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U S Nuclear Regulatory Commission
Attn: Document Control Desk
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PRAIRIE ISLAND NUCLEAR GENERATING PLANT
Docket Nos. 50-282 License Nos. DPR-42
50-306 DPR-60

Supplement 8 to License Amendment Request Dated January 29, 1997
Amendment of Cooling Water System Emergency Intake Design Bases

This letter is submitted to supplement the subject license amendment request in partial response to the NRC Request for Additional Information (RAI) dated February 21, 1997 regarding the subject license amendment request. Attachment 1 contains the power spectral density for time history curves 1 and 4. Time History Curve 1 will be used for the horizontal input in the dynamic finite element analyses performed in response to RAI Question 3. Time History Curve 4 will be scaled to 2/3 for the vertical input in these analyses.

NSP's response to RAI Question 5 follows below. For ease of answering, this question has been broken into three subquestions.

1.) What is the flow demand of the cooling water system after the operator actions?

The operator is directed to monitor safeguards bay level. If safeguards bay level is decreasing, then the procedure directs the operator to reduce cooling water system demand to less than 11,600 gpm. When that is accomplished, the cooling water system configuration and the river level is evaluated. At this

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time redistribution of cooling water flow may be possible. If safeguards bay level is not decreasing, the operator is directed to continue to monitor safeguards bay level. Instrument and Control technicians evaluate the severity of the earthquake.

2.) What actions are planned to ensure that the flow capacity of the intake line (at minimum submergence level) will continue to meet or exceed the cooling water system flow demand for the life of the plant?

Soon after it was determined that the emergency intake line did not meet the flow capacity calculated from the preoperational test, divers inspected the inside of the pipe. The inspection revealed siltation throughout the pipe, varying in depth from 2" to 6". Also, there was a small amount of debris. The pipe was then backflushed using the monthly procedure. However, the backflush time was extended from 30 minutes to 60 minutes. The follow-up inspection found that all of the silt and all but a few pieces of debris (less than one five gallon bucket full) had been flushed out of the pipe. To ensure that the backflush continues to be this effective, a permanent change was made to the monthly backflush procedure to require backflushing for one hour.

3.) Will the minimum required capacity of the intake line be 15,000 gpm or some other justifiable flow rate?

The initial estimate for minimum required flow was done by adding up the design flow rates for the equipment needed to maintain safe shutdown. This came out to 5640 gpm, which is well within the measured 11,600 gpm. We have improved the accuracy of this calculation using a thermal hydraulic computer model. The minimum required capacity of the intake line to maintain safe shutdown is 10,643 gpm. This value is also within the measured test value of 11,600 gpm. As stated in response to Subquestion 2, above, the longer backflush provides good assurance that long term, the flow capacity will be close to 15,000 gpm.

A revised Safety Evaluation, Significant Hazards Determination and Environmental Assessment have not been submitted since these evaluations, as presented in the original January 29, 1997 submittal and the March 11, 1997 supplement, continue to bound the proposed license amendment as supplemented by this letter.

If you have any questions related to this supplement to the subject license amendment request, please contact myself or Dale Vincent at 612-388-1121.

Joel P. Sorensen

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Attachment 1: Power spectral density time history curves 1 and 4.

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