



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

January 14, 2013

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 20 (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,

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:
As stated

cc w/encl: Listserv

CALLAWAY PLANT UNIT 1
LICENSE RENEWAL APPLICATION
REQUEST FOR ADDITIONAL INFORMATION, SET 20

RAI B2.1.14-5b

Background:

The staff reviewed the applicant's response to request for additional information (RAI) B2.1.14-5a and has questions related to flow testing of the fire water system. In addition, while credited in the RAI response, trending of the microbiologically influenced corrosion (MIC) Index was not incorporated into the Fire Water System Program.

As described in the RAI response, the staff understands the following in relation to fire water system flow testing:

- Failure of the flow test in 2004 was attributed to accumulated corrosion products. The corrective action was to conduct chemical cleaning in 2006 and the subsequent flow test met acceptance criteria.
- Failure of the flow test in 2009 was attributed to a combination of factors related to the test procedure and calculation such as gauge elevation, rounding error, and rerouting of fire piping. Upon revision of the calculation and flow test procedure, the flow test met acceptance criteria.
- Failure of the flow test in 2011 was attributed to unnecessary conservatism in the flow calculation such as how much additional flow was assumed to hose stations and yard hydrants coincident with sprinkler demand as compared to the licensing basis value. Additionally, the calculation used to determine pipe wall cleanliness was rewritten, including taking credit for actual fire pump performance. Upon revision of the calculations, the flow test met acceptance criteria.

Issue:

- a) Although contributing factors to the flow test failures have been identified and the procedure used to verify operability has been revised, the test results indicate that the condition of the fire main is degrading. Specifically, the 2006 flow test was passed without the changes to the test procedures and calculations which were implemented to pass the 2009 and 2011 test results. Likewise, the 2009 flow test passed without the changes to the calculations which were implemented to pass the 2011 test results. Additionally, some of the procedure changes removed margin instead of correcting test process inaccuracies.

The proposed changes to the program, including continued chemical additions to the fire water system to mitigate biological growth and augmented wall thickness inspections, do not resolve the staff's concern related to the flow degradation in the system.

The response to RAI B2.1.14-5a, part (c) states that the program collects MIC samples and trends the MIC Index to evaluate treatment effectiveness in specific locations. However, although the amended Fire Water System Program discusses MIC sampling, it does not include MIC Index trending.

Request:

- a) In light of the decreasing trend in system performance, state the basis for why flow testing of the system every 3 years will be sufficient to ensure that the system can perform its intended function during the period of extended operation.
- b) Revise LRA Section B2.1.14 to include MIC Index trending.

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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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*concurrence via e-mail

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| NAME | YEdmonds | SCuadrado | DMorey | SCuadrado |
| DATE | 1/4/2013 | 1/9/2013 | 1/14/2013 | 1/14/2013 |

OFFICIAL RECORD COPY

Letter to A. Heflin from S. Cuadrado de Jesus dated January 14, 2013

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