



Northern States Power Company

Monticello Nuclear Generating Plant
2807 West County Road 75
Monticello, MN 55362

May 25, 2000

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. 11 for the 3rd 10-Year Interval Inservice Inspection Program

On April 14, 2000, we submitted for review our latest revision (No. 3) of our third 10-year Inservice Inspection Examination Plan for Monticello. The purpose of this letter is to request review and approval of ISI Relief Request No. 11 to the third 10-year plan.

Relief Request No. 11 addresses Section XI Inservice Inspections of limited examination coverage. Regulatory Guide 1.147 endorses American Society of Mechanical Engineers (ASME) Code Case N-460 which allows greater than 90% coverage of Class 1 and 2 welds to be considered "essentially 100% coverage." Monticello has a number of welds and components for which the essentially 100% inspected coverage as defined in Reg. Guide 1.147 is not achievable, primarily due to original design and/or construction obstructions, or configuration interferences.

This letter contains no new Nuclear Regulatory Commission commitments.

Please contact Sam Shirey, Sr. Licensing Engineer, at (763) 295-1449 if you require further information.

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c: Regional Administrator - III, NRC
NRR Project Manager, NRC
Sr. Resident Inspector, NRC
Minnesota Department of Commerce
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Attachment: ISI Relief Request No. 11

ISI Relief Request No. 11
Limited Examination

SYSTEM: Various
Category: Various

Class: 1
Item: Various

Impractical Examination Requirements:

ASME Section XI (1986 no addenda) Code requires examination of essentially 100% of weld length for in-service inspection (ISI) of components per Table IWB-2500-1. Reg. Guide 1.147, Rev. 12, endorses Code Case N-460, "Alternative Examination Coverage for Class 1 and Class 2 Welds." This code case allows greater than 90% coverage of a weld to meet the "essentially 100%" requirement.

NRC Information Notice 98-42, "Implementation of 10 CFR 50.55a(g) In-service Inspection requirements," Dec. 1, 1998, states "The NRC has adopted and further refined the definition of 'essentially 100 percent' to mean greater than 90 percent" in 10 CFR 50.55a(g)(6)(ii)(A)(2) for required examination coverage of reactor pressure vessel welds. This standard has been applied to all examination of welds or other areas required by ASME Section XI.

This facility was designed and constructed with limited accessibility. Due to component configurations and/or physical barriers and interference, essentially 100% inspection coverage as defined in Reg. Guide 1.147 is not achievable on some ISI components items examined for the Third Ten Year Interval.

Basis for Relief:

The following 10 CFR 50.55a paragraphs apply to the in-service inspection of components in accordance with the ASME Section XI code:

50.55a(g)(1): For a boiling or pressurized water-cooled nuclear power facility whose construction permit was issued prior to January 1, 1971, components (including supports) must meet the requirements of paragraphs (g) (4) and (5) of this section to the extent practical.

50.55a(g)(4): Throughout the service life of a boiling or pressurized water-cooled nuclear power facility, components (including supports) which are classified as ASME Code Class 1, Class 2, and Class 3 must meet the requirements, except design and access provisions and pre-service examination requirements, set forth in Section XI of editions of the ASME Boiler and Pressure Vessel Code ... to the extent practical within the limitations of design, geometry and materials of construction of the components.

50.55a(g)(5)(iv): Where an examination requirement by the code or addenda is determined to be impractical by the licensee and is not included in the revised in-service inspection program as permitted by paragraph (g)(4) of this section, the basis for this determination must be demonstrated to the satisfaction of the Commission ...

Monticello was designed and constructed prior to development of ASME XI, therefore, plant and component design and layout for inspection coverage required by ASME Section XI Code, in many cases, is not sufficient to permit satisfying the current code requirements. Inspection limitations are primarily due to obstructions and configuration interference.

The summary of limited examinations is described below and is also included in Table 1 (attached).

Part A: **Category B-A**, "Pressure Retaining Welds in Reactor Vessel"

Reactor Vessel Bottom Head Dollar PI LS Weld W-2: Examination is limited to 35.10% coverage due to Control Rod Drive mechanisms at 13" and 2" (see Figure 1).

Part B: **Category B-D**, "Full Penetration Welds of Nozzles in Vessels"

Reactor Vessel Nozzle N-3B NV: Coverage for nozzle/vessel weld is 61.27%. Inspection limited due to nozzle configuration (see Figure 2).

Reactor Vessel Nozzle N-4D NV: Coverage for nozzle/vessel weld is 61.27%. Inspection limited due to nozzle (see Figure 3).

Part C: **Category B-J**, "Pressure Retaining Welds in Piping"

RHR Return B weld W-22: Volumetric examination limited to 50%. Limitation due to flange and weldolet configuration (see Figure 4).

RHR Return B weld W-21: Volumetric examination limited to 71.50%. Limitation due to configuration of pipe to weldolet (see Figure 5).

Recirculation Loop B W-5 LS U&D: Volumetric examination limited to 39.37%. Limitation due to pipe to branch configuration (see Figure 6).

Table 1

Code Category / Item #		System	ISO	Component	Method	%Coverage	Limitation
B-A	B1.22	Reactor Vessel	ISI Fig. 3	W-2	Volumetric	35.10%	Figure 1
B-D	B3.90	Reactor Vessel	ISI Fig. 5	N-3-B NV	Volumetric	61.27%	Figure 2
B-D	B3.90	Reactor Vessel	ISI Fig. 5	N-4D-NV	Volumetric	61.27%	Figure 3
B-J	B9.11	RHR Return B	ISI-97004-A	W-22	Volumetric	50.00%	Figure 4
B-J	B9.31	RHR Return B	ISI-97004-A	W-21	Volumetric	71.5%	Figure 5
B-J	B9.31	Recir. Loop B	ISI-97006-A	W-5 LS U&D	Volumetric	39.37%	Figure 6

Additional Means of Establishing Integrity:

In addition, hydrostatic tests are performed during regular inspection intervals to ensure the piping system is capable of maintaining pressure integrity. System integrity is monitored continuously during normal operation by routine operator rounds during shift and remote monitoring methods; e.g., containment radiation monitoring, containment air monitoring, containment leakage detection and monitoring, containment temperature monitoring, etc.

Alternate Examination:

The nature of the limitations has been noted on the ISI examination reports and is included in the ISI Outage Summary Report. NSP will continue to document the limitations.

All in-service inspections at Monticello have been done to the greatest extent practical. When limitations to required inspections are encountered, Materials & Special Process procedure ISI-LTS-1 is applied, which requires alternative examination techniques to be considered or applied to gain the maximum obtainable inspection coverage practical. In all of the above items identified, this procedure was used and the maximum inspection coverage was achieved.

FIGURE 1

Reactor Vessel Bottom Head Dollar PI LS Weld W-2:

Examination is limited to 35.10% coverage due to Control Rod Drive mechanisms at 13" and 2".

Limitation Sketch: Examination Report: 2000U066 Procedure: ISI-UT-3A

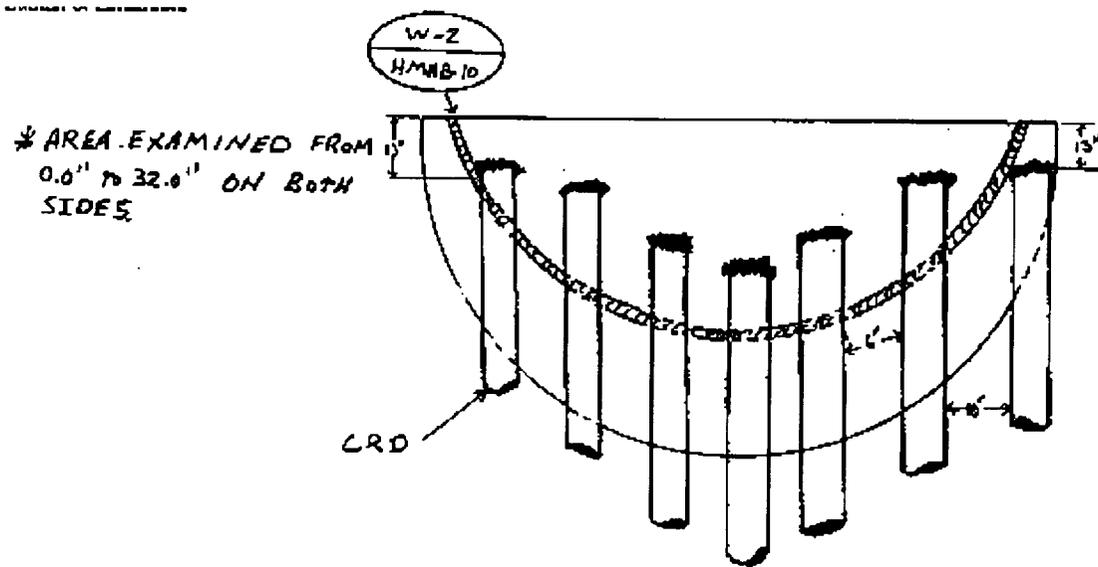


FIGURE 2

Reactor Vessel Nozzle N-3B NV

Coverage for nozzle/vessel weld is 61.27%. Inspection limited due to nozzle configuration.

Limitation Sketch: Examination Report: 2000U031 Procedure: ISI-UT-3A

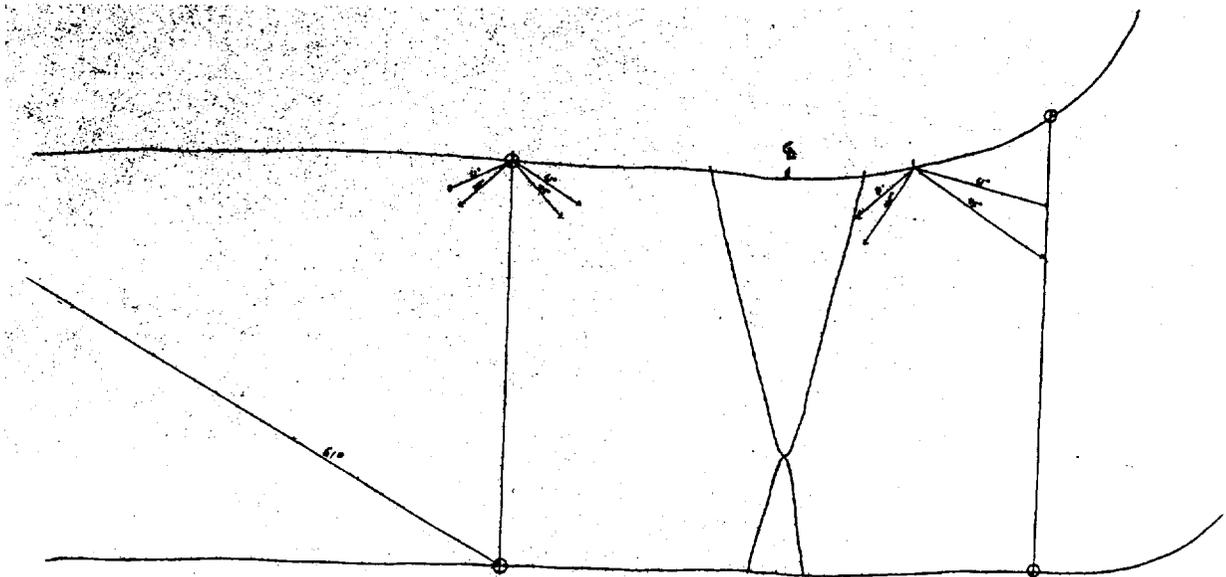


FIGURE 3

Reactor Vessel Nozzle N-4D NV

Coverage for nozzle/vessel weld is 61.27% . Inspection limited due to nozzle configuration.

Limitation Sketch: Examination Report: 2000U016 Procedure: ISI-UT-3A

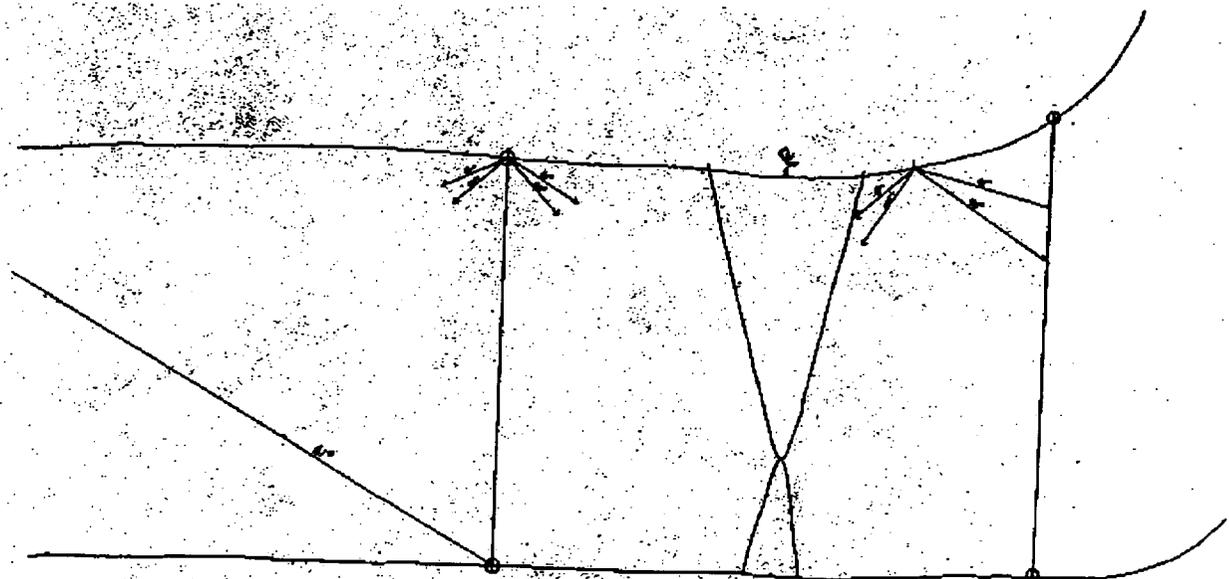


FIGURE 4

RHR Return B Weld W-22

Volumetric examination limited to 50%. Limitation due to flange and weldolet configuration.

Limitation Sketch: Examination Report: 2000U064 Procedure: ISI-UT-1

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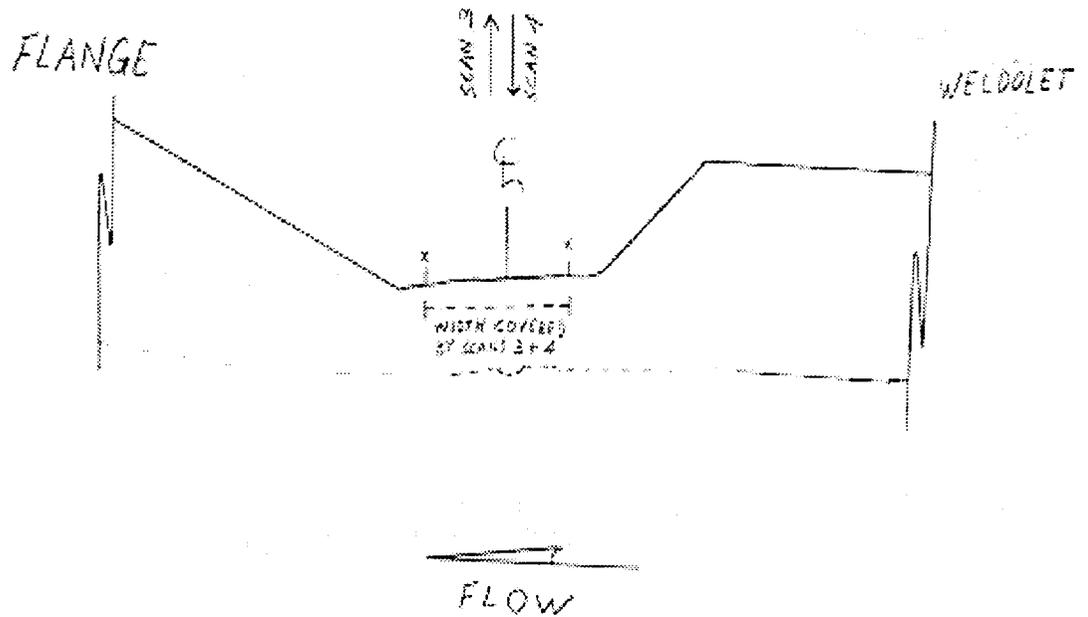


Figure 6

Recirculation Loop B W-5 LS U&D

Volumetric examination limited to 39.37%. Limitation due to pipe to branch configuration.

Limitation Sketch: Examination Report: 2000U092 Procedure: ISI-UT-16

