



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

March 5, 2014

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

SUBJECT: CALLAWAY PLANT, UNIT 1 – REQUEST FOR ADDITIONAL INFORMATION
RE: PR-03 AND PR-05, PROPOSED ALTERNATIVES FROM ASME OM CODE
PUMP AND VALVE TESTING REQUIREMENTS (TAC NOS. MF2786 AND
MF2788)

Dear Mr. Diya:

By letter dated September 23, 2013, Union Electric Company (dba Ameren Missouri, the licensee) submitted to the U.S. Nuclear Regulatory Commission (NRC) for approval requests for alternative PR-03 and PR-05 for the Callaway Plant, Unit 1. The licensee proposed alternatives to certain requirements of the American Society of Mechanical Engineers (ASME) *Code for Operation and Maintenance of Nuclear Power Plants* (OM Code). PR-03 is a request to permit use of a test flow path for the boric acid transfer pumps, for which only differential pressure (in lieu of differential pressure and flow) will be measured but which will still provide an adequate means to assess pump performance. PR-05 is a request to increase the upper required action range high limit for comprehensive pump test flow results from +3 percent to +6 percent, following the guidance of ASME OM Code Case OMN-19.

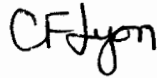
The NRC staff has reviewed the information provided in your application and determined that additional information is required in order to complete its formal review. The enclosed questions were provided to T. Elwood of your staff on February 27, 2014. Please provide a response to the enclosed questions by April 7, 2014.

F. Diya

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If you have any questions, please contact me at 301-415-2296 or via e-mail at fred.lyon@nrc.gov.

Sincerely,



Carl F. Lyon, Project Manager
Plant Licensing Branch IV-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-483

Enclosure:
Request for Additional Information

cc w/encl: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION
REQUEST FOR ALTERNATIVES PR-02 AND PR-05
TO ASME OM CODE REQUIREMENTS
UNION ELECTRIC COMPANY
CALLAWAY PLANT, UNIT 1
DOCKET NO. 50-483

By letter dated September 23, 2013 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML13267A183), Union Electric Company (dba Ameren Missouri, the licensee) submitted to the U.S. Nuclear Regulatory Commission (NRC) for approval requests for alternative PR-03 and PR-05 for the Callaway Plant, Unit 1. The licensee proposed alternatives to certain requirements of the American Society of Mechanical Engineers (ASME) *Code for Operation and Maintenance of Nuclear Power Plants* (OM Code). PR-03 is a request to permit use of a test flow path for the boric acid transfer pumps, for which only differential pressure (in lieu of differential pressure and flow) will be measured but which will still provide an adequate means to assess pump performance. PR-05 is a request to increase the upper required action range high limit for comprehensive pump test flow results from +3 percent to +6 percent, following the guidance of ASME OM Code Case OMN-19.

The NRC staff has reviewed the information provided in your application and determined that additional information is required in order to complete its formal review.

RAI PR-03-1

The request states that flow measuring instrumentation is not installed in the mini-flow recirculation flow path. Please explain why flow measuring instrumentation cannot be installed in this flow path.

RAI PR-03-2

Please provide a pump curve for the Boric Acid Transfer Pumps. If the pumps are operating at 15 gallons per minute (gpm), are they operating on a flat portion of the curve or a sloped portion of the curve? If they are operating on a flat portion of the curve, please discuss how pump degradation can be detected from the proposed Group A test results if flow is not measured.

RAI PR-05-1

There is confusion as to which pumps are affected by this alternative request. Section 1 states that the components affected by the proposed alternative are all of the pumps contained within the inservice testing program scope. Section 5 states that the proposed alternative is applicable to the pumps listed in Table PR-05. The pumps listed in Table PR-05 are all horizontal centrifugal pumps and vertical line shaft pumps. However, Section 3 lists as an applicable Code requirement ISTB-5323, "Comprehensive Test Procedure," which is applicable to positive

Enclosure

displacement pumps. Please state which section of the alternative request provides the correct listing of pumps, Section 1 or Section 5. If Section 5 is correct, please explain why ISTB-5323 is listed as an applicable Code requirement.

RAI PR-05-2

The NRC staff has no objections to Code Case OMN-19, provided that a Pump Periodic Verification Test Program is in place. This test program will insure that the pumps will be able to meet their design-basis accident flow rates and differential pressures. Please discuss why a Pump Periodic Verification Test Program is not included in the proposed alternative, as was done, for example, in alternative request P-6 for Surry Power Station, Unit 1, and alternative request P-5 for Surry Power Station, Unit 2 (letter dated May 1, 2013, ADAMS Accession No. ML13128A104; as supplemented by letter dated November 5, 2013, ADAMS Accession No. ML13316A006). Mandatory Appendix V in the 2012 Edition of the ASME OM Code provides a Pump Periodic Verification Test Program that meets the NRC staff's concerns. Code Case OMN-19 and the 2012 Edition of the ASME OM Code are not yet endorsed in Section 50.55a of Title 10 of the *Code of Federal Regulations*.

F. Diya

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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-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

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*email dated February 27, 2014

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