

June 17, 2004

Mr. Randall K. Edington
Vice President-Nuclear and CNO
Nebraska Public Power District
P. O. Box 98
Brownville, NE 68321

SUBJECT: COOPER NUCLEAR STATION - REQUEST FOR ADDITIONAL INFORMATION
REGARDING RISK-INFORMED RELIEF REQUEST RI-34 (TAC NO. MC2351)

Dear Mr. Edington:

By letter dated March 11, 2004, Nebraska Public Power District (the licensee) requested the Nuclear Regulatory Commission (NRC) staff grant relief from certain inservice inspection (ISI) requirements for the selection and examination of Class 1 and 2 piping welds. The submittal proposes a Risk-Informed ISI Program as an alternative to existing American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI requirements.

The NRC staff has reviewed the information provided in the March 11, 2004, submittal and determined that additional information is required in order to complete the review of RI-34. As agreed upon with Ed McCutchen of your staff on June 15, 2004, the licensee will respond to the request for additional information (RAI) within 45 days. The RAI is enclosed.

Sincerely,

/RA/

Michelle C. Honcharik, Project Manager, Section 1
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-298

Enclosure: RAI

cc w/encl: See next page

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*LA concurrence deferred per memo from Tad Marsh "Deferral of Activities Necessary to Support Security Plan Review Team."

ACCESSION NO: ML041700251

OFFICE	PDIV-1/PM	PDIV-1/LA	PDIV-1/SC
NAME	MHoncharik	DBaxley	RGramm
DATE	6/16/04	N/A*	6/16/04

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REQUEST FOR ADDITIONAL INFORMATION

ISSUES RELATED TO RISK-INFORMED INSERVICE INSPECTION (RI-ISI)

RELIEF REQUEST RI-34

COOPER NUCLEAR STATION (CNS)

Unless otherwise stated, all Table, Section, and Page numbers refer to Enclosure 1 of the March 11, 2004, submittal.

1. In the Applicable Time Period Section of Attachment 1, the licensee requested approval of the proposed RI-ISI program at CNS for the remainder of the third ten-year interval of the ISI Program, beginning with the last outage of the third period, and for the fourth ten-year ISI interval, which will begin on March 1, 2006. This is not consistent with the current NRC regulatory requirements that the ISI program needs to be updated every 10 years. As the proposed RI-ISI program is a part of the ISI program, it also needs to be updated every 10 years and submitted to the NRC consistent with the current American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI requirements. Therefore, the licensee's relief request (RI-34) should be revised to indicate that the subject relief request applies only to the third ten-year interval of the ISI program beginning from the third period. A separate relief request should be submitted to NRC for implementing the proposed RI-ISI program in the fourth 10-year interval of the ISI program.
2. In the Basis For Relief Section of Attachment 1, the licensee stated that the RI-ISI application was also conducted in a manner consistent with ASME Code Case N-578 "Risk-Informed Requirements for Class 1, 2, and 3 Piping, Method B." The staff notes that Code Case N-578 has not been endorsed by NRC in the Regulatory Guide 1.147. Therefore, the licensee should limit the application of Code Case N-578 to only the portion that was approved by NRC as referenced in Electric Power Research Institute (EPRI) Topical Report (TR) TR-112657.
3. In Section 3, Risk-Informed Process, the licensee stated that a deviation to the EPRI RI-ISI methodology has been implemented in the failure potential assessment for the potential for thermal stratification, cycling and striping (TASCS). For clarification, provide confirmation to the following two items pertaining to the assessment of TASCS:
 - a. Confirm that the methodology for assessing TASCS in the CNS RI-ISI program is identical to the materials reliability program (MRP) methodology in EPRI TR-000701, "Interim Thermal Fatigue Management Guideline (MRP-24)," January 2001.
 - b. The licensee stated that the final MRP guidance on the subject of TASCS will be incorporated into the CNS RI-ISI application if different from the criteria used. Confirm that only the portion of the final MRP guidance that are reviewed and approved by NRC will be incorporated into the CNS RI-ISI program.

ENCLOSURE

4. In Section 3.5.2, Program Relief Requests, the licensee stated in note 2 to the relief request of RI-20, Rev. 1 that the subject Relief request can be modified or withdrawn dependent upon the results of the upcoming examination. The staff notes that the subject relief request addresses the issue pertains to partial surface examination coverage of weld RVD-BF-14 in the ISI program. In the RI-ISI program this weld is selected for volumetric examination instead of surface examination. Therefore, this relief request should be withdrawn because it is no longer applicable to the inspection of weld RVD-BF-14 in the RI-ISI program. A separate relief request for volumetric examination of this weld should be submitted when needed.
5. In Table 3.3, Failure Potential Assessment Summary, intergranular stress corrosion cracking (IGSCC) is identified as a potential failure mechanism in 6 elements of the nuclear boiler (NB) system. In Table 3.5, those elements susceptible to IGSCC are assigned to Category 4 or 6 (for elements with no degradation mechanism). Discuss what method will be used for inspecting those elements in Category 4 that are susceptible to IGSCC. In addition, in note 2 to Table 3.5, it is stated that one of the augmented inspected (IGSCC) welds is being credited for RI-ISI program. Provide reason and justification for allowing such a credit.
6. In Table 3.3, many plant systems did not have any potential failure mechanism. This is consistent with Table 3.4 which showed that the majority of the elements selected for examination are in Category 4. Provide detailed discussion regarding how the elements in Category 4 are selected for inspection and what examination method will be used for each selected element.
7. In Table 3.3, crevice corrosion is identified as the only potential failure mechanism in reactor recirculation system and core spray system. Discuss what inspection method will be used for detecting this failure mechanism including qualification/demonstration of the inspection method and personnel.
8. In Table 3.3, IGSCC is identified as a potential failure mechanism only in the NB system. Discuss and provide reasons why stainless steel components in other systems are not considered susceptible to IGSCC. Even for Category A welds which are subsumed by the RI-ISI program should be considered as susceptible to IGSCC, Category A welds are more resistant to IGSCC; however, they are not immune to IGSCC.
9. Describe in detail how the assessment of potential failure mechanisms for various systems as provided in Table 3.3 was performed, and also identify all deviations from the approved guidelines in EPRI TR-112657. The staff notes that the potential failure mechanisms identified for systems at CNS are substantially less than that at similar boiling water reactors.

Cooper Nuclear Station

cc:

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