



**Nebraska Public Power District**  
*Nebraska's Energy Leader*

NLS2001037  
April 24, 2001

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

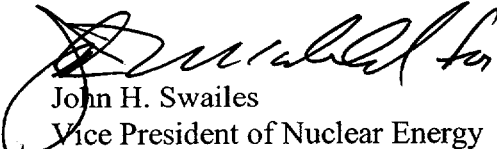
Gentlemen:

Subject: Inservice Inspection Relief Request  
Cooper Nuclear Station, NRC Docket 50-298, DPR-46

The purpose of this letter is to request Nuclear Regulatory Commission (NRC) review and approval of the attached Inservice Inspection (ISI) relief request for Cooper Nuclear Station (CNS). Attachment 1 to this submittal provides a listing (summary) of the relief request being submitted. Attachment 2 contains the individual ISI relief request. Attachment 3 contains the List of NRC Commitments associated with the relief request.

Should you have any questions concerning this matter, please contact Michael T. Boyce at 402-825-5100.

Sincerely,



John H. Swailes  
Vice President of Nuclear Energy

/dnm  
Attachments

cc: Regional Administrator w/attachments  
USNRC - Region IV

NPG Distribution w/o attachments

Senior Project Manager w/attachments  
USNRC - NRR Project Directorate IV-1

Records w/attachments

Senior Resident Inspector w/attachments  
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### **Listing of Inservice Inspection (ISI) Relief Request**

<b>Relief Request No.</b>	<b>Description</b>	<b>Needed By</b>	<b>Reason for Revision</b>
RI-06, Revision 2	Inspection of Reactor Vessel Circumferential and Longitudinal Welds, and Lower Head Circumferential and Meridional Welds	End of 3rd Ten-year Inspection Interval	Revised to address limitations identified during 1998 Reactor Pressure Vessel (RPV) weld examinations <sup>(1)</sup> .

Note: (1) The results of the reactor vessel shell examinations were reported in a letter (NLS990020) to the USNRC Document Control Desk from John H. Swailes (NPPD), dated March 22, 1999, "Inservice Inspection Summary Report."

Attachment 2 to  
NLS2001037  
6 Pages Total

# **Individual Inservice Inspection Relief Request**

## RELIEF REQUEST NUMBER: RI-06, REVISION 2

### COMPONENT IDENTIFICATION

Code Class: 1  
References: IWB-2500  
Table IWB-2500-1  
Examination Category: B-A  
Item Number: B1.11, B1.12, B1.21, B1.22, B1.30  
Description: Inspection of Reactor Vessel Circumferential and Longitudinal Welds, and Lower Head Circumferential and Meridional Welds.  
Component Numbers: HMB-BB-1 HMB-BB-2 HMB-BB-3 HMB-BB-4  
HMB-BB-5 HMB-BB-6 HMC-BB-1 HMD-BB-1  
VLA-BA-1 VLA-BA-2 VLA-BA-3 VLB-BA-1  
VLB-BA-2 VLB-BA-3 VLC-BB-1 VCB-BA-2  
VCB-BB-3

### CODE REQUIREMENT

Table IWB-2500-1, Category B-A, Item B1.11 and B1.12 requires a volumetric examination of all beltline region shell circumferential and longitudinal welds.

Table IWB-2500-1, Category B-A, Item B1.21 and B1.22 requires a volumetric examination of accessible lengths of all lower head circumferential and meridional welds.

Table IWB-2500-1, Category B-A, Item B1.30 requires a volumetric examination of 100% of the length of the shell to flange weld.

### BASIS FOR RELIEF:

The Cooper Nuclear Station 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 practicable.

The CRD and instrument penetrations prevent direct access to most of the bottom head. Circumferential weld HMD-BB-1 is located inside the skirt and is inaccessible for examination. Portions of the Bottom Head Meridional welds, HMB-BB-1, HMB-BB-2, HMB-BB-3, HMB-BB-4, HMB-BB-5, HMB-BB-6 are located inside the vessel skirt and are inaccessible for examination. The accessible portions of these welds will be examined in conjunction with the examination of the bottom head circumferential weld, HMC-BB-1. Access to weld HMC-BB-1 is limited due to the proximity of the vessel skirt. The configuration limits scanning with the 60 degree probe. The total composite coverage is approximately 86%.

## **RELIEF REQUEST NUMBER: RI-06, REVISION 2, CONTINUED**

### **BASIS FOR RELIEF (Continued):**

Access to the reactor vessel shell welds from the exterior is limited. Below the top of the biological shield, most of the reactor vessel is insulated with permanent reflective insulation and surrounded by a concrete biological shield. Penetrations through the biological shield provide limited access to some welds. The annular space between the inside diameter of the insulation and the outside diameter of the reactor vessel is a nominal 2 inches. There is no working space to remove the insulation panels from the vessel, which precludes both direct and remote examination of the outside surface.

In accordance with 10CFR50.55a(g)(6)(ii)(A), an examination of the Reactor Vessel shell welds was performed during RFO-18 using PDI qualified procedures (see Relief Request RI-04) and the GERIS 2000 ID Scanner. Supplemental manual examinations were performed to the extent practical. Weld coverage is identified in the attached table.

### **PROPOSED ALTERNATE EXAMINATION**

In accordance with 10CFR50.55a(g)(5)(iii), CNS proposes to examine the accessible portions of the reactor vessel welds in lieu of the impractical Code required examinations.

### **APPLICABLE TIME PERIOD**

RI-06, Revision 1 was denied by the NRC on October 23, 1997 (TAC No. M94000). Revision 1 acknowledged that the vessel inspection had not been performed yet.

RI-06, Revision 2 is requested for the third ten-year interval of the Inservice Inspection Program for CNS.

**RELIEF REQUEST NUMBER: RI-06, REVISION 2, CONTINUED**

**TABLE RI-06 RPV Shell Weld Coverage Limitations**

Weld Number	Percent Coverage			Restrictions
	GERIS	Manual	Total	
VLA-BA-1 Shell Ring 1 Longitudinal	0	59.5	59.5	Core Spray downcomer and guide rod to shroud support bracket (ID). N1A &N2A nozzles, insulation support rings, and biological shield (OD).
VLA-BA-2 Shell Ring 1 Longitudinal	74.9	5.7	80.6	Jet pump diffuser and shroud support gussets (ID). Insulation support and biological shield (OD).
VLA-BA-3 Shell Ring 1 Longitudinal	74.9	5.7	80.6	Jet pump diffuser and shroud support gussets (ID). Insulation support and biological shield (OD).
VLB-BA-1 Shell Ring 2 Longitudinal	80.8	0	80.8	Jet pump riser braces (ID). Insulation support and biological shield (OD).
VLB-BA-2 Shell Ring 2 Longitudinal	0	0	0	Guide rods and Core Spray downcomers (ID). Biological shield (OD).
VLB-BA-3 Shell Ring 2 Longitudinal	49.6	0	49.6	Surveillance specimen brackets and jet pump riser braces (ID). Biological shield (OD).
VLC-BB-1 Shell Ring 3 Longitudinal	0	0	0	Guide rods, Feedwater Spargers, and core spray downcomers (ID). Biological shield (OD).
VLC-BB-2* Shell Ring 3 Longitudinal	73.8	25.0	98.8	Core Spray piping, Feedwater Spargers (ID)
VLC-BB-3* Shell Ring 3 Longitudinal	73.8	21.2	95.0	Core Spray piping, Feedwater Spargers (ID). Biological shield (OD).

**RELIEF REQUEST NUMBER: RI-06, REVISION 2, CONTINUED**

**TABLE RI-06 RPV Shell Weld Coverage Limitations**

Weld Number	Percent Coverage			Restrictions
	GERIS	Manual	Total	
VLD-BB-1* Shell Ring 4 Longitudinal	89.6	9.9	99.5	Steam dryer support lug (ID)
VLD-BB-2* Shell Ring 4 Longitudinal	86.3	13.1	99.4	Steam dryer support lug (ID)
VLD-BB-3* Shell Ring 4 Longitudinal	98.2	0	98.2	Temporary lighting (ID)
VCB-BB-1*, ** Lower Head to Shell Ring 1 Circumferential	0	94.0	94.0	Shroud support plate and gussets (ID). Biological shield (OD).
VCB-BA-2 Shell Ring 1 to 2 Circumferential	66.3	0	66.3	Guide rods, core spray downcomers, surveillance specimen brackets, and weld contour (ID). Biological shield (OD).
VCB-BB-3 Shell Ring 2 to 3 Circumferential	81.8	0	81.8	Guide rods, core spray downcomers, surveillance specimen brackets, CRD Return Nozzle, and weld contour (ID). Biological shield (OD).
VCB-BB-4* Shell Ring 3 to 4 Circumferential	94.4	0	94.4	Guide rods (ID). Biological shield (OD).
VCB-BC-5*, *** Shell Ring 4 to Flange	72.9	20.4	93.3	Guide rods and MS nozzle plugs (ID). Flange configuration and thermocouple pads (OD).

**RELIEF REQUEST NUMBER: RI-06, REVISION 2, CONTINUED**

**TABLE RI-06 RPV Shell Weld Coverage Limitations**

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\* Based on Code Case N-460, relief is not required when at least 90% of the required volume has been examined. No relief is requested for these welds. However the extent of coverage for these welds is provided as supporting information for evaluation of this request.

\*\*The lower head to shell ring 1 circumferential weld is a Code Item B1.21 weld and is provided for information only. The percentage of coverage obtained for the subject weld is not included in the cumulative coverage estimate.

\*\*\*The shell ring 4 to flange circumferential weld is a Code Item B1.30 weld and is provided for information only. The percentage of coverage obtained for the subject weld is not included in the cumulative coverage estimate.



