

10 CFR 52.75

May 1, 2009

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

ALNRC 00019

Subject: AmerenUE – Callaway Plant Unit 2
(NRC Docket No. 52-037)
FSAR Section 2.4.2.3 Input Files

Reference: Response to Information Need Identified During
Site Hydrologic Safety Audit Conducted April 13-15, 2009

The purpose of this letter is to 1) provide the onsite stormwater systems Probable Maximum Flood computer model (HEC-HMS) input data files, and 2) provide numerical models (including input files, input parameters, and governing equations) for collector wells in the Missouri River Alluvial Aquifer. These items were requested during the Site Hydrologic Safety Audit conducted by the NRC at the Callaway Plant on April 13-15, 2009. Specifically, these are items listed on the Hydrologic Safety Site Audit Information Needs table as item numbers 1 and 11. Enclosures 1 & 2 provide an explanation of the input data files and a compact disk (CD) containing the input files. Likewise, enclosures 3 & 4 provide an explanation of the numerical model files related to the alluvial aquifer and a second CD with the respective files.

This letter contains no proprietary information. This letter contains no new regulatory commitments. There are no COLA impacts associated with this information.

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If there are any questions regarding this transmittal, please contact Scott Bond at (573) 676-8519, SBond2@ameren.com or Dave Shafer at (573) 676-4722 DShafer@ameren.com.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on May 1, 2009



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Enclosures:

- 1) Explanation of HEC-HMS Input Files
- 2) HEC Model Input Files FSAR 2.4 (on CD)
- 3) Numerical model explanation related to the alluvial aquifer
- 4) Callaway Plant Unit 2 Groundwater Model Input Files FSAR 2.4 (on CD)

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File code: A160.5761

Enclosure 1

Explanation of HEC-HMS Input Files

The following explains the use of the HEC-HMS files contained on the CD included with Enclosure 2.

Callway_NPP_Site_PMF

This group of HEC-HMS files are associated with the calculation titled "PMF Evaluation of Callway NPP Site" that evaluates the drainage ponds at the site. Run the file **Callway_NPP_Site_PMF.hms** from the HEC-HMS software.

Callaway_Unit_2_PMF_Site_Drainage

This group of HEC-HMS files are associated with the calculation titled "PMF for Callaway NPP Unit 2 Site Drainage System" that evaluates the PMF drainage of the proposed Unit 2 grading plan. Run the file **Callaway_Unit_2_PMF_Site_Dr.hms** from the HEC-HMS software.

Auxvasse_Creek_PMF

This group of HEC-HMS files are associated with the calculation titled "Auxvasse Creek Watershed PMF for Callaway Unit 2 NPP" that evaluates the PMF peak water surface elevations for the Auxvasse Creek Watershed in the vicinity of the site. Run the file **Auxvasse_Creek_PMF.hms** from the HEC-HMS software.

HEC-RAS Callaway

This group of HEC-RAS files are associated with the calculation titled "Callaway HEC-RAS Calc Brief."

HMR-52

This folder contains the HMR-52 file that is associated with the calculation titled "Probable Maximum Storm Event Callaway Unit 2 NPP Site Drainage."

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Enclosure 2

HEC Model Input Files FSAR 2.4 (on CD)

Enclosure 3

Numerical model explanation related to the alluvial aquifer

There are two directories that contain WSI Visual Modflow Version 4.2 model input files. The first directory "2009 FSAR Audit Submittal Baseline" has files with the calibrated model version for the average groundwater flow conditions measured at the site for 2007-2008. More detail is found in the Final Groundwater Model Report (Paul C. Rizzo Associates, May, 2008). The second directory "2009 FSAR Audit Submittal 100-yr drought" has files for the 100-year drought condition, which is defined by lowering the boundary conditions along the Missouri River by 8 feet to the estimated elevation of the Missouri River as 495 feet msl near the discharge point – southeast portion of the model. For this 100-year drought condition, this particular model run sets the hydraulic conductivity of the alluvial material in the floodplain area (layer 3 in the model in the floodplain area) at 600 feet/day. This value was selected as described in the Final Groundwater Model Report as the lower seasonal value of hydraulic conductivity that may be expected due to colder water temperatures. These directories contain the appropriate input file to be opened, in both cases named "test5.vmf". Once this file is opened, the inputs can be viewed by selecting "input" and then selecting the parameter or boundary condition of interest. Output can be viewed by selecting "output" and selecting the output of interest. These directories are fully operational such that inputs can be modified, the changes can be saved, the modified version compiled and executed, and the new output evaluated. For the collector well simulation, the model is first run with the pumps off. Initial heads are set to the ground surface elevations. The output can be viewed. Then, the model can be run with the pumps on. On the input menu, the wells are turned on and in the run menu, the initial heads are set to those from the previous run (with the pumps off). The model is run and then the output can be viewed, such that drawdown (head difference between the pumps off condition and pumps on condition) can be viewed. Also, Zonebudget output can be viewed.

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Enclosure 4

Callaway Plant Unit 2 Groundwater Model Input Files FSAR 2.4 (on CD)