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Docket Nos. 50-282
and 50-306

NOV 14 1980

Mr. L. O. Mayer, Manager
Nuclear Support Services
Northern States Power Company
414 Nicollet Mall - 8th Floor
Minneapolis, Minnesota 55401

Dear Mr. Mayer:

The Commission has issued the enclosed Amendment No. 48 to Facility Operating License No. DPR-42 and Amendment No. 37 to Facility Operating License No. DPR-60 for the Prairie Island Nuclear Generating Plant. The amendments consist of changes to the Technical Specifications in response to your application transmitted by letters dated October 15, 1976 for Unit No. 1 and October 12, 1977 for Unit No. 2.

This amendment revises the Technical Specifications for both Units 1 and 2 by replacing the current inservice inspection Technical Specifications with an inservice inspection program that meets the requirements of 10 CFR 50.55a. The issuance of these amendments and revision of the Technical Specifications supersedes the relief from the ASME code inservice inspection requirements provided in our letters of September 17, 1977 for Unit No. 1 and May 19, 1978 for Unit No. 2.

Relief from certain inservice inspection requirements is hereby granted as discussed in the enclosed Safety Evaluation. We have determined that the granting of this relief is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest. This relief is granted, except for certain requirements as discussed in the Safety Evaluation, in response to your request of February 1, 1978, as revised by your letters dated September 15, 1978, June 8, 1979, September 19, 1979, April 17, 1980 and September 3, 1980.

A copy of the Safety Evaluation and the Notice of Issuance are also enclosed.

CP 1

Sincerely,

F-R-NOTICE
AMENDMENT

Original signed by:

Robert A. Clark, Chief
Operating Reactors Branch #3
Division of Licensing

AD/M&QE
10/23/80

8012040353

Enclosures and ccs:
See next page

OFFICE	ORB #3	ORB #3	AD/OR	OELD	ORB #3
SURNAME	PKreutzer	RMartin	TNovak	M Karman	RAClark
DATE	10/16/80	10/17/80	10/ /80	10/6/80	10/17

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555
November 14, 1980

Docket Nos. 50-282
and 50-306

Mr. L. O. Mayer, Manager
Nuclear Support Services
Northern States Power Company
414 Nicollet Mall - 8th Floor
Minneapolis, Minnesota 55401

Dear Mr. Mayer:

The Commission has issued the enclosed Amendment No. 43 to Facility Operating License No. DPR-42 and Amendment No. 37 to Facility Operating License No. DPR-60 for the Prairie Island Nuclear Generating Plant. The amendments consist of changes to the Technical Specifications in response to your application transmitted by letters dated October 15, 1976 for Unit No. 1 and October 12, 1977 for Unit No. 2.

This amendment revises the Technical Specifications for both Units 1 and 2 by replacing the current inservice inspection Technical Specifications with an inservice inspection program that meets the requirements of 10 CFR 50.55a. The issuance of these amendments and revision of the Technical Specifications supersedes the relief from the ASME code inservice inspection requirements provided in our letters of September 17, 1977 for Unit No. 1 and May 19, 1978 for Unit No. 2.

Relief from certain inservice inspection requirements is hereby granted as discussed in the enclosed Safety Evaluation. We have determined that the granting of this relief is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest. This relief is granted, except for certain requirements as discussed in the Safety Evaluation, in response to your request of February 1, 1978, as revised by your letters dated September 15, 1978, June 8, 1979, September 19, 1979, April 17, 1980 and September 3, 1980.

A copy of the Safety Evaluation and the Notice of Issuance are also enclosed.

Sincerely,

Robert A. Clark

Robert A. Clark, Chief
Operating Reactors Branch #3
Division of Licensing

Enclosures and ccs:
See next page

Enclosures:
1. Amendment No. 43 to DPR-42
2. Amendment No. 37 to DPR-60
3. Safety Evaluation
4. Notice of Issuance

cc w/enclosures:
See next page

Mr. L. O. Mayer
Northern States Power Company

cc: Gerald Charnoff, Esquire
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Ms. Terry Hoffman
Executive Director
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Roseville, Minnesota 55113

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Director, Technical Assessment Divisior
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U. S. Environmental Protection Agency
Federal Activities Branch
Region V Office
ATTN: EIS COORDINATOR
230 South Dearborn Street
Chicago, Illinois 60604

cc w/enclosures(s) and incoming
dtd: 10/15/76 & 10/12/77

Chairman, Public Service Commission
of Wisconsin
Hill Farms State Office Building
Madison, Wisconsin 53702

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

NORTHERN STATES POWER COMPANY

DOCKET NO. 50-282

PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 43
License No. DPR-42

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Northern States Power Company (the licensee) dated October 15, 1976 as supplemented by letter dated February 1, 1978 and revised September 15, 1978, June 8, 1979, April 17, 1980 and September 3, 1980, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-42 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 43, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Robert A. Clark, Chief
Operating Reactors Branch #3
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: November 14, 1980

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

NORTHERN STATES POWER COMPANY

DOCKET NO. 50-306

PRAIRIE ISLAND NUCLEAR GENERATING STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 37
License No. DPR-60

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Northern States Power Company (the licensee) dated October 12, 1977 as supplemented by letter dated February 1, 1978 and revised September 15, 1978, June 8, 1979, April 17, 1980 and September 3, 1980, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-60 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 37, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Robert A. Clark

Robert A. Clark, Chief
Operating Reactors Branch #3
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: November 14, 1980

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 43 TO FACILITY OPERATING LICENSE NO. DPR-42

AMENDMENT NO. 37 TO FACILITY OPERATING LICENSE NO. DPR-60

DOCKET NOS. 50-282 AND 50-306

Review Appendix A as follows:

Remove Page	Insert Page
TS-i	TS-i
TS-iii	TS-iii
TS 4.2-1	TS 4.2-1
TS 4.2-2	TS 4.2-2
TS 4.2-3	TS 4.2-3
TS 4.2-4	TS 4.2-4
TS 4.2-5	
Table TS 4.2-1, pages 1 of 9 through 9 of 9	Table TS 4.2-1
Table TS 4.2-2, pages 1 of 2 through 2 of 2	
Table TS 4.2-2, pages 1 of 2 through 2 of 2	
Table TS 4.2-4, pages 1 of 4 through 4 of 4	
TS 4.3-1	TS 4.3-1

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 43 TO FACILITY OPERATING LICENSE NO. DPR-42

AND AMENDMENT NO. 37 TO FACILITY OPERATING LICENSE NO. DPR-60

NORTHERN STATES POWER COMPANY

PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNIT NOS. 1 AND 2

DOCKET NOS. 50-282 AND 50-306

By application transmitted by letter dated October 15, 1976 for Unit 1 and October 12, 1977 for Unit 2, the Northern States Power Company (the licensee) requested changes to the Technical Specifications (TS) appended to Facility Operating License Nos. DPR-42 and DPR-60 for the Prairie Island Nuclear Generating Plant Unit Nos. 1 and 2, respectively. The proposed change would remove the specific inservice inspection requirements from the TS and replace them with the Prairie Island Nuclear Generating Plant Inservice Inspection Program.

As required by 10 CFR 50.55a(g), the Northern States Power Company has updated the Inservice Inspection Program for the Prairie Island Nuclear Generating Plant Unit Nos. 1 and 2 facility to the requirements of the 1974 Edition through Summer 1975 Addenda of Section XI ASME Boiler and Pressure Vessel Code. Based on information submitted by letters dated February 1, 1978, September 15, 1978, June 8, 1979, September 19, 1979, April 17, 1980 and September 3, 1980, it has been determined that certain requirements of the Code cannot be implemented at the facility because of component or system design, geometry, or materials of construction. Requested relief from those requirements has been evaluated and our determinations to grant or deny the requests are documented below.

INSERVICE INSPECTION

I. CLASS I COMPONENTS

A. Units 1 and 2

1. Request relief from having a calibration standard of the correct length when examining reactor vessel closure head studs.

Code Requirement

The length of the ultrasonic calibration standard shall be as described in Article 5 of Section V.

Licensee's Basis for Requesting Relief

The present calibration standard was used to perform the preservice examination of the reactor vessel closure head studs.

Evaluation

The calibration standard which the licensee is using contains the correct size reference hole (3/8" dia.) and would give an accurate reflection at that depth for calibration in accordance with the code. However, attenuation of the sound with increased metal path would be a factor and must be determined. The licensee has proposed a multiple back reflection to determine and correct for attenuation. The staff finds that the licensee's calibration standard is acceptable provided equivalent sensitivity is proven by actual demonstration to the satisfaction of the region I&E inspector and if requested, by the Authorized Inspector.

2. Request relief from performing the volumetric examination at the required frequency for each weld on the regenerative heat exchanger. The percentage of examination completed by the end of each inspection period will not comply with 1WB-2411.

Code Requirement

Five percent of each of the three shell's tube sheet-to-head welds are to be examined by the end of the inspection interval with credit for no more than 33-1/3 percent of the welds required to be examined by the expiration of each inspection period.

Licensee's Basis for Requesting Relief

The regenerative heat exchanger consists of three identical cylindrical exchanger shells (approximately 7" O.D.), which are vertically stacked and are connected in series by short lengths of 2" nominal diameter pipe. The high radiation levels involved in performing the inspection, which includes removal and replacement of insulation, makes it impractical to perform inspections of each tube sheet-to-head weld during each inspection period. The radiation levels were measured during the March 1977 refueling outage to be 2.5 R/hr. on contact.

Evaluation

The licensee has proposed an alternate inspection to perform a 100 percent examination on one tube sheet-to-head weld during each consecutive inspection period.

This will result in a total examination of linear inches which exceeds the minimum examination requirement of the code. It also reduces the man-rem exposure by approximately 53 percent. The staff finds that the proposed alternate examination is acceptable and therefore the requested relief is granted.

3. Request to use the ultrasonic inspection procedure for pipe welds instead of the examination procedure for heavy wall vessels for thin wall vessels. The ultrasonic inspection of the thin wall vessel shell welds will not be performed in accordance with Appendix I of Section XI nor Article 5 of Section V.

Code Requirement

Vessels 2-1/2 inches thick and over shall be examined in accordance with Appendix I. Where Appendix I is not applicable, the provisions of Article 5 of Section V shall apply.

Licensee's Basis for Requesting Relief

The design service requirements for the regenerative heat exchanger and excess letdown heat exchangers resulted in the relatively small and thin wall vessels which permitted them to be fabricated from piping components. Therefore, ultrasonic inspection procedures for pipe welds would be more applicable than procedures for examination of heavy wall vessels.

Evaluation

The licensee has proposed an alternate examination which is to ultrasonically examine the above listed components in accordance with Appendix III of the 1975 Winter and 1976 Summer Addenda of Section XI.

The evaluation of indications shall comply with Article 5 of Section V of the 1974 Code, Summer 75 Addenda.

The staff finds that this is a more appropriate test on thin wall vessels and therefore the requested relief is granted.

4. Request to delay the volumetric examination of the reactor coolant pump integrally welded supports until the end of the inspection interval.

Code Requirement

The examinations performed during each inspection interval shall cover 25 percent of the integrally-welded supports with credit for no more than 33-1/3 percent by the expiration of each inspection period.

Licensee's Basis for Requesting Relief

Because of the weld joint geometry, heavy wall, and austenitic stainless steel cast structure of the pump body, present volumetric NDE methods would be ineffective. In addition, insulation removal and replacement is a formidable task, requiring a considerable amount of manpower. The insulation is designed to be removed in large panels and because of a lack in lay down space, it would have to be removed to another area. Not considering any unforeseen problems in the removal and replacement of insulation, the task for one pump would be a very time consuming job, and a high accumulative radiation exposure to personnel would be anticipated.

Evaluation

The staff does not find licensee's justification adequate to warrant granting the requested relief. Neither manpower expenditure nor insulation removal and replacement effort can constitute a sufficient valid basis to request for relief. The staff concludes the inspections be performed at the intervals required by Section XI IWB-2411. In the event the volumetric examinations cannot be performed because of the weld joint geometry, heavy wall, and the austenitic steel structure, a surface examination (liquid penetrant) should be used as a substitute for the volumetric examination. If high radiation levels are experienced, a request for relief together with the anticipated total time of the inspection and man-rem doses should be submitted to the NRC at that time.

5. Request to delete the requirement for the surface examination of the reactor vessel closure head cladding and steam generator channel head cladding.

Code Requirement

Surface and visual or volumetric examinations on the closure head cladding. Visual examination on the steam generator cladding.

Licensee's Basis for Requesting Relief

Visual examination will be performed on the reactor vessel closure head cladding and all clad surfaces must be free of cracks.

Volumetric examination is required for the meridional and circumferential welds in the vessel head and the head to tube sheet circumferential weld in the steam generators. These examinations will cover a sufficient area of clad-base metal interface to give an indication of the general condition of the cladding and clad interface.

Radiation levels were calculated at 5 R/hr contact reading and 2 R/hr general area reading for the reactor vessel closure head and approximately 5 R/hr in the steam generator channel head.

Evaluation

We agree with the licensee's basis for relief request and conclude that the proposed changes as described above are acceptable and therefore the requested relief is granted.

6. Request to delay the volumetric examination of the reactor vessel support lugs until the end of the inspection interval.

Code Requirement

The examinations performed during each inspection interval shall cover 100 percent of the support lugs with credit for no more than 33-1/3 percent by the expiration of each inspection period.

Licensee's Basis for Requesting Relief

As a result of the reactor vessel cavity design, the two integrally welded supports are not accessible from the O.D. of the vessel. Ultrasonic examination through the vessel wall from the I.D. surface appears to be the only means of examination. This examination would require the core barrel to be removed to gain access to the vessel's I.D. surface.

When the core barrel is removed from the reactor vessel, at or near the end of the inspection interval, the supports will be volumetrically inspected 100 percent.

Evaluation

The staff concurs with the licensee's basis for relief request and finds the alternative inspection schedule proposed acceptable.

7. Request relief from performing acoustic velocity and attenuation measurements to determine acoustic similarity of the ultrasonic calibration block to the reactor vessel, pressurizer and steam generator.

Code Requirement

The acoustic velocity and attenuation of ultrasonic calibration blocks shall be demonstrated to fall within the range of straight beam longitudinal wave velocity and attenuation found in the unclad component.

Licensee's Basis for Requesting Relief

Because all the components involved are clad on the inner surface, it would be impossible to obtain a comparison of sound beam velocities and attenuation in the unclad component.

Evaluation

The requirement to examine the block and component with a longitudinal wave to determine acoustic velocity and attenuation only applies to those items which can be checked before the component is clad. As stated by the licensee, all components involved are clad on the inner surface and therefore this requirement would not apply.

The requested relief is granted based on the licensee's commitment to fabricate the calibration blocks in the following manner:

"calibration blocks required for the examination of welds in ferritic vessels 2 1/2 inch thick and over will be fabricated from material of the same specification, product form, and heat treatment as one of the materials being joined as allowed by Article T-434.1 in the Winter 1976 Addenda of Section V of the ASME Boiler and Pressure Vessel Code."

8. Request relief from performing a system leakage test on the section of piping between motor-operated valve #31329 and Check valve #VC-8-3 at the frequency required by the Code.

Code Requirement

The piping shall be subjected to a system leakage test prior to startup following each reactor outage.

Licensee's Basis for Requesting Relief

This section of piping is not isolatable from the RCS. Performing a leakage test at functional pressure causes pressurizer spray which causes a reduction in RCS pressure. Spraying water into the pressurizer from the auxiliary spray line is an abnormal operation. The spray line is designated for 10 such inadvertent operations.

Evaluation

Because of the design of the Auxiliary Spray System, piping between the motor-operated valve #31329 and check valve #VC-8-3 cannot be pressurized to the proper test pressure without bypassing the check valve or opening the motor-operated valve. It is impractical to pressurize this portion of the piping system at the frequency required by the Code because of the risk associated with the inadvertent operation of the pressurizer sprays. The licensee will perform a system leakage test on this section of piping every ten years and visually inspect the piping for leakage during the overall reactor coolant system leakage test prior to startup following each refueling outage. This section of piping is also examined in accordance with the rules of IWB-2000. The staff finds that the examinations which will be performed by the licensee on this section of piping will provide adequate assurance of its structural integrity and therefore the requested relief from the testing frequency as required by the Code is granted.

II. CLASS 2 COMPONENTS

A. Units 1 and 2

1. Request relief from performing the system pressure test at the frequency required by IWC-2412.

Licensee's Basis for Requesting Relief

Scheduling system pressure tests in this manner is not practical as mechanisms are not available for isolation of the piping systems at the various boundaries created by the NDE exemption criteria. Consequently numerous redundant pressure tests will be performed which is not warranted considering the operational problems (system valve lineups, leak off or overpressure protection, radiation exposure, generation of waste, etc.) involved. Additionally, the majority of these systems are either normally pressurized or pressurized during the performance of a pump or valve functional test.

Evaluation

The licensee has proposed that all components be pressure tested at or near the end of each inspection interval (10 years) instead of pressure testing some of the exempted components during the inspection interval. The staff has evaluated the licensee's basis for requesting relief and concluded that this request should not be granted. However, the staff concludes that the following examinations may be conducted. A system functional test may serve as a system pressure test and at least one visual examination shall be conducted at or near the end of each inspection period coinciding with a system functional test. In addition a system hydrostatic test shall be conducted at or near the end of each inspection interval. These requirements are consistent with the Winter 77 Section XI requirements for all Class 2 components and are necessary to maintain an acceptable level of quality during the 10-year interval.

2. Request relief from performing the system pressure test at the pressures required for Class 2 systems on the systems listed below.

- Safety injection piping nonisolable from Class 1 piping,
- Reactor coolant system piping 3/4" and smaller that is nonisolable from Class 1 piping.

- o Residual heat removal system piping nonisolable from Class 1 piping.
- o RCP seal injection piping 3/4" and smaller that is nonisolable from Class 1 piping.
- o RCP seal return piping nonisolable from Class 1.
- o Charging line piping nonisolable from Class 1.
- o Sample system piping nonisolable from Class 1.

Code Requirement

The pressure retaining components shall be subjected to a hydrostatic test at 1.25 times the system design pressure at a temperature not less than 100° F at least once toward the end of each inspection interval.

Licensee's Basis for Requesting Relief

The piping is not isolable from the Class 1 piping.

Evaluation

The licensee has proposed an alternate inspection plan which is to perform a hydrostatic test to the requirements for Class 1 systems near the end of each inspection interval. The staff finds this acceptable providing the licensee performs a visual examination for evidence of leakage on those portions of the above systems at the system nominal operating pressure in accordance with the requirements of IWB-5221. This examination shall be performed prior to startup following each reactor refueling outage.

B. Unit 2

1. Request relief from volumetric examination of inaccessible welds which are identified below:

SYSTEM	ITEM	IDENTIFICATION	CODE
MAIN STEAM SYSTEM	PIPING WELDS	(ENCAPSULATED AT GUARD PIPE)	CLASS
31-2MS-1	WELDS	MS-19,MS-20	2
	WELD	MS-19 TO MS-20	2
30-2MS-1	WELD	MS-22	2
		MS-185B,MS-185D	2
6-2MS-1	WELD	MS-33	2
31-2MS-2	WELDS	MS-166,-92,-93,-94,-95,-96,-97, -98,-99,-117,-170	
	WELDS	MS-165 TO -166,MS-95 TO -92 MS-97 TO -98, MS-99 TO -117	2
	WELD	MS-98B	2

30-2MS-2		MS-88,-89,-90,-91,-165,-100	2
	WELD	MS-89 TO -90	2
	WELDS	MS-183C, MS-183A	2
6-2MS-2	WELD	MS-111	2

FEEDWATER SYSTEM PIPING WELDS (ENCAPSULATED BY GUARD PIPE)

16-2FW-16	WELDS	FW-119,-120,-121,-122,-123,124, -125,-126,-127,-185,-128,-129, -130W, -131,-132	2

CONTAINMENT SUMP A&B DISCHARGE PIPING WELDS (IMBEDDED IN CONCRETE)

14-2SI-33B	WELDS	1,2,3,207	2
12-2SI-34B	WELD	4	2
14-2SI-33A	WELDS	13,14,15	2
12-2SI-34A	WELD	16	2

CONTAINMENT SUMP A&B DISCHARGE SUPPORTS (IMBEDDED IN CONCRETE)

14-2SI-33B	SUPPORTS	A,B,C	2
14-2SI-33A	SUPPORTS	A,B,C	2

Code Requirement

Class 2, Category C-E-1, requires 100 percent of the supports be surface examined each inspection interval.

Class 2, Category C-G, requires volumetric examination of 100 percent of the weld on 50 percent of the total welds over a 40-year period.

Licensee's Basis for Requesting Relief

Items are not accessible for examination because of either being encapsulated by guard pipe or imbedded in concrete.

Evaluation

Access to volumetrically and/or surface examine these welds is restricted by not having access to the outside surface due to the interference from steel plate or concrete. All welds identified above as being inaccessible shall be visually inspected for leakage by observing the general area after a 4-hour hold at the pressure test requirements as stated in IWC-5000. This examination, and other volumetric inspections required by Section XI of similar systems which can be performed, will provide assurance that no degradation has occurred and the piping pressure boundary will remain structurally acceptable during the inspection interval.

This relief does not apply in the event paragraph IWC-2430 of Section XI is applicable.

III. CLASS 3 COMPONENTS

A. Units 1 and 2

1. Request relief from performing a pressure test by the expiration of each inspection interval on the Cooling Water Supply and Return Headers.

Code Requirement

100 percent of the components shall have been pressure tested and examined by the expiration of each inspection interval.

Licensee's Basis for Requesting Relief

The Cooling Water System design is such that Unit 1 and Unit 2 safeguards equipment is supplied from both sides of the cooling water system header. Consequently, the entire supply and return header must be in operation at all times to meet operating license requirements.

Evaluation

The licensee has proposed the following alternate inspection of the Cooling Water Supply and Return Headers which the staff finds acceptable.

The Cooling Water System will be visually examined by every 1/3 of each inspection interval for conditions adverse to system operation. Additionally, the system is in constant operation and any leaks would be immediately known. Portions that are isolable from the main headers will be pressure tested in accordance with the applicable requirements.

B. Unit 1

1. Request relief from performing a visual examination or pressure test on the following Class 3 piping.

- Waste Gas Vent Header and Associated Liquid Drains to the HUTs
- 121 Catalytic Hydrogen Recombiner
- 122 Catalytic Hydrogen Recombiner
- Waste Gas High Level Loop
- Waste Gas Low Level Loop

Code Requirement

100 percent of the Class 3 piping shall have been tested and examined by the expiration of each inspection interval.

Licensee's Basis for Requesting Relief

Numerous operational problems will be created in trying to perform the required tests. Isolation of the Waste Gas System for pressure testing would require shifting of waste gas inventories to allow isolation of components, generation of additional waste gas required for purging operations and possible radioactive gas releases. Filling the systems with water to perform the tests would generate additional problems with system corrosion and instrumentation fouling.

Evaluation

The licensee has numerous methods to detect leakage of the above listed components. Local pressure indication provides indication to operators of any malfunctions and daily gas decay tank inventories will also indicate any leakage. Local radiation monitors will detect any gaseous or particulate releases. The staff finds the pressure test requirement to be impractical to perform and grants the requested relief based on the licensee's present leak detection capabilities.

2. Request relief from performing a visual examination or pressure test on the following Class 3 tanks and piping.

- o Diesel Generator and Diesel Cooling Water Pump Oil Storage Tanks, Fuel Oil Transfer Piping to the Diesel Generator and Diesel Cooling Water Pump Day Tanks

Code Requirement

100 percent of the Class 3 piping and components shall have been tested and examined by the expiration of each inspection interval.

Licensee's Basis for Requesting Relief

The tanks and most of the piping are underground and not accessible for testing and inspection. Any leakage from the fuel oil storage tanks will be detected during daily checks of the storage tank levels. Also, annually each tank is tested for moisture content. Monthly checks of the diesel generator and diesel cooling water day tank levels and alarms, will indicate any problems in the fuel oil transfer piping system.

Evaluation

The staff finds that the subject examination or testing requirement is impractical based on the component and system design. The staff also finds that the licensee's inspection and sampling program is acceptable for those systems which are underground and cannot otherwise be inspected. Therefore the requested relief is granted.

3. Request relief from performing a pressure test on the following Class 3 piping systems.

- o Starting Air, Air Intake, and Cooling Water Piping associated with 11 and 12 Diesel Generator.

Code Requirement

100 percent of the Class 3 piping and components shall have been tested and examined by the expiration of each inspection interval.

Licensee's Basis for Requesting Relief

The systems are in constant operation and the piping is not isolable from the Diesel Generators.

Evaluation

The licensee has proposed to visually examine the piping every 1/3 of each inspection interval for conditions adverse to system operation. Additionally, the systems are in constant operation and any leaks would be known. Portions that are isolable from the Diesel Generators will be pressure tested in accordance with the applicable requirements. The staff finds this acceptable and therefore the requested relief is granted.

C. Unit 2

1. Request relief from performing a visual examination or pressure test on the Waste Gas Low Level Loop.

Code Requirement

100 percent of the Class 3 piping shall have been tested and examined by the expiration of each inspection interval.

Licensee's Basis for Requesting Relief

Numerous operational problems will be created in trying to perform the required tests. Isolation of the Waste Gas System for pressure testing would require shifting of waste gas inventories to allow isolation of components, generation of additional waste gas required for purging operations and possible radioactive gas releases. Filling the systems with water to perform the tests would generate additional problems with system corrosion and instrumentation fouling.

Evaluation

The licensee has numerous methods to detect leakage of the above listed components. Local pressure indication provides indication to operators of any malfunctions and daily gas decay tank inventories will also indicate any leakage. Local radiation monitors will detect any gaseous or particulate releases. The staff finds the pressure test requirement to be impractical to perform and grants the requested relief based on the licensee's present leak detection capabilities.

IV. CLASS 1 AND 2 COMPONENTS

A. Units 1 and 2

1. Request to use Appendix III, including Supplement 7, of the 1975 Winter and 1976 Summer Addenda of Section XI in lieu of Article 5 of Section V.

Code Requirement

Ultrasonic examination shall be conducted in accordance with the provisions of Appendix I. Where Appendix I is not applicable, the provisions of Article 5 of Section V shall apply.

Licensee's Basis for Requesting Relief

The use of side drilled holes to establish a distance amplitude correction curve for pipe weld inspections, as required by Appendix I of Section XI and Article 5 of Section V, results in an excessive instrument gain setting which greatly impairs the inspector's ability to detect and interpret indications by producing a lower signal-to-noise ratio and decreases the usable range of the "DAC."

Evaluation

The rules of Appendix III, including Supplement 7, thru Summer 1976 Addenda to Section XI are acceptable.

The evaluation of indications shall comply with the rules of Section XI 1974 Edition including Summer 75 Addenda. However, all indications at or above 50 percent DAC shall be recorded and indications 20 percent DAC or greater which are interpreted to be a crack must be identified and evaluated to the rules of Section XI Code.

2. Request to use a flat calibration block on pipes greater than a 20-inch diameter.

Code Requirement

The basic calibration blocks shall be made from material of the same nominal diameter when using the rules of Appendix III Summer 76 Addenda of Section XI.

Licensee's Basis for Requesting Relief

Any difference in accuracy and sensitivity for ultrasonic examination of welds with surface curvatures greater than a 20-inch diameter, when using a flat basic calibration block versus a curved basic calibration block, would be within the accuracy of the test.

Evaluation

For surface curvature, the rules of Article 5 of Section V, paragraph T-533-1, 1974 Edition shall apply for pipe weld inspection.

3. Request relief from having a calibration standard when calibrating the ultrasonic test equipment for examination of reactor coolant pumps flange studs and seal house bolting.

Code Requirement

ASME Section V, Article 5, requires a calibration standard with reference holes to establish a calibrated distance amplitude correction for examining bolt material.

Licensee's Basis for Requesting Relief

The variation in ultrasonic attenuation between bolts of the same type, diminishes the usefulness of generating a distance amplitude curve (DAC) from a test bar and using it as the reporting and evaluation criteria. In addition, this technique was not used for the baseline inspection, nor is it as sensitive to detect service-induced defects as other presently available techniques.

Evaluation

The licensee has proposed an alternate calibration technique for ultrasonically examining bolts. This technique utilizes the response from the back reflection of the bolt or stud being examined to establish instrument sensitivity. Section V, Article 5 is the current requirement. The Alternative examination technique to be used by the licensee has been demonstrated to be superior to that required and is therefore acceptable. Therefore the requested relief is granted.

4. Request relief from filing with the regulatory authority of the inservice inspection reports for Class 1 and 2 components.

Code Requirement

The Owner's inservice inspection reports shall be filed within ninety (90) days after completion of the inservice inspection with the enforcement and regulatory authorities having jurisdiction at the plant site.

Licensee's Basis for Requesting Relief

Submittal of the inservice inspection reports would be an addition to the already heavy reporting burden and would require positive reporting of successful completion of the hundreds of tests and examinations that are required every year on a nuclear plant. All inspection and test records are available at the facility for inspection by the Inspection and Enforcement regional inspectors.

Evaluation

The intent of the 90-day reporting requirement is to provide the NRC and the Authorized Inspection Ageny a summary of examinations performed, conditions observed, corrective measures recommended and taken.

If a more detailed review of the inspection activity is deemed necessary, the I&E regional inspector would perform an indepth audit at the facility.

It is the staff's position that the 90-day report is necessary and does not create an undue hardship upon the licensee to comply with the code requirement.

We therefore recommend that the code requirement be met by submitting six (6) copies of the inservice inspection report. Two copies should be submitted to Region III and four (4) copies to the Director, NRR.

B. Unit 1

1. Request relief from volumetric examination of inaccessible welds which are identified below:

SYSTEM	ITEM	IDENTIFICATION	CODE
MAIN STEAM SYSTEM PIPING WELDS (ENCAPSULATED AT GUARD PIPE)			CLASS
31-MS-2	WELDS	MS-160, -71, -72, -73, -74, -75 -76, -77, -78, -79	2
	WELDS	MS-74 to -75, MS-7, MS-78 to -79	2

30-MS-2	WELDS	MS-68, -70, -159, -108	2
	WELD	MS-159 to -160	2
6-MS-2	WELDS	MS-108A, -134	2
31-MS-1	WELDS	MS-14 to -15	2
30-MS-1	WELDS	MS-51, -52W	2
	WELD	MS-182 to -183	2
6-MS-1	WELDS	MS-51C, -62	2

FEEDWATER SYSTEM PIPING WELDS (ENCAPSULATED BY GUARD PIPE)

16-FW-16	WELDS	FW-202, -203, -204, -225, -205, -206, -207, -208, -209, -210, -211, -212, -219, -213, -214,	2
			2

CONTAINMENT SUMP B DISCHARGE PIPING WELDS (IMBEDDED IN CONCRETE)

14-SI-33A	WELDS	SI-11, -217, -12, -13	2
14-SI-34A	WELD	SI-14	2
14-SI-33B	WELDS	SI-1, -217, -12, -13	2
14-SI-34B	WELD	SI-4	2

CONTAINMENT SUMP B DISCHARGE SUPPORTS (IMBEDDED IN CONCRETE)

14-SI-33A	SUPPORTS	A,B,C,	2
14-SI-33B	SUPPORTS	A,B,C	2

SAFETY INJECTION LOW HEAD A PIPING WELDS (IMBEDDED IN CONCRETE)

4-RC-14A	WELD	3	1

Code Requirement

Class 1 welds - volumetric examination of 25 percent of the welds during each inspection interval.

Class 2, Category C-E-1 - 100 percent of the supports to be surface examined during each inspection interval.

Class 2, Category C-G - 100 percent of the weld to be inspected on 50 percent of the total welds by volumetric examination over a 40-year period.

Licensee's Basis for Requesting Relief

Items are not accessible for examination because of either being encapsulated by guard pipe or imbedded in concrete.

Evaluation

Access to volumetrically and/or surface examine these welds is restricted by not having access to the outside surface due to the interference from steel plate or concrete. All welds identified above as being inaccessible shall be visually inspected for leakage by observing the general area after a 4-hour hold at the pressure test requirements as stated in IWB-5000 and IWC-5000. This examination, and other volumetric inspections required by Section XI of similar systems which can be performed, will provide assurance that no degradation has occurred and the piping pressure boundary will remain structurally acceptable during the inspection interval.

This relief does not apply in the event paragraph IWC-2430 of Section XI is applicable.

V. CLASS 2 AND 3 COMPONENTS

A. Units 1 and 2

1. Request relief from removing insulation from nonwelded piping and valve supports.

Code Requirement

The examination performed during each inspection interval shall cover all support components and shall include the support components which extend from the piping, valve, and pump attachment, and including the attachment to the supporting structure.

Licensee's Basis for Requesting Relief

Any loss of support capability or inadequate restraints can usually be detected through the inspection of the uninsulated portion of the support and the surrounding insulation. The governing Codes and Regulations used in the design and construction of those systems that are now classified as Class 2 and 3 did not require provisions for inspection access for these systems.

Thus it would be an undue burden without compensating increase in safety to require insulation removal for support inspection.

The insulation will be removed from a supported component for further inspections whenever an abnormality is detected that may have been a result of a loss of support capability or inadequate restraint.

Evaluation

The staff grants the requested relief with the following restrictions.

The insulation must be removed sufficient to allow inspection of all mechanical connections such as, eyelets, bolts, adjustments, locking devices, etc. Any welds which might be on the support also require insulation removal to allow direct visual inspection of the weld.

VI. CLASS 1, 2, 3 COMPONENTS

A. Units 1 and 2

1. During the system pressure test, request relief from the 4-hour hold requirement when the areas are exposed for a visual examination.

Code Requirement

The test pressure and temperature shall be maintained for at least 4-hours prior to the performance of a visual examination.

Licensee's Basis for Requesting Relief

This requirement is not practical nor meaningful when performing pressure tests of areas that are exposed for visual examination. The 4-hour hold requirement is based on detection of leakage from insulated areas.

Where areas of examination are not exposed, the test pressure and temperature will be maintained for a minimum of four hours.

Evaluation

The staff grants the requested relief with the following conditions.

- When performing a system pressure test the entire system must be directly visible. This includes the welds and all base materials.
- Following a repair the repaired area must be accessible for a direct visual examination.
- When the areas are exposed, the pressure and temperature shall be maintained for a minimum time of 10 minutes and for such additional time as may be necessary to conduct the examinations.

This relief is consistent with the rules of Section XI Winter 75 Addenda, which the staff finds acceptable.

VII. AUGMENTED INSPECTION FOR UNITS 1 AND 2

Pursuant to 10 CFR 50.55a(g)(6)(ii) the Commission may require the licensee to follow an augmented inservice inspection program. Accordingly, the staff requires an augmented inservice inspection on the following Class 2 systems which perform an "Emergency Core Cooling" function and which are presently exempt from examination as provided in ASME Section XI, paragraph IWC-1220(c) and of the 1974 Edition and Summer 1975 Addenda. The licensee has been consulted on these inspections and has agreed to incorporate them in forthcoming revisions to the inservice inspection program.

A. Unit 1

Residual Heat Removal System

Line	Total Welds
M.S.	
12-RH-5A	10 Welds
12-RH-5B	10 Welds
8-RH-7A	12 Welds
8-RH-7B	13 Welds
8-RH-9A	14 Welds
8-RH-9B	13 Welds
S.S.	
10-RH-11	9 Welds

Safety Injection System

Line	Total Welds
M.S.	
6-SI-10A	10 Welds
12-RH-6A	5 Welds
12-RH-6B	5 Welds
S.S.	
8-SI-18	39 Welds
M.S.	
6-SI-13A	8 Welds
6-SI-13B	8 Welds
S.S.	
12-SI-11	9 Welds
14-SI-1	8 Welds

B. Unit 2

Residual Heat Removal System

Line	Total Welds
M.S.	
12-2RH-5A	9 Welds

12-2RH-5B	9 Welds
8-2RH-7A	12 Welds
8-2RH-7B	12 Welds
8-2RH-9A	10 Welds
8-2RH-9B	11 Welds
S.S.	
10-2RH-11	9 Welds
S.I.S.	
6-2SI-10B	10 Welds
M.S.	
12-2RH-6A	7 Welds
12-2RH-6B	6 Welds
S.S.	
8-2SI-18	55 Welds
M.S.	
6-2SI-13A	7 Welds
6-2SI-13B	7 Welds
S.S.	
12-2SI-11	9 Welds
14-2SI-11	8 Welds

The examination requirements of IWC shall apply on the above systems, including their supports, in accordance with the following:

The number of Class 2 pipe welds to be examined shall be 10 percent of the total number of welds in each individual system.

The welds to be examined shall be distributed approximately equally among runs (or portions of runs) that are essentially similar in design, size, system function, and service conditions. The welds to be examined shall be 100 percent of the terminal ends of pipe at vessel nozzles with the remaining additional welds of the 10 percent selected proportionally from the following categories:

(1) dissimilar-metal welds,

(2) welds at structural discontinuity,

(3) welds that cannot be pressure tested in accordance with IWC-5000.

This augmented inspection is in accordance with the rules of 10 CFR Part 50-55a.(g)(6)(ii).

Bases for the Augmented Inspection

- The systems are necessary for safe shutdown in the event of an accident.

- The licensee has been unable to provide a technical justification for not inspecting the welds.

- The exemption was deleted and inspection requirements such as those described above were imposed in later editions of the ASME B&PV codes.

Environmental Consideration

We have determined that these amendments do not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendments involve an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of the amendments.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendments do not involve a significant increase in the probability or consequences of accidents previously considered and do not involve a significant decrease in a safety margin, the amendments do not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Dated: November 14, 1980

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKETS NOS. 50-282 AND 50-306

NORTHERN STATES POWER COMPANY

NOTICE OF ISSUANCE OF AMENDMENTS TO FACILITY OPERATING LICENSES

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No.43 to facility operating license No. DPR-42, and Amendment No. 37 to Facility Operating License No. DPR-60 issued to Northern States Power Company (the licensee), which revised Technical Specifications for operation of Prairie Island Nuclear Generating Plant, Units Nos. 1 and 2 (the facilities) located in Goodhue County, Minnesota. The amendments are effective as of the date of issuance.

The amendments revise the Technical Specifications to replace the current inservice inspection Technical Specifications with an inservice inspection program that meets the requirements of 10 CFR 50.55a.

By letter dated November 14, 1980 as supported by the related safety evaluation, the Commission has also granted relief from certain requirements of the ASME Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components" to the licensee. The relief relates to the inservice inspection program for the facilities. The ASME Code requirements are incorporated by reference into the Commission's rules and regulations in 10 CFR Part 50. The relief is effective as of its date of issuance.

The applications for the amendments and request for relief comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendments, and letter and safety evaluation granting relief. Prior public notice of the amendments was not required since the amendments do not involve a significant hazards consideration.

The Commission has determined that the issuance of these amendments and the granting of this relief will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this action.

For further details with respect to this action, see (1) the applications for amendments dated September 15, 1976 for Unit 1 and October 12, 1977 for Unit 2, the licensee's submittals dated February 1, 1978, September 15, 1978, June 8, 1979, September 19, 1979, April 17, 1980 and September 3, 1980, (2) Amendment Nos. 43 and 37 to License Nos. DPR-42 and DPR-60, and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. and at the Environmental Conservation Library, 300 Nicollet Mall, Minneapolis, Minnesota 55401. A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland this 14th day of November, 1980.

FOR THE NUCLEAR REGULATORY COMMISSION

Robert A. Clark

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