



Northern States Power Company

1717 Wagonade Dr. E.
Welch, MN 55089
Telephone 612-388-1121

May 15, 1995

10 CFR Part 50
Section 50.90

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

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
Docket Nos. 50-282 License Nos. DPR-42
50-306 DPR-60

Supplement to License Amendment Request Dated December 5, 1994
Changes in Containment Refueling Integrity Requirements

Pursuant to discussions with your staff regarding the subject license amendment request, Northern States Power Company by this supplement to the subject license amendment request makes the following modifications: 1) Prairie Island will close at least one containment door in each air lock following a fuel handling accident in containment in accordance with the revised proposed Technical Specifications in Attachments 1 and 2; 2) Prairie Island will maintain two containment fan coil unit fans available to operate at high speed following a fuel handling accident, also included in the revised proposed Technical Specifications; 3) The volume of containment air included in the containment mixing calculations has been reduced; and 4) NSP withdraws from consideration all aspects of the subject application concerning opening of containment penetrations during core alterations.

Attachment 1 to this letter contains Prairie Island Technical Specification pages marked up to implement this license amendment request as modified by this letter. Attachment 2 contains Prairie Island Technical Specification revised pages implementing this modified license amendment request. The proposed Technical Specification pages contained in Attachments 1 and 2 supersede the pages previously submitted in the subject license amendment request Exhibits B and C respectively.

This supplement to the subject license amendment request proposes a more conservative calculation model for containment mixing, requires an air lock door to

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be closed within a fixed time frame, requires additional plant equipment available for response to a fuel handling accident in containment and reduces the scope of the submittal by withdrawal of containment penetrations from consideration, and therefore is bounded by the Safety Evaluation, Significant Hazards Determination and Environmental Assessment considerations originally presented in the December 5, 1994 submittal.

By letter dated January 17, 1977, the NRC requested an evaluation of a fuel handling accident in containment at Prairie Island. NSP's evaluation was submitted to the NRC in letters dated March 21, 1977 and January 12, 1979 and approved by NRC Safety Evaluation Report dated February 2, 1982. These documents form the Prairie Island licensing basis for the fuel handling accident in containment. In these documents the containment is completely sealed during a fuel handling accident except that the high flow (33,000 CFM) containment purge fans are assumed to continue operating following an accident, providing a mechanism for offsite releases.

This license amendment proposes to allow the containment air lock doors to be open, the low flow (6,000 CFM) inservice purge system operating, two containment fan coil unit fans operable at high speed and the high flow containment purge system isolated. In the normal course of refueling operations, one or two containment fan coil units operate to maintain worker comfort. In the event of a fuel handling accident, the low flow inservice purge system containment isolation valves will automatically close on a high radiation signal which in turn will cause the supply and exhaust fans to automatically shut off. At this point there is no mechanism in the containment to drive accident releases out of containment. The control room operators within five minutes will start at least two containment fan coil unit fans, if they are not already operating, and switch the fans to the high speed mode to assure mixing of the containment atmosphere.

Upon receiving the high radiation alarm, the plant operators will verify the automatic actuations and in the unlikely event an automatic feature failed, within ten minutes the operators will shut off the fans and/or isolate the purge lines as required. Within thirty minutes at least one door in each air lock will be closed to further minimize releases.

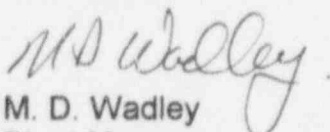
NSP has analyzed the accident consequences in accordance with the guidance provided in NRC's letter dated January 17, 1977 which allowed consideration of mixing in the containment atmosphere, automatic isolation of the containment which would limit releases, and parameters associated with current known facility operating conditions. As stated in NRC's letter to NSP dated January 3, 1979, Prairie Island fuel handling accident releases are required to be "appropriately within the guidelines of 10CFR100".

There is ample basis for assuring mixing in containment under the postulated fuel handling accident conditions. Each containment fan coil unit fan discharges 30,000 CFM in the low speed mode and in excess of 60,000 CFM in the high speed mode. These units are safety-related, however only one train of equipment can be assured to be available during outages. Thus, following an accident, these fans would discharge over 120,000 CFM which means that the containment free space volume could be drawn through these units in approximately 11 minutes.

The containment fan coil units' suction and discharge are unducted during outages, therefore, to provide additional conservatism, dose calculations were performed assuming that only the open, contiguous free containment volume, in excess of 1 million cubic feet, mixes with the radioactive releases from the fuel handling accident.

Results of these analyses indicate that the site boundary dose will be approximately 61 Rem which is somewhat higher than the dose reported in our December 5, 1994 submittal, yet still well within the limits of 10CFR100.

If you have any questions related to this supplemented license amendment request please contact myself or Dale Vincent at 612-388-6758 X4107.


M. D. Wadley
Plant Manager,
Prairie Island Nuclear Generating Plant

Attachment 1: Marked Up Technical Specification Pages
Attachment 2: Revised Technical Specification Pages

c: Regional Administrator - III, NRC
NRR Project Manager, NRC
Senior Resident Inspector, NRC
State of Minnesota
Attn: Kris Sanda
J E Silberg

ATTACHMENT 1
USNRC, May 15, 1995

SUPPLEMENT TO LICENSE AMENDMENT REQUEST DATED December 5, 1994

Changes in Containment Refueling Integrity Requirements

Appendix A, Technical Specification Pages
Marked Up Pages

TS.3.8-1
TS.3.8-2
B.3.8-1
B.3.8-2
B.3.8-3
B.3.8-4