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October 5, 1987

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U S Nuclear Regulatory Commission
799 Roosevelt Road
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PRAIRIE ISLAND NUCLEAR GENERATING PLANT
Docket Nos. 50-282 License Nos. DPR-42
50-306 DPR-60

Response to Inspection Reports
No. 50-282/87012 and 50-306/87011

In response to your letter of September 8, 1987, which transmitted Inspection Reports No. 50-282/87012 and 50-306/87011, the following information is offered.

Violation #1

10 CFR 50, Appendix B, Criterion II, states, in part, that the quality assurance program shall provide control over activities affecting the quality of identified structures, systems, and components, to an extent consistent with their importance to safety, and that activities affecting quality shall be accomplished under suitably controlled conditions.

Northern States Power Operational Quality Assurance Plan, Section 16.2, Maintenance Control, states, in part, that measures shall be established for the control of maintenance to safety-related systems and components to assure that repair and modification activities are performed in a manner consistent with its importance to safety and that upon completion of repairs and modifications the affected systems and components are inspected and tested to determine that the required work was performed satisfactorily.

Contrary to the above, on June 19, 1987 while performing maintenance on Bus 26 to replace a defective component, the work performed exceeded the scope of the work instructions and resulted in an unplanned automatic start of the No. 1 emergency diesel generator.

This is a Severity Level IV violation (Supplement I).

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Response

Corrective Action Taken and Results Achieved

On June 19, 1987, the monthly Bus 26 Undervoltage Relay Test was in progress. Actuation settings for one undervoltage (UV) relay were found to be out of specification. Since the settings had changed significantly from the last monthly test, the electrical maintenance supervisor decided the relay should be replaced rather than recalibrated. While the system engineer was preparing a work request, the supervisor withdrew a replacement relay from the warehouse, and since the defective relay appeared to be isolated per the test procedure, the supervisor directed the electricians to prepare for replacement by disconnecting wiring at the relay. Two of the wires that were disconnected formed a common neutral for all of the voltage sensing devices, so when this neutral circuit was broken, at 1252, other UV relays were deenergized and the UV scheme was actuated, which includes auto-start of D1 Diesel Generator. The sequence of operation of the voltage restoring scheme was unusual because the electrician, upon hearing relays and breakers operate, realized the effect of his action and attempted to hold the two wires together; he was able to release the wires after the control room operators placed the scheme in Manual. Recovery was normal and expedient. Operator response was proper, taking manual control and restoring Bus 26 to the normal source within 7.5 minutes. Relay replacement was completed and the bus restored to automatic operability by 1555.

Corrective Action to Be Taken to Avoid Further Violations

Cause of the event was personnel error on the part of the supervisor in deciding to proceed with work which was outside the scope of the procedure. The event was discussed with involved personnel. The report was distributed to work supervisors.

Date When Full Compliance Will Be Achieved

Full compliance has been achieved. This event was reported as Unit 1 LER 87-010.

Violation #2

Technical Specifications Paragraph 2.3.A.1.b states that the protective instrumentation setting for reactor trip startup protection shall be equal to or less than 25% of rated power for the power range high flux low setpoint.

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Contrary to the above, on May 28, 1987, due to initial NIS calibration inaccuracies, the high flux low setpoint would have tripped the reactor at about 33% power in lieu of the required 25% power.

This is a Severity Level IV violation (Supplement I).

Response

Corrective Action Taken and Results Achieved

On May 28, 1987, Unit 1 was in its power escalation program following the Cycle 11-12 refueling. Calibration of the NIS power range channels is performed based on calorimetric data taken during the startup physics testing program. At an indicated power of 34.6%, calorimetric data showed that actual power was 45.7%. The effect of this inaccuracy is that the power range high flux low setpoint would have tripped the reactor at about 33% power; the Technical Specification limit given for this trip is 25%.

Cause of the event was a greater-than-predicted change in radial leakage resulting from the change in core loading pattern from Cycle 11 to Cycle 12.

Corrective Action to Be Taken to Avoid Further Violations

A license amendment request will be made to increase the required setpoint to make it consistent with the intermediate range setpoint.

Efforts are also underway to try to improve the accuracy of the power range channels at low power during startup testing and to improve the prediction of leakage flux.

Date When Full Compliance Will Be Achieved

Full compliance will be achieved upon receipt of the license amendment. This event was reported as Unit 1 LER 87-014.

Violation #3

Technical Specification 6.5 states, in part, "detailed written procedures . . . covering areas listed below shall be prepared and followed . . . C. maintenance and test. . . ."

Contrary to the above, on July 31, 1987, during testing of substation equipment, a relay technician failed to properly follow written pro-

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cedures which resulted in loss of one source of offsite power and automatic starting of both emergency diesel generators and the No. 12 diesel powered cooling water pump.

This is a Severity Level IV violation (Supplement I).

Response

Corrective Action Taken and Results Achieved

The event referred to in the violation has resulted in the re-examination of the practices used in specifying, reviewing, and conducting work in the substations of NSP's nuclear plants. After an initial meeting called by the Senior Vice President Power Supply, a task force was established to examine the practices in use. The task force has instituted interim processes to closely control work in the substation. Action items have been assigned to:

- 1) Update substation drawings.
- 2) Establish a current substation drawing file at the plant.
- 3) Perform a human factors review of the substation control panels

The task force has also recommended implementing a substation coordinator position and has proposed a job description for this position. Action items relating to permanent work control processes for substation work are currently being reviewed by NSP management.

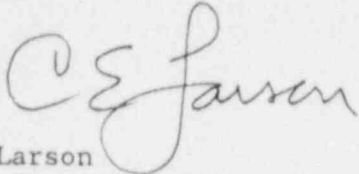
Corrective Actions to Be Taken to Avoid Further Violations and Date When Full Compliance Will be Achieved

While it is true that the event described in the Notice of Violation occurred as described, and that corrective action is required, we do not believe that there was a basis for an NRC Violation. The event occurred in the substation, which is not within the scope of the Prairie Island Technical Specifications or the Prairie Island Operational Quality Assurance Plan. The boundary for the Operational Quality Assurance Plan is drawn at the source breakers to the 4160 VAC emergency safeguards buses.

This event was reported as Unit 1 LER 87-016.

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Please contact us if you have any questions related to our response.

A handwritten signature in cursive script, appearing to read "C E Larson". The signature is written in dark ink and is positioned above the printed name and title.

C E Larson
Vice President Nuclear Generation

cc: Regional Administrator - III, NRC
NRR Project Manager, NRC
Sr Resident Inspector, NRC
G Charnoff