



Nebraska Public Power District

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10 CFR 50.55a

NLS2005086
September 28, 2005

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

Subject: Inservice Inspection Relief Requests RI-21, Revision 2, and RI-36 and
Withdrawal of Relief Request RI-20
Cooper Nuclear Station, Docket 50-298, DPR-46

The purpose of this letter is to request that the Nuclear Regulatory Commission (NRC) grant the Nebraska Public Power District (NPPD) relief from certain inservice inspection (ISI) code requirements for the Cooper Nuclear Station pursuant to 10 CFR 50.55a. In addition, NPPD is informing the NRC of the withdrawal of Relief Request RI-20.

Relief Requests RI-21, Revision 2, and RI-36 are applicable to the third ten-year ISI interval, which ends February 28, 2006. NPPD requests NRC approval of the attached relief requests by February 28, 2006.

Relief Request RI-20 pertains to partial surface examination coverage of weld RVD-BF-14 in the ISI Program. In the Risk-Informed Inservice Inspection (RI-ISI) Program this weld is selected for volumetric examination instead of surface examination. Therefore, this relief request is being withdrawn because it is no longer applicable to the inspection of weld RVD-BF-14 in the RI-ISI Program.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 will be submitted for RVD-BF-14, when needed.

If you have any questions concerning this matter, please contact Paul Fleming, Licensing Manager, at (402) 825-2774.

Sincerely,

Randall K. Edington
Vice President – Nuclear and
Chief Nuclear Officer

/sl

Attachment

A047

COOPER NUCLEAR STATION

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cc: U.S. Nuclear Regulatory Commission w/attachment
Regional Office – Region IV

Senior Project Manager w/attachment
USNRC – NRR Project Directorate IV-1

Senior Resident Inspector w/attachment
USNRC – CNS

NPG Distribution w/o attachment

CNS Records w/attachment

Relief Request Number RI-21, Revision 2

COMPONENT IDENTIFICATION

Code Class:	1
References:	IWB-2500, Table IWB-2500-1
Examination Category:	B-D – Full Penetration Welded Nozzles in Vessels – Inspection Program B
Item Number:	B3.90
Description:	Reactor Pressure Vessel Nozzle-to-Vessel Welds
Component Numbers:	N1A, N1B, N2A, N2B, N2C, N2D, N2E, N2F, N2G, N2H, N2J, N2K, N3A, N3B, N3C, N3D, N4A, N4B, N4C, N4D, N5A, N5B, N6A, N6B, N7, N8A, N8B, and N9

CODE REQUIREMENT

The code of record for the third ISI interval is ASME Section XI, 1989 Edition, with no addenda. Section XI, Table IWB-2500-1, Examination Category B-D, Item B3.90, requires 100% volumetric examination of the reactor vessel nozzle-to-vessel welds as defined by Figure IWB-2500-7(a).

BASIS FOR RELIEF

The Cooper Nuclear Station (CNS) construction permit was issued before the effective date of implementation for ASME Section XI, and thus the plant was not designed to meet the requirements of inservice inspection. Therefore, 100% compliance is not feasible or practical. The configuration of the nozzles, the design of the vessel insulation support rings and the nozzle access hatches, and interferences from thermocouple pads, instrument lines, etc., prevent 100% examination of the required weld volumes. Alternate angles were used to the extent practical to increase the volume examined. The extent of the nozzle restrictions and the total volume accessible for examination, based on the examinations performed in the second interval, were approved for the CNS third interval in Table RI-21-1, Revision 1, per TAC No. M94000.

Examinations conducted in the third interval met or exceeded the coverage requirements for the nozzle-to-vessel welds listed in Table RI-21-1, with the exception of the N9 nozzle-to-vessel weld NVE-BD-N9. The basis of this relief request revision is to change the examination coverage of the nozzle-to-vessel weld for N9 from 70% to 40% (40.99% actual) as well as remove the reference to the inner radius for N9. Examinations performed in the third interval on nozzle-to-vessel weld NVE-BD-N9 achieved 40% coverage as compared to 70% required by Revision 1 of this Relief Request.

Relief Request Number RI-21, Revision 2 (Continued)

The examinations for N9 were performed in accordance with ASME Section XI, Appendix VIII, 1995 Edition with Editions and Addenda through 2000. The primary reduction in coverage is due to differences in procedure and equipment qualifications as a result of the Performance Demonstration Initiative (PDI) as compared to requirements for examinations before PDI was implemented. For example, the requirement to use only PDI-qualified transducers limited the examination coverage and contributed to a reduction of coverage compared to previous examinations in the outer 85% volume.

While the total coverage was 40%, it should be noted that the inner 15% received 100% coverage with the overall reduction of coverage present in the outer 85%. (See the figure on Page 4 of this attachment for examination volumes.) It should also be noted that the N9 nozzle inner radius examination in the third interval achieved 100% of the required examination volume. Therefore, relief is not required for the inner radius examination (Item B3.100). Based on EPRI modeling of the examination volume as guidance for the examination and demonstrated qualification of the examiners through PDI, a higher quality of examination was achieved even though less overall coverage was achieved.

To reflect that relief is not required for the N9 nozzle inner radius, the words "and inner radius" have been removed from the listing in proposed Table RI-21-1, Revision 2, for Nozzle Number N9. In addition, the table has been administratively updated to reflect Instrument Nozzles N11A&C in the access restrictions column for Nozzle Numbers N4A&C.

PROPOSED ALTERNATIVE EXAMINATION

Pursuant to 10CFR50.55a(g)(5)(iii), Nebraska Public Power District has determined that compliance with the code requirements of achieving essentially 100% coverage of the welds listed in Table RI-21-1 is impractical for CNS. In lieu of performing the code-required examinations, CNS proposes to examine the accessible portions of reactor vessel nozzle-to-vessel welds to the extent practical.

APPLICABLE TIME PERIOD

Relief is requested for the third ten-year interval of the Inservice Inspection Program for CNS.

Relief Request RI-21, Revision 1, was approved by the NRC on October 23, 1997 (TAC No. M94000).

Relief Request Number RI-21, Revision 2 (Continued)

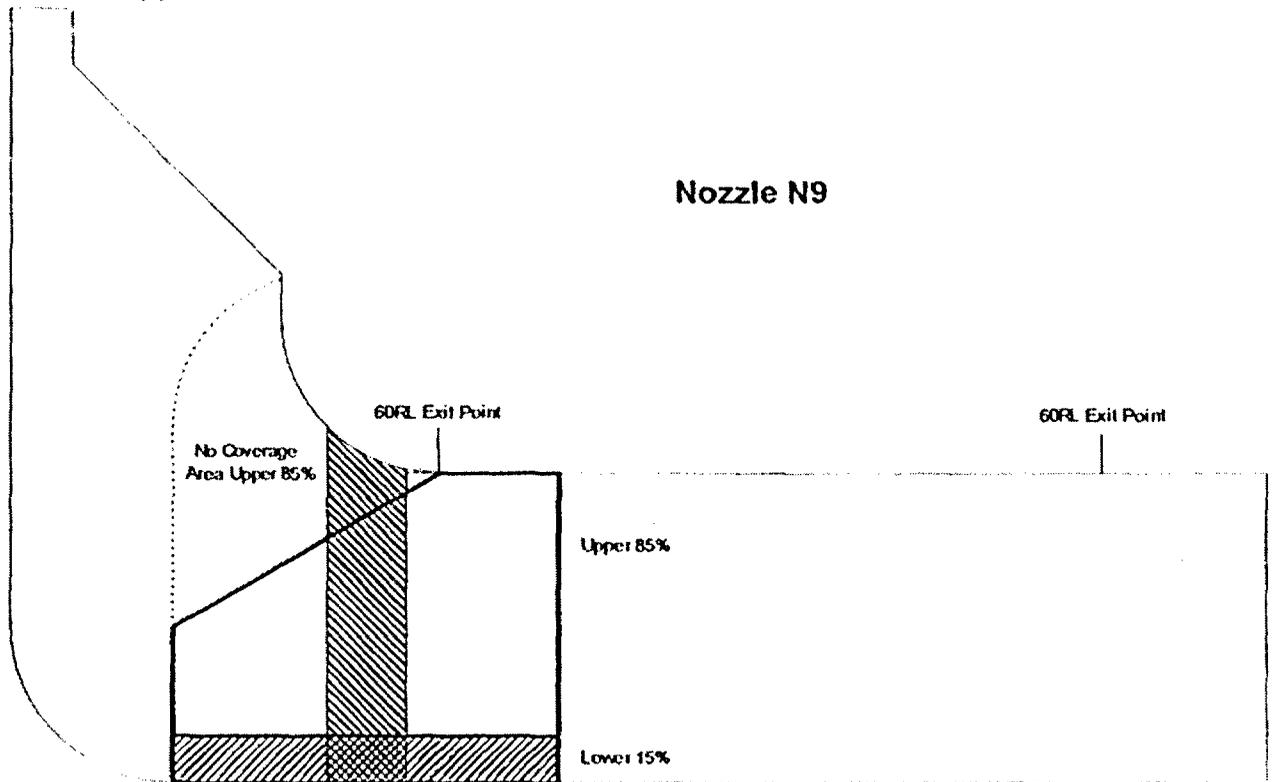
Relief Request Table RI-21-1, Revision 2

Nozzle Number	Nozzle Description	Access Restrictions	% Examined
N1A, B	Recirculation Inlet	Nozzle configuration, and insulation support frame	32%
N2A-H, J&K	Recirculation Outlet	Nozzle configuration, and insulation support frame	40%
N3A-D	Main Steam	Nozzle configuration	35%
N4A&C	Feedwater	Nozzle configuration, insulation support frame, thermocouple pads, and instrument nozzles N11A&C	27%
N4B&D	Feedwater	Nozzle configuration, insulation support frame, and thermocouple pads	31%
N5A,B	Core Spray	Nozzle configuration, insulation support frame, and thermocouple pads	31%
N6A, B	Top Head Spray	Nozzle configuration	58%
N7	Top Head Vent	Nozzle configuration	30%
N8A,B	Jet Pump Instrumentation	Nozzle configuration and insulation support frame	76%
N9	CRD Return Nozzle	Nozzle configuration, and insulation support frame	40%

Relief Request Number RI-21, Revision 2 (Continued)

The figure below shows the examination volume limitations to the applicable examination zones as required per ASME Section XI, Figure IWB-2500-7(a):

Sketch Of Limitation(s):



Relief Request Number RI-36

COMPONENT IDENTIFICATION

Code Class: 1
Reference: IWB-2500, Table IWB-2500-1
Examination Category: B-J
Item Number: B9.20
Description: Pressure Retaining Welds in Piping
Component Numbers: RVD-BJ-17, RVD-BJ-18

CODE REQUIREMENT

ASME Section XI, 1989 Edition, Table IWB-2500-1, requires a surface examination for pressure retaining welds in piping (less than NPS 4). However, the subject welds were recently included in the population of risk-informed welds (Cooper Nuclear Station [CNS] Category R-A) in accordance with CNS Relief Request RI-34 as approved by the Nuclear Regulatory Commission on December 9, 2004 (TAC No. MC2351). These welds are now required to receive volumetric examinations with a required coverage of greater than 90%. Where 90% volumetric coverage cannot be obtained, the process outlined in EPRI TR-112657, Revision B-A, "Revised Risk-Informed Inservice Inspection Evaluation Procedure (PWRMRP-05)," Final Report, December 1999, must be followed.

BASIS FOR RELIEF

The CNS construction permit was issued before the effective date of implementation for ASME Section XI, and thus the plant was not designed to meet the requirements of inservice inspection. Therefore, 100% compliance is not feasible or practical.

First time volumetric examinations were performed on RVD-BJ-17 and RVD-BJ-18 with the following examination volumes achieved:

RVD-BJ-17: 84% (84.21%)
RVD-BJ-18: 84% (84.85%)

The "as welded" weld crown height for each weld prevented greater than 90% coverage. These welds are located on two-inch, schedule-80 lines that are thin-walled material where slight mismatch at the joints is possible. Weld conditioning was not considered to avoid the inadvertent removal of base metal from one or both piping segments. Additionally, interferences were also a general concern; therefore, alternative welds were not selected for examination.

Relief Request Number RI-36 (Continued)

Alternate angles were used; however, due to high signal-to-noise ratios additional coverage could not be achieved.

PROPOSED ALTERNATIVE EXAMINATION

Pursuant to 10CFR50.55a(g)(5)(iii), Nebraska Public Power District has determined that compliance with the code requirements of achieving essentially 100% coverage of the piping welds is impractical for CNS. In lieu of performing the code-required examinations, CNS proposes to examine the accessible portions of pressure retaining welds in piping to the extent practical.

APPLICABLE TIME PERIOD

Relief is requested for the third ten-year interval of the Inservice Inspection Program for CNS.

