

NORTHERN STATES POWER COMPANY

DOCKET NO. 50-282

PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNIT 1

FACILITY OPERATING LICENSE

License No. DPR-42
Amendment No. 453, 188

1. The Atomic Energy Commission (the Commission) having found that:
 - A. The application for license filed by Northern States Power Company (NSPM) complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I and that all required notifications to other agencies or bodies have been duly made;
 - B. Construction of the Prairie Island Nuclear Generating Plant, Unit 1 (the facility), has been substantially completed in conformity with Provisional Construction Permit No. CPPR-45, as amended, the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
 - C. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
 - D. There is reasonable assurance: (i) that the activities authorized by this operating license can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the rules and regulations of the Commission;
 - E. NSPM is technically and financially qualified to engage in the activities authorized by this operating license in accordance with the rules and regulations of the Commission;
 - F. NSPM has satisfied the applicable provisions of 10 CFR Part 140, Financial Protection Requirements and Indemnity Agreements", of the Commission's regulations;

- G. The issuance of this amended license will not be inimical to the common defense and security or to the health and safety of the public;
 - H. After weighing the environmental, economic, technical, and other benefits of the facility against environmental costs and considering available alternatives, the issuance of Amendment No. 2 to Facility Operating License No. DPR-42 is in accordance with 10 CFR Part 50, Appendix D, of the Commission's regulations and all applicable requirements of said Appendix D have been satisfied; and
 - I. The receipt, possession, and use of source, byproduct and special nuclear material as authorized by this license will be in accordance with the Commission's regulations in 10 CFR Parts 30 and 70, including 10 CFR Section 30.33, 70.23 and 70.31.
2. Pursuant to an Initial decision of the Atomic Safety and Licensing Board (ALB) dated April 2, 1974, Facility Operating License DPR-42 (issued to Northern States Power Company¹ on August 9, 1973, and amended on December 14, 1973) is hereby amended in its entirety to read as follows:
- A. This amended license applies to the Prairie Island Nuclear Generating Plant, Unit 1, a pressurized water nuclear reactor and associated equipment (the facility), owned by the NSPM. The facility is located in Goodhue County, Minnesota, and is described in the "Final Safety Analysis Report" as supplemented and amended (Amendments 1 through 36) and the Environmental Report as supplemented and amended (Supplements 1 and 2).
 - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses:
 - (1) Pursuant to Section 104b of the Act and 10 CFR Part 50, "Licensing of Production and Utilization Facilities, NSPM to possess, use, and operate the facility at the designated location in Goodhue County, Minnesota, in accordance with the procedures and limitations set forth in this license;
 - (2) Pursuant to the Act and 10 CFR Part 70, NSPM to receive, possess and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended as of May 11, 1976.
 - (3) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, NSPM to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;

¹Northern States Power Company, was incorporated in Minnesota as a wholly owned subsidiary of Xcel Energy, Inc. effective August 18, 2000. This license, as amended, was amended effective this date to reflect the Commission's consent per 10 CFR Part 50, Section 50.80 to the license transfer approved by Order dated May 12, 2000.

- (4) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, NSPM to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument and equipment calibration or associated with radioactive apparatus or components;
- (5) Pursuant to the Act and 10 CFR Parts 30 and 70, NSPM to possess but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility;
- (6) Pursuant to the Act and 10 CFR Parts 30 and 70, NSPM to transfer byproduct materials from other job sites owned by NSPM for the purpose of volume reduction and decontamination.

C. This amended license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Sections 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

NSPM is authorized to operate the facility at steady state reactor core power levels not in excess of 1650 megawatts thermal.

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 188, are hereby incorporated in the license. NSPM shall operate the facility in accordance with the Technical Specifications.

(3) Physical Protection

NSPM shall fully implement and maintain in effect all provisions of the Commission-approved physical security, guard training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contains Safeguards Information protected under 10 CFR 73.21, is entitled: "Prairie Island Nuclear Generating Plant Security Plan, Training and Qualification Plan, Safeguards Contingency Plan, and Independent Spent Fuel Storage Installation Security Program," Revision 1, submitted by letters dated October 18, 2006, and January 10, 2007.

(4) Fire Protection

NSPM shall implement and maintain in effect all provisions of the approved fire protection program as described and referenced in the Updated Safety Analysis Report for the Prairie Island Nuclear Generating Plant, Units 1 and 2, and as approved in Safety Evaluation Reports dated February 14, 1978, September 6, 1979, April 21, 1980, December 29, 1980, July 28, 1981, October 27, 1989, and October 6, 1995, subject to the following provision:

NSPM may make changes to the approved Fire Protection Program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

(5) Additional Conditions

The Additional Conditions contained in Appendix B, as revised through Amendment No. 188, are hereby incorporated into this license. NSPM shall operate the facility in accordance with the Additional Conditions.

(6) Mitigation Strategy License Condition

Develop and maintain strategies for addressing large fires and explosions and that include the following key areas:

- (a) Fire fighting response strategy with the following elements:
 - 1. Pre-defined coordinated fire response strategy and guidance
 - 2. Assessment of mutual aid fire fighting assets
 - 3. Designated staging areas for equipment and materials
 - 4. Command and control
 - 5. Training of response personnel

- (b) Operations to mitigate fuel damage considering the following:
 - 1. Protection and use of personnel assets
 - 2. Communications
 - 3. Minimizing fire spread
 - 4. Procedures for implementing integrated fire response strategy
 - 5. Identification of readily-available pre-staged equipment
 - 6. Training on integrated fire response strategy
 - 7. Spent fuel pool mitigation measures

- (c) Actions to minimize release to include consideration of:
 - 1. Water spray scrubbing
 - 2. Dose to onsite responders

NORTHERN STATES POWER COMPANY

DOCKET NO. 50-306

PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNIT 2

FACILITY OPERATING LICENSE

License No. DPR-60
Amendment No. ~~144~~, 177

1. The Atomic Energy Commission (the Commission) having found that:
 - A. The application for license filed by Northern States Power Company (NSPM) complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I and that all required notifications to other agencies or bodies have been duly made;
 - B. Construction of the Prairie Island Nuclear Generating Plant, Unit 2 (the facility), has been substantially completed in conformity with Provisional Construction Permit No. CPPR-46, as amended, the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
 - C. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
 - D. There is reasonable assurance: (i) that the activities authorized by this operating license can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the rules and regulations of the Commission;
 - E. NSPM is technically and financially qualified to engage in the activities authorized by this operating license in accordance with the rules and regulations of the Commission;
 - F. NSPM has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements", of the Commission's regulations;
 - G. The issuance of this amended license will not be inimical to the common defense and security or to the health and safety of the public;

- H. After weighing the environmental, economic, technical, and other benefits of the facility against environmental costs and considering available alternatives, the issuance of Facility Operating License No. DPR-60 is in accordance with 10 CFR Part 50, Appendix D, of the Commission's regulations and all applicable requirements of said Appendix D have been satisfied; and
 - I. The receipt, possession, and use of source, byproduct and special nuclear material as authorized by this license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40 and 70, including 10 CFR Section 30.33, 40.32, 70.23 and 70.31.
2. Facility Operating License No. DPR-60 is hereby issued to read as follows:
- A. This license applies to the Prairie Island Nuclear Generating Plant, Unit 2, a pressurized water nuclear reactor and associated equipment (the facility), owned by the Northern States Power Company¹ (NSPM). The facility is located in Goodhue County, Minnesota, and is described in the "Final Safety Analysis Report" as supplemented and amended (Amendments 1 through 38) and the Environmental Report as supplemented and amended (Supplements 1 and 2).
 - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses:
 - (1) Pursuant to Section 104b of the Act and 10 CFR Part 50, "Licensing of Production and Utilization Facilities, NSPM to possess, use, and operate the facility at the designated location in Goodhue County, Minnesota, in accordance with the procedures and limitations set forth in this license;
 - (2) Pursuant to the Act and 10 CFR Part 70, NSPM to receive, possess and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended as of May 11, 1976.
 - (3) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, NSPM to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
 - (4) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, NSPM to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument and equipment calibration or associated with radioactive apparatus or components;

¹Northern States Power Company, was incorporated in Minnesota as a wholly owned subsidiary of Xcel Energy, Inc. effective August 18, 2000. This license, as amended, was amended effective this date to reflect the Commission's consent per 10 CFR Part 50, Section 50.80 to the license transfer approved by Order dated May 12, 2000.

- (5) Pursuant to the Act and 10 CFR Parts 30 and 70, NSPM to possess but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility;
 - (6) Pursuant to the Act and 10 CFR Parts 30 and 70, NSPM to transfer byproduct materials from other job sites owned by NSPM for the purposes of volume reduction and decontamination.
- C. This amended license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Sections 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:
- (1) Maximum Power Level
NSPM is authorized to operate the facility at steady state reactor core power levels not in excess of 1650 megawatts thermal.
 - (2) Technical Specifications
The Technical Specifications contained in Appendix A, as revised through Amendment No. 177, are hereby incorporated in the license. NSPM shall operate the facility in accordance with the Technical Specifications.
 - (3) Physical Protection
NSPM shall fully implement and maintain in effect all provisions of the Commission-approved physical security, guard training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contains Safeguards Information protected under 10 CFR 73.21, is entitled: 'Prairie Island Nuclear Generating Plant Security Plan, Training and Qualification Plan, Safeguards Contingency Plan, and Independent Spent Fuel Storage Installation Security Program,' Revision 1, submitted by letters dated October 18, 2006 and January 10, 2007.

(4) Fire Protection

NSPM shall implement and maintain in effect all provisions of the approved fire protection program as described and referenced in the Updated Safety Analysis Report for the Prairie Island Nuclear Generating Plant, Units 1 and 2, and as approved in Safety Evaluation Reports dated February 14, 1978, September 6, 1979, April 21, 1980, December 29, 1980, July 28, 1981, October 27, 1989, and October 6, 1995, subject to the following provision:

NSPM may make changes to the approved Fire Protection Program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

(5) Additional Conditions

The Additional Conditions contained in Appendix B, as revised through Amendment No. 177, are hereby incorporated into this license. NSPM shall operate the facility in accordance with the Additional Conditions.

(6) Mitigation Strategy License Condition

Develop and maintain strategies for addressing large fires and explosions and that include the following key areas:

- (a) Fire fighting response strategy with the following elements:
 - 1. Pre-defined coordinated fire response strategy and guidance
 - 2. Assessment of mutual aid fire fighting assets
 - 3. Designated staging areas for equipment and materials
 - 4. Command and control
 - 5. Training of response personnel

- (b) Operations to mitigate fuel damage considering the following:
 - 1. Protection and use of personnel assets
 - 2. Communications
 - 3. Minimizing fire spread
 - 4. Procedures for implementing integrated fire response strategy
 - 5. Identification of readily-available pre-staged equipment
 - 6. Training on integrated fire response strategy
 - 7. Spent fuel pool mitigation measures

- (c) Actions to minimize release to include consideration of:
 - 1. Water spray scrubbing
 - 2. Dose to onsite responders

5.0 ADMINISTRATIVE CONTROLS

5.3 Plant Staff Qualifications

- 5.3.1 Each member of the plant staff shall meet or exceed the minimum qualifications of Regulatory Guide 1.8, Revision 1, September 1975 except for (1) the operations manager who shall meet the requirements of ANSI N18.1-1971, except that NRC license requirements are as specified in TS 5.2.2.e, and (2) the education and experience eligibility requirements for operator license applicants, and changes thereto, shall be those previously reviewed and approved by the NRC, specifically those referenced in NMC* letter dated March 19, 2003.
- 5.3.2 For the purpose of 10 CFR 55.4, a licensed senior reactor operator (SRO) and a licensed reactor operator (RO) are those individuals who, in addition to meeting the requirements of TS 5.3.1, perform the functions described in 10 CFR 50.54(m).
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* NMC is maintained as historical information

APPENDIX B

ADDITIONAL CONDITIONS

FACILITY OPERATING LICENSE NO. DPR-42

Northern States Power Company (NSPM) shall comply with the following conditions on the schedules noted below:

<u>Amendment Number</u>	<u>Additional Condition</u>	<u>Implementation Date</u>
128	1. NSPM will provide a licensed operator in the control room on an interim basis for the dedicated purpose of identifying an earthquake which results in a decreasing safeguards cooling water bay level. This operator will be in addition to the normal NSPM administrative control room staffing requirements and will be provided until License Condition 2 is satisfied.	Prior to Unit 2 entering Mode 2 Completed – See Amendment No. 140
128	2. NSPM will submit dynamic finite element analyses of the intake canal banks by July 1, 1997 for NRC review. By December 31, 1998, NSPM will complete, as required, additional analyses or physical modifications which provide the basis for extending the time for operator post-seismic cooling water load management and eliminating the dedicated operator specified in License Condition 1.	July 1, 1997, and December 31, 1998, as stated in Condition 2. Completed – See Amendment No. 140
128	3. Based on the results of License Condition 2, NSPM will revise the Updated Safety Analysis Report to incorporate the changes into the plant design bases. These changes will be included in the next scheduled revision of the Updated Safety Analysis Report following completion of License Condition 2 activities.	At the next USAR update following completion of Condition 2, but no later than June 1, 1999.
130	4. Prairie Island will assure that heavy loads do not present a potential for damaging irradiated fuel through use of: 1) a single-failure-proof crane with rigging and procedures which implement Prairie Island commitments to NUREG-0612; or 2) spent fuel pool covers with their implementing plant procedures for installation and use.	This is effective immediately upon issuance of the amendment.
133	5. NSPM will assure that during the implementation of steam generator repairs utilizing the voltage-based repair criteria, the total calculated primary to secondary side leakage from the faulted steam generator, under main steam line break conditions (outside containment and upstream of the main steam isolation valves), will not exceed 1.42 gallons per minute (based on a reactor coolant system temperature of 578 °F).	This is effective immediately upon issuance of the amendment

APPENDIX BADDITIONAL CONDITIONSFACILITY OPERATING LICENSE NO. DPR-60

Northern States Power Company (NSPM) shall comply with the following conditions on the schedules noted below:

<u>Amendment Number</u>	<u>Additional Condition</u>	<u>Implementation Date</u>
120	1. NSPM will provide a licensed operator in the control room on an interim basis for the dedicated purpose of identifying an earthquake which results in a decreasing safeguards cooling water bay level. This operator will be in addition to the normal NSPM administrative control room staffing requirements and will be provided until License Condition 2 is satisfied.	Prior to Unit 2 entering Mode 2 Completed - See Amendment No. 131
120	2. NSPM will submit dynamic finite element analyses of the intake canal banks by July 1, 1997 for NRC review. By December 31, 1998, NSPM will complete, as required, additional analyses or physical modifications which provide the basis for extending the time for operator post-seismic cooling water load management and eliminating the dedicated operator specified in License Condition 1.	July 1, 1997, and December 31, 1998, as stated in Condition 2. Completed - See Amendment No. 131.
120	3. Based on the results of License Condition 2, NSPM will revise the Updated Safety Analysis Report to incorporate the changes into the plant design bases. These changes will be included in the next scheduled revision of the Updated Safety Analysis Report following completion of License Condition 2 activities.	At the next USAR update following completion of Condition 2, but no later than June 1, 1999.
122	4. Prairie Island will assure that heavy loads do not present a potential for damaging irradiated fuel through use of: 1) a single-failure-proof crane with rigging and procedures which implement Prairie Island commitments to NUREG-0612; or 2) spent fuel pool covers with their implementing plant procedures for installation and use.	This is effective immediately upon issuance of the amendment.
125	5. NSPM will assure that during the implementation of steam generator repairs utilizing the voltage-based repair criteria, the total calculated primary to secondary side leakage from the faulted steam generator, under main steam line break conditions (outside containment and upstream of the main steam isolation valves), will not exceed 1.42 gallons per minute (based on a reactor coolant system temperature of 578°F).	This is effective immediately upon issuance of the amendment.