

US EPA ARCHIVE DOCUMENT

**COMMENTS RECEIVED TO DATE REGARDING
THE MARSHALL STEAM STATION COAL ASH RETENTION DAM
ON NORTH CAROLINA HIGHWAY 150
IN THE UNINCORPORATED COMMUNITY OF TERRELL, NORTH CAROLINA**

The following comments were received with respect to the Marshall Steam Facility. All were addressed in the Report version entitled Draft Final Report – Version 2.

COMMENTS ON MARSHALL STEAM FROM LOCKHEAD MARTIN

From: Killeen, Deborah A [mailto:deborah.a.killeen@lmco.com]
Sent: Tuesday, July 07, 2009 4:23 PM
To: peter.baril@gza.com
Cc: Hoffman.Stephen@epamail.epa.gov; Miller, Dennis A
Subject: Comments on Site 5 - Duke - Marshall Stream Report

Peter,

On page 1 of the Executive Summary, third bullet – Should read “Heavy brush, trees and associated vegetation....”.

On page 2 of the Executive Summary in the footer, the date of inspection is listed as 12/20/08.

On page 5, please include names of EPA and North Carolina Department of Environment and Natural Resources (NCDENR) personnel as follows: Craig Dufficy – EPA, Larry Frost – NCDENR and Scott Harrell – NCDENR.

I will be sending an e-mail outlining the requirements for the final report version by tomorrow morning. I also did not receive an electronic copy of this report for our files. Please forward either via e-mail or CD to my attention ASAP. Thank you in advance for your cooperation.

Deb

Deborah A Killeen
Quality Assurance Officer
Lockheed Martin/REAC
732-321-4245 (office)
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COMMENTS ON MARSHALL STEAM FROM EPA

From: Killeen, Deborah A [mailto:deborah.a.killeen@lmco.com]
Sent: Tuesday, July 09, 2009 1:24 PM
To: peter.baril@gza.com; James Guarente
Cc: Hoffman.Stephen@epamail.epa.gov; Miller, Dennis A
Subject: Comments on Site 5 - Duke - Marshall Stream Report

Peter and Jim,

Below are some additional comments I received from Steve Hoffman yesterday on this draft final report.

1. On Page 7, second paragraph, line 4.....10 feet to 45 feet
2. On Page 9, Section 2.6.1, fifth line.....change wee to were
3. On Page 10, Section 3.2, #1.....change to “failure (especially for the upper downstream slopes, which appear steeper than 2H:1V slope) should be conducted after surveying the actual configuration of the slopes.”

Deborah A Killeen
Quality Assurance Officer

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The following additional comment was received with respect to the Marshall Steam Facility.

From: "Miller, Dennis A"
Date: Thu, 23 Jul 2009 11:28:01 -0400
To: peter.baril@gza.com<peter.baril@gza.com>
Subject: FW: TDF 5

Please note the additional questions that Steve wants addressed in revised CCW impoundment assessment reports.

From: Hoffman.Stephen@epamail.epa.gov [mailto:Hoffman.Stephen@epamail.epa.gov]
Sent: Thursday, July 23, 2009 11:09 AM
To: Miller, Dennis A; Killeen, Deborah A
Cc: Ur.Nancy@epamail.epa.gov; Kane.Gloria@epamail.epa.gov; Zownir.Andy@epamail.epa.gov
Subject: TDF 5

The TVA failure mode analysis report for the Kingston embankment failure was made public several weeks ago. One of the key findings was that the unit may have failed because the embankment was built upon coal ash slimes. I am directing LM to contact all of its subs and have them reassess each of the draft reports it has already completed and have them answer the following questions for each facility and unit studied:

- Concerning the embankment foundation, was the embankment construction built over wet ash, slag, or other unsuitable materials? If there is no information just note that.
- Did the dam assessor meet with, or have documentation from, the design Engineer-of-Record concerning the foundation preparation?
- From the site visit or from photographic documentation, was there evidence of prior releases, failures, or patchwork on the dikes?

Stephen Hoffman
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In addition to it being addressed in the Report, GZA also sent the following email response to Mr. Dennis Miller.

From: James Guarente [mailto:james.guarente@gza.com]
Sent: Friday, August 21, 2009 4:28 PM
To: 'dennis.a.miller@lmco.com'
Cc: 'abjarngard@gza.com'; 'frank.vetere@gza.com'; 'pbaril@gza.com'; 'Walter Kosinski'; 'rpalermo@gza.com'; 'whoover@gza.com'
Subject: responses to questions

Dennis,

Below are GZA's responses to your recent set of questions. Each will be expanded upon (as necessary) and incorporated into the respective assessment report as appropriate.

In regard to the Marshall Steam Facility:

Question 1 "Concerning the embankment foundation, was the embankment construction built over wet ash, slag, or other unsuitable materials? If there is no information just note that." - Available information reviewed by GZA indicates that the Marshall Steam Dam was constructed over natural granular soils and or saprolite. GZA did not find any indication that the Unit was constructed over wet ash, slag or other unsuitable material. Available borings performed through the Dam and into the foundation reviewed by GZA did not indicate the presence of such unsuitable foundation materials.

Question 2. "Did the dam assessor meet with, or have documentation from, the design Engineer-of-Record concerning the foundation preparation?" - Select Design and Record Drawings were reviewed by GZA. Drawing M-25 includes the following note regarding the foundation preparation: "Material with Penetration Resistance < 5 Blows/Ft to be removed to depth of 6' +/- below original ground. Before placing compacted fill, foundation shall be drained and dry as approved by Engineer."

Question 3. "From the site visit or from photographic documentation, was there evidence of prior releases, failures, or patchwork on the dikes?" - The only evidence of prior releases, failures, or patchwork observed by GZA was the repair of ongoing surficial slope instability on the downstream slope of the embankment. Our report discusses this instability in detail and it is GZA's understanding that Duke has engaged an engineer to evaluate and design repairs to address this deficiency.

Do not hesitate to contact us should you have any questions.

Regards,
Jim Guarente, P.E.
Project Manager
GZA GeoEnvironmental, Inc.
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ph: 603-232-8729 (direct Manchester, NH Office)
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COMMENTS ON MARSHALL STEAM FROM UTILITY

From: Miller, Dennis A [mailto:dennis.a.miller@lmco.com]

Sent: Wednesday, August 12, 2009 2:20 PM

To: peter.baril@gza.com

Cc: Killeen, Deborah A

Subject: Conference Call to Discuss Company Comments for Marshall Steam Station Assessment Report Comments

Peter: I have been asked by Jim Kohler and Steve Hoffman to setup a conference call to discuss utility company comments received by the EPA for the draft Marshall Steam Station Assessment report. Please identify convenient times for you and your staff for the conference call. I will call you this afternoon.

For the Marshall Report (GZA), please set up a conference call with me/Steve, you, and GZA to discuss the comments attached below...in particular:

>Comment 5: seepage vs. erosion

For all these conference calls: We first want to find out if you agree with the company comments. If not, we suggest inserting a footnote or comment into the report that says: "In comments, the company disagrees..." or "The company asserts that..." We want to be clear that we are not asking you to agree with the company or change the report; we just want to indicate that there was a difference of opinion - that doesn't alter the PE's ultimate decision. We want to be sure you are comfortable with this approach.

Should you disagree or choose not to address/incorporate any comments into the report, please draft a response that explains why.

Also: remember not to finalize any reports until we inform you that all comments (from EPA/state/company) have been received.

If you have any questions or concerns with these directions please feel free to call me or Steve. Thanks!

Review of USEPA Inspection Report – Marshall (GZA)

1. In section 1.2.2, the owner should be listed as "Duke Energy Carolinas, LLC" not "*Duke Power*".
2. "*Duke Power*" should be replaced by "Duke Energy" everywhere throughout the document.
3. In the Executive Summary, 3rd paragraph, and section 1.3.4 and 2.1.2, the words "*decanting structure*" is used. This should be replaced with the term "Discharge Tower."
4. In the Executive Summary, the 3rd paragraph, 2nd sentence says, "*Damage to NC Hwy 150 would most likely occur should there be a failure, and loss of life was not expected.*" Due to the distance of the road from the Dam and the height of the Dam, damage to the road would be unlikely.
5. In the Executive Summary, the 5th paragraph, 2nd bullet, the word "*seepage*" is used twice. Also, "*seepage*" was used in section 3.1, item 2. In all 3 locations, the word "erosion" would be a better word to use. The last sentence of item 2 also says, "*Because of recent heavy rainfall at the time of the inspection, it is difficult to determine whether the water and sediment at the toe was from uncontrolled seepage through the dam or surface water flowing down the dam slope*"

in a scarped area.” The report writer’s own conclusion is that he is unsure if the water is seepage or erosion. Perhaps the word “water” should be used since the writer is inconclusive about the source of the water. Since the inspection, MACTEC, who is providing the design and management of the repair of the scarped area, has determined the source of the water to be erosion and not seepage.

6. Section 1.3.1 says, *“According to a hydrologic and hydraulic evaluation of the dam performed in 1989 by Trigon Engineering, the drainage area for the Marshall Steam Station Coal Ash Retention Dam is approximately 1180 acres or 1.84 square miles, and is located entirely within Catawba County and mostly on Duke Power Property.”* The word “mostly” should be replaced with the word “entirely” since Duke owns all the property that contains the ash basin.
7. Section 1.2.3 says, *“Currently, the plant employs a dry ash handling system, in which the ash is trucked to silos, where it is temporarily stored before either being landfilled or recycled.”* The word “trucked” should be replaced by “conveyed via aboveground piping.”
8. Section 2.4 states, *“There is no Emergency Action Plan (EAP) developed for the dam. Given the dam’s high hazard classification, an EAP is required.”* The 3rd paragraph of the Executive Summary and section 1.2.7 both say the hazard classification would be considered “*Significant*” per the EPA criteria; therefore, this statement is not consistent with the conclusions stated in the report and should be removed.