



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

March 3, 2011

Mr. David J. Bannister
Vice President and CNO
Omaha Public Power District
Fort Calhoun Station
444 South 16th St. Mall
Omaha, NE 68102-2247

**SUBJECT: FORT CALHOUN STATION, UNIT NO. 1 – SECOND REQUEST FOR
ADDITIONAL INFORMATION RE: REQUEST FOR RELIEF FROM CODE CASE
N-722 VISUAL EXAMINATION OF THE REACTOR VESSEL HOT-LEG
NOZZLE-TO-SAFE-END DISSIMILAR METAL WELDS (TAC NO. ME4541)**

Dear Mr. Bannister:

By letter dated August 16, 2010, as supplemented by letter dated January 14, 2011, (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML102300679 and ML110200205, respectively), Omaha Public Power District proposed an alternative to paragraph 50.55a(g)(6)(ii)(E), "Reactor coolant pressure boundary visual inspections," of Title 10 of the *Code of Federal Regulations* (10 CFR) for the Fort Calhoun Station, Unit No. 1. This requirement defines the inservice inspection (ISI) frequency of visual examination of the reactor vessel hot leg nozzle-to-safe-end welds in accordance with the American Society of Mechanical Engineers Boiler and Pressure Vessel Code Case N-722, "Additional Examinations for PWR [Pressurized-Water Reactor] Pressure Retaining Welds in Class 1 Components Fabricated With Alloy 600/82/182 Materials," and with the U.S. Nuclear Regulatory Commission (NRC) conditions. The duration of request is for the fourth 10-year ISI interval which ends on September 25, 2013.

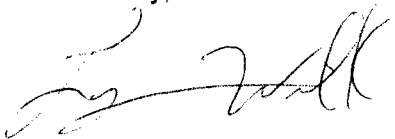
The NRC staff has reviewed your submittals and has determined that the information specified in the enclosed request for additional information (RAI) is needed for the staff to complete its evaluation. A draft copy of the enclosed RAI was provided to Mr. Bill Hansher of your staff via e-mail on February 23, 2011, and discussed with Mr. Hansher and others of your staff on February 24, 2011. Mr. Hansher indicated that the response would be provided within 7 days of receipt of this letter.

D. Bannister

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If you have any questions, please contact me at 301-415-1377 or via e-mail at lynnea.wilkins@nrc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'Lynnea E. Wilkins', with a stylized flourish at the end.

Lynnea E. Wilkins, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-285

Enclosure:
As stated

cc w/encl: Distribution via Listserv

SECOND REQUEST FOR ADDITIONAL INFORMATION

REQUEST FOR RELIEF FROM ASME CODE CASE N-722 REQUIREMENTS FOR VISUAL

EXAMINATION OF REACTOR VESSEL HOT LEG NOZZLE TO SAFE END WELDS

OMAHA PUBLIC POWER DISTRICT,

FORT CALHOUN STATION, UNIT NO. 1,

DOCKET NO. 50-285

By letter dated August 16, 2010, as supplemented by letter dated January 14, 2011, (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML102300679 and ML110200205, respectively), Omaha Public Power District proposed an alternative to paragraph 50.55a(g)(6)(ii)(E), "Reactor coolant pressure boundary visual inspections," of Title 10 of the *Code of Federal Regulations* (10 CFR) for the Fort Calhoun Station, Unit No. 1. This requirement defines the inservice inspection (ISI) frequency of visual examination of the reactor vessel hot leg nozzle-to-safe-end welds in accordance with the American Society of Mechanical Engineers Boiler and Pressure Vessel Code Case N-722, "Additional Examinations for PWR [Pressurized-Water Reactor] Pressure Retaining Welds in Class 1 Components Fabricated With Alloy 600/82/182 Materials," and with the U.S. Nuclear Regulatory Commission (NRC) conditions. The duration of request is for the fourth 10-year ISI interval which ends on September 25, 2013.

The NRC staff has reviewed and evaluated the information provided by the licensee and has determined that the following information is needed in order to complete its review of the relief request.

1. In Reference 8.a of the Attachment to the letter dated August 16, 2010, the as-built dimension of the Nozzle Extension Forging (a.k.a. safe end) is not provided. The drawing identifies a distance much larger than assumed in the analysis under References 9, 10, and 11.

Please provide the basis for the distance between the dissimilar metal weld and stainless steel weld used in the analysis.

2. It appears from Reference 6 of the Attachment to the letter dated August 16, 2010, that the post extended power uprate loads used in the analysis as documented in Table 3-3 were not conservative. Loop 2 loads appear to be used for Deadweight + Normal Operating Thermal, and Loop 1 values were used for Operational Basis Earthquake and Safe Shutdown Earthquake. However, initial review of Reference 6 indicates the values calculated for the other Loop in each case were higher.

Enclosure

Please state the basis for using minimum loop loading values in Table 3-3 of the Attachment to the letter dated August 16, 2010.

3. Figures 18 and 19 of Reference 11 of the Attachment to the letter dated August 16, 2010, appear to be the closest stress profiles to the one used to develop Figure 4-1 of the submittal. Figures 18 and 19 included post-weld heat treatment, a 25 percent weld repair, and a 5-13/32-inch safe-end length.

Please provide the basis for the differences between the analysis and results between Figures 18, 19, and 4-1. Specifically, please state the basis for the reduction in magnitude of the hoop and axial stresses in the inner half-thickness of the nozzle.

4. Please describe the post-weld heat treatment procedure used after the dissimilar metal weld was fabricated.

D. Bannister

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If you have any questions, please contact me at 301-415-1377 or via e-mail at lynnea.wilkins@nrc.gov.

Sincerely,

/RA/

Lynnea E. Wilkins, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-285

Enclosure:
As stated

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ADAMS Accession No. ML110610217

***memo dated**

OFFICE	NRR/LPL4/PM	NRR/LPL4/LA	NRR/DCI/CPNB	NRR/LPL4/BC	NRR/LPL4/PM
NAME	LWilkins	JBurkhardt	TLupold*	MMarkley	LWilkins
DATE	3/2/11	3/2/11	2/17/11	3/3/11	3/3/11

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