

## NRR-PMDAPEm Resource

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**From:** Lyon, Fred  
**Sent:** Tuesday, March 25, 2014 2:10 PM  
**To:** Maglio, Scott A (SMaglio@ameren.com); 'Elwood, Thomas B' (TElwood@ameren.com)  
**Cc:** Markley, Michael; Fairbanks, Carolyn; Purtscher, Patrick  
**Subject:** Callaway - Verbal Relief I3R-16 (TAC No. MF3650)

On October 14, 2013, during routine plant operation, Union Electric Company (dba Ameren Missouri), the licensee for Callaway Plant, discovered a leak from the essential service water (ESW) side of Train "A" Component Cooling Water (CCW) heat exchanger, EEG01A. The licensee attributed the leak to pitting corrosion at a localized area of coating damage on the inside of the heat exchanger. Implementing an ASME Code-required repair before the next refueling outage would require draining ESW from the heat exchanger, making one train of CCW and one train of ESW inoperable.

By letter dated March 19, 2014 (ADAMS Accession No. ML14079A529), the licensee requested NRC approval to implement an alternative to the requirements in IWA-4000 of the 1998 Edition with the 2000 Addenda of Section XI of the ASME Code regarding repair of the heat exchanger. The alternative was requested under the provisions of 10 CFR 50.55a(a)(3)(ii). The NRC staff evaluated the licensee's request for relief I3R-16, and clarifying information provided in a conference call with the licensee on March 24, 2014, as summarized below.

The bounding size of the flaw was conservatively determined by ultrasonic testing (UT) by the licensee to be a pit with a ½ inch diameter. The licensee proposed to use ASME Code Case N-705 to characterize and evaluate the structural integrity of the system. Applying Code Case N-705, the licensee has demonstrated that they can continue to operate until the next refueling outage in October 2014. Given the postulated ESW leakage, a margin still exists between this worst-case bounding condition and the requirements for ESW system operability.

During the coming summer months, the temperature of the ESW system will increase and, without a repair, the margin for operability would be reduced. The licensee proposes to install a temporary mechanical clamping device, which would reduce assumed leakage and would be able to be credited as a pressure boundary in the area of the leak, in order to increase the margin of operability. The design of the clamping device follows the requirements of IWA-4133. The licensee has used conservative assumptions regarding the flaw size, stress state, and potential for flaw growth until the next refueling outage, and determined that the postulated flaw would meet the structural margins required by the Code Case N-705 under all normal, upset, emergency, and faulted conditions. Furthermore, the licensee has committed to daily visual inspection for leakage and additional UT inspections every three months to demonstrate that the alternative still meets the Code Case N-705 requirements for monitoring and examination of the flaw.

The NRC staff has completed its review of the information provided by the licensee and the requirements for use of Code Case N-705. The staff concluded that requiring the licensee to make a permanent Code-required repair to the leaking CCW heat exchanger EEG01A before the next refueling outage would create a hardship without a compensating increase in level of quality and safety, based on the potential risks associated with unit cycling and any emergent equipment issues incurred during shutdown and startup evolutions.

Therefore, in accordance with 10 CFR 50.55a(a)(3)(ii), based on the hardship without a compensating increase in the level of quality and safety, the NRC staff, with the concurrence of M. Markley, NRR/DORL/LPL4-1/BC, and C. Fairbanks, NRR/DE/EVIB/BC(A), grants request for relief I3R-16 for Callaway Plant, for the period not to exceed startup from the fall 2014 refueling outage.

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