

February 21, 1995

Mr. Roger O. Anderson, Director
Licensing and Management Issues
Northern States Power Company
414 Nicollet Mall
Minneapolis, MN 55401

SUBJECT: PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNIT NOS. 1 AND 2 - ISSUANCE
OF EXEMPTION RE: CERTAIN TECHNICAL REQUIREMENTS OF APPENDIX R TO
10 CFR PART 50 (TAC NOS. M89461 AND M89462)

Dear Mr. Anderson:

The U.S. Nuclear Regulatory Commission has granted the enclosed exemption from certain requirements of Appendix R to 10 CFR Part 50 for Prairie Island Nuclear Generating Plant Units 1 and 2. The exemption allows Northern States Power Company (NSP) to remove fuses from the power-operated relief valves control circuit as a means of ensuring the reactor coolant system inventory in the event of a control room fire. The exemption is granted in response to your application dated May 2, 1994.

We find that granting the exemption is authorized by law, will not present an undue risk to the public health and safety, is consistent with the common defense and security, and meets the special circumstances described in 10 CFR 50.12(a)(2)(ii).

Pursuant to 10 CFR 51.32, the Commission has determined that granting this exemption will have no significant impact on the environment (59 FR 62415).

A copy of the exemption is being forwarded to the Office of the Federal Register for publication.

Sincerely,

ORIGINAL SIGNED BY MARSHA GAMBERONI FOR

Sheri R. Peterson, Project Manager
Project Directorate III-1
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Docket Nos. 50-282 and 50-306

Enclosure: Exemption

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Mr. Roger O. Anderson, Director
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November 1994

DATED: February 21, 1995

EXEMPTION TO FACILITY OPERATING LICENSES NOS. DPR-42 AND DPR-60 - PRAIRIE ISLAND
UNIT NOS. 1 AND 2

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Docket File (50-282 & 50-306)

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)
Northern States Power Company) Docket Nos. 50-282 and 50-306
(Prairie Island Units 1 and 2))

EXEMPTION

I.

Northern States Power Company (NSP, the licensee) is the holder of Facility Operating Licenses Nos. DPR-42 and DPR-60 which authorize operation of Prairie Island Nuclear Generating Plant, Unit Nos. 1 and 2. The units are pressurized water reactors (PWR) located in Goodhue County, Minnesota. The licenses provide, among other things, that the facilities are subject to all rules, regulations, and orders of the Nuclear Regulatory Commission (the Commission) now or hereafter in effect.

II

Pursuant to 10 CFR 50.12(a), the NRC may grant exemptions from the requirements of the regulations (1) which are authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security; and (2) where special circumstances are present.

Section III.G.1 of Appendix R to 10 CFR Part 50 requires, in part, that fire protection features shall be provided for structures, systems, and components important to safe shutdown so that one train of systems necessary to achieve and maintain hot shutdown conditions be free of fire damage. The staff has interpreted these provisions as requiring that features shall be

such that one train of safe shutdown systems remains operable, notwithstanding a fire or consequences therefrom, without one having to perform any repair. In this context, the staff considers manually pulling fuses to isolate certain systems as a repair. Accordingly, the staff interprets Section III.G.1 of Appendix R as not permitting the pulling of fuses in order to be in compliance.

By letter dated May 2, 1994, the licensee requested an exemption to permit it to manually remove fuses from the power-operated relief valve control circuit in the event of a fire, in lieu of modifying plant hardware which would otherwise be required to achieve compliance with Section III.G.1 of Appendix R. The licensee's submittal initially referenced Section III.G.2 of Appendix R as providing the requirements from which the licensee was seeking an exemption, but in a follow-up telephone conversation with the staff the licensee concurred that Section III.G.1 is the appropriate reference.

This exemption was requested by the licensee in response to inspection findings identified in inspection reports 50-282/87-004, 50-282/88-013, 50-282/92-011 and 50-282/94-004. These findings addressed a concern with circuit failure modes that could adversely affect the ability to maintain hot shutdown in the event of a control room fire. This condition could occur if the power operated relief valves (PORV) block valves were not shut and a hot short damaged the PORV control circuit causing the PORV to open and remain open. Specifically, this involves the high/low pressure interface spurious signal concerns associated with Unit 1 PORVs CV-31231 and CV-31232 and their associated block valves MOV-32195 and MOV-32196 and with Unit 2 PORVs CV-31233

and CV-31234 and their associated block valves MOV-32197 and MOV-32198. As a precaution to prevent the potential loss of reactor coolant system (RCS) inventory during a control room fire, the licensee has proposed to close the PORV block valves prior to control room evacuation. The licensee also proposed to remove the PORV control circuit fuses to prevent a hot short or short to ground which may cause the PORV to open or be maintained open. As stated above, removal of fuses for isolation in such circumstances is considered a repair and, therefore, does not meet Appendix R, Section III.G.1, as interpreted by the staff.

The licensee's proposed actions of closing the PORV block valves and removing the control circuit fuses was reviewed by the staff and was found to be an effective means of assuring that a control room fire will not result in a sustained loss of RCS inventory.

The substance of the licensee's submittal was reviewed by Region III inspectors during the inspection conducted from July 18-22, 1988. The inspection findings were documented in NRC Inspection Report No. 50-282/88-013 and 50-306/88-013. The inspectors walked down the control room evacuation shutdown procedures. Step 3.3.1 of Procedure F5, Appendix B, "Control Room Evacuation (Fire)," directs the operators to remove/pull the fuses for the PORVs as an immediate action in response to a control room evacuation. The inspectors found that the fuse panels were readily accessible and the fuses were clearly identified in the panels. The inspectors also found that sufficient space is available to permit access for pulling fuses and that emergency lights and the fuse pullers had been provided in the vicinity of

each panel. A training program has been established for all plant operators to enhance the familiarity with and proper response to the control room evacuation. Additionally, as a part of Emergency Operating Procedures (EOP) training, all the operators are trained on the above-mentioned procedures to ensure their familiarity with respect to the removal of fuses during hot shutdown. Therefore, operators are trained and experienced in removing the fuses.

On the basis of this evaluation, the Commission concludes that the proposed action to close the PORV block valves prior to control room evacuation and to remove fuses from the PORV control circuit provides reasonable assurance that safe shutdown can be achieved in the event of a control room fire and is acceptable.

III.

The Commission has determined, pursuant to 10 CFR Part 50.12, that this exemption as described in Section II above is authorized by law, will not present an undue risk to the public health and safety, and is consistent with the common defense and security. Furthermore, the Commission has determined that special circumstances as provided in 10 CFR 50.12(a)(2)(ii), are present in that application of the regulation, as interpreted by the staff, in the particular circumstances is not necessary to achieve the underlying purpose of the rule. The underlying purpose of Section III.G.1 of Appendix R is to ensure that safe shutdown can be achieved notwithstanding a fire or the consequences therefrom. Application of this section to the extent it precludes the removal of fuses as a fire protection feature is not necessary to achieve the underlying purpose of the rule because the licensee's proposal

still provides reasonable assurance that one safe shutdown train will be operable and free of fire damage.

IV.

Accordingly, the Commission hereby grants an exemption from the requirements of Section III.G.1 of Appendix R to 10 CFR Part 50 to allow removal of fuses from the PORV control circuit in the event of a control room fire.

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this exemption will have no significant impact on the quality of the human environment (59 FR 62415).

This exemption is effective upon issuance.

FOR THE NUCLEAR REGULATORY COMMISSION
ORIGINAL SIGNED BY

John N. Hannon, Acting Director
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Dated at Rockville, Maryland,
this 21st day of February 1995

*SEE PREVIOUS CONCURRENCE

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