

US EPA ARCHIVE DOCUMENT

## NOTE

Subject: EPA Comments on Southern Illinois Power Cooperative - Marion Power Station,  
Marion, IL  
Round 10 Draft Assessment Report

Date: May 23, 2012

1. On page 7, Section 2.2 "Impoundments Assessed," the report states, "These Ponds hold residuals from flue gas emission controls (no coal combustion wastes) and, as a result, were not evaluated as part of this assessment." Please include the following clarification in the final report:

"We stated in the draft report that several ponds were not evaluated by our firm because they contained "residuals from flue gas emission controls with no coal combustion wastes". The phrase "residuals from flue gas emission controls" comes directly from the SIPCO response letter dated January 5 ,2011 to a request for information from Mr. Craig Dufficy with USEPA. In this case, SIPCO has indicated that the "residuals" are actually small quantities of process water that contain some chemical characteristics such as calcium sulfate originating from the flue gas desulfurization (GGD) process. The FGD process results in creation of a gypsum scrubber cake that is dewatered and then handled dry (not pumped to a pond). Water from this dewatering process is pumped back into the FGD system, but a small amount of this water leaks out from the FGD system and is collected in a holding pond on the south side of the power plant. This smaller quantity of "residual" water is then mixed with a larger quantity of stormwater as it travels through a series of ponds and is eventually transported off site."

2. On page 14, Section 3.8 "Hazard Classification," it is not appropriate, given the impoundments are incised, to assess a hazard classification. Please remove the hazard potential classification for each unit.
3. On page 34, Section 5.1 "Analysis and Conclusions," the report states "The structural stability of the management units was evaluated." As no structural stability analyses was submitted or analyzed for the impoundments, and because the impoundments are incised, it is not appropriate to state that the structural stability of the management units was evaluated.
4. On page 35, Section 5.2 "Summary Statement," it is not appropriate, given that the impoundments are incised, to provide a condition rating for the units. Please remove the condition rating for each unit.

## **MEMORANDUM**

**SUBJECT:** Comments on “Coal Ash Impoundment Site Assessment Final Report – Marion Power Station, Southern Illinois Power Cooperative, Marion, IL”

**DATE:** October 12, 2012

- In section 3.5 “Geotechnical Considerations,” strike “like TVA” in the last sentence.
- In section 3.8 “Hazard Classification,” contractor should provide a hazard classification independent of the state hazard classification based on relevant factors, i.e., FEMA Guidelines, and provide a detailed description and justification for this hazard potential classification based on size, impounding volume, downstream infrastructure, etc. Because it now appears these impoundments are not incised, as was the case in the draft report, it is requisite to provide a hazard potential classification and justification.
- In section 5.1 “Analysis and Conclusions – Structural Stability of the Impoundments,” the statement “the factor of safety against failure of the bottom ash pond embankments is expected to exceed the required values” should be stricken. This qualifies as “engineering judgment,” which is previously cited.
- The report overall lacks a statement which justifies the rating of POOR, which presumably is based on a lack of structural stability analysis (at a minimum, section 3.6).
- The report lacks the acknowledgement of the need for a liquefaction potential analysis, borings, and hydraulic/hydrologic analysis. These would be standard recommendations (section 6.1).
- Section 7 should include a definition for “Less than Low.”

Comments on Draft Report  
Southern Illinois Power Cooperative – Marion Power Station  
By Paul Mauer, Jr., P.E.  
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Illinois Dam Safety Program

## **Executive Summary**

The consultant states that “the ash pond impoundments are not regulated by any state agency”. This is not correct. All dams in the State of Illinois are regulated by the Department of Natural Resources.

### **Priority 1 Recommendations**

#### **1. Prepare an Emergency Action Plan (EAP) for the impoundments.**

By definition an EAP describes actions to be taken to minimize the loss of life and property damage in the event of a failure of the structure. The Executive Summary states that “Due to the potential environmental and economic impacts that a failure at any of these impoundments would present, it is recommended a hazard classification of “Low” be assigned to all the impoundments...” The sole benefit of an EAP for these structures would be the reduction of property damage to the dam owner. There is no public interest in requiring an EAP at this site.

Additionally it is noted that an EAP prepared for a dam in Illinois must be supervised and approved by the Dam Safety EAP Coordinator.

#### **3.1 Site Information and History**

The discussion characterizes Ponds 1 and 2 as ‘incised’. By definition, incised indicates being cut into, or out of, existing land. The description continues by describing structures that were originally ‘earthen embankments’ that became incised by fill placement. Fill placement results in a modified earthen embankment, not an incised structure.

#### **3.3 Regional Geology and Seismology**

The discussion correctly identifies the site as being between the New Madrid and Wabash Valley seismic (source) zones. The site is further indicated to be in a ‘Seismic Zone 2A’ an apparent reference to the UBC National Hazard Map. There is little additional information regarding seismicity. The section generally understates the significance of the seismic risk. While not is a source zone, the impact of location near 2 known sources makes the risk unusually high. It is noted here that Illinois does not use UBC/IBC for seismic issues. USGS NEH reports are the source of seismic acceleration data.

#### **3.8 Hazard Classification**

The report suggests that a hazard analysis is needed. The structures included in this report are currently classified as Class III (Low Hazard) dams.

### 6.1 Priority 1 Recommendations

1. **Prepare and emergency action plan (EAP) for the impoundments by 6/1/2012.**

As previously noted, there is not sufficient justification for this to be a priority recommendation. The preparation and approval proves in Illinois will not allow the plan to be completed and approved by 6/1/2012.

### 6.2 Priority 2 Recommendations

1. **Develop an Operation and Maintenance (O&M) manual for the impoundments by 6/1/2012.**

This recommendation indicates the EAP should be part of the O&M manual. Illinois requires that the EAP be a standalone document.

From: Leonard Hopkins <lhopkins@sipower.org>  
To: Jana Englander/DC/USEPA/US@EPA  
Date: 07/25/2012 03:49 PM  
Subject: RE: So Illinois Marion

Jana:

SIPC's comments on Draft Report on Marion Station Site Assessment:

- 1) Page 9, paragraph 1, last line – Our boiler slag is used for roof shingle sand & not currently the topping of roadways. Page 9, paragraph 3, line 6 – “deposited into either Pond 1 or Pond 2, **IT** is transferred via outlet pipe culverts .... The word “it” should be replaced with “decanted water” or “the water” to be more clear.
- 2) Page 14, 3.8, last sentence – These ponds were classified as low hazard rating by the State D.O.T.. The main levy at the Station, The Lake of Egypt Dam, has had an Emergency Action Plan developed for it by Aquaterra Environmental Solutions, Inc. in 2005 & revised since that time. (FYI)
- 3) Under Recommendations: EAPs for incised ponds seems unnecessary, as, by definition of “incised”, failure is not possible; only overfilling & failure of the overflow device. Video assessments can be performed, but typically culverts are replaced after they begin to show degradation. Manuals & Logs are fine, but our daily checks (which are performed) by the Environmental Coordinator supply us the information we need to manage these impoundments. In regard to vegetation control, that also seems unnecessary for incised impoundments.

Leonard Hopkins

**Leonard F. Hopkins, P.E.**

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