



Northern States Power Company

Monticello Nuclear Generating Plant
2807 West Hwy 75
Monticello, Minnesota 55362-9637

November 14, 1996

10 CFR Part 50
Section 50.55a

US Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

MONTICELLO NUCLEAR GENERATING PLANT
Docket No. 50-263 License No. DPR-22

Request for Relief No. 9 for the 3rd 10-Year Interval Inservice Inspection Program

On August 5, 1994 we submitted for review the latest revision of Monticello's third 10-year Inservice Inspection (ISI) Examination Plan. The purpose of this letter is to submit for review and approval ISI Relief Request No. 9 to the third 10-year plan.

Monticello's Relief Request No. 9, entitled "Use of High Alloy/High Nickel Calibration Block for Dissimilar Metal Welds", fulfills the following commitment made in our September 19, 1996 letter which responded to the Notice of Deviation in your August 20, 1996 letter:

"NSP will submit a relief request in lieu of invoking IWA-2240 for procedure NSP-UT-16. The relief request will be submitted by November 15, 1996."

This letter contains no new Nuclear Regulatory Commission commitments.

Please contact Sam Shirey, Sr. Licensing Engineer, at (612) 295-1449 if you require further information.

William J Hill
Plant Manager
Monticello Nuclear Generating Plant

c: Regional Administrator - III, NRC
Mel Holmberg, NRC Region III
NRR Project Manager, NRC
Sr Resident Inspector, NRC
State of Minnesota
Attn: Kris Sanda
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Attachment 1: ISI Relief Request No. 9

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Monticello ISI Relief Request No. 9 (Rev. 0)
Use of High Alloy/High Nickel Calibration Block for Dissimilar Metal Welds

SYSTEM: Various

Class: 1 & 2

Category: See Table 1

Item: See Table 1

Examination Requirements:

III-3411 (b) of ASME Section XI 1986 edition, Appendix III states:

"Calibration blocks for dissimilar metal welds shall be fabricated from the material specified for the side of the weld from which the examination will be conducted. If the examination will be conducted from both sides, calibration reflectors shall be provided in both materials."

Proposed Alternative:

For examination of dissimilar metal welds conducted from both sides, the proposed calibration is to be based on a single block fabricated from the material specified for the high alloy/high nickel side of the weld. If indications other than geometry are noted on the carbon steel side, the scans will be repeated utilizing a calibration block of the same or of similar material (material of similar chemical analysis, tensile properties, and metallurgical structure).

Basis for Relief:

10 CFR 50, Section 50.55a(a)(3) states (in part):

"Proposed alternatives to the requirements of paragraphs ... may be used when ...

(i) The proposed alternatives would provide an acceptable level of quality and safety, ..."

Prior to the Winter 1985 revision of the code, paragraph III-3411 stated the following;

- (a) The calibration blocks shall be fabricated from one of the materials specified for the piping being joined by the weld.*
- (b) Where the examination is to be performed from only one side of the joint, the calibration block material shall be of the same specification as the material on that side of the joint.*

- (c) *If material of the same specification is not available, material of similar chemical analysis, tensile properties, and metallurgical structure may be used.*

Since the third interval requires a change from the 77 Edition S78 Addenda to the 1986 edition of the Section XI code, a new requirement is imposed upon the plant. Compliance with this new requirement would require the plant to procure new calibration blocks for the carbon steel side of the dissimilar metal welds shown on Table 1.

Our existing calibration blocks have been procured for dissimilar metal examinations based on previous code requirements and opting for the conservative approach of using a block based on the high alloy/high nickel side of the weldment rather than the carbon side (see below).

The Monticello plant has determined that our existing calibration blocks along with a procedural requirement to scan at high sensitivity levels (if the material noise level in the component is not a minimum of 10% full scale height (FSH), the instrument gain is increased accordingly) and record all suspected flaw type indications regardless of amplitude, is a conservative and acceptable alternative method.

Justification for Granting Relief:

It is believed that the use of a single calibration standard for initial examination as noted above meets the requirements of 10 CFR Part 50, Section 50.55 (a) (3) to provide an acceptable level of quality or safety, or that compliance with the specified requirements would result in hardship or unusual difficulties without a compensating increase in the level of quality and safety.

The use of the high alloy/high nickel block for an examination performed from both sides of a dissimilar metal weld is considered appropriate for the following reasons;

- a) The sensitivity established on a high alloy/high nickel block is generally equal to or greater than that which would be obtained on a carbon steel block. This provides a conservative reference sensitivity for examinations from the carbon steel side of the weldment.
- b) The examination procedure requires the following;
 - "Scanning shall be performed at the following gain levels, as applicable:
 - For angle beam examinations; a minimum of +6dB above Primary Reference (DAC) level. In addition, if the material noise level (Baseline Roll) in the component being examined is not a minimum of 10% FSH, the instrument gain shall be increased accordingly.
 - For straight beam examination, +6dB above reference level."

"Any reflector suspected to be a flaw (i.e. crack) shall be evaluated and recorded, regardless of amplitude or size."

- c) The velocity difference between high alloy/high nickel steels and carbon steels is minor and does not result in a significant angle variation.
- d) The procedure requires reexamination using a calibration block of similar material if indications are noted that are not attributable to geometry. This ensures proper evaluation data is recorded.
- e) Use of two separate calibrations for examination of a single component may result in greater radiation exposure to personnel due to increased time at the examination site required to perform separate setups and exams.

Time Period Relief is Requested For:

Relief is requested for the Third Ten Year Interval

Approval:

Not yet approved, NRC SER is pending.

Table 1 - Dissimilar Welds

<u>S/N</u>	<u>Iso</u>	<u>Item</u>	<u>Code</u>	<u>Matl 1</u>	<u>Matl 2</u>	<u>Config</u>
995	13142-42-A	W-3	B9.11	A106 GR B	A182 TP347	Pipe to Pipe
996	13142-42-A	W-4	B9.11	A182 TP347	A106 GR B	Pipe to Pipe
1367	73880-A	W-2	B9.10	A240 304	A234 WPB	Pipe to El
423	13142-20-C	W-22	B9.11	A182 F304	A508 CL II	Flange to Noz
2388	FIG 1	W-9	B9.11	A508 CL II	A182 F304	Noz to Flange
2731	ISI-19	W-1	B5.20	B166	A336 CL F8	Noz to SE
2048	97005-B	W-18	B5.10	A182 F316	A508 CL II	SE to Noz
2034	97005-B	W-4	B5.10	A182 F316L	A508 CL II	SE to Noz
2062	97005-B	W-32	B5.10	A182 F316L	A508 CL II	SE to Noz
1964	97004-A	W-25	B9.10	A333 GR 6	A358 316L	Pipe to Pipe
1884	97003-A	W-25	B9.10	A333 GR 6	A358 316L	Pipe to Pipe
1906	97003-B	W-4	B9.10	A358 316L	A333 GR 6	Pipe to Pipe
2041	97005-B	W-11	B5.10	A182 F316L	A508 CL II	SE to Noz
2055	97005-B	W-25	B5.10	A182 F316L	A508 CL II	SE to Noz
2171	97006-B	W-32	B5.10	A182 F316L	A508 CL II	SE to Noz
2164	97006-B	W-25	B5.10	A182 F316L	A508 CL II	SE to Noz
2143	97006-B	W-4	B5.10	A182 F316L	A508 CL II	SE to Noz
2150	97006-B	W-11	B5.10	A182 F316L	A508 CL II	SE to Noz
2157	97006-B	W-18	B5.10	A182 F316L	A508 CL II	SE to Noz
1995	97005-A	W-1	B5.10	A508 CL II	A403 316W	Noz to SE
2102	97006-A	W-1	B5.10	A508 CL II	A403 316W	Noz to SE
2729	ISI-16	W-1	B5.10	A336 CL F8	A508 CL II	SE to Noz
2730	ISI-16	W-2	B5.10	A336 CL F8	A508 CL II	SE to Noz