

US EPA ARCHIVE DOCUMENT

Comments on Weadock

EPA:

Remove “(Site 20)” from the cover page [please do this for all reports]

Page ii: Last paragraph, first sentence should read: “In February 2009, the EPA sent its first wave of letters...” [please do this for all reports with this language]

All: the footer on all the pages needs to be modified from the generic.

Page 2-1: need to clarify the number of impoundments on-site and whether they are landfills or surface impoundments. According to the 104e survey response from the company, there are the following impoundments on-site:

East 7 & 8 Ponds

West A - E Ponds

Please reconcile these impoundments with what was discovered in the field. Describing when these were initially constructed and how they were closed or incorporated into the current waste disposal facility. [Please be sure to do this for all reports, reconciling the impoundments listed in their 104e survey responses with the impoundments assessed.]

Page 4-2: “Bottom ash disposal is unchanged from original operation procedures.”

Page 8-1: Add the word “plan” after maintenance to first paragraph of section 8.2.

State:

From: "Morrow, Greg (DNRE)" <MORROWG@michigan.gov>
To: James Kohler/DC/USEPA/US@EPA, Stephen Hoffman/DC/USEPA/US@EPA
Cc: "Bloemker, Jon (DNRE)" <BLOEMKERJ@michigan.gov>, "Lee, Lonnie (DNRE)" <LEEL@michigan.gov>
Date: 02/25/2011 09:21 AM
Subject: RE: Comment Request on Consumers Energy DE Karn, Weadock, and JR Whiting Draft Reports

Gentlemen,

Please accept the following comments related to the Draft Assessment Reports prepared for the EPA relative to the Consumers Energy DE Karn and JC Weadock coal ash disposal sites in Michigan.

Please note that MDNRE is not drawing any conclusions as to whether the GZA and Dewberry and Davis evaluations are acceptable, but rather providing additional information that may be pertinent and pointing out a few unclear or incorrect statements. The comments are primarily related to additional evaluations/reports (by Consumers and their consultants) which were not

available during the GZA and Dewberry and Davis evaluations of the Karn and Weadock sites.

Draft Report Round 7 Dam Assessment Consumers Energy Company-D.E. Karn Plant, dated January 12, 2011, prepared by GZA GeoEnvironmental, Inc. (GZA report)

- In Section 1.2.7 and other areas of the report, GZA indicates that a failure of the perimeter dike is likely to only result in losses (economic and environmental) generally limited to the Owner's property. The rationale for making this assertion is unclear as the disposal Facility is in close proximity to waters of the State. This conclusion could be based on a detailed review of the critical slope stability scenarios with the lowest factors of safety, but this is not clear in the report. To simply state that a dike failure anywhere at the facility would likely only impact the owner's property does not seem prudent.
- The last paragraph of Section 1.3.5 in the GZA report discusses a conclusion from AECOMs analysis that the installation of a slurry wall around the disposal area is feasible. It should be noted that a subsequent evaluation completed by NTH Consultants, Ltd. (Updated Slope Stability Analysis, dated 9/29/10) seemed to question the feasibility of installing a slurry wall in areas where the key-in layer was very deep and/or areas which were found to have marginal factors of safety for potential shallow failure surfaces under existing conditions.
- Section 1.3.7 of the GZA report discusses AECOMs recommendations for the site to institute a vegetation removal and management plan. It can be noted that an interim vegetation management plan was approved by the DNRE on 9/28/10 and a final plan (dated 12/30/10) is currently under review. The facility has already begun to remove vegetation on the dike and waste slopes.
- Section 2.6 of the GZA report discusses AECOMs recommendations to complete slope improvements on portions of the perimeter dike along both the intake and discharge channels. The subsequent evaluation/report by NTH also recommended slope improvements along the intake channel, but suggests that the calculated factors of safety for the slope along the discharge channel, which were below 1.5 for some scenarios, could be considered acceptable if a slope monitoring plan were put in place. The DNRE has not yet provided comments to the company regarding this conclusion.

Coal Combustion Waste Impoundment Round 7-Dam Assessment Report J.C. Weadock (Site 20), dated October 2010, prepared by Dewberry & Davis, LLC (Dewberry Report)

- In Section 2.2 of the report, Dewberry indicates that a failure of the perimeter dike is likely to only result in losses (economic and environmental) generally limited to the Owner's property. The rationale for making this assertion is unclear as the disposal Facility is in close proximity to waters of the State. This conclusion could be based on a detailed review of the critical slope stability scenarios with the lowest factors of safety, but this is not clear in the report.

To simply state that a dike failure anywhere at the facility would likely only impact the owner's property does not seem prudent.

- In Section 4.1.2 of the Dewberry Report it discusses the slurry wall which was installed within the perimeter dike at the facility. It should be noted that the slurry wall does not completely enclose the disposal area. A section of the perimeter, upstream of the fish barrier and NPDES monitoring point, did not have a slurry wall installed in order to provide a vent for water from the site to discharge.
- In Section 7.0 of the Dewberry report, the structural stability evaluation references previous evaluations conducted by MTC and AECOM. It should be noted that the DNRE provided technical comments regarding the stability evaluations performed by AECOM. In response, Consumers retained SME to collect additional field data and perform an updated slope stability evaluation (Report on Dike Slope Stability Analyses, dated November 23, 2010). The SME report indicates a minimum factor of safety for dike slope stability of 1.4 for long-term conditions, which occurs along a dike interior to the landfill property (i.e. not adjacent to Waters of the State). SME believes that for this less critical dike, a factor of safety of 1.4 for the long term condition is acceptable. The DNRE is currently reviewing the SME report and will be providing technical comments in the near future.
- In Section 7.3 and other sections of the Dewberry report, it indicates that the stability of the dike appears to be satisfactory based, in part, on the fact that State of Michigan Dam Safety program staff completes regular inspections at the facility. This is not true. The DNRE conducts inspections relative to environmental permits/licenses for the site, but I don't believe that the Dam Safety Program is involved with this site due to the fact that it is a licensed type III landfill.
- In Section 8.3.2 of the Dewberry report, it indicates that Consumers and the State are discussing vegetation management issues related to the dike slopes. It can be noted that an interim vegetation management plan was approved by the DNRE on 9/28/10 and a final plan (dated 12/30/10) is currently under review.

Thank you for the opportunity to review these draft reports and provide comments. Please contact me if you have any questions regarding this correspondence.

Sincerely,

Greg Morrow, Environmental Engineer
Environmental Resource Management Division
Department of Natural Resources and Environment
Southeast Michigan District
27700 Donald Court, Warren, MI 48092
Ph: 586-753-3852
Fax: 586-753-3831
morrowg@michigan.gov

Company: See attached letter dated March 23, 2011

See also EPA Contractor Response Email (dated April 1, 2011) to Company Comments

March 23, 2011

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

**DRAFT REPORT, COAL COMBUSTION WASTE IMPOUNDMENT ROUND 7 – DAM
ASSESSMENT REPORT, J.C. WEADOCK (SITE 20) FLY ASH DIKE, CONSUMERS ENERGY,
BAY CITY, MICHIGAN**

Dear Mr. Hoffman,

Thank you for the opportunity to allow Consumers Energy to comment on the Draft Dam Report prepared by Dewberry & Davis, LLC. We have appreciated the opportunity to work closely with staff and your contractor, Dewberry & Davis, LLC to produce the most accurate document based on the reports provided as part of this assessment.

Please find the detailed review comments provided as an attachment.

Please feel free to contact me with any questions you may have concerning the attached comments. I look forward to working with you and your contractors to finalize this work product.

Sincerely,



Harold D. Register, Jr., P.E.
Sr. Engineer
Land and Water Management
Phone: (517)788-2982
Email: hdregister@cmsenergy.com

Enclosures

cc (via email):

Mr. Jim Kohler, P.E. (Kohler.James@epamail.epa.gov)

WRITTEN COMMENTS, DRAFT REPORT, COAL COMBUSTION WASTE IMPOUNDMENT ROUND 7, J.C. WEADOCK

1. Page 2-2, Section 2.1 Location and General Description

The section reads, in part, “The fly ash has a small amount of moisture added for dust control, then is transported by truck to the disposal area.” Please add that the moisture is added for suitable compaction as well for clarification.

2. Page 2.2, Section 2.1 Location and General Description, Table 2.1

The table lists that the upstream and downstream side slopes are H:V are 4:1. Consumers notes that the 4:1 is definitely true for the vertical expansion but doesn’t necessarily apply to the embankment structure. Those slopes are generally 3:1 H:V but vary along the extent of the perimeter structure. Please revise to clarify dimensions of embankment slope.

3. Page 2-4, Section 2.4.1 Earth Embankment

The last paragraph discusses the construction of the soil-bentonite slurry wall. Please add a clarifying note that the slurry wall is constructed around the area of fly ash disposal with the exception of a small section that remains open to allow for venting groundwater to discharge into a surface water conveyance immediately upstream of the NPDES outfall monitoring point.

4. Page 3-1, Section 3.1 Summary of Local, State, and Federal Environmental Permits

Please revise the construction permit reference to indicate that Michigan Department of Natural Resources (DNR) issued Permit 0260.

5. Page 3-1, Section 3.2 Summary of Spill/Release Incidents

Please revise to read that no spill or releases of ash have been reported at the Weadock Plant.

6. Page 4-2, Section 4.2.1 Original Operational Procedures

Please correct 4.2.2 to read, “The fly ash has a small amount of moisture added for dust control, then is transported by truck to the disposal area, where it is placed and compacted.”

7. Page 4.2, Section 4.2.1 Original Operational Procedures

WRITTEN COMMENTS, DRAFT REPORT, COAL COMBUSTION WASTE IMPOUNDMENT ROUND 7, J.C. WEADOCK

Please revise 4.2.3 to indicate that the fly ash is conditioned, dry fly ash.

8. Page 5-1, Section 5.1 Project Overview and Significant Findings

Please revise regulatory point of contact for Consumers Energy as State of Michigan Department of Environmental Quality (MDEQ) and not the Dam Safety Office.

9. Page 5-1, Section 5.1 Project Management Overview and Significant Findings

The last sentence of this section states, “However, since coal combustion ash is being managed as a dry landfill operation, the existence of trees on the embankment may be less of an issue.” Consumers Energy understood from the interaction with several dam safety consultants that the standard of practice as it pertains to woody vegetation on dam slopes was that it was generally prohibited. However, if the embankment slope was not acting as a water impounding structure and the vegetation was not visually obstructing the ability to monitoring the embankment, Consumers understood that there was not a standard of practice as it pertains to removal of the woody vegetative growth. Please provide added language to this paragraph clarifying the original statement.

10. Page 7-5, Section 7.3 Assessment of Structural Stability

The introductory sentence states, “Overall, the structural stability of the dam appears to be Satisfactory based on ...” Consumers notes that while some section of the structure may be impounding water, that the structure generally isn’t behaving as a dam. Please rephrase to say that the structural stability of the structure appears to be Satisfactory.

11. Page 8-1, Section 8.1 Operating Procedures

Please revise the description of how the sluice water travels from the bottom ash pond as follows:

- 1) by gravity from the discharge point, including by gravity from Pond F;
- 2) down ditches, through drop structures, and culverts between internal conveyance channels; and
- 3) to the NPDES outlet structure into the plant discharge channel.

12. Page 8-1, Section 8.2 Maintenance of the Embankment and Project Facilities

WRITTEN COMMENTS, DRAFT REPORT, COAL COMBUSTION WASTE IMPOUNDMENT ROUND 7, J.C. WEADOCK

This section indicates that Consumers' staff monitors two existing wells for environmental compliance and static water levels. The current monitoring plan implemented in the 2nd Quarter of 2010 directs consumers to monitoring the static water elevation in a minimum of nineteen (19) monitoring wells on a quarterly basis. Please revise to clarify on-going monitoring program.

13. Page 8-1, Section 8.2 Maintenance of the Embankment and Project Facilities

The section begins with the statement, "The Weadock ash disposal facility does not currently have maintenance (plan) specifically for safety of the containment structures." Please revise to clarify that Weadock has a set of procedures governing the operation and maintenance of the ash disposal area but that the procedures may not be as detailed or include some tasks considered by the inspection team.

14. Page 8-2, Section 8.3 Assessment of Maintenance and Methods of Operations

Please revise Section 8.3.2 to reflect that Consumers Energy is in contact with the State of Michigan Department of Environmental Quality regarding vegetation on the embankment slope.

15. Page E-1, Section 9.0 Adequacy of Surveillance Monitoring Program

Please revise regularly monitored wells from two (2) to a minimum of nineteen (19) conducted on a quarterly basis. Also, please clarify that while there are no survey monuments in place to monitor settling, Consumers conducts an annual ash aerial survey that contours the topography of the ash fields to within +/- 1.0-ft with individual measurements accurate to 0.1-ft.

FW: response to EPA comments on JC Weadock

Strauss, Jerome

to:

Jana Englander

04/01/2011 04:37 PM

Cc:

Stephen Hoffman, "Smith, Cleighton D"

Show Details

History: This message has been replied to and forwarded.

Jana: See Cleighton's response to the EPA question on Weadock. Do you want to speak directly to Cleighton on Monday or setup a conference call? We can set up the call if you go with the latter.

Jerry Strauss, PE, PMP
 Vice President
 Dewberry
 8401 Arlington Blvd
 Fairfax, VA 22031-4666
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From: Smith, Cleighton D
Sent: Friday, April 01, 2011 4:25 PM
To: Strauss, Jerome
Cc: Clarke, Scott
Subject: response to EPA comments on JC Weadock

Jerry,

I propose the following response to EPA on their Weadock comments:

EPA Comment: "Page 2-1: need to clarify the number of impoundments on-site and whether they are landfills or surface impoundments. According to the 104e survey response from the company, there are the following impoundments on-site:

*East 7 & 8 Ponds
 West A - E Ponds*

Please reconcile these impoundments with what was discovered in the field. Describing when these were initially constructed and how they were closed or incorporated into the current waste disposal facility."

In reconciling these impoundments with what we found in the field, we discovered the following:

- There are no impoundments by that name at the Weadock facility.
- The numbers 7 & 8 we believe refer to the generating units currently in operation at Weadock. They dispose fly ash to the eastern portion of the disposal area in an area enclosed by dikes identified by

letters A through F. They dispose of bottom ash to an incision on the western portion of the disposal area. The bottom ash pond is approximately 15 acres; the fly ash disposal area is approximately 277 acres.

- We propose the following changes to the EPA's 104e database"
 - JC Weadock 1st line:
 - Change "East 7 & 8 ponds" to "Eastern Area, embankments A-F",
 - change "3 Fly Ash" to TRUE,
 - change "4 Bottom Ash" to FALSE,
 - change " 8 surface area" to 277, and
 - change "8 Unit Height" to 15.
 - JC Weadock 2nd line:
 - Change "West A-E Ponds" to "Bottom Ash Pond",
 - change "3 Fly Ash" to FALSE,
 - change "4 Bottom Ash" to TRUE,
 - change " 8 surface area" to 15, and
 - change "8 Unit Height" to n/a (incision).

Please let me know if you have any questions.

Cleighton

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