



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

November 5, 2012

Mr. Adam C. Heflin
Senior Vice President and
Chief Nuclear Officer
Union Electric Company
P.O. Box 620
Fulton, MO 65251

SUBJECT: CALLAWAY PLANT, UNIT 1 – WITHDRAWAL OF AN AMENDMENT REQUEST
(TAC NO. ME6645)

Dear Mr. Heflin:

By letter dated June 30, 2011 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML111820367), you applied for an amendment to the Callaway Plant, Facility Operating License No. NPF-30. The proposed change would have modified the facility Technical Specifications (TSs) pertaining to TS 3.6.6, "Containment Spray and Cooling Systems." Specifically, the amendment would have revised Surveillance Requirement 3.6.6.3 for verifying the minimum required containment cooling train cooling water flow rate. By letter dated September 10, 2012 (ADAMS Accession No. ML12255A040), you provided a response to the U.S. Nuclear Regulatory Commission (NRC) staff's request for additional information dated August 9, 2012 (ADAMS Accession No. ML12220A211). Subsequently, by letter dated October 26, 2012 (ADAMS Accession No. ML12305A202), you withdrew the amendment request.

For your future information, based on its review of your request, the NRC staff's preliminary conclusion was that you did not provide sufficient information for the staff to conclude that you were using an acceptable methodology with acceptable design inputs and assumptions, or that the proposed changes complied with the requirements of Title 10 of the *Code of Federal Regulations* (10 CFR) paragraph 50.36(c)(3), "Surveillance requirements." Specific comments from the NRC staff's review to date are provided below:

1. While heat exchanger fouling factor is a significant contributor to determining the required cooling water flow, the licensee is determining fouling factor by visual inspection as opposed to using the Final Safety Analysis Report specified value of 0.002, which conservatively bounds expected fouling factors that should be controlled by regular cleaning and/or testing.
2. In response to the NRC staff's request for the methodology, design inputs, and assumptions used for determining the proposed new "within limits" flow as the proposed acceptance criteria for required cooling water flow, the licensee stated it uses PROTO-HX and its service water flow balancing procedure. It appears that the licensee is plugging tubes and placing whole coils out of service (quantity not specified) and visibly determining fouling factors as input to predict cooling water flow rate that would be satisfactory for removing 70.7 MBtu/hr, and using several calculations to make the

determinations. When requested to list design input and methodology for the basis of the current specified TS limit of ">2200 gpm" and the proposed "within limits," the licensee listed the inputs from only design calculation 07-44. The licensee did not provide all of the assumptions, design inputs and various methodologies of the various calculations used. When requested to list the differences in the design assumptions, design inputs and methodology between the current analysis for "> 2200 gpm" and "within limits," the licensee provided a general statement with no limits to the number of tubes to be plugged or coils to be taken out of service. Based on the lack of information provided and the proposed visual determination of fouling factor and the licensee's inability to test the cooler at design conditions, the NRC staff does not have assurance that the licensee will determine a new cooling water flow rate without reducing or eliminating safety margin of the containment cooling heat exchangers.

3. The licensee's design basis calculation 07-044 is titled, "Containment Cooler Performance as a Function of Tube Side Differential Pressure." It appears that the licensee is taking entire coils out of service and plugging tubes while apparently using cooling water differential pressure as measured locally at each heat exchanger to define cooler performance. This appears to be contrary to the NRC's answer to question 6 of Section III of Generic Letter (GL) 89-13, Supplement 1, "Service Water Problems Affecting Safety-Related Equipment," dated April 4, 1990 (ADAMS Accession No. ML0341140185).
4. Although the coolers are in constant use during plant operation, the licensee appears to assume an air-side fouling factor of zero, which is non-conservative.
5. With entire coils taken out of service and some tubes plugged, the licensee did not provide information on how it proposed to account for sections of air flow ineffectiveness, and how all this relates to the proposed new cooling water flow limit of "within limits."
6. The NRC staff requested that the licensee describe the GL 89-13 program for the containment cooling heat exchangers and any changes needed as a result of the proposed changes. The licensee stated that its procedure, EDP-ZZ-01112, will not be affected by the proposed changes. No specific information was provided to explain the statement that the GL 89-13 program with respect to the containment cooling heat exchangers will not be affected.
7. Based on the information provided, the NRC staff was unable to conclude that the proposed change to the surveillance requirement (i.e., moving the TS value to a licensee-controlled document), would assure that the necessary quality of systems and components is maintained, that facility operation will be within safe limits, and that the limiting conditions for operation will be met. Therefore, the staff was unable to conclude that the proposed changes met the requirements of 10 CFR 50.36(c)(3).

A. Heflin

- 3 -

The Commission has filed the enclosed Notice of Withdrawal of Application for Amendment to Facility Operating License with the Office of the Federal Register for publication. If you have any questions, please contact me at 301-415-2296 or via e-mail at Fred.Lyon@nrc.gov.

Sincerely,

A handwritten signature in black ink that reads "CF Lyon". The letters are cursive and somewhat stylized.

Carl F. Lyon, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-483

Enclosure:
As stated

cc w/encl: Distribution via Listserv

NUCLEAR REGULATORY COMMISSION

Docket No. 50-483; NRC-20YY-XXXX

Callaway Plant, Unit No. 1

Application for Amendment to Facility Operating License

AGENCY: Nuclear Regulatory Commission.

ACTION: License amendment application; withdrawal.

ADDRESSES: Please refer to Docket ID <NRC-20YY-XXXX> when contacting the NRC about the availability of information regarding this document. You may access information related to this document, which the NRC possesses and are publicly available, using any of the following methods:

- **Federal rulemaking Web site:** Go to <http://www.regulations.gov> and search for Docket ID <NRC-20YY-XXXX>. Address questions about NRC dockets to Carol Gallagher; telephone: 301-492-3668; e-mail: Carol.Gallagher@nrc.gov.

- **NRC's Agencywide Documents Access and Management System (ADAMS):**
You may access publicly available documents online in the NRC Library at <http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "[ADAMS Public Documents](#)" and then select "[Begin Web-based ADAMS Search](#)." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov. The ADAMS accession number for each document referenced in this notice (if that document is available in ADAMS) is provided the first time that a document is referenced.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

FOR FURTHER INFORMATION CONTACT: Carl F. Lyon, Project Manager, Plant Licensing Branch IV, Division of Operating Reactor Licensing, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555; telephone: 301-415-2296; e-mail: Fred.Lyon@nrc.gov.

SUPPLEMENTARY INFORMATION:

The U.S. Nuclear Regulatory Commission (NRC or the Commission) has granted the request of Union Electric Co. (the licensee) to withdraw its application dated June 30, 2011 (ADAMS Accession No. ML111820367), as supplemented by letter dated September 10, 2012 (ADAMS Accession No. ML1225A040), for proposed amendment to Facility Operating License No. NPF-30 for the Callaway Plant, Unit No. 1, located in Callaway County, Missouri.

The proposed amendment would have revised Technical Specification (TS) 3.6.6, "Containment Spray and Cooling Systems." Specifically, the amendment would have revised Surveillance Requirement (SR) 3.6.6.3 for verifying the minimum required containment cooling train cooling water flow rate. Rather than require verifying each containment cooling train has a cooling water flow rate greater than or equal to 2200 gallons per minute, TS SR 3.6.6.3 would have been revised to require verification that the flow rate is capable of being "within limits" for achieving the heat removal rate assumed in the Callaway Plant safety analyses.

The Commission had previously issued a Notice of Consideration of Issuance of Amendment published in the *Federal Register* on November 1, 2011 (76 FR 67491). However, by letter dated October 26, 2012 (ADAMS Accession No. ML12305A202), the licensee withdrew the proposed change.

For further details with respect to this action, see the application for amendment dated June 30, 2011, the supplement dated September 10, 2012, and the licensee's letter dated October 26, 2012, which withdrew the application for license amendment.

Dated at Rockville, Maryland, this 5th day of November 2012.

For the Nuclear Regulatory Commission.

A handwritten signature in black ink that reads "CF Lyon". The signature is written in a cursive, slightly stylized font.

Carl F. Lyon, Project Manager,
Plant Licensing Branch IV,
Division of Operating Reactor Licensing,
Office of Nuclear Reactor Regulation.

A. Heflin

- 2 -

The Commission has filed the enclosed Notice of Withdrawal of Application for Amendment to Facility Operating License with the Office of the Federal Register for publication. If you have any questions, please contact me at 301-415-2296 or via e-mail at Fred.Lyon@nrc.gov.

Sincerely,

/RA/

Carl F. Lyon, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-483

Enclosure:
As stated

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ADAMS Accession Nos.: LTR ML12305A194 FRN ML12305A195

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