

December 7, 2004

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

SUBJECT: CALLAWAY PLANT, UNIT 1 - RESPONSE TO NRC BULLETIN 2003-02,  
"LEAKAGE FROM REACTOR PRESSURE VESSEL LOWER HEAD  
PENETRATIONS AND REACTOR COOLANT PRESSURE BOUNDARY  
INTEGRITY" (TAC NO. MC0527)

Dear Mr. Randolph:

On August 21, 2003, the U.S. Nuclear Regulatory Commission (NRC) issued NRC Bulletin 2003-02, "Leakage from Reactor Pressure Vessel Lower Head Penetrations and Reactor Coolant Pressure Boundary Integrity," to the industry. This Bulletin informed addressees that current methods of inspecting the reactor pressure vessel (RPV) lower heads may need to be supplemented with bare-metal visual inspections in order to detect reactor coolant pressure boundary leakage and requested these addressees provide the NRC with information related to inspections that have been performed to verify the integrity of the RPV lower head penetrations.

The Bulletin requested that addressees provide a description of the RPV lower head penetration inspection program that would be implemented at their respective plants during the next and subsequent refueling outages. This description was to include the extent of the inspection, the inspection methods to be used, the qualification standards for the inspection methods, the process used to resolve the source of findings of boric acid deposits or corrosion, the inspection documentation to be generated, and the basis for concluding that their plant satisfied applicable regulatory requirements related to the structural and leakage integrity of the RPV lower head penetrations.

By letter dated November 19, 2003 (ULNRC-04920), Union Electric Company (UEC) provided its response to the Bulletin request above for the Callaway Plant, Unit 1 (Callaway). UEC committed to visually inspecting the RPV lower head penetrations during each refueling outage beginning with the Spring 2004 refueling outage at Callaway and stated, in its attachment to the letter, that all 58 RPV lower head penetrations, including 100 percent of the circumference of each penetration as it enters the RPV lower head, will be inspected. UEC originally made the commitment in its letter dated January 30, 2003 (ULNRC-04799), in response to Bulletin 2002-01, "Reactor Pressure Vessel Head Degradation and Reactor Coolant Pressure Boundary Integrity." As such, you are requested to notify the NRC in writing of any change to this commitment prior to the implementation of the change.

The Bulletin also requested that addressees provide a summary of the RPV lower head penetration inspection that was performed at their plants, the extent of the inspection and the methods used, a description of the as-found condition of the lower head, any findings of relevant indications of through-wall leakage, and a summary of the disposition of any findings of boric acid deposits and any corrective actions taken as a result of indications found.

By letter dated August 12, 2004 (ULNRC-05042), UEC provided a summary of its inspection results during the Spring 2004 refueling outage at Callaway. UEC reported it had performed a 360-degree bare-metal visual and volumetric examination of the 58 RPV lower head penetrations with no evidence of penetration leakage observed. This examination was beyond the commitment made by UEC in its letters dated January 30 and November 19, 2003. There were also conference calls with the licensee on the Spring 2004 inspection results which were documented in the summary of the call held on July 28, 2004. The summary was issued in the NRC letter dated September 1, 2004.

Based on its review of UEC's responses to NRC Bulletin 2003-02 in its letters dated November 19, 2003, and August 12, 2004, the NRC staff finds that UEC has met the reporting requirements of the Bulletin for Callaway. Accordingly, TAC No. MC0527 is closed.

Sincerely,

**/RA by Robert A. Gramm for/**

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

Docket No. 50-483

cc: See next page

The Bulletin also requested that addressees provide a summary of the RPV lower head penetration inspection that was performed at their plants, the extent of the inspection and the methods used, a description of the as-found condition of the lower head, any findings of relevant indications of through-wall leakage, and a summary of the disposition of any findings of boric acid deposits and any corrective actions taken as a result of indications found.

By letter dated August 12, 2004 (ULNRC-05042), UEC provided a summary of its inspection results during the Spring 2004 refueling outage at Callaway. UEC reported it had performed a 360-degree bare-metal visual and volumetric examination of the 58 RPV lower head penetrations with no evidence of penetration leakage observed. This examination was beyond the commitment made by UEC in its letters dated January 30 and November 19, 2003. There were also conference calls with the licensee on the Spring 2004 inspection results which were documented in the summary of the call held on July 28, 2004. The summary was issued in the NRC letter dated September 1, 2004.

Based on its review of UEC's responses to NRC Bulletin 2003-02 in its letters dated November 19, 2003, and August 12, 2004, the NRC staff finds that UEC has met the reporting requirements of the Bulletin for Callaway. Accordingly, TAC No. MC0527 is closed.

Sincerely,

**/RA by Robert A. Gramm for/**

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

Docket No. 50-483

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