UNITED STATES NUCLEAR REGULATORY COMMISSION

NORTHERN STATES POWER COMPANY

PRAIRIE ISLAND NUCLEAR GENERATING PLANT DOCKET NO. 50-282
50-306

REQUEST FOR AMENDMENT TO
OPERATING LICENSES DPR-42 & DPR-60

LICENSE AMENDMENT REQUEST DATED September 11, 1996
Cooling Water System Technical Specification Amendments

Northern States Power Company, a Minnesota corporation, requests authorization for changes to the Prairie Island Operating License, Appendix A as shown on the attachments labeled Exhibits A, B, and C. Exhibit A describes the proposed changes, reasons for the changes, and the supporting safety evaluation and significant hazards determination. Exhibit B contains current Prairie Island Technical Specification pages marked up to show the proposed changes. Exhibit C contains the revised Technical Specification pages.

This letter contains no restricted or other defense information.

NORTHERN STATES POWER COMPANY

By Roger O. Anderson
R. O. Anderson
Director, Licensing and Management Issues

On this 12th day of September before me a notary public in and for said County, personally appeared R. O. Anderson, Director, Licensing and Management Issues, and being first duly sworn acknowledged that he is authorized to execute this document on behalf of Northern States Power Company, that he knows the contents thereof, and that to the best of his knowledge, information, and belief the statements made in it are true and that it is not interposed for delay.

Cynthia L Yaeger

CYNTHIA L. YAEGER
Notary Public-Minnesota
Hennepin County
My Comm Expires Jan 31, 2000

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Cooling Water System Technical Specification Amendments

EXHIBIT A

Description of the Proposed Changes, The Reasons for Requesting the Changes, and the Supporting Safety Evaluation/Significant Hazards Determination

Pursuant to 10 CFR Part 50, Sections 50.59 and 50.90, the holders of Operating Licenses DPR-42 and DPR-60 hereby propose the following changes to the Facility Operating Licenses and Appendix A, Technical Specifications:

BACKGROUND

This License Amendment Request revises Prairie Island Technical Specifications relating to the Cooling Water System. These proposed amendments have been identified through operational experience with the vertical Cooling Water pump (#121) as a "swing" safeguards cooling water pump, and preparation efforts associated with the Prairie Island Service Water System Operational Performance Inspection (SWSOPI). The Prairie Island "Cooling Water System" is similar to the system commonly known as the "Service Water System" at other nuclear plants.

In 1992, Prairie Island completed site modifications which upgraded the vertical motor-driven Cooling Water Pump (#121) to a safeguards pump. This pump can be powered from either train of Unit 2 safeguards electrical power and accordingly can be valved to supply either cooling water header, thus it is a "swing" safeguards cooling water pump. Operating experience since 1992 with Cooling Water Pump #121 as a swing safeguards pump indicate some adjustments in the Technical Specifications are warranted to improve plant operations.

Most of the Technical Specification changes proposed in this License Amendment Request arise from the Prairie Island self-assessment Service Water System Operational Performance Inspection (SWSOPI) completed in late 1995. Changes to

Chapter 5 descriptions were identified for revision to reflect the current plant configuration and operating practices. Also, due to this assessment, Cooling Water system turbine building isolation valve logic will be modified to improve system performance and Technical Specification changes are proposed to support these modifications.

PROPOSED CHANGES AND REASONS FOR CHANGES

The proposed changes to Prairie Island Operating License Appendix A, Technical Specifications are described below, and the specific wording changes are shown in Exhibits B and C.

1. Technical Specifications, TABLE OF CONTENTS: Title of Section 5.1 was revised and title of Section 5.4 deleted.

   Justification: Reflects the changes proposed for these Sections.

2. Technical Specification 3.3.D.1.a, Cooling Water System: Insert the phrase "or apply 3.3.D.2.a" in the first sentence.

   Justification: Modifications completed in 1992 allow the vertical 121 Cooling Water pump to be operated as a safeguards cooling water pump in lieu of one of the diesel driven safeguard Cooling Water pumps. These modifications were made to increase plant safety and improve operational flexibility.

   Since the vertical motor-driven Cooling Water pump is a swing pump which can be aligned to either Cooling Water train, operator actions are required to position power supply breakers and valves to properly align the pump to the Cooling Water header associated with the inoperable safeguards Cooling Water pump.

   Prior to these modifications, if one of the diesel-driven Cooling Water pumps were inoperable, LCO 3.3.D.2.a was entered. Specification 3.3.D.1.a as currently written requires 121 Cooling Water pump to be placed in service any time one of the diesel-driven Cooling Water pumps is found to be inoperable or prior to making it inoperable. This requirement places unnecessary additional restrictions on the plant operations which was not intended when the Specification was proposed. Placing 121 Cooling Water pump in service as a safeguards pump requires temporary removal of the 121 Cooling Water Pump from service. There may be plant conditions which make it impractical or less safe to align 121 Cooling Water Pump as a safeguards pump rather than applying Specification 3.3.D.2.a. Thus this

amendment proposes to allow the option of entering Specification 3.3.D.2.a directly as it would have been prior to 1992.

3. Technical Specification 4.5.B, Component Tests, 3. Valves: Provision is made for testing system isolation valve actuation circuits during refueling outages and delete reference to Section 4.2 (Inservice Inspection and Testing programs).

   Justification: Currently the turbine building cooling water loads are isolated if the header experiences high flow coincident with low pressure. Recent system assessment activities determined that system performance could be improved if the valve actuation logic were modified to isolate on a SI signal coincident with low header pressure. This modification is planned for implementation in 1997.

   Due to presence of the SI logic introduced by this modification it will no longer be practical to test the actuation circuits for these valves during plant operation. Current plans are to test the valve actuation circuits associated with the unit which is shut down. Accordingly this specification is revised to delete reference to Technical Specification 4.2 which would require quarterly testing and instead require actuation circuit testing during refueling outages.

4. Technical Specification 5.1, SITE: Change the title of this section to SITE LOCATION and condense the section to one paragraph which defines the site location.

   Justification: The site modifications which upgraded the vertical Cooling Water pump to a safeguards pump included addition of two safeguards diesel generators and a flood protected building to enclose them. Those modifications changed the number of flood doors as described in this Technical Specification section due to openings in the new buildings. Other changes to this section are also required to make it consistent with current plant design.

   Prairie Island is currently engaged in the process of converting the Prairie Island Technical Specifications to conform to NUREG-1431. This License Amendment Request proposes to conform this section to the guidance of NUREG-1431 now as the most efficient means of updating the section.

   Technical Specification Section 5.1 is included in the Prairie Island Technical Specifications as part of the Design Features Chapter. Design Features Technical Specifications are required by 10CFR50.36(c)(4). Current interpretations of these requirements are expressed in the Improved Standard Technical Specification NUREGs and the Nuclear Regulatory Commission approved conversions to these NUREGs. The guidance provided by these documents indicate that Technical

Specification Section 5.1 should be reduced to a single paragraph which describes the location of the site and the minimum radius of the site exclusion area boundary. The other requirements in this section have been or will be relocated to site administrative procedures or the plant Updated Safety Analysis Report.

5. Technical Specification 5.4, ENGINEERED SAFETY FEATURES: This section is deleted in its entirety.

   Justification: The self-assessment SWSOPI identified a number of changes required in this section. Since Prairie Island is converting to Improved Technical Specifications, this amendment request proposes to delete the section in its entirety in conformance with NUREG-1431 rather than implement changes now which will be deleted later in the Improved Technical Specifications submittal. This approach provides for more efficient use of Nuclear Regulatory Commission resources and brings this section of Prairie Island Technical Specifications into conformance with NUREG-1431 sooner. The requirements of this section have been or will be relocated to site administrative procedures or the plant Updated Safety Analysis Report.

SAFETY EVALUATION

Entry into LCO 3.3.D.2.a

These proposed amendments would allow the plant operators to enter LCO 3.3.D.2.a in lieu of aligning 121 Cooling Water pump in place of an inoperable diesel-driven Cooling Water pump. Prior to 1992, Prairie Island did not have 121 Cooling Water pump as a safeguards pump so any time one of the diesel-driven Cooling Water pumps became inoperable the unit entered LCO 3.3.D.2.a.

The Cooling Water system is shared between the two Prairie Island units, that is, the two trains serve both units. The intent of upgrading 121 Cooling Water pump to safeguards status was to reduce the time that the plant would be in LCO 3.3.D.2.a dependent on a single Cooling Water pump and reduce the likelihood of plant shutdown due to a long term loss of a pump. A long term component loss, beyond the allowable outage time of the LCO would require both units to shut down.

Alignment of the 121 Cooling Water pump in place of a diesel-driven Cooling Water pump requires significant operator effort and time. Plant operational conditions arise for which it is more effective to enter LCO 3.3.D.2.a than to align 121 Cooling Water pump as a safeguards pump.

For example, normal Cooling Water System operation uses two pumps to maintain header pressure and supply adequate plant cooling. When the cooling water inlet temperature is high additional cooling water flow may be required to maintain plant equipment temperatures. Under these conditions, the 121 Cooling Water Pump runs to maintain plant equipment temperatures. Removal of the 121 Cooling Water Pump from service to align it as a safeguards pump would not be the most conservative plant configuration. Entering LCO 3.3.D.2.a under these circumstances would continue to meet the original objective of upgrading 121 Cooling Water pump to a safeguards pump. Other circumstances may also arise for which it is safer and more practical to enter LCO 3.3.D.2.a than align 121 Cooling Water Pump as a safeguards pump.

This proposed amendment clarifies the intent of Specification 3.3.D.1.a and allows operational flexibility while maintaining the plant in a safe condition. If two safeguards Cooling Water Pumps are inoperable, then one pump remains operable which is the same condition allowed in the original plant license prior to upgrading 121 Cooling Water Pump to a safeguards pump.

Isolation Valve Actuation Circuit Testing

This amendment would allow testing the Turbine Building isolation valve actuation circuits associated with a shutdown unit during its refueling outage.

Currently the Cooling Water system header supplying non-safety related equipment in the turbine building is isolated if there is high flow coincident with low header pressure. Internal review of system performance determined that plant safety will be improved if the isolation is initiated by an SI signal coincident with low header pressure.

Current Prairie Island Technical Specifications require testing of the actuation circuitry for these valves each quarter. However, since the Prairie Island design does not allow testing SI circuitry during plant operation, it is tested each refueling outage. Since the planned modification will actuate the Cooling Water isolation valves by an SI signal, this change will require testing of the Unit 1 actuation circuitry for the Cooling Water Train A and Train B isolation valves during each Unit 1 refueling outage. Likewise, the Unit 2 actuation circuitry for the Cooling Water Train A and Train B isolation valves will be tested during each Unit 2 refueling outage. Thus the testing frequency of the actuation circuitry for these isolation valves will be consistent with other portions of SI circuitry testing.

Overall, modification of the actuation circuitry for these Cooling Water isolation valves will improve plant safety and this proposed change will enable the circuitry to be tested on a timely basis and assure its proper functioning. Plant and industry experience has shown that testing of the SI circuitry each refueling outage is sufficient to assure reliable operation of the system. Changing the testing frequency of the actuation circuitry for these valves to each refueling outage will continue to maintain the plant in a safe condition.

Design Features Amendment

This proposed amendment would conform Technical Specifications 5.1 and 5.4 to NUREG-1431 guidance by reducing Technical Specifications 5.1 to a single paragraph describing the plant location and minimum site exclusion area radius and relocating all other descriptions to the Updated Safety Analysis Report.

Currently Technical Specification Section 5.1 contains requirements for flood and earthquake emergency procedures. Deletion of these requirements was addressed in Northern States Power Company's License Amendment Request Dated December 14, 1995, "Conformance of Administrative Controls Section 6 to the Guidance of Standard Technical Specifications", Exhibit A, Page 3. The original Safety Evaluation Report for Prairie Island specifically required Prairie Island Technical Specifications to contain provision to shut down the plant at a flood elevation of +692 feet MSL at the plant site. This License Amendment Request does not amend Chapter 6.5 which would continue to explicitly require flood and earthquake procedures, thus the original commitment continues to be met under this License Amendment Request. Northern States Power Company's License Amendment Request Dated December 14, 1995 should continue to be evaluated on its own merits independent of this License Amendment Request.

These proposed amendments to the Technical Specifications will continue to maintain plant safety since they meet the requirements of 10CFR50.36(c)(4), the guidance of NUREG-1431 and their interpretations through Nuclear Regulatory Commission approved Improved Technical Specification conversions.

DETERMINATION OF SIGNIFICANT HAZARDS CONSIDERATIONS

The proposed changes to the Operating License have been evaluated to determine whether they constitute a significant hazards consideration as required by 10 CFR Part 50, Section 50.91 using the standards provided in Section 50.92. This analysis is provided below:

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated

Operation of the Prairie Island plant in accordance with the proposed changes does not involve a significant increase in the probability or consequences of an accident previously evaluated.

Probability

The Cooling Water System is provided in the plant to mitigate accidents and it is not a Design Basis Accident initiator, thus these proposed changes do not increase the probability of an accident.

Consequences

Entry into LCO 3.3.D.2.a

This License Amendment proposes flexibility to enter into LCO 3.3.D.2.a when 121 cooling water pump is operable. The consequences of a previously analyzed accident are not increased because current Technical Specifications allow two of the three possible safeguards Cooling Water pumps to be out of service up to 7 days. If two safeguards Cooling Water Pumps are inoperable, then one pump remains operable which is the same condition allowed in the original plant license prior to upgrading 121 Cooling Water Pump to a safeguards pump.

Isolation Valve Actuation Circuit Testing

Changing the actuation circuitry testing frequency from quarterly to each refueling outage does not significantly increase the consequences of an accident. Plant and industry experience has shown that testing SI circuitry each refueling outage provides adequate assurance that the SI actuation circuitry will function as designed. Thus testing the Cooling Water isolation actuation circuitry each refueling outage also provides assurance that these circuits will perform as designed.

Design Features Amendment

Conformance of Sections 5.1 and 5.4 to the Improved Standard Technical Specifications is administrative in nature. The current Technical Specifications descriptions will be maintained under site administrative controls (Updated

Safety Analysis Report), thus the consequences of an accident are not affected.

Conclusion

In total these changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed

The Cooling Water System is provided in the plant to mitigate accidents and it is not a Design Basis Accident initiator, thus these proposed changes do not increase the possibility of a new or different kind of accident.

In total, the possibility of a new or different kind of accident from any accident previously evaluated would not be created by these amendments to the Cooling Water Technical Specifications.

3. The proposed amendment will not involve a significant reduction in the margin of safety

The proposed changes do not involve a significant reduction in a margin of safety because the current Technical Specifications requirements for safe operation of the Prairie Island plant are maintained or increased.

Entry into LCO 3.3.D.2.a

This License Amendment proposes flexibility to enter into LCO 3.3.D.2.a when 121 cooling water pump is operable. Plant margins of safety have been increased through the addition of a third Cooling Water pump. If two safeguards Cooling Water Pumps are inoperable, then one pump remains operable which is the same condition allowed in the original plant license prior to upgrading 121 Cooling Water Pump to a safeguards pump.

Isolation Valve Actuation Circuit Testing

Changing the actuation circuitry testing frequency from quarterly to each refueling outage does not significantly reduce the margin of plant safety. Plant and industry experience has shown that testing SI circuitry each refueling outage provides adequate assurance that the SI actuation circuitry will function as designed. Thus testing the Cooling Water isolation actuation circuitry each

refueling outage also provides assurance that these circuits will perform as designed.

Design Features Amendment

Relocation of plant descriptions from Technical Specifications is administrative in nature and therefore does not significantly reduce the plant margins of safety.

Conclusion

Therefore, a significant reduction in the margin of safety would not be involved with these Cooling Water amendments.

Based on the evaluation described above, and pursuant to 10 CFR Part 50, Section 50.91, Northern States Power Company has determined that operation the Prairie Island Nuclear Generating Plant in accordance with the proposed license amendment request does not involve any significant hazards considerations as defined by Nuclear Regulatory Commission regulations in 10 CFR Part 50, Section 50.92.

ENVIRONMENTAL ASSESSMENT

Northern States Power Company has evaluated the proposed changes and determined that:

1. The changes do not involve a significant hazards consideration, or

2. The changes do not involve a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or

3. The changes do not involve a significant increase in individual or cumulative occupational radiation exposure.

Accordingly, the proposed changes meet the eligibility criterion for categorical exclusion set forth in 10 CFR Part 51 Section 51.22(c)(9). Therefore, pursuant to 10 CFR Part 51 Section 51.22(b), an environmental assessment of the proposed changes is not required.