

**SENSITIVE - NOT FOR PUBLIC DISCLOSURE**

November 22, 2004

Mr. Garry L. Randolph  
Vice President and Chief Nuclear Officer  
Union Electric Company  
Post Office Box 620  
Fulton, MO 65251

SUBJECT: CALLAWAY PLANT, UNIT 1 – FINAL ACCIDENT SEQUENCE PRECURSOR  
(ASP) ANALYSIS OF THREE 2001 OPERATIONAL CONDITIONS

Dear Mr. Randolph:

Enclosed for your information is the final Accident Sequence Precursor (ASP) analysis of three adverse conditions identified at the Callaway Plant (Callaway) in 2001. During 2001, two conditions occurred at Callaway involving foreign material that affected safety-related equipment. In February 2001, a foreign object (tygon tubing) rendered the essential service water (ESW) pump inoperable for 132 hours. In December 2001, foreign material from the condensate storage tank (CST) caused failure of the motor-driven auxiliary feedwater (AFW) pump. The condition, a degraded floating diaphragm in the CST, had existed for more than a year. Additionally, a component cooling water (CCW) pump was inoperable for 21 days in November to December 2001, due to improper maintenance. Because the time period for the AFW pump event envelopes the ESW pump event, as well as a CCW pump event, a single assessment was performed for all three conditions.

These operational conditions are documented in licensee event reports (LERs) 483/01-002, dated April 11, 2001, and 483/02-001, dated February 1 and March 1, 2002; and in NRC Inspection Report 50-483/01-06, dated January 16, 2002. The result of the significant determination process (SDP) analysis of the NRC risk oversight process was a WHITE finding for the AFW pump event and the ESW pump event, when analyzed separately. The SDP finding for the CCW pump event was GREEN. The point estimate increase in a change in core damage frequency ( $\Delta$ CDP) for the integrated events is  $1.2 \times 10^{-5}$ . The results of the final ASP analysis indicate that this condition is an accident precursor (i.e., a condition which results in a change in conditional core damage probability (CCDP)  $> 1 \times 10^{-6}$ ). In addition, for comparison with the SDP results for single events, separate ASP analyses were performed for these three conditions, and the results for the three separate ASP analyses were similar to the SDP analysis results.

For the 2001 conditions, the findings in the ASP analysis (change in CCDP and dominant risk contributors) are consistent with those in the SDP. Since this ASP analysis confirms the results of the final significance determination, which has been reviewed by the NRC staff and your staff, it is being issued as a final product for information only. In the past, preliminary versions of all ASP analyses were issued for internal peer review by the NRC staff and for external peer review by the licensee and comments received from these reviews were then resolved as part of the final analysis. To increase efficiency, we are now issuing the "noncontroversial" ASP analyses as final documents.

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The NRC staff is continuing to review the appropriate classification of these documents within our records management program, considering changes in our practices following the events of September 11, 2001. Using our interim guidance, the enclosed ASP analysis has been marked as "Sensitive Information" in accordance with 10 CFR 2.390. Therefore, the staff has not made it publicly available. Please control the document accordingly (i.e., treat the document as if you had determined that it contained trade secrets and commercial or financial information that you considered privileged or confidential). We will inform you if the classification of the document changes as a result of our ongoing assessments.

Note that public access to ADAMS has been temporarily suspended so that security reviews of publically available documents may be performed and potentially sensitive information removed. Please check the NRC website for updates on the resumption of ADAMS public access.

If you have any questions regarding the ASP analysis, contact me at 301-415-1307.

Sincerely,

/RA/

Jack Donohew, Senior Project Manager, Section 2  
Project Directorate IV  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-483

Enclosure: Accident Sequence Precursor Analysis (Sensitive - Not for Public Disclosure)

cc w/o encl: See next page

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Sincerely,  
/RA/  
Jack Donohew, Senior Project Manager, Section 2  
Project Directorate IV  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

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