



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

February 12, 2014

Mr. Fadi Diya
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 30
(TAC NO. ME7708)

Dear Mr. Diya:

By letter dated December 15, 2011, Union Electric Company (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 request for additional information is included in the enclosure. Further requests for additional information may be issued in the future.

Items in the enclosure were discussed with David E. Shafer, 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,

A handwritten signature in black ink, appearing to read "Samuel Cuadrado de Jesús".

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

Docket No. 50-483

Enclosure:
Request for Additional Information

cc: Listserv

February 12, 2014

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Senior Vice President
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P.O. Box 620
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/RA/

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

Docket No. 50-483

Enclosure:

Cc: Listserv

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DATE	2/7/2014	2/12/2014	2/12/2014	2/12/2014

OFFICIAL RECORD COPY

Letter to F. Diya from S. Cuadrado de Jesus dated February 12, 2014

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE
CALLAWAY PLANT, UNIT 1, LICENSE RENEWAL APPLICATION, SET 30
(TAC NO. ME7708)

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CALLAWAY PLANT, UNIT 1
LICENSE RENEWAL APPLICATION
REQUEST FOR ADDITIONAL INFORMATION, SET 30

RAI 3.1.2.1-6

Background:

By letter dated October 24, 2012, Union Electric Company (Ameren Missouri) provided License Renewal Application (LRA) Amendment No. 13 which revised LRA Table 3.1.2-1, "Reactor Vessel, Internals, and Reactor Coolant System – Summary of Aging Management Evaluation – Reactor Vessel and Internals," to provide an amended aging management review (AMR) for the reactor vessel internals clevis insert bolts. In this amended AMR, the applicant confirmed that the clevis insert bolts are fabricated from nickel alloy materials and that potential cracking and loss of material due to wear will be managed by the applicant's American Society of Mechanical Engineers (ASME) Section XI Inservice Inspection (ISI), Subsections IWB, IWC, and IWD Program.

Issue:

Appendix A to Electric Power Research Institute (EPRI) Technical Report No. 1022863, "Materials Reliability Program: Pressured Water Reactor (PWR) Internals Inspection and Evaluation Guidelines (MRP-227-A)," indicates that failures of nickel alloy (Alloy X-750) clevis insert bolts were reported by the licensee for one domestic Westinghouse-designed pressurized water reactor in 2010. The ASME Section XI visual VT-3 inspections of the clevis insert assemblies on a 10-year frequency may not be adequate to ensure the integrity of clevis insert assemblies during design basis events if multiple bolt failures occur prior to detection and a design basis event occurs.

Request:

- (a) Describe the configuration of clevis insert assemblies at Callaway Plant, Unit 1 (Callaway) including number of bolts in the assemblies. Specify the material of fabrication, including any applicable heat treatment, that were used for the design of the clevis insert bolts at Callaway.
- (b) Discuss and justify whether the operating experience associated with cracking of the clevis insert bolts is applicable to clevis insert assembly designs at Callaway.
- (c) Describe the inspections that have been performed of the clevis insert bolts, including the type of inspection (e.g., VT-3). Clarify the visual inspection coverage that was achieved during these inspections. Clarify the ASME examination category that applies to inspections of the clevis insert bolts (and identify the applicable inspection method and frequency) and whether the past examinations have resulted in the detection of any

ENCLOSURE

indications of cracking or failures of the clevis insert bolts that are included in the clevis insert assembly designs. If so, provide the details of the inspection results and clarify the corrective actions that were taken at the facility to justify the structural integrity of the clevis insert assemblies and the intended safety function of the plant's core support structure and its components during plant operations.

- (d) Based on your responses to Parts (a) through (c) of this request, clarify whether the 10-year ISI basis for the clevis insert bolts is sufficient to manage cracking and wear of the bolts during the period of extended operation. Justify your response to this request.

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