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

September 20, 2012

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

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE CALLAWAY PLANT UNIT 1, LICENSE RENEWAL APPLICATION, SET 11 (TAC NO. ME7708)

Dear Mr. Heflin:

By letter dated December 15, 2011, Union Electric Company d/b/a Ameren Missouri (the applicant) submitted an application pursuant to Title 10 of the *Code of Federal Regulations* Part 54 (10 CFR Part 54) for renewal of Operating License No. NPF-30 for the Callaway Plant Unit 1 (Callaway). The staff of the U.S. Nuclear Regulatory Commission (NRC or the staff) is reviewing this application in accordance with the guidance in NUREG-1800, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants." During its review, the staff has identified areas where additional information is needed to complete the review. The staff's requests for additional information are included in the enclosure. Further requests for additional information may be issued in the future.

Items in the enclosure were discussed with Sarah G. Kovaleski, of your staff, and a mutually agreeable date for the response is within 30 days from the date of this letter. If you have any questions, please contact me by telephone at 301-415-2946 or by e-mail at Samuel.CuadradoDeJesus@nrc.gov.

Sincerely,

Samuel Cuadrado de Jesús, Project Manager
Projects Branch 1
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket No. 50-483

Enclosure:
As stated

cc w/encl: Listserv

CALLAWAY PLANT UNIT 1
LICENSE RENEWAL APPLICATION
REQUEST FOR ADDITIONAL INFORMATION, SET 11

RAI 3.1.2.2.11-1

Background:

In LRA Section 3.1.2.2.11, potential cracking of the steam generator (SG) tube-to-tubesheet welds and divider plate assembly is discussed. The SG tubesheet cladding is Alloy 182, a material that is potentially susceptible to primary water stress corrosion cracking (PWSCC). The SG tubes are welded to the cladding (an autogenous weld) and the divider plate assembly is welded to the tubesheet cladding. As a result, Commitments Nos. 34 and 35 were made regarding the performance of analyses or inspections of the tube-to-tubesheet welds and the divider plate.

Requests:

a) Regarding the tube-to-tubesheet weld Commitment No. 35:

   i. Please discuss your plans to modify your commitment to indicate that the technical basis for the redefinition of the reactor coolant pressure boundary (RCPB) will be submitted to the staff for review and approval as part of the license amendment process prior to redefining the RCPB.

   ii. In addition, please discuss whether an analytical evaluation may be performed to assess whether the welds are susceptible to PWSCC. If it is determined that the welds are not susceptible to PWSCC, and the staff agrees with this determination, discuss your plans for using this as the basis for not performing inspections of the welds. Please discuss your plans to modify your commitment to reflect your response to this question.

   iii. Please confirm that the inspection technique(s) used to inspect the welds will be capable of detecting PWSCC. In addition, discuss your plans to modify your commitment to reflect that the inspection technique(s) will be capable of detecting PWSCC.

b) Regarding the divider plate Commitment No. 34:

   i. Please clarify the configuration of your divider plate assembly. In particular, clarify if the divider plate assembly (i.e., the stub runner) is welded to the carbon steel tubesheet or the tubesheet cladding. Clarify whether the divider plate is welded to the stainless steel channel head cladding or the low alloy carbon steel shell. In addition, clarify the weld material for the welds.

ENCLOSURE

ii. Discuss your plans for clarifying your commitment that the inspection technique used will be qualified to detect cracking in the divider plate assembly given that cracks have been observed outside the weld region (i.e., in the heat affected zone).

iii. Clarify the frequency for this inspection, or if it is a one-time inspection.

iv. Please discuss plans to remove the last two options in your commitment since, if such analyses become available, they could be submitted to the staff for review and if approved, may serve as a basis for revising the commitment. The staff notes that if additional analyses become available that demonstrate pressure boundary integrity is adequately maintained with divider plate weld cracking, or if studies indicate that failure of the pressure boundary is not a concern, then the commitment may be revised at that time.

c) Regarding both the divider plate and tube-to-tubesheet weld Commitments Nos. 34 and 35,

i. Please discuss your plans to include the tube-to-tubesheet weld and divider plate commitments in your Updated Final Safety Analysis Report (UFSAR) supplement.

ii. Please discuss your plans for revising the commitment to specify that an inspection of each SG, to assess the condition of the divider plate assembly and tube-to-tubesheet weld, will be performed during a specific time period (e.g., the inspections will be performed no earlier than three years prior to the period of extended operation and no later than two years after entering the period of extended operation). The actual timeframe chosen should consider the amount of operating time on the SG.

RAI 3.1.2.4-1

Background

During the staff's review of the aging management review (AMR) items in LRA Table 3.1.2-4 associated with SG tubes, the staff noted that heat transfer was listed as an intended function of the SG tubes, but reduction of heat transfer was not cited as an aging effect.

Request

Discuss how the reduction of heat transfer of the SG tubes will be managed.

September 20, 2012

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Sincerely,
/RA/

Samuel Cuadrado de Jesús, Project Manager
Projects Branch 1
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket No. 50-483

Enclosure:
As stated

cc w/encl: Listserv
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NAME	SCuadrado	YEdmonds	DMorey	SCuadrado
DATE	09/10/12	09/10/12	09/10/12	09/20/12

OFFICIAL RECORD COPY

Letter to A. Heflin from S. Cuadrado DeJesus dated September 20, 2012

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE CALLAWAY PLANT UNIT 1 LICENSE RENEWAL APPLICATION, SET 11 (TAC NO. ME7708)

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