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Director  
Office of Nuclear Reactor Regulation  
U S Nuclear Regulatory Commission  
Washington, DC 20555

PRAIRIE ISLAND NUCLEAR GENERATING PLANT  
Docket No. 50-282 License No. DPR-42  
50-306 DPR-60

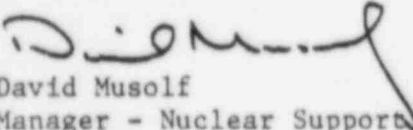
Submittal of Revision No. 3 to the Updated Safety Analysis Report (USAR)

Pursuant to 10CFR 50.71(e) we are submitting 14 copies of Revision No. 3 to the Updated Safety Analysis Report (USAR) for the Prairie Island Generating Plant. This revision updates the information in the USAR for the period from January 1, 1984 through December 31, 1984.

Exhibit A contains a description and a summary of the safety evaluation for changes, tests and experiments made under the provisions of 10CFR 50.59 during this period.

Exhibit B contains the USAR page changes and instructions for entering the pages. Included in Exhibit B is Revision 10 to the Northern States Power Company Operational Quality Assurance Plan in compliance with 10CFR 50.54(a). Changes included in Revision 10 to the plan are described in Exhibit A of this letter.

Also in Exhibit B are Revision 0 to the Licensed Operator Training Program and Revision 7 to the Licensed Operator Requalification Program. Changes to the Operator Training Program were made to comply with NUREG-0737. Changes to the Operator Requalification Program were made to clarify the program. Changes to the programs do not decrease the scope, time allotted for the programs, or frequency in conducting different parts of the programs. Therefore these changes do not require prior NRC review and approval. Submittal of these programs satisfies the requirements of NRC Generic Letter 84-17.

  
David Musolf  
Manager - Nuclear Support Services

DMM/MMV/jk

c: Regional Administrator-III, NRC  
Director IE, NRC (w/o Exhibit B)  
NRR Project Manager (w/o Exhibit B)  
NRC Resident Inspector (w/o Exhibit B)  
G Charnoff (w/o Exhibit B)

Attachments

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## EXHIBIT A

### PRAIRIE ISLAND NUCLEAR GENERATING PLANT ANNUAL REPORT OF CHANGES, TESTS AND EXPERIMENTS

January 1, 1984 to December 31, 1984

The following sections include a brief description and a summary of the safety evaluation for those changes, tests and experiments which were carried out without prior NRC approval, pursuant to the requirements of 10CFR 50.59(b).

#### 1. OFFSITE SOURCES VOLTAGE ANALYSIS (SE #136)

##### Description of Change

Further analysis was performed (in addition to Reference 14 of USAR Section 8) to provide 345KV grid operating voltage and var limits for a specific cooling tower load configuration.

##### Summary of Safety Evaluation

This analysis does not alter prior acceptance criteria for safeguards equipment electrical support. It establishes pre-trip grid requirements for a specific load configuration and increases operational flexibility. The analysis shows the adequacy of CT1 (CT11) transformer for the specific load configuration and thus does not present an unreviewed safety question.

#### 2. CFCU COOLING WATER/CHILLED WATER FLOW CONTROL INSTALLATION (82Y280)

##### Description of Change

The modulating valves on the cooling water return from the containment fan coil units (FCU) exhibited cavitation damage in the valve body due to the large pressure drop across these valves when used for throttling service. To reduce the pressure drop across the throttle valves, an orifice was installed downstream to provide backpressure to the throttle valves. FCU cooling water flow is now controlled via the orifice. To return the system to full flow in an accident condition, a bypass valve around the orifice opens on an "S" signal.

##### Summary of Safety Evaluation

This design change provides for consistent flow control of water to the Fan Coil Units and reduces cavitation damage to existing equipment. The modification is consistent with existing plant design standards and specifications. It is therefore concluded that this design change does not present an unreviewed safety question.

### 3. CONTAINMENT IN SERVICE PURGE DEBRIS SCREEN/BLANK FLANGE INSTALLATION (82L692)

#### Description of Change

The containment inservice purge supply and inservice exhaust penetrations frequently exhibit leakage rates greater than the desired value though acceptable LLRT results are obtained. To reduce the penetration leakage to a negligible amount, blind flanges have been installed between the inboard and outboard valves to serve as the normal integrity boundary during power operation. If it becomes necessary to purge containment above cold shutdown, the containment isolation valves must first be tested for acceptable leakage rates.

#### Summary of Safety Evaluation

This modification reduces the containment leakage rate and provides for a more reliable containment integrity boundary. The modification is consistent with existing plant standards and specifications. It is therefore concluded that this design change does not present an unreviewed safety question.

### 4. UNIT 2, CYCLE 9, CORE RELOAD (84L825)

#### Description of Change

This design change addresses the Core Reload for Unit 2 Cycle 9. During the Prairie Island Unit 2 Cycle 8/9 refueling outage, 40 spent Exxon Standard region 8(H) fuel assemblies and 1 Westinghouse region 2(B) fuel assembly were replaced with 40 fresh Exxon TOPROD region 11(L) assemblies and 1 once burned Exxon Lead TOPROD region 8L(H) assembly. The remainder of the core consists of 20 once burned Exxon TOPROD region 10(J) assemblies and 60 twice burned Exxon TOPROD region 9(I) assemblies (20 of which are reinserts from Unit 1 Cycle 7). Cycle 9 is expected to reach an end of cycle exposure of 10,740 MWD/MTU. The short cycle is due mainly to the 60 twice burned assemblies and also to the relatively high radial leakage loading pattern. The high leakage loading pattern was required to maintain low values of F H throughout the cycle by spreading out the power distribution. Also with Unit 2 Cycle 9, the Rod Swap method was used for the first time to determine control rod reactivity worth during Physics Testing instead of using the boration dilution method. The acceptance criteria and methodology are described in the report, "Rod Swap Methodology NSPNAD - 8408", July, 1984.

#### Summary of Safety Evaluation

The analysis performed to support the startup and operation of Prairie Island Unit 2, Cycle 9, were performed by the NSP Nuclear Analysis Department and are summarized in the "Prairie Island Unit 2, Cycle 9 Final Reload Design Report (Reload Safety Evaluation)" May, 1984 and the "Prairie Island Unit 2, Cycle 9, Startup and Operations Report" August, 1984. The analysis indicate that the core will operate within Technical Specification Limits with respect to shutdown reactivity worth, temperature coefficients, and hot channel peaking factor F H.

## 5. CHANGE TO THE OPERATIONAL QUALITY ASSURANCE PLAN APPENDIX 13B

Revision 10 to the NSP Operational Quality Assurance Plan was internally reviewed and approved on May 21, 1985. We have concluded that this revision does not reduce the commitments of NSP's operational Quality Assurance Program and does not adversely impact the safe operation of the nuclear plants. A summary of significant changes in Revision 10 is presented below. Specific changes with the reason for the change and the basis for concluding no reduction in commitments (per 10CFR 50.54(a)(3)) are presented in Appendix D to the plan. The Operational Quality Assurance Plan, Revision 10, is included in Section 13 to the USAR.

### 1. Change                      Organization

Description: The description of top level management positions was updated to reflect the current management organization. This includes the appointment of a new president and chief operating officer (responsibilities previously held by the chairman of the board and chief executive officer) and the promotion of three directors to vice presidents. Miscellaneous updates to responsibility descriptions for other positions were also made.

### 2. Change                      Monticello Q List

Description: The Monticello Q List has been updated to reflect the new combustible gas control system.