowing to a nearby pump station. All water flow through the J. M. Stuart Station fly ash impoundment system is by gravity flow after ash sluice water is initially pumped from the station and enters the pond system. Water from Pond 6 flows by gravity through a pH control building, not a pump station.
6. Page 27, Section 2.5.2 – the third sentence refers to an older inactive outfall along the eastern dike of Pond 6. This outfall serves as an emergency overflow set at elevation 530.5 feet and is connected to the existing Pond 7A outlet structure.
7. Page 27, Section 2.5.2 – the third sentence refers to Photo 55 being a photo of the outlet of Pond 6. Photo 55 appears to be of the Pond 7A outlet structure.
8. Page 28, Section 2.6 – the first complete sentence at the top of the page references Photos 73 through 101. This should be Photos 73 through 102.
9. Page 28, Section 2.6.1 – the sixth sentence in the first paragraph states “the majority of the east dike no longer impounds water due to the collection of ash on the western portion of the pond.” The word “western” should be changed to “eastern”.
10. Page 28, Section 2.6.1 – the last sentence in the first paragraph indicates that occasional erosion rills were observed in the slope of Pond 7/7A and references photo 76. This appears to be repetitive of the fifth sentence in the same paragraph.
11. Page 28, Section 2.6.1 – the last paragraph at the bottom of the page references the lower $\frac{1}{2}$ to $\frac{2}{3}$ of south dike of Pond 7/7A being heavily vegetated with large trees growing at the toe of an alluvial bench along the Ohio River. The bottom of Pond 7 ranges from elevation 495’ along the west dike to 492’ along the divider dike between Pond 7 and Pond 7A. Normal Ohio River pool elevation is 485’ and so the lower 7 to 10 feet of the south exterior slope of Pond 7 is native material below the constructed dike. Any trees in this area of the slope are not on the dike.

Comments on Photographs

1. Photos 1-102 – the photo pages indicate the photos were taken on October 28 & 29, 2009. The site assessment was conducted on October 27 & 28. In addition, beginning with page 60, the photos are identified as having been taken on October 38 & 29, 2009.
2. Page 45 – the label in the lower right hand corner of the page identifies these photos (23 and 24) as being of Pond 10. They are photos of Pond 5.
3. Page 57, Photo 47 – photo is labeled as Pond 3A downstream slope of east dike. Based on the photo it appears to be looking west which would make it Pond 3A upstream slope of west dike.
4. Page 60, Photo 53 – photo is identified as showing outlet pipes from Pond 3A beneath the western dike of Pond 6. The pipes shown in the photo are leachate collection pipes and surface water runoff collection pipes associated with fly ash Landfill 11.
5. Page 61, Photo 55 – photo is identified as Pond 6 outlet structure. Photo appears to be of Pond 7A outlet structure (see note #7 for Section 2.0 above).

6. Page 61, Photo 56 – photo is identified as the inlet channel from Pond 7 into Pond 6. Photo appears to be of the area near the Pond 6 discharge channel.
7. Page 62, Photo 57 – photo appears to be oriented 90^o clockwise.
8. Page 63, Photo 59 – photo is identified as vegetation on north dike of Pond 6 with beaching erosion. The north side of Pond 6 is incised such that the material identified in the photo as a dike is native material.
9. Page 66, Photo 66 – photo is identified as east dike of Pond 6. This should be clarified that it is of the downstream slope of the east dike of Pond 6.
10. Page 67, Photo 67 – photo is identified as looking upslope at the start of eastern dike of Pond 6. This should be clarified that it is of the downstream slope of the east dike of Pond 6.
11. Page 77, Photo 87 – photo is identified as looking at the northwest corner of Pond 7. This should be corrected as looking at the southwest corner of Pond 7.
12. Page 84, Photo 101 – photo is identified as the northwest corner of Pond 7. This should be corrected as looking at the northeast corner of Pond 7.

Comments on Section 3.0 – Data Evaluation

1. Page 85, Section 3.1 – references the South Fly Ash Pond. No such labeled pond exists at J. M. Stuart Station. The word “visits” should be changed to “visit”.
2. Page 85, Section 3.2 – refers to Division of Water Permit No. 87-159. DP&L is unaware of such a permit number related to J. M. Stuart Station.
3. Page 85, Section 3.2 – the first sentence in the third paragraph indicates information was not provided regarding the maximum operating and current pool elevations. The following is information on the various ash pond operating and maximum elevations:
 - Pond 3A – top of outlet structure is elevation 556.5’ and maximum weir plate elevation is 553.5’. During fly ash sluicing, minimal water level above the level of fly ash is maintained in the pond by adding weir plates as needed. Water level does not reach maximum elevation since fly ash sluicing is rotated among three fly ash ponds.
 - Pond 5 – top of concrete wet well outlet structure is elevation 525’ which is also operating pool level.
 - Pond 6 – maximum and operating pool level is at elevation 530’.
 - Pond 7 – maximum and operating pool level is the same as Pond 6.
 - Pond 10 – top of outlet structure is elevation 568’ and maximum weir plate elevation is 565’. During fly ash sluicing, minimal water level above the level of fly ash is maintained in the pond by adding weir plates as needed. Water level does not reach maximum elevation since fly ash sluicing is rotated among three fly ash ponds.
4. Page 86, Section 3.2 – the first sentence indicates that a hydraulic analysis showing the ability of the ponds to safely store or pass the 50% PMP event was not provided. Please see Attachment 3.3 for information relative to Pond 10. Please see DP&L general comments and comments on Section 4.7 of the draft report for a discussion of this requirement relative to the other ponds.
5. Page 86, Section 3.2 – the first sentence in the second paragraph indicates information was not provided regarding stability analyses performed for the Ash Ponds. Please see Attachment 3.1 for information relative to Pond 10 and Attachment 4.1 for information relative to Pond 3A.
6. Page 87, Section 3.4 – the first sentence indicates that information was not provided regarding geotechnical subsurface information for the JM Stuart site. Please see Attachment 3.4 for subsurface geotechnical information.

7. Page 88, Section 3.4 – in the second paragraph, the reference to the thickness of the sand drainage blanket should be 3 feet instead of 3 inches.
8. Page 88, Section 3.4 – in the second paragraph on the page, the word “blanked” should be changed to “blanket”.
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15. Page 90, Section 3.6.2 – the last sentence indicates that a copy of the inspection report for Ash Ponds 3A, 5, 6, 7, 7A, and 10 was not provided. This inspection and resulting report were conducted at the request of DP&L and is considered business confidential information.

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Comments on Appendix A

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Supplemental Information

In addition to the specific comments on the draft report as identified above, DP&L is providing the following supplemental information on the design and construction of the ash ponds at J. M. Stuart Station as indicated below.

- Attachments 3.1-3.5 – Ash Pond 10 design and construction
 1. Attachment 3.1 – Embankment Analysis and Design, etc. (from ODNR Construction Application and Final Design Report, associated drawings, associated appendices – August 2, 1999);
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 1. Attachment 4.1 – Slope Stability Analysis (from Soil Investigation and Design for Proposed Fly Ash Dikes by Bowser-Morner – January 30, 1975);
 2. Attachment 4.2 – Hydrologic Study (from Soil Investigation and Design for Proposed Fly Ash Dikes by Bowser-Morner – January 30, 1975);
 3. Attachment 4.3 – Boring Logs and Laboratory Data (from Soil Investigation and Design for Proposed Fly Ash Dikes by Bowser-Morner – January 30, 1975);
 4. Attachment 4.4 – Clearing and Grading Specifications (from Soil Investigation and Design for Proposed Fly Ash Dikes by Bowser-Morner – January 30, 1975);
 5. Attachment 4.5 – Plans, Sections and Profiles (from Soil Investigation and Design for Proposed Fly Ash Dikes by Bowser-Morner – January 30, 1975);
 6. Attachment 4.6 – Report of Proctor Curves (from Soil Investigation and Design for Proposed Fly Ash Dikes by Bowser-Morner – January 30, 1975);
 7. Attachment 4.7 – Report of Density Determination Tests (from Soil Investigation and Design for Proposed Fly Ash Dikes by Bowser-Morner – January 30, 1975);

DP&L appreciates this opportunity to provide comments on the draft impoundment assessment report for J. M. Stuart Station. If you have any questions please contact Mr. Craig Spangler at (937) 549-2641 extension 5556.

Sincerely,



Mark S. Guerriero, PE
Station Manager
J. M. Stuart Electric Generating Station

CC: Malcolm Hargraves – CHA
JoAnne Rau – DP&L
Craig Spangler – DP&L
Scott Arentsen – DP&L



Working For You Today and Tomorrow

January 28, 2010

VIA OVERNIGHT DELIVERY

Mr. Stephen Hoffman
U.S. Environmental Protection Agency
Two Potomac Yard
2733 South Crystal Drive, 5th Floor, N-5237
Arlington, VA 22202-2733

Dear Mr. Hoffman:

The Dayton Power and Light Company (DP&L) has received the draft report dated December 28, 2009 related to the site assessment of the coal combustion residual impoundments at the J. M. Stuart Electric Generating Station. The site assessment was conducted on October 27-28, 2009 by U.S. EPA's engineering contractor, CHA. The cover letter accompanying the draft report requests that comments on the draft report be submitted to USEPA by January 28, 2009 (*sic*) and provides for a business confidentiality claim covering all or part of the information.

CONFIDENTIALITY CLAIM

DP&L is claiming business confidentiality for both the draft and final reports associated with its site assessment of the coal combustion residual impoundments at J. M. Stuart Electric Generating Station and for the comments submitted in this letter in their entirety, a claim which is being made in accordance with 40 C.F.R. Part 2, Subpart B.

According to the criteria established by 40 C.F.R. Part 2, Subpart B, § 2.208, the documents for which confidential treatment is requested are entitled to confidential treatment because 1) this claim is timely and has not been waived, 2) DP&L has taken reasonable measures to protect the confidentiality of the information and intends to continue to take such measures, 3) the information is not reasonably obtainable without DP&L's consent, and 4) the disclosure of the information is likely to cause substantial harm to DP&L's competitive position.

All of the documents for which confidential treatment is requested help DP&L maintain its competitive position. DP&L protects the confidentiality of this information by making it available only to employees, agents and contractors of DP&L who need to know the information. DP&L does not permit disclosure of this information to other persons. Public access to the documents will cause substantial harm to DP&L because competitors could then freely benefit from the experience and knowledge that DP&L has gained over many years in business. The Agency should protect this information from further disclosure.

COMMENTS ON THE DRAFT REPORT

Conclusions/Recommendations – General Comments

The draft report should discuss the rating given to each pond and the reasons for that rating. Section 4.0 of the draft report contains conclusions and recommendations as a result of the October 27-28, 2009 site assessment conducted by CHA, and Section 4.1 of the draft report includes the statement "...the management units referenced herein... were found to be in the following condition: Poor." Section 4.1 of the draft report does not explain how the rating of "Poor" was determined for the entire group of ash ponds at J. M. Stuart Station. Section 4.1 of the draft report goes on to say that "A management unit found to be in poor condition is defined as one in which a safety deficiency is recognized for any required loading condition..." The overall rating of "Poor" conveys the false impression that all of the ponds are in poor condition and present a safety hazard. DP&L expressly disagrees with any assessment assigning a poor rating to the impoundments at J. M. Stuart Station based on any safety deficiency. Independent engineering inspections of the J. M. Stuart Station ash impoundments confirm that there is no imminent threat of failure associated with any pond. This is verified by the lack of such concerns in the completed field inspection checklist forms included as Appendix A of the draft report.

The J. M. Stuart ash ponds were designed and installed over different periods in the history of the station and therefore were subject to the design and construction standards in place at the time. Pond 10, for example, was completed in 2001 following a detailed design and permitting process and is the subject of routine inspections conducted by the Ohio Department of Natural Resources (ODNR). The remaining ponds are subject to routine DP&L inspection and maintenance.

Documentation Not Provided by DP&L

The draft report contains notations that sufficient information was not provided to allow the contractor to complete their evaluation. To the extent specific information was available during the October 27-28, 2009 onsite assessment, it was provided. In response to written requests subsequent to the onsite assessment, supplemental information was provided. However, DP&L did not receive any further written requests for specific documents and therefore should not be held accountable for not providing information not specifically requested. Additional information regarding the J. M. Stuart ash pond system is provided as attachments to this letter

Operation, Maintenance & Inspection Manual and Emergency Action Plan

Section 4.5 of the draft report recommends that DP&L implement a documented inspection program. DP&L does have a formal OM&I Plan and EAP for Pond 10, as required by ODNR (see Attachment 3.5) and has been implementing an informal program for the remaining ponds. DP&L is in the process of completing the development of formal OM&I Plans and EAP's for these remaining ponds.

Analysis of 50% PMP Event

Section 4.7 of the draft report refers to the lack of an analysis of the 50% Probable Maximum Precipitation event for all of the ponds at Stuart. This analysis was a part of the design of Pond 10 and provided to ODNR in the permit application (see Attachment 2.3). Ohio Administrative Code 1501: 21-13-02 (referenced in Section 3.2 of the draft report), which specifies the minimum design flood for

various classes of dams, carries an effective date of 12/9/99 and therefore was not in effect at the time the other ash ponds at J. M. Stuart Station were designed and constructed. The regulation dictates an analysis of a dam's ability to accommodate the additional water volume associated with a flooding event either immediately in the vicinity or upstream of the dam before the additional volume would either overflow the dam structure or cause a dam failure. The ash ponds accept flow from plant processes, as well as very localized runoff from directly within the pond structure. They do not accept flow from rivers, streams, or other tributaries, so the impact on the pond and dam from a PMP event is expected to be easily accommodated, as indicated by the Pond 10 analysis.

Comments on Section 1.0 – Introduction & Project Description

1. Page 1 includes a table of individuals involved in the site assessment. The first column header is "Company or Organization" but appears to include individuals' names. The second column header is "Name and Title" but appears to include organizations and titles. In addition, the title for Scott Arentsen as listed ("Environmental Manager") should be Environmental Specialist.
2. Page 2, Section 1.2 – the identification line for Pond 7 should be modified to "Pond 7/7A" since Pond 7A is a subdivision of Pond 7.
3. Page 3, Section 1.2.1 – references Ohio State Permit No. 0IB00049*ND as having been issued to DP&L. This permit version has only been issued as a draft and the facility is currently operating pursuant to NPDES Permit 0IB00049*MD.
4. Page 3, Section 1.2.1 – the last sentence refers to the original Landfill 9 PTI being reportedly issued in 1984 but a permit number was not available. This information was provided to CHA via email on 12/15/09 in response to an inquiry received 12/9/09. The original Landfill 9 PTI number is 06-1179 and was issued on 4/16/84. This correspondence is included as Attachment 1.
5. Page 3, Section 1.3 – the first sentence identifies J. M. Stuart Station as being north of the town of Springdale, Ohio. This should be east of Aberdeen, Ohio.
6. Page 3, Section 1.3 – the last sentence needs a period.
7. Page 4, Section 1.3.1 – the word "pipe" in the first sentence of the third paragraph should be changed to "piping" since multiple pipes are used to transport fly ash to Pond 3A.
8. Page 5, Section 1.3.2 – the section title should be "Bottom Ash Pond 5".
9. Page 5, Section 1.3.2 – the second sentence references Figure 5B. Figure 5B was not included in the draft report. Related to this, pages 15 and 16 of the draft report are not included.
10. Page 6, Section 1.3.3 – the second sentence following Table 2 states that the western side of Ponds 6 and 7A is bounded by an earth dike. "7A" should be "7".
11. Page 6, Section 1.3.3 – the fourth sentence following Table 2 needs a period. It is also unclear what the meaning of the phrase "has been founded" is.
12. Page 7, Section 1.3.3 – the last sentence in the first paragraph at top of page indicates that information on the divider dike between Ash Ponds 7 and 7A has not been provided. Please see Attachment 2.
13. Page 7, Section 1.3.4 – references that CHA has not received information regarding the design and construction of Ash Pond 10. Please see Attachments 3.1-3.4.
14. Page 8, Section 1.6 – references documents provided by AEP. This should be changed to DP&L.

Comments on Section 2.0 – Field Assessment

1. Page 20, Section 2.1 – the last sentence in the first paragraph references Site Photo Location Maps (Figures 8A through 8D). Figure 8D (Site Photo Location Map for Pond 6 and Pond 7/7A) was not included in the draft report.

2. Page 22, Section 2.2.1 – in the last sentence of the section, the word “it” should be removed.
3. Page 25, Section 2.5.1 – the last sentence on the page states that outlet pipes from the Pond 3A outfall convey water through the western wall area of Pond 6. The word “pipes” in this sentence should be “pipe” as there is only one outlet pipe from Pond 3A. This section should also include the outlet pipe from Pond 10 as entering Pond 6 in this area.
4. Page 26, Section 2.5.1 – the second full paragraph on the page discusses riprap placed on the upstream slope of the east dike of Pond 6 stating that the granular surface and low vegetative cover made the surface susceptible to intermittent erosion. This riprap was placed to prevent erosion due to wave action on the downwind end of the pond.
5. Page 27, Section 2.5.2 – the second sentence references water from Pond 6 flowing to a nearby pump station. All water flow through the J. M. Stuart Station fly ash impoundment system is by gravity flow after ash sluice water is initially pumped from the station and enters the pond system. Water from Pond 6 flows by gravity through a pH control building, not a pump station.
6. Page 27, Section 2.5.2 – the third sentence refers to an older inactive outfall along the eastern dike of Pond 6. This outfall serves as an emergency overflow set at elevation 530.5 feet and is connected to the existing Pond 7A outlet structure.
7. Page 27, Section 2.5.2 – the third sentence refers to Photo 55 being a photo of the outlet of Pond 6. Photo 55 appears to be of the Pond 7A outlet structure.
8. Page 28, Section 2.6 – the first complete sentence at the top of the page references Photos 73 through 101. This should be Photos 73 through 102.
9. Page 28, Section 2.6.1 – the sixth sentence in the first paragraph states “the majority of the east dike no longer impounds water due to the collection of ash on the western portion of the pond.” The word “western” should be changed to “eastern”.
10. Page 28, Section 2.6.1 – the last sentence in the first paragraph indicates that occasional erosion rills were observed in the slope of Pond 7/7A and references photo 76. This appears to be repetitive of the fifth sentence in the same paragraph.
11. Page 28, Section 2.6.1 – the last paragraph at the bottom of the page references the lower $\frac{1}{2}$ to $\frac{2}{3}$ of south dike of Pond 7/7A being heavily vegetated with large trees growing at the toe of an alluvial bench along the Ohio River. The bottom of Pond 7 ranges from elevation 495’ along the west dike to 492’ along the divider dike between Pond 7 and Pond 7A. Normal Ohio River pool elevation is 485’ and so the lower 7 to 10 feet of the south exterior slope of Pond 7 is native material below the constructed dike. Any trees in this area of the slope are not on the dike.

Comments on Photographs

1. Photos 1-102 – the photo pages indicate the photos were taken on October 28 & 29, 2009. The site assessment was conducted on October 27 & 28. In addition, beginning with page 60, the photos are identified as having been taken on October 38 & 29, 2009.
2. Page 45 – the label in the lower right hand corner of the page identifies these photos (23 and 24) as being of Pond 10. They are photos of Pond 5.
3. Page 57, Photo 47 – photo is labeled as Pond 3A downstream slope of east dike. Based on the photo it appears to be looking west which would make it Pond 3A upstream slope of west dike.
4. Page 60, Photo 53 – photo is identified as showing outlet pipes from Pond 3A beneath the western dike of Pond 6. The pipes shown in the photo are leachate collection pipes and surface water runoff collection pipes associated with fly ash Landfill 11.
5. Page 61, Photo 55 – photo is identified as Pond 6 outlet structure. Photo appears to be of Pond 7A outlet structure (see note #7 for Section 2.0 above).

6. Page 61, Photo 56 – photo is identified as the inlet channel from Pond 7 into Pond 6. Photo appears to be of the area near the Pond 6 discharge channel.
7. Page 62, Photo 57 – photo appears to be oriented 90^o clockwise.
8. Page 63, Photo 59 – photo is identified as vegetation on north dike of Pond 6 with beaching erosion. The north side of Pond 6 is incised such that the material identified in the photo as a dike is native material.
9. Page 66, Photo 66 – photo is identified as east dike of Pond 6. This should be clarified that it is of the downstream slope of the east dike of Pond 6.
10. Page 67, Photo 67 – photo is identified as looking upslope at the start of eastern dike of Pond 6. This should be clarified that it is of the downstream slope of the east dike of Pond 6.
11. Page 77, Photo 87 – photo is identified as looking at the northwest corner of Pond 7. This should be corrected as looking at the southwest corner of Pond 7.
12. Page 84, Photo 101 – photo is identified as the northwest corner of Pond 7. This should be corrected as looking at the northeast corner of Pond 7.

Comments on Section 3.0 – Data Evaluation

1. Page 85, Section 3.1 – references the South Fly Ash Pond. No such labeled pond exists at J. M. Stuart Station. The word “visits” should be changed to “visit”.
2. Page 85, Section 3.2 – refers to Division of Water Permit No. 87-159. DP&L is unaware of such a permit number related to J. M. Stuart Station.
3. Page 85, Section 3.2 – the first sentence in the third paragraph indicates information was not provided regarding the maximum operating and current pool elevations. The following is information on the various ash pond operating and maximum elevations:
 - Pond 3A – top of outlet structure is elevation 556.5’ and maximum weir plate elevation is 553.5’. During fly ash sluicing, minimal water level above the level of fly ash is maintained in the pond by adding weir plates as needed. Water level does not reach maximum elevation since fly ash sluicing is rotated among three fly ash ponds.
 - Pond 5 – top of concrete wet well outlet structure is elevation 525’ which is also operating pool level.
 - Pond 6 – maximum and operating pool level is at elevation 530’.
 - Pond 7 – maximum and operating pool level is the same as Pond 6.
 - Pond 10 – top of outlet structure is elevation 568’ and maximum weir plate elevation is 565’. During fly ash sluicing, minimal water level above the level of fly ash is maintained in the pond by adding weir plates as needed. Water level does not reach maximum elevation since fly ash sluicing is rotated among three fly ash ponds.
4. Page 86, Section 3.2 – the first sentence indicates that a hydraulic analysis showing the ability of the ponds to safely store or pass the 50% PMP event was not provided. Please see Attachment 3.3 for information relative to Pond 10. Please see DP&L general comments and comments on Section 4.7 of the draft report for a discussion of this requirement relative to the other ponds.
5. Page 86, Section 3.2 – the first sentence in the second paragraph indicates information was not provided regarding stability analyses performed for the Ash Ponds. Please see Attachment 3.1 for information relative to Pond 10 and Attachment 4.1 for information relative to Pond 3A.
6. Page 87, Section 3.4 – the first sentence indicates that information was not provided regarding geotechnical subsurface information for the JM Stuart site. Please see Attachment 3.4 for subsurface geotechnical information.

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8. Page 88, Section 3.4 – in the second paragraph on the page, the word “blanked” should be changed to “blanket”.
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 5. Attachment 3.5 – Pond 10 OM&I Manual and EAP; May 15, 2000.
- Attachments 4.1-4.7 – Ash Pond 3A design and construction
 1. Attachment 4.1 – Slope Stability Analysis (from Soil Investigation and Design for Proposed Fly Ash Dikes by Bowser-Morner – January 30, 1975);
 2. Attachment 4.2 – Hydrologic Study (from Soil Investigation and Design for Proposed Fly Ash Dikes by Bowser-Morner – January 30, 1975);
 3. Attachment 4.3 – Boring Logs and Laboratory Data (from Soil Investigation and Design for Proposed Fly Ash Dikes by Bowser-Morner – January 30, 1975);
 4. Attachment 4.4 – Clearing and Grading Specifications (from Soil Investigation and Design for Proposed Fly Ash Dikes by Bowser-Morner – January 30, 1975);
 5. Attachment 4.5 – Plans, Sections and Profiles (from Soil Investigation and Design for Proposed Fly Ash Dikes by Bowser-Morner – January 30, 1975);
 6. Attachment 4.6 – Report of Proctor Curves (from Soil Investigation and Design for Proposed Fly Ash Dikes by Bowser-Morner – January 30, 1975);
 7. Attachment 4.7 – Report of Density Determination Tests (from Soil Investigation and Design for Proposed Fly Ash Dikes by Bowser-Morner – January 30, 1975);

DP&L appreciates this opportunity to provide comments on the draft impoundment assessment report for J. M. Stuart Station. If you have any questions please contact Mr. Craig Spangler at (937) 549-2641 extension 5556.

Sincerely,



Mark S. Guerriero, PE
Station Manager
J. M. Stuart Electric Generating Station

CC: Malcolm Hargraves – CHA
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