

May 13, 2003

Mr. R. T. Ridenoure
Division Manager - Nuclear Operations
Omaha Public Power District
Fort Calhoun Station FC-2-4 Adm.
P.O. Box 550
Fort Calhoun, NE 68023-0550

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION – INSERVICE INSPECTION (ISI)
PROGRAM PLAN FOR THE FOURTH OPERATING INTERVAL SUBMITTAL
FOR THE FORT CALHOUN STATION, UNIT 1 (TAC NO. MB7241)

Dear Mr. Ridenoure:

By letter dated November 5, 2002, Omaha Public Power District (OPPD) submitted the Inservice Inspection (ISI) Program Plan for the fourth operating interval for the Fort Calhoun Station, Unit 1 (FCS). Included in the plan were Requests for Relief RR-1 through RR-9 that proposed alternatives to the requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI. The requests for relief are for the fourth 10-year ISI interval, in which FCS adopted the 1998 Edition, through 2000 Addenda, of ASME Section XI as the Code of record. In addition, in accordance with 10 CFR 50.55a, OPPD must meet the ultrasonic qualification requirements set forth in the 1995 Edition with 1996 Addenda of ASME Section XI, Appendix VIII.

The staff has reviewed OPPD's submittal and has determined that additional information is needed to complete our review. A request for additional information is enclosed. This request was discussed with Richard Jaworski of your staff on May 1, 2003, and it was agreed that a response would be provided within 45 days of receipt of this letter.

If you have any questions, please contact me at (301) 415-1445.

Sincerely,

/RA/

Alan B. Wang, Project Manager, Section 2
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-285

Enclosure: Request for Additional Information

cc w/encl: See next page

May 13, 2003

Mr. R. T. Ridenoure
Division Manager - Nuclear Operations
Omaha Public Power District
Fort Calhoun Station FC-2-4 Adm.
P.O. Box 550
Fort Calhoun, NE 68023-0550

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION – INSERVICE INSPECTION (ISI)
PROGRAM PLAN FOR THE FOURTH OPERATING INTERVAL SUBMITTAL
FOR THE FORT CALHOUN STATION, UNIT 1 (TAC NO. MB7241)

Dear Mr. Ridenoure:

By letter dated November 5, 2002, Omaha Public Power District (OPPD) submitted the Inservice Inspection (ISI) Program Plan for the fourth operating interval for the Fort Calhoun Station, Unit 1 (FCS). Included in the plan were Requests for Relief RR-1 through RR-9 that proposed alternatives to the requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI. The requests for relief are for the fourth 10-year ISI interval, in which FCS adopted the 1998 Edition, through 2000 Addenda, of ASME Section XI as the Code of record. In addition, in accordance with 10 CFR 50.55a, OPPD must meet the ultrasonic qualification requirements set forth in the 1995 Edition with 1996 Addenda of ASME Section XI, Appendix VIII.

The staff has reviewed OPPD's submittal and has determined that additional information is needed to complete our review. A request for additional information is enclosed. This request was discussed with Richard Jaworski of your staff on May 1, 2003, and it was agreed that a response would be provided within 45 days of receipt of this letter.

If you have any questions, please contact me at (301) 415-1445.

Sincerely,

/RA/

Alan B. Wang, Project Manager, Section 2
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-285

Enclosure: Request for Additional Information

cc w/encl: See next page

DISTRIBUTION:

PUBLIC

PDIV-2 Reading

RidsNrrDlpmPdiv (HBerkow)

RidsNrrPMAWang

RidsNrrLAEPeyton

RidsOgcRp

RidsAcrcAcnwMailCenter

RidsRgn4MailCenter (AHowell)

WBateman

ADAMS Accession No.: ML031360108

NRR-088

OFFICE	PDIV-2/PM	PDIV-2/LA	PDIV-2/SC
NAME	AWang	EPeyton	SDembek
DATE	5/13/03	5/13/03	5/13/03

DOCUMENT NAME: C:\ORPCheckout\FileNET\ML031360108.wpd

OFFICIAL RECORD COPY

Ft. Calhoun Station, Unit 1

cc:

Winston & Strawn
ATTN: James R. Curtiss, Esq.
1400 L Street, N.W.
Washington, DC 20005-3502

Chairman
Washington County Board
of Supervisors
P.O. Box 466
Blair, NE 68008

Mr. John Kramer, Resident Inspector
U.S. Nuclear Regulatory Commission
P.O. Box 310
Fort Calhoun, NE 68023

Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011-4005

Ms. Sue Semerera, Section Administrator
Nebraska Health and Human Services
Systems
Division of Public Health Assurance
Consumer Services Section
301 Centennial Mall, South
P.O. Box 95007
Lincoln, NE 68509-5007

Mr. David J. Bannister, Manager
Fort Calhoun Station
Omaha Public Power District
Fort Calhoun Station FC-1-1 Plant
P.O. Box 550
Fort Calhoun, NE 68023-0550

Mr. John B. Herman
Manager - Nuclear Licensing
Omaha Public Power District
Fort Calhoun Station FC-2-4 Adm.
P.O. Box 550
Fort Calhoun, NE 68023-0550

Mr. Daniel K. McGhee
Bureau of Radiological Health
Iowa Department of Public Health
401 SW 7th Street, Suite D
Des Moines, IA 50309

Mr. Richard P. Clemens
Division Manager - Nuclear Assessments
Omaha Public Power District
Fort Calhoun Station
P.O. Box 550
Fort Calhoun, NE 68023-0550

**REQUEST FOR ADDITIONAL INFORMATION
FOURTH 10-YEAR INSERVICE INSPECTION INTERVAL
REQUESTS FOR RELIEF
OMAHA PUBLIC POWER DISTRICT
FORT CALHOUN STATION, UNIT 1
DOCKET NO. 50-285**

By letter dated November 5, 2002, Omaha Public Power District (OPPD/the licensee), submitted the Inservice Inspection (ISI) Program Plan for the fourth operating interval for the Fort Calhoun Station, Unit 1 (FCS). Included in the plan were Requests for Relief (RR) -1 through RR-9 that proposed alternatives to the requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI. The requests for relief are for the fourth 10-year ISI interval, in which FCS adopted the 1998 Edition, through 2000 Addenda, of ASME Section XI as the Code of record. In addition, in accordance with 10 CFR 50.55a, OPPD must meet the ultrasonic qualification requirements set forth in the 1995 Edition with 1996 Addenda of ASME Section XI, Appendix VIII.

In accordance with 10 CFR 50.55a(a)(3)(i), OPPD has proposed alternatives for certain requirements contained in ASME Section XI. OPPD's proposed alternatives must provide an acceptable level of quality and safety, as compared with the Code. For alternatives proposed in accordance with 10 CFR 50.55a(a)(3)(ii), OPPD must show there is a hardship or burden associated with performing the original requirement, and that no compensating increase in quality or safety will occur if the original requirement is imposed.

The staff has reviewed the information submitted by OPPD and based on this review, requires the following information to complete our evaluation.

1. General Information

The licensee has listed ASME Section XI, 1998 Edition through 2000 Addenda as the Code of reference for the fourth interval at FCS. The interval start date is stated to be September 26, 2003. According to 10 CFR 50.55a(g)(4)(ii), licensees must use the latest Edition/Addenda incorporated by reference in 10 CFR 50.55a(b) that is in effect 12 months prior to the start of the inspection interval. For the FCS fourth interval start date, this would be the 1995 Edition with 1996 Addenda of ASME Section XI. The staff realizes that the Final Rule on Industry Codes and Standards was published in the *Federal Register* on September 26, 2002 (67 FR 60520). However, the effective date of the Final Rule is October 28, 2002.

It has been brought to the staff's attention that the licensee, by letter dated February 14, 2003, requested approval to use the later Code Edition (1998 Edition with 2000 Addenda). Subsequent to discussions on this matter, the licensee elected to extend the third inservice inspection interval until October 31, 2003, as allowed by the Code. Thus, the new fourth interval start date would be November 1, 2003, and no relief is required. Please confirm this schedule change, and state that the current operating license will not exceed 40 years, i.e., the fourth interval shall be shortened to accommodate the extension in the third interval.

Also, by a previous submittal dated December 20, 2002, the licensee requested relief for items in the third interval. Please revise the submittal for the third interval response to the NRC request for additional information (RAI) to indicate the new end date.

2. **Request for Relief RR-2, Use of Code Case N-498-1, Alternative Rules for 10-Year Hydrostatic Testing for Class 1, 2 and 3 Systems**

The licensee has requested to use Code Case N-498-1 during the fourth interval at FCS. This Code Case has been approved for use in Revision 12 of Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability—ASME Section XI, Division 1, with no additional conditions. However, Code Cases must be used in their entirety. The licensee's alternative proposal is unclear:

- a. Is the intent to use N-498-1 for Class 3 systems only? If so, explain why the Code Case cannot be applied to all Class 1, 2 and 3 components at FCS.
- b. The licensee states that Supplement 12 to the 1998 Edition of Nuclear Code Cases limits the applicability of this case to the 1992 Edition with the 1993 Addenda. Further, the licensee states that the basis for the applicability limitation was the issuance of subsequent revisions to the case. However, subsequent revisions to N-498-1, i.e., -2, -3 and -4 are not acceptable for use because the staff has determined that elimination of hold times is not acceptable. Please clarify exactly what is proposed and why a problem exists with using the requirements in the 1992 Edition for hydrostatic tests to be performed under N-498-1.

3. **Request for Relief RR-3, Use of Code Case N-648-1, Alternative Requirements for Inner Radius Examination of Class 1 Reactor Vessel Nozzles**

The staff has not approved the use of N-648-1, and it would be inappropriate to circumvent the review process for this Code Case. However, several licensees have been authorized to use an enhanced visual examination as an alternative to the volumetric examination of the inner radius sections of Class 1 nozzles if it can be shown that the volumetric examination places an undue burden or hardship on the licensee with no compensating increase in quality or safety. The conditions for the enhanced visual examination are listed in the Final Rule on Industry Codes and Standards, Section 2.2.8, *IWB Examination Requirements*. It should be noted these enhanced visual parameters were aimed at inner radius examinations in steam generator and pressurizer nozzles, where high radiation exposures would be incurred by manual ultrasonic examinations, not reactor pressure vessel (RPV) nozzles that are inspected via remote tooling.

In addition, several boiling water reactor (BWR) licensees have also been authorized this type of alternative for certain RPV nozzles, but not on a generic basis, as would be the application in N-648-1. Please resubmit RR-3 as an alternative, not referencing Code Case N-648-1, but providing detailed information to support evaluation under 10 CFR 50.55a(3)(ii), i.e., describe the burden associated with the current volumetric

application, and why no compensating increase in quality or safety would be realized by the ultrasonic examination of the inner radius as opposed to an enhanced visual examination.

4. **Request for Relief RR-5, Use of Code Case N-568, Alternative Examination Requirements for Welded Attachments**

This Code Case has been reviewed by the staff and found unacceptable for use, as listed in Draft Regulatory Guide DG-1091, *Inservice Inspection Code Case Acceptability* (Proposed Revision 13 to Regulatory Guide 1.147). The bases for not accepting N-568 is stated as:

"The Code Case does not require: (1) examination of similar attachments which may be unobstructed in lieu of the obstructed attachment; (2) an evaluation of the acceptability of examinations with limited coverage; and (3) considerations of alternative examinations in cases (1) and (2)."

The licensee may withdraw this request, propose a new alternative that addresses the issues above, or simply leave RR-5 "as is." However, Code Case N-568 will not be acceptable for use during the fourth interval at FCS.

5. **Request for Relief RR-6, Alternative to Removal of Insulation from Bolted Connections on Borated Systems**

The licensee has proposed an alternative to removal of insulation at bolted connections during the conduct of visual VT-2 leakage tests. The alternative is similar to Code Case N-533-1, which has been tentatively approved for use in Draft Regulatory Guide DG-1091, with the condition that a four-hour hold time be maintained prior to the VT-2 visual examination.

The alternative proposed appears to be in compliance with Code Case N-533-1. It is unclear why N-533-1, with the condition stated above, cannot be applied at FCS. Identify and provide a detailed justification for any deviations from the Code Case, or other Code requirements, in order to support the evaluation of this alternative.

6. **Request for Relief RR-7, Alternative to Removal of Bolts at Bolted Connections**

The licensee has proposed an alternative to corrective actions prescribed in IWA-5250(a)(2) for leakage detected at bolted connections during visual VT-2 pressure tests. The alternative is similar to Code Case N-566-1, which has been tentatively approved for use in Draft Regulatory Guide DG-1091, with no conditions.

The alternative proposed appears to be in compliance with, or more restrictive than, Code Case N-566-1. It is unclear why N-566-1 cannot be applied at FCS. Identify and provide a detailed justification for any deviations from the Code Case, or other Code requirements, in order to support the evaluation of this alternative.

7. **Request for Relief RR-8, Use of Alternative to Appendix VIII, Supplement 10, Qualification Requirements for Dissimilar Metal Piping Welds**

On page 7-37 of the licensee's request (enclosure showing changes between Appendix VIII, Supplement 10 and proposed PDI alternative), Section 4.0, item (d), it is stated that "To qualify new values of essential variables, at least one personnel qualification set is required." It is unclear whether this is intended to require at least one *successful* personnel qualification with the new essential variables, or simply to include the number of specimens equal to one qualification set. Please clarify.

8. **Request for Relief RR-9, Use of Alternative to Appendix VIII, (Proposed) Supplement 14, Combined Qualification Requirements for Piping Welds Examined from the Inner Diameter**

- a. Please indicate whether the alternative (including the comparison enclosure) provided in the licensee's request is the most current Supplement 14 version of the proposed PDI alternative.
- b. The licensee's proposal is aimed at piping welds that are examined from the inner diameter surface using remote automated techniques. The licensee argues that to impose separate qualifications, as currently required by Supplements 2, 3 and 10, is excessive because the ultrasonic essential variables used for dissimilar metal, austenitic, and ferritic welds (when performed from the inner diameter) will be the same. Therefore, it is expected that the inner diameter applications may not be confronted with the same acoustic limitations, i.e., attenuation and beam redirection effects, as methods applied from the outside surface of these piping welds. However, situations may arise that may result in less than two sided examinations.
 - (1) It is unclear how the qualification of far-side examinations will be implemented. Provide a discussion on the implementation of far-side examinations for the different supplements.
 - (2) It is unclear how the coverage of far-side examinations will be determined. Provide a discussion on coverage of far-side examinations for the different supplements.