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10 CFR 50.55a

NLS2006038
May 30, 2006

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

Subject: Relief Request RI-06, Revision 3, for the Third Ten-Year ISI Interval
Cooper Nuclear Station, Docket No. 50-298, DPR-46

The purpose of this letter is to submit Revision 3 of Relief Request RI-06 for U.S. Nuclear Regulatory Commission (NRC) approval. This revision corrects data submitted to the NRC regarding weld HMC-BB-1 for the third ten-year inservice inspection (ISI) interval. The attached relief request involves examination requirements of Section XI of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code.

RI-06, Revision 2, included examination coverage achieved for various welds in the third ten-year ISI interval. This request included weld HMC-BB-1, which had not yet been examined for the third interval. The 86% coverage referred to in RI-06, Revision 2, was actually the coverage obtained for HMC-BB-1 in the second ten-year interval. On November 30, 2001, the NRC approved the request with the understanding that they were approving examination coverage of 86% for weld HMC-BB-1 for the third interval. When weld HMC-BB-1 was subsequently examined in the third interval using Performance Demonstration Initiative (PDI) qualified procedures, the actual coverage achieved was 75%. Therefore, proposed Relief Request RI-06, Revision 3, is a request to change the NRC approved examination coverage in lower reactor vessel circumferential weld HMC-BB-1 from 86% total composite coverage to 75% coverage for the third interval.

The only weld affected by this relief request revision is HMC-BB-1. All other welds listed in this request met the NRC allowable examination coverage for the third ten-year interval and are not affected by this revision. Changes to the relief request are indicated by revision bars.

This request is applicable to the third ten-year ISI interval, which ended on February 28, 2006. NPPD requests approval of this request by December 4, 2006, in order for CNS to close out the third ten-year ISI interval. The applicable ASME Code for the CNS third ten-year interval was the 1989 Edition. However, the examination for HMC-BB-1 was performed in accordance with ASME Section XI, 1995 Edition, 1996 Addenda, Appendix VIII, due to implementation of the Performance Demonstration Initiative.

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Should 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

cc: Regional Administrator w/attachment
USNRC - Region IV

Cooper Project Manager w/attachment
USNRC - NRR Project Directorate IV-1

Senior Resident Inspector w/attachment
USNRC - CNS

NPG Distribution w/attachment

CNS Records w/attachment

RELIEF REQUEST NUMBER: RI-06, REVISION 3

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. 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 achieved for HMC-BB-1 in the third ISI inspection interval was 75% with no recordable indications.

RELIEF REQUEST NUMBER: RI-06, REVISION 3, 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 10 CFR 50.55a(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 Relief Request RI-06, Revision 3, is a request to change the NRC allowable examination coverage in lower reactor vessel circumferential weld HMC-BB-1 from 86% total composite coverage to 75% coverage. The only weld affected by this relief request revision is HMC-BB-1. All other welds listed in this request met the NRC allowable examination coverage for the third ten-year interval and are not affected by this revision.

In addition to the physical limitation due to the proximity of the weld to the vessel skirt, the reduction in total composite coverage (i.e., 75% as opposed to previous 86%) is believed to be due to differences in procedure and equipment qualifications through the Performance Demonstration Initiative (PDI) as compared to previous requirements. Limitations of qualified transducer sizes through PDI contributed to the reduction of coverage compared to the previous examination of HMC-BB-1. This weld was examined in 1993 and again in 1995 using 0-, 45-, and 60-degree transducers. In 2001, the examination for the third interval was performed in accordance with ASME Section XI, 1995 Edition, 1996 Addenda, Appendix VIII, using only a 60-degree transducer. This examination achieved 75% total composite coverage. (See Figure RI-06, "HMC-BB-1 Scan Area.") However, based on the demonstrated qualification of the examiners, a more reliable examination was performed even though less coverage was achieved.

Since 10 CFR 50.55a requires the use of ASME XI Appendix VIII in detecting flaws in the welds at CNS, only qualified PDI procedures and specific qualified transducers may be used for the examinations. Previous examinations on the weld may have reported additional coverage, but since the previous examiners and equipment were not qualified by PDI, the 86% coverage reported during the second interval cannot be considered as reliable as the 75% achieved in the third interval. The PDI examination methods maximize the coverage that can be "reliably" obtained, even though PDI-qualified transducers and associated procedures limit how much coverage an examiner is able to achieve.

RELIEF REQUEST NUMBER: RI-06, REVISION 3, CONTINUED

PROPOSED ALTERNATE EXAMINATION

In accordance with 10 CFR 50.55a(g)(5)(iii), CNS proposes to examine the accessible portions of the reactor vessel welds in lieu of the impractical code-required examinations.

Using the provisions of this relief request as an alternative to the specific requirements of ASME Table IWB-2500-1, identified above, will continue to provide reasonable assurance of structural integrity since the percent of examination coverage already obtained would have identified any pattern of degradation should one develop. Therefore, pursuant to 10 CFR 50.55a, "Codes and Standards," Paragraph (a)(3), NPPD requests relief from the specific IWB requirements identified in this request. Based on the above, the proposed alternative inspection will continue to provide an acceptable level of quality and safety.

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 was approved on November 30, 2001 (TAC No. MB2003).

RI-06, Revision 3 is requested for the third ten-year interval of the Inservice Inspection Program for CNS, which started on March 1, 1996, and ended on February 28, 2006.

REFERENCES

1. NPPD Letter NLS950157 to USNRC, "Third Ten-Year Interval Inservice Inspection Program," dated October 18, 1995.

2. NPPD Letter NLS2001037 to USNRC, "Inservice Inspection Relief Request," dated April 24, 2001.

RELIEF REQUEST NUMBER: RI-06, REVISION 3, CONTINUED

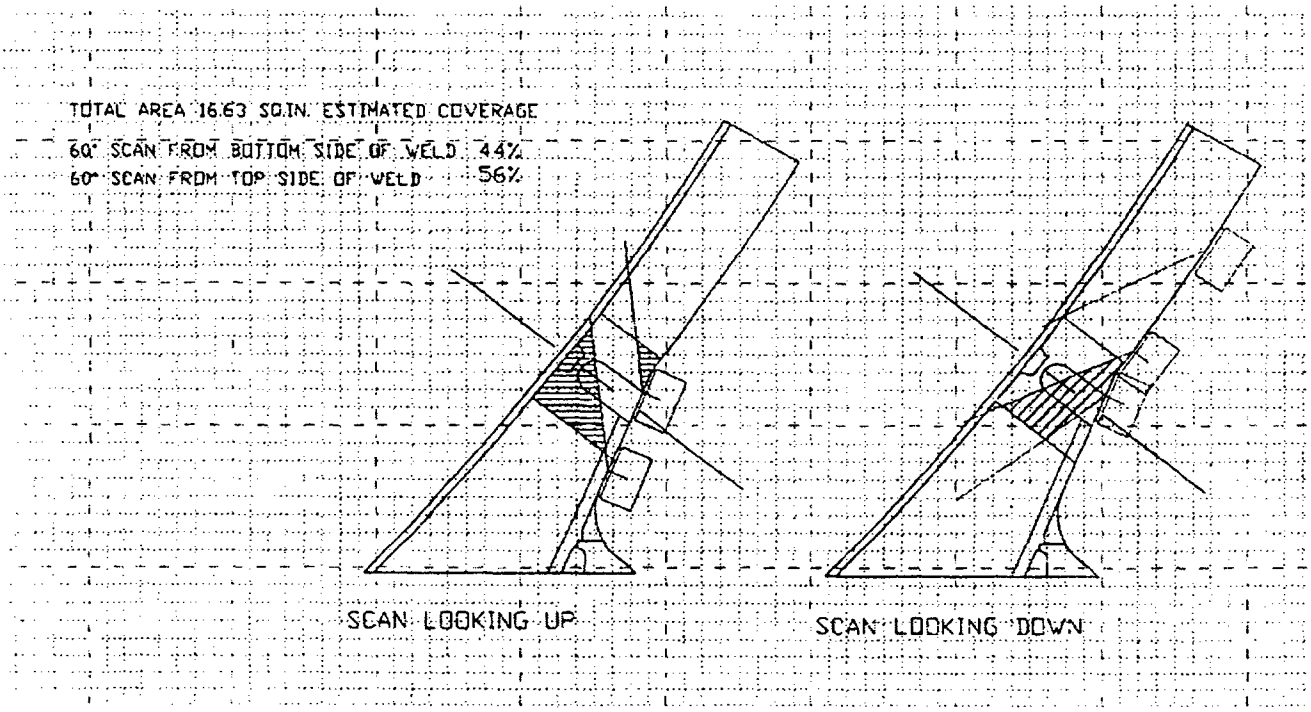

Figure RI-06

HMC-BB-1 Scan Area
(Cross Hatching Represents Scan Limitation Areas)

RELIEF REQUEST NUMBER: RI-06, REVISION 3, 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 3, 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 3, 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.

Correspondence Number: NLS2006038

The following table identifies those actions committed to by Nebraska Public Power District (NPPD) in this document. Any other actions discussed in the submittal represent intended or planned actions by NPPD. They are described for information only and are not regulatory commitments. Please notify the Licensing Manager at Cooper Nuclear Station of any questions regarding this document or any associated regulatory commitments.

COMMITMENT	COMMITMENT NUMBER	COMMITTED DATE OR OUTAGE
None		