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Nuclear Management Company, LLC
Prairie Island Nuclear Generating Plant
1717 Wakonade Dr. East • Welch MN 55089

February 2, 2001

10 CFR 50.90

U S Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
Docket Nos. 50-282 License Nos. DPR-42
50-306 DPR-60

License Amendment Request dated February 2, 2001
Clarification of Applicability for Allowed Outage Times

Attached is a request for a change to the Technical Specifications, Appendix A of the Operating Licenses, for the Prairie Island Nuclear Generating Plant (PINGP). The Nuclear Management Company submits this request in accordance with the provisions of 10CFR50.90.

This amendment request proposes to clarify the plant conditions under which various specifications are applicable. A literal reading of the current Technical Specifications wording may result in situations where a routine plant shutdown would seem to be prohibited by Technical Specifications and, thereby, require entry into Technical Specification 3.0.C.

This amendment request also makes several administrative changes: revising references to the chief nuclear corporate officer, capitalizing defined terms, and updating references to previously relocated Technical Specification paragraphs and correcting the List of Figures.

The disposition of this amendment request does not have any impact upon the Improved Technical Specifications amendment request submitted on December 11, 2000.

A001

Exhibit A contains a description of the proposed changes, the reasons for requesting the changes, the supporting safety evaluation, and the determination of no significant hazards consideration. Exhibit B contains current Prairie Island Technical Specification pages marked up to show the proposed changes. Exhibit C contains the revised Prairie Island Technical Specification pages incorporating the proposed changes.

In this request we have made no new NRC commitments. If you have any questions related to this request, please contact John Stanton at 651-388-1121 x4083.

Joel P. Sorensen

Joel P. Sorensen
Site General Manager
Prairie Island Nuclear Generating Plant

Attachments:

Affidavit

Exhibit A, Evaluation of Proposed Changes to the Technical Specifications Appendix A of Operating Licenses DPR-42 and DPR-60.

Exhibit B, Marked Up Technical Specification Pages

Exhibit C, Revised Technical Specification Pages

c: Regional Administrator - III, NRC
NRR Project Manager, NRC
Senior Resident Inspector, NRC
James Bernstein, State of Minnesota
J E Silberg

U S Nuclear Regulatory Commission

NUCLEAR MANAGEMENT COMPANY, LLC

PRAIRIE ISLAND NUCLEAR GENERATING PLANT

Docket Nos. 50-282
50-306

LICENSE AMENDMENT REQUEST DATED FEBRUARY 2, 2001
CLARIFICATION OF APPLICABILITY FOR ALLOWED OUTAGE TIMES

The Nuclear Management Company, LLC, a Wisconsin corporation, with this letter is submitting information to support a requested license amendment.

This letter and its attachments contain no restricted or other defense information.

NUCLEAR MANAGEMENT COMPANY, LLC

Joel P. Sorensen

Joel P. Sorensen
Site General Manager
Prairie Island Nuclear Generating Plant

State of MINNESOTA

County of GOODHUE

On this 2ND day of FEBRUARY 2001 before me a notary public in and for said county, personally appeared Joel P. Sorensen, Site General Manager, Prairie Island Nuclear Generating Plant, and being first duly sworn acknowledged that he is authorized to execute this document on behalf of Nuclear Management Company, LLC, that he knows the contents thereof, and that to the best of his knowledge, information, and belief the statements made in it are true.

Jeffrey L. Kivi

JEFFREY L. KIVI
NOTARY PUBLIC-MINNESOTA
My Commission Expires Jan. 31, 2005

EXHIBIT A

License Amendment Request Dated February 2, 2001
Clarification of Applicability for Allowed Outage Times

Evaluation of Proposed Changes to the
Technical Specifications Appendix A of Operation Licenses DPR-42 and DPR-60

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 Technical Specifications contained in Appendix A of the Facility Operating Licenses:

PROPOSED CHANGES

CONTENTS List of Figures pg. **TS-x**

i) Delete entry for FIGURE TS.3.10-1, "Required Shutdown Margin Vs Reactor Boron Concentration."

Table TS.1-1 Operational Modes pg. **Table TS.1-1**

ii) Fully capitalize the terms "Shutdown Margin" and "Core Operating Limits Report."

TS 2.1 Safety Limits pg. **TS.2.1-1**

iii) In TS 2.1.A insert "the" in blank before "combination."

TS 2.2 Safety Limit Violations pg. **TS.2.1-1**

iv) In TS 2.2.D and TS 2.2.E change "Vice President Nuclear Generation" to "corporate officer having corporate responsibility for overall plant nuclear safety."

TS 3.1.A.2.a(2) Reactor Coolant System Pressure Control - Pressurizer pg. **TS.3.1-3**

v) Delete the phrase "During STARTUP OPERATION or POWER OPERATION."

TS 3.1.A.2.c(1)(b) Pressurizer Power Operated Relief Valves pg. **TS.3.1-4**

vi) Delete the phrase "During STARTUP OPERATION or POWER OPERATION."

TS 3.1.A.3.b Reactor Coolant Vent System pg. **TS.3.1-5**

vii) Delete the phrase "During STARTUP OPERATION or POWER OPERATION."

TS 3.1.B.1.a Reactor Coolant System pg. **TS.3.1-6**

viii) Fully capitalize the term "Pressure and Temperature Limits Report."

TS 3.2.C Chemical and Volume Control System pg. **TS.3.2-2**

ix) Delete the phrase "During STARTUP OPERATION or POWER OPERATION."

TS 3.3.A.2 Safety Injection and Residual Heat Removal Systems pg. **TS.3.3-2**

x) Delete the phrase "During STARTUP OPERATION or POWER OPERATION."

TS 3.3.B.2 Containment Cooling Systems pg. **TS.3.3-4**

xi) Delete the phrase "During STARTUP OPERATION or POWER OPERATION."

TS 3.3.C.1.b Component Cooling Water System - Single Unit Operation pg. **TS.3.3-5**

xii) Delete the phrase "During STARTUP OPERATION or POWER OPERATION."

xiii) Fully capitalize the term "startup operation".

TS 3.3.C.2.b Component Cooling Water System - Two Unit Operation

pg. **TS.3.3-6**

xiv) Delete the phrase "During STARTUP OPERATION or POWER OPERATION."

TS 3.3.D.2 Cooling Water System pg. **TS.3.3-8**

xv) Delete the phrase "During STARTUP OPERATION or POWER OPERATION."

TS 3.4.A.2 Steam Generator Safety and Power Operated Relief Valves

pg. **TS.3.4-1**

xvi) Delete the phrase "During STARTUP OPERATION or POWER OPERATION."

TS 3.4.B.1.c Auxiliary Feedwater System pg. **TS.3.4-1**

xvii) Replace the term "STARTUP OPERATION" with the terms "HOT STANDBY and HOT SHUTDOWN."

TS 3.4.B.2 Auxiliary Feedwater System pg. **TS.3.4-2**

xviii) Delete the phrase "During STARTUP OPERATION or POWER OPERATION."

Table TS.3.5-2B Engineered Safety Feature Actuation Table Instrumentation

pg. **Table TS.3.5-2B 8 of 9**

xix) Change the current reference in ACTION 26 from "Specification 3.4.2" to instead refer to "Specification 3.4.B.2.."

Table TS.3.5-2B Engineered Safety Feature Actuation Table Instrumentation

pg. **Table TS.3.5-2B 9 of 9**

xx) Change the current reference in ACTION 30 from "Specification 3.4.2" to instead refer to "Specification 3.4.B.2.."

TS 3.7.B Auxiliary Electrical Systems pg. **TS.3.7-2**

xxi) Delete the phrase "During STARTUP OPERATION or POWER OPERATION."

TS 3.10.A.1 Shutdown Margin pg. **TS.3.10-1**

xxii) Fully capitalize the term "Core Operating Limits Report."

TS 3.10.D.3 Rod Insertion Limits pg. **TS.3.10-5**

xxiii) Fully capitalize the terms "shutdown margin" and "Core Operating Limits Report."

Table TS.4.1-1B Engineered Safety Feature Actuation System Instrumentation Surveillance Requirements pg. **Table TS.4.1-1B 7 of 7**

xiv) Change the current reference in footnote 25 from "Table 4.17.2" to instead refer to "Offsite Dose Calculation Manual (OCDM) Table 3.3."

TS 4.2.A Inservice Inspection and Testing of Pumps and Valves Requirements pg. **Table TS.4.1-1B TS.4.2-1**

xxv) Change the inservice inspection reference in paragraph TS 4.2.A.1 from 10CFR50.55(g) to 10CFR50.55a(g) and from 10CFR50.55(g)(6)(i) to 10CFR50.55a(g)(6)(i).

xxvi) Change the inservice testing reference in paragraph TS 4.2.A.2 from 10CFR50.55(g) to 10CFR50.55a(f).

REASONS FOR CHANGES

The proposed change (xvii) will explicitly permit throttling of the auxiliary feedwater pump (AFW) motor-operated discharge valves during plant shutdown/cooldown evolutions to clarify the meaning of TS 3.4.B.1.c. In HOT STANDBY (MODE 2) and HOT SHUTDOWN (MODE 3) one or more AFW pumps are used to supply feedwater under the low flow conditions attendant with both heatup/startup and shutdown/cooldown evolutions, which would otherwise necessitate using the main

feedwater (FW) pumps for an extended time in a maximum recirculation mode, thus stressing the main FW pumps with significantly increased vibration and temperatures. Because of the constant speed design of both AFW pumps, steam generator levels are controlled by throttling the AFW pump discharge valves. During heatup/startup evolutions this is specifically permitted by TS 3.4.B.1.c, but during shutdown/cooldown evolutions, the exact definition of STARTUP OPERATION is not satisfied. A literal interpretation of TS 3.4.B.1.c, leads to the conclusion that the Limiting Condition for Operation specified in this paragraph is no longer satisfied and since no required remedial action is specified entry into TS 3.0.C is thus required.

The proposed changes (v, vi, xvi, and xviii) are necessary to clarify the Applicability of the Allowed Outage Time and Action Statements associated with several Limiting Condition for Operation (LCO) having Applicability in Modes 3 through 1. Likewise, the proposed changes (vii, ix, x, xi, xii, xiv, xv, and xxi) are necessary to clarify the Applicability of the Allowed Outage Time and Action Statements associated with several Limiting Condition for Operation having Applicability in Modes 4 through 1. The phrase "During STARTUP OPERATION or POWER OPERATION" does not address either steady-state operation or power/temperature descension in MODES 2, 3, and 4. This phrase creates an unclear situation where the literal reading of each affected paragraph leaves a portion of the range of Applicability explicitly described in the previous paragraph (LCO Statement) without an applicable Allowed Outage Time and Action Statement. A literal reading of the affected paragraphs suggests that should the Limiting Condition for Operation fail to be satisfied in the manner described in the affected paragraphs while the plant is in the process of shutdown/cooldown or holding a steady-state condition in MODES 2, 3, or 4 then the ACTION Condition provided for in the affected paragraph would no longer be applicable and entry into TS 3.0.C would be required.

The proposed change (i) removes the entry in the List of Figures (Table of Contents) for Figure 3.10-1. This figure was removed from the Technical Specifications when shutdown margin requirements were relocated to the Core Operating Limits Report (COLR) in Amendment 151/142.

The proposed change (iii) inserts the article "the" into the sentence to improve readability and eliminate any hesitation in readers triggered by the absence of any adjective or article. The license amendment request associated with

Amendment 123/116 contained "tThe" in place of "the" and the Amendment was issued with "tThe" whited out.

The proposed change (iv) will identify by responsibility, rather than by title, the corporate officer to receive the required notification. This terminology is similar to that approved by Amendments 146/137 in Technical Specification section 6.2, Organization. This will eliminate the need for a license amendment request each time this organization position title changes, though the responsibility to nuclear safety remains unchanged.

The proposed changes (ii, viii, xiii, xxii, and xxiii) capitalize terms that are defined in Technical Specification Section 1.0 and that should appear throughout the Technical Specifications in capitalized type.

The proposed changes (xix and xx) redirect the references in Table TS.3.5-2B ACTION 26 and ACTION 30 to the new designation, 3.4.B.2, for that Technical Specification paragraph previously designated as 3.4.2.

The proposed change (xxiv) redirects the reference in Table TS.4.1-1B footnote 25 to the Offsite Dose Calculation Manual (Prairie Island procedure H4) Table 3.3, where the deleted Technical Specification Table 4.17.2 was relocated in its entirety. Technical Specification Section 4.17 was deleted by Amendment 122/115 and its contents moved into the Offsite Dose Calculation Manual and the Process Control Program.

The proposed change (xxv) corrects the reference associated with inservice inspection requirements. The paragraph TS 4.2.A, when issued in Amendment 47/37 (11/14/80), established inservice inspection requirements and referenced 10CFR50.55a(g). When an additional paragraph, TS 4.2.A.2, was issued in Amendment 60/54 (1/4/83) to establish inservice testing requirements, the original paragraph was renumbered, TS 4.2.A.1, but an apparent typographical error present in the new paragraph, TS 4.2.A.2, was introduced to the older paragraph, TS 4.2.A.1.

The proposed change (xxvi) corrects and redirects the reference associated with inservice testing requirements. The affected paragraph, which was issued with Amendment 60/54 (1/4/83), referenced 10CFR50.55(g). In 1983 the correct reference would have been 10CFR50.55a(g). Subsequent to the issuance of Amendment 60/54 the inservice testing requirements in 10CFR have been moved to §50.55a(f), although

§50.55a(g) contains a preface tying the inservice testing requirements in §50.55(f) back to §50.55a(g).

SAFETY EVALUATION

Proposed Change (xvii) :
Replace "STARTUP OPERATION" with "HOT STANDBY and HOT SHUTDOWN"

This proposed change is intended to accomplish the clarification requested in the following excerpt from the October 16, 1997 letter, "Technical Specification Interpretations for Auxiliary Feedwater and Safety Injection Systems Operability - Prairie Island Nuclear Generating Plant Unit Nos. 1 and 2 (TAC Nos. M99666, M99667, and M99670)," from Beth A. Wetzel (NRC) to Roger O. Anderson (NSP):

> "The staff agrees with NSP that Prairie Island (PI) TS 3.4.B.1.c allows the AFW pump discharge valves to be throttled under administrative control during startup and shutdown operations. ... However the staff requests that TS 3.4.B.1.c be modified to explicitly state that the motor-operated valves' position can be changed on startup and shutdown."

Proposed Changes (v, vi, xvi, and xviii) and (vii, ix, x, xi, xii, xiv, xv, and xxi) :
Delete "During STARTUP OPERATION or POWER OPERATION"

The phrase "provided STARTUP OPERATION is discontinued" demonstrates a clear application of the term to restrict the plant from continued temperature/power ascession while a limiting condition of operability (LCO) is in effect, which is similar to that provided by LCO 3.0.4 in Standard Technical Specifications (STS) (NUREG-1431). However, in contrast to the inclusive treatment afforded power/temperature descension in STS LCO 3.0.4, which states "changes in Modes or other specified conditions in the Applicability that are part of a shutdown of the unit shall not be prevented," the term STARTUP OPERATION does not recognize or address itself to power/temperature descension.

The phrase "During STARTUP OPERATION or POWER OPERATION" has consistently been interpreted by PINGP to include all temperature/power conditions consistent with the applicable LCO, which is to found in the paragraph group immediately preceding each occurrence of the phrase. This historical interpretation is

not consistent with a strict reading of the definition of STARTUP OPERATION in Section 1.0: "the process of heating up a reactor above 200°F, making it critical and bringing it up to power operation." This definition makes no allowance for the process of reducing power until the reactor is subcritical and then cooling down below 200°F or for holding at some subcritical condition with reactor coolant temperature above 200°F.

Using a strict reading of STARTUP OPERATION will trigger an entry into TS 3.0.C upon any condition of inoperability described in the affected paragraphs:

(a) In MODE 1 the expiration of the Allowed Outage Time associated with the occurrence of a condition of inoperability will require that the affected unit shutdown, but upon entry into MODE 2 a condition of inoperability will now exist that is without an associated Action Statement, thus requiring entry into TS 3.0.C.

(b) In MODES 2, 3, or 4 during temperature/power ascession the occurrence of a condition of inoperability (not TS 3.2.A.2.c(1)(b)) will require that STARTUP OPERATION is discontinued, which places the unit into a condition of inoperability for which there is no applicable Action Statement, thus requiring entry into TS 3.0.C.

(c) In MODES 2, 3, or 4 during power/temperature descension the occurrence of a condition of inoperability will place the unit into a condition of inoperability for which there is no applicable Action Statement, thus requiring entry into TS 3.0.C.

(d) In MODES 2, 3, or 4 during steady-state operation the occurrence of a condition of inoperability will place the unit into a condition of inoperability for which there is no applicable Action Statement, thus requiring entry into TS 3.0.C.

While the use of the phrase "During STARTUP OPERATION or POWER OPERATION" indicates that the associated Action Statements and Allowed Outage Times were to apply to more than just MODE 1 (POWER OPERATION), a strict reading of the specifications as currently written negates this intent. Deleting the phase will clarify the applicability of these Action Statements and Allowed Outage Times without changing any requirements or the intent behind the current specifications. Each of the modified paragraphs will take the same functional structure as demonstrated by the Allowed Outage Time and Action Statement in specification TS 3.1.A.1.b(2), which immediately follows the applicable LCO located in paragraph TS 3.1.A.1.b(1).

Proposed Changes (i, ii, iii, viii, xiii, xxii, and xxiii) :
Capitalize Defined Terms - Insert "the" - Correct List of Figures

The improvement of format consistency will not reduce or alter any current requirements and, as such, is administrative in nature.

Proposed Changes (xix, xx, xxiv, xxv, and xxvi) :
Redirect References in Table TS.3.5-2B, Table TS4.1-1B, TS 4.2.A.1 and TS 4.2.A.2"

Making proper reference to restructured documents describing applicable requirements does not reduce or alter any current requirements and, as such, is administrative in nature.

Proposed Changes (iv) :
Corporate Officer Receiving Notification of Safety Limit Violation

Identifying a corporate officer by a description of functional responsibility rather than by title does not reduce or alter any current requirements and, as such, is administrative in nature. This method of identification have been previously utilized in TS 6.2.A.3. This reduces the burden on NRC and PINGP staff generated by administrative TS amendments addressing the title changes of corporate officers.

DETERMINATION OF SIGNIFICANT HAZARDS CONSIDERATIONS

1. Does operation of the facility with the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

   The proposed changes are administrative in nature and clarify existing specifications without reducing or altering the requirements imposed by existing specifications. The proposed changes do not significantly affect any system that is a contributor to initiating events for previously evaluated accidents. Neither do the changes significantly affect any system that is used to mitigate any previously evaluated accidents. Therefore, the proposed changes do not involve any significant increase in the probability or consequence of an accident previously evaluated.

2. Does operation of the facility with the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed changes are administrative in nature and clarify existing specifications without reducing or altering the requirements imposed by existing specifications. The proposed changes do not alter the design, function, or operation of any plant component and do not install any new or different equipment, therefore a possibility of a new or different kind of accident from those previously analyzed has not be created.

3. Does operation of the facility with the proposed amendment involve a significant reduction in a margin of safety?

   The proposed changes are administrative in nature and clarify existing specifications without reducing or altering the requirements imposed by existing specifications. Thus, the proposed change does not involve a significant reduction in the margin of safety associated with the safety limits inherent in either the principle barriers to a radiation release (fuel cladding, RCS boundary, and reactor containment), or the maintenance of critical safety functions (subcriticality, core cooling, ultimate heat sink, RCS inventory, RCS boundary integrity, and containment integrity).

Considering the above evaluation and pursuant to 10CFR50.91, Nuclear Management Company has determined that operation of the Prairie Island Nuclear Generating Plant in accordance with the proposed license amendment request does not involve a

significant hazards consideration as defined by Nuclear Regulatory Commission regulations in 10CFR50.92.

ENVIRONMENTAL ASSESSMENT

The Nuclear Management Company has evaluated the proposed change and determined that:

1. The change does not involve a significant hazards consideration,
2. The change does not involve a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, and
3. The change does not involve a significant increase in individual or cumulative occupational radiation exposure.

Accordingly, the proposed change meets the eligibility criterion for categorical exclusion set forth in 10CFR51.22(c)(9). Therefore, pursuant to 10CFR51.22(b), an environmental assessment of the proposed changes is not required.

EXHIBIT B

License Amendment Request Dated February 2, 2001
Clarification of Applicability for Allowed Outage Times

Marked Up Technical Specification Pages

(Additions are shaded. Deletions are struck-through.)

TS-x

TABLE TS.1-1

TS.2.1-1

TS.3.1-3

TS.3.1-4

TS.3.1-5

TS.3.1-6

TS.3.2-2

TS.3.3-2

TS.3.3-4

TS.3.3-5

TS.3.3-6

TS.3.3-8

TS.3.4-1

TS.3.4-2

TABLE TS.3.5-2B (Page 8 of 9)

TABLE TS.3.5-2B (Page 9 of 9)

TS.3.7-2

TS.3.10-1

TS.3.10-5

TABLE TS.4.1-1B (Page 7 of 7)

TS.4.2-1

APPENDIX A TECHNICAL SPECIFICATIONS

LIST OF FIGURES

TABLE TS.1-1

OPERATIONAL MODES

MODE	TITLE	REACTIVITY CONDITION	% RATED THERMAL POWER	AVERAGE COOLANT TEMPERATURE	REACTOR VESSEL HEAD CLOSURE BOLTS FULLY TENSIONED
1	POWER OPERATION	Critical	> 2%	NA	YES
2	HOT STANDBY**	Critical	≤ 2%	NA	YES
3	HOT SHUTDOWN**	Subcritical	NA	≥ 350°F	YES
4	INTERMEDIATE SHUTDOWN**	Subcritical	NA	< 350°F ≥ 200°F	YES
5	COLD SHUTDOWN	Subcritical	NA	< 200°F	YES
6	REFUELING	NA*	NA	NA	NO

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* Boron concentration of the reactor coolant system and the refueling cavity sufficient to ensure that the more restrictive of the following conditions is met:

a. $K_{eff} \leq 0.95$,

b. Boron concentration ≥ 2000 ppm, or

c. SHUTDOWN MARGIN ~~Shutdown Margin~~ as specified in the CORE OPERATING LIMITS REPORT ~~Core Operating Limits Report~~.

** Prairie Island specific MODE title, not consistent with Standard Technical Specification MODE titles. MODE numbers are consistent with Standard Technical Specification MODE numbers.

2.0 SAFETY LIMITS AND LIMITING SAFETY SYSTEM SETTING

2.1 SAFETY LIMITS

A. Reactor Core Safety Limits

In MODES 1 and 2, the combination of thermal power (measured in ΔT), pressurizer pressure, and the highest reactor coolant system loop average temperature shall not exceed the limits shown in Figure TS.2.1-1.

B. Reactor Coolant System Pressure Safety Limit

In MODES 1, 2, 3, 4, and 5, the reactor coolant system pressure shall not exceed 2735 psig.

2.2 SAFETY LIMIT VIOLATIONS

A. If SAFETY LIMIT 2.1.A. is violated, restore compliance and be in MODE 3 within 1 hour.

B. If SAFETY LIMIT 2.1.B. is violated:

1. In MODE 1 or 2, restore compliance and be in MODE 3 within 1 hour.

2. In MODE 3, 4, or 5, restore compliance within 5 minutes.

C. If a SAFETY LIMIT is violated, within 1 hour notify the NRC Operations Center in accordance with 10CFR50.72.

D. If a SAFETY LIMIT is violated, within 24 hours notify the corporate officer having corporate responsibility for overall plant nuclear safety ~~Vice President Nuclear Generation~~, and the Chairman of the Safety Audit Committee or their designated alternates.

E. If a SAFETY LIMIT is violated, within 30 days a Licensee Event Report (LER) shall be prepared pursuant to 10 CFR 50.73. The LER shall be submitted to the NRC, the corporate officer having corporate responsibility for overall plant nuclear safety ~~Vice President Nuclear Generation~~ and the Safety Audit Committee.

F. If a SAFETY LIMIT is violated, operation of the unit shall not be resumed until authorized by the NRC.

3.1.A.2 Reactor Coolant System Pressure Control

a. Pressurizer

(1) A reactor shall not be made or maintained critical nor shall reactor coolant system average temperature exceed 350°F unless there is a steam bubble in the pressurizer and heater groups A and B are operable (except as specified in 3.1.A.2.a.2 and 3.1.A.2.a.3 below).

(2) ~~During STARTUP OPERATION or POWER OPERATION,~~ Group A or B pressurizer heater group may be inoperable for 72 hours provided STARTUP OPERATION is discontinued until OPERABILITY is restored. If OPERABILITY is not restored within the time specified, be in at least HOT SHUTDOWN within the next 6 hours and reduce reactor coolant system average temperature below 350°F within the following 6 hours.

(3) With the pressurizer otherwise inoperable, within one hour initiate the action necessary to place the unit in HOT SHUTDOWN, and be in at least HOT SHUTDOWN within the next 6 hours and reduce reactor coolant average temperature below 350°F within the following 6 hours.

b. Pressurizer Safety Valves

(1) Reactor Coolant System average temperature greater than or equal to 350°F

A reactor shall not be made or maintained critical nor shall reactor coolant system average temperature exceed 350°F unless two pressurizer safety valves are OPERABLE, with lift settings of 2485 psig ±1%. If these conditions cannot be satisfied, discontinue STARTUP OPERATION and within 15 minutes initiate the action necessary to place the unit in HOT SHUTDOWN, and be in at least HOT SHUTDOWN within the next 6 hours and reduce reactor coolant system average temperature below 350°F within the following 6 hours.

(2) Reactor Coolant System Average Temperature below 350°F

At least one pressurizer safety valve shall be OPERABLE, with a lift setting of 2485 psig ±1%, whenever the head is on the reactor vessel, except during hydrostatic tests. With no pressurizer safety valve OPERABLE, promptly place an OPERABLE residual heat removal loop into operation.

3.1.A.2.c Pressurizer Power Operated Relief Valves

(1) Reactor Coolant System average temperature greater than or equal to 350°F

(a) Reactor coolant system average temperature shall not exceed 350°F unless two power operated relief valves (PORVs) and their associated block valves are OPERABLE (except as specified in 3.1.A.2.c(1)(b) below).

(b) ~~During STARTUP OPERATION or POWER OPERATION, any~~ Any one of the following conditions of inoperability may exist for each unit. If OPERABILITY is not restored within the time specified or the required action cannot be completed, be in at least HOT SHUTDOWN within the next 6 hours and reduce reactor coolant system average temperature below 350°F within the following 6 hours.

1. With one or both PORVs inoperable because of excessive seat leakage, within one hour either restore the PORV(s) to OPERABLE status or close the associated block valve(s) with power maintained to the block valve(s).

2. With one PORV inoperable due to causes other than excessive seat leakage, within one hour either restore the PORV to OPERABLE status or close and remove power from the associated block valve. Restore the PORV to OPERABLE status within the following 72 hours.

3. With both PORVs inoperable due to causes other than excessive seat leakage, within one hour either restore at least one PORV to OPERABLE status or close and remove power from the associated block valves and be in at least HOT SHUTDOWN within the next 6 hours and reduce reactor coolant system average temperature below 350°F within the following 6 hours.

4. With one block valve inoperable, within one hour either restore the block valve to OPERABLE status or place its associated PORV in manual control. Restore the block valve to OPERABLE status within the following 72 hours.

5. With both block valves inoperable, within one hour either restore the block valves to OPERABLE status or place the PORVs in manual control. Restore at least one block valve to OPERABLE status within the next hour.

(2) Reactor Coolant System average temperature greater than or equal to the temperature specified in the PTLR for disabling both safety injection pumps and below the Over Pressure Protection System Enable Temperature specified in the PTLR

With Reactor Coolant System temperature greater than or equal to the temperature specified in the PTLR for disabling both safety injection pumps and less than the Over Pressure Protection System Enable Temperature specified in the PTLR; both pressurizer power operated relief valves (PORVs) shall be OPERABLE (except as specified in 3.1.A.2.c.(2).(a) and 3.1.A.2.c.(2).(b) below) with the Over Pressure Protection System enabled, the associated block valve open, and the associated backup air supply charged.

3.1.A.2.c.(2).(a) One PORV may be inoperable for 7 days. If these conditions cannot be met, depressurize and vent the reactor coolant system through at least a 3 square inch vent within the next 8 hours.

(b) With both PORVs inoperable, complete depressurization and venting of the RCS through at least a 3 square inch vent within 8 hours.

(3) Reactor Coolant System average temperature below the temperature specified in the PTLR for disabling both safety injection pumps

With Reactor Coolant System temperature less than the temperature specified in the PTLR for disabling both safety injection pumps, when the head is on the reactor vessel and the reactor coolant system is not vented through a 3 square inch or larger vent; both Pressurizer power operated relief valves (PORVs) shall be OPERABLE (except as specified in 3.1.A.2.c.(3).(a) and 3.1.A.2.c.(3).(b) below) with the Over Pressure Protection System enabled, the associated block valve open, and the associated backup air supply charged.

(a) One PORV may be inoperable for 24 hours. If these conditions cannot be met, depressurize and vent the reactor coolant system through at least a 3 square inch vent within 8 hours.

(b) With both PORVs inoperable, complete depressurization and venting of the RCS through at least a 3 square inch vent within 8 hours.

3.1.A.3 Reactor Coolant Vent System

a. A reactor shall not be made or maintained critical nor shall reactor coolant system average temperature exceed 200°F unless Reactor Coolant Vent System paths from both the reactor vessel head and pressurizer steam space are OPERABLE and closed (except as specified in 3.1.A.3.b and 3.1.A.3.c below).

b. ~~During STARTUP OPERATION or POWER OPERATION, any~~ Any one of the following conditions of inoperability may exist for each unit provided STARTUP OPERATION is discontinued until OPERABILITY is restored. If any one of these conditions is not restored to an OPERABLE status within 30 days, be in at least HOT SHUTDOWN within the next 6 hours and in COLD SHUTDOWN within the following 30 hours:

(1) Either both of the parallel vent valves in the reactor vessel head vent path are inoperable, or the associated vent path segment is inoperable, or

(2) Either both of the parallel vent valves in the pressurizer vent path are inoperable, or the associated vent path segment is inoperable, or

(3) The vent valve to the pressurizer relief tank discharge line or the associated vent path segment is inoperable, or

(4) The vent valve to the containment atmospheric discharge line or the associated vent path segment is inoperable.

c. With no Reactor Coolant Vent System path OPERABLE, restore at least one vent path to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

3.1.B. Pressure/Temperature Limits

1. Reactor Coolant System

   a. The Unit 1 and Unit 2 Reactor Coolant Systems (except the pressurizer) temperature, pressure, heatup rates, and cooldown rates shall be maintained within the limits specified in the ~~Pressure and Temperature Limits Report~~ PRESSURE AND TEMPERATURE LIMITS REPORT (PTLR).

   b. If these conditions cannot be satisfied, restore the temperature and/or pressure to within the limits within 30 minutes; perform an engineering evaluation to determine the effects of the out-of-limit condition on the structural integrity of the Reactor Coolant System; determine that the Reactor Coolant System remains acceptable for continued operation or be in at least HOT SHUTDOWN within the next 6 hours and reduce the reactor coolant system average temperature and pressure to less than 200°F and 500 psig, respectively, within the following 30 hours.

2. Pressurizer

   a. The pressurizer temperature shall be limited to:

      1. A maximum heatup of 100°F in any 1-hour period.

      2. A maximum cooldown of 200°F in any 1-hour period.

   b. The pressurizer spray shall not be used if the temperature difference between the pressurizer and the spray fluid is greater than 320°F.

   c. If these conditions cannot be satisfied, restore the temperature to within the limits within 30 minutes; perform an engineering evaluation to determine the effects of the out-of-limit condition on the structural integrity of the pressurizer; determine that the pressurizer remains acceptable for continued operation or be in at least HOT SHUTDOWN within the next 6 hours and reduce the pressurizer pressure to less than 500 psig within the following 30 hours.

3.2.B.6. Motor-operated valve Number 8809C (Boric Acid Storage Tank to the SI Pumps) for that unit shall be open, shall have its valve position monitor light OPERABLE, and shall have its motor control center supply breaker physically locked in the off position.

7. Manual valves in the boric acid system shall be physically locked in the position required for automatic boric acid injection following a steam line break accident.

C. ~~During STARTUP OPERATION or POWER OPERATION, any~~ Any one of the following conditions of inoperability may exist for each unit during the time intervals specified, provided STARTUP OPERATION is discontinued until OPERABILITY is restored (except as specified in 3.2.D below). If OPERABILITY is not restored within the time specified, place the affected unit in at least HOT SHUTDOWN within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

1. Two of the three charging pumps may be inoperable for 72 hours.

2. A unit may operate for 2 hours with no OPERABLE boric acid storage tank.

3. One of the 2 independent flow paths in each unit for boric acid addition to the core may be inoperable for 72 hours. Prior to initiating repairs, the other flow path shall be verified OPERABLE.

4. One channel of heat tracing may be inoperable for 72 hours.

5. Any one redundant automatic valve required for boric acid injection following a steam line break may be inoperable for 72 hours.

6. The valve position monitor light for motor-operated valve No. 8809C (Boric Acid Storage Tank to the SI Pumps) may be inoperable for 72 hours provided the valve position is verified to be open once each shift.

D. During plant shutdown, if the boron concentration of the reactor coolant system is equivalent to or greater than the COLD SHUTDOWN boron concentration, the requirements of 3.2.B.2 are not required to be satisfied.

3.3.A.1.f. Manual valves in the above systems that could (if one is improperly positioned) reduce injection flow below that assumed for accident analyses, shall be blocked and tagged in the proper position for injection. RHR system valves, however, may be positioned as necessary to regulate plant heatup or cooldown rates when the reactor is subcritical. All changes in valve position shall be under direct administrative control.

g. The following valve conditions shall exist:

(1) Safety injection system motor-operated valves 8801A, 8801B, 8806A shall have valve position monitor lights OPERABLE and shall be locked in the open position by having the motor control center supply breakers physically locked in the off position.

(2) Safety injection system motor-operated valves 8816A and 8816B shall be closed, shall have valve position monitor lights OPERABLE, and shall have the motor control center supply breakers physically locked in the off position.

(3) Accumulator discharge valves 8800A and 8800B shall have position monitor lights and alarms OPERABLE.

(4) Residual Heat Removal System valves 8701A and 8701B shall have normal valve position indication OPERABLE.

2. ~~During STARTUP OPERATION or POWER OPERATION, any~~ Any one of the following conditions of inoperability may exist provided STARTUP OPERATION is discontinued until OPERABILITY is restored. If OPERABILITY is not restored within the time specified, be in at least HOT SHUTDOWN within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

a. One safety injection pump may be inoperable for 72 hours.

b. One residual heat removal pump may be inoperable for 72 hours.

c. One residual heat exchanger may be inoperable for 72 hours.

d. Any redundant valve in the system required for safety injection, may be inoperable for 72 hours.

e. One accumulator may be inoperable for one hour whenever pressurizer pressure is greater than 1000 psig.

f. One safety injection system and one residual heat system may be inoperable for 72 hours provided the redundant safety injection system and heat removal system required for functioning during accident conditions is OPERABLE.

3.3.B. Containment Cooling Systems

1. A reactor shall not be made or maintained critical nor shall reactor coolant system average temperature exceed 200°F unless the following conditions are satisfied (except as specified in 3.3.B.2 below):

   a. Two containment spray pumps are OPERABLE.

   b. Four containment fan cooler units are OPERABLE.

   c. The spray additive tank is OPERABLE with not less than 2590 gallons of solution with a sodium hydroxide concentration of 9% to 11% by weight inclusive.

   d. Manual valves in the above systems that could (if improperly positioned) reduce spray flow below that assumed for accident analysis, shall be blocked and tagged in the proper position. During POWER OPERATION, changes in valve position will be under direct administrative control.

   e. The containment spray system motor operated valves MV-32096 and MV-32097 (Unit 2 valves: MV-32108 and MV-32109) shall be closed and shall have the motor control center supply breakers in the off position.

2. ~~During STARTUP OPERATION or POWER OPERATION, any~~ Any one of the following conditions of inoperability may exist provided STARTUP OPERATION is discontinued until OPERABILITY is restored. If OPERABILITY is not restored within the time specified, be in at least HOT SHUTDOWN within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

   a. One containment fan cooler train may be inoperable for 7 days.

   b. One containment spray train may be inoperable for 72 hours.

   c. The spray additive tank may be inoperable for 24 hours.

3.3.C. Component Cooling Water System

1. Single Unit Operation

a. A reactor shall not be made or maintained critical nor shall reactor coolant system average temperature exceed 200°F, unless the following conditions are satisfied (except as specified in 3.3.C.1.b below):

(1) The two component cooling pumps assigned to that unit are OPERABLE.

(2) The two component cooling heat exchangers assigned to that unit are OPERABLE.

b. ~~During STARTUP OPERATION or POWER OPERATION any~~ Any one of the following conditions of inoperability may exist provided ~~startup operation~~ STARTUP OPERATION is discontinued until OPERABILITY is restored. If OPERABILITY is not restored within the time specified, be in at least HOT SHUTDOWN within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

(1) One of the assigned component cooling pumps may be inoperable for 72 hours.

(2) One of the assigned component cooling heat exchangers may be inoperable for 72 hours.

3.3.C.2. Two-Unit Operation

a. A second reactor shall not be made or maintained critical nor shall reactor coolant system average temperature exceed 200°F, unless the following conditions are satisfied (except as specified in 3.3.C.2.b below):

(1) Three component cooling pumps are OPERABLE.

(2) Four component cooling heat exchangers are OPERABLE.

b. ~~During STARTUP OPERATION or POWER OPERATION either~~ Either one of the following conditions of inoperability may exist provided STARTUP OPERATION is discontinued until operability is restored. If OPERABILITY is not restored within the time specified, place the affected unit(s) in at least HOT SHUTDOWN within the next 6 hours and be in COLD SHUTDOWN within the following 30 hours.

(1) One of the three component cooling pumps may be inoperable for 72 hours.

(2) One of the two component cooling heat exchangers associated with each unit may be inoperable for 72 hours.

3.3.D.2. ~~During STARTUP OPERATION or POWER OPERATION, the~~ The following conditions of inoperability may exist provided STARTUP OPERATION is discontinued until OPERABILITY is restored. If OPERABILITY is not restored within the time specified, be in at least HOT SHUTDOWN within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

a. Two of the five cooling water pumps may be inoperable for 7 days with the following stipulation.

If the inoperable pumps are any two of these: #12 Cooling Water Pump, #22 Cooling Water Pump, and #121 Cooling Water Pump, the following conditions shall apply:

(1) the engineered safety features associated with the OPERABLE safeguards cooling water pump are OPERABLE; and

(2) both paths from transmission grid to the unit 4 kV safeguards buses are OPERABLE (applicable to Unit 1 operation only); and

(3) this condition of inoperability (i.e., two safeguards pumps inoperable simultaneously) may not exceed 7 days in any consecutive 30 day period.

b. One of the two required cooling water headers may be inoperable for 72 hours provided:

(1) the diesel-driven pump and the diesel generator associated with safety features on the OPERABLE header are OPERABLE.

(2) the horizontal motor-driven pump associated with the OPERABLE header and the vertical motor-driven pump are OPERABLE.

c. One of the Safeguards Traveling Screens may be inoperable for 90 days provided a sluice gate connecting the Emergency Bay and the Circ Water Bay is open (except during periods of testing not to exceed 24 hours).

d. Both Safeguards Traveling Screens may be inoperable for 7 days provided a sluice gate connecting the Emergency Bay and the Circ Water Bay is open.

e. The Emergency Cooling Water line from the Mississippi River may be inoperable for 7 days provided that a sluice gate connecting the Emergency Bay and the Circ Water Bay is open.

3.4 STEAM AND POWER CONVERSION SYSTEM

Applicability

Applies to the operating status of the steam and power conversion system.

Objective

To specify minimum conditions of steam-relieving capacity and auxiliary feed- water supply necessary to assure the capability of removing decay heat from the reactor, and to limit the concentration of activity that might be released by steam relief to the atmosphere.

Specification

A. Steam Generator Safety and Power Operated Relief Valves

1. A reactor shall not be made or maintained critical nor shall reactor coolant system average temperature exceed 350°F unless the following conditions are satisfied (except as specified in 3.4.A.2 below):

   a. Ten steam generator safety valves shall be OPERABLE with lift settings of 1077, 1093, 1110, 1120 and 1131 psig ± 3% except during testing.

   b. Both steam generator power-operated relief valves for that reactor are OPERABLE.

2. ~~During STARTUP OPERATION or POWER OPERATION, the~~ The following condition of inoperability may exist provided STARTUP OPERATION is discontinued until OPERABILITY is restored. If OPERABILITY is not restored within the time specified, be in at least HOT SHUTDOWN within the next 6 hours and reduce reactor coolant system average temperature below 350°F within the following 6 hours.

   a. One steam generator power-operated relief valve may be inoperable for 48 hours.

B. Auxiliary Feedwater System

1. A reactor shall not be made or maintained critical nor shall reactor coolant system average temperature exceed 350°F unless the following conditions are satisfied (except as specified in 3.4.B.2 below):

   a. For single unit operation, the turbine-driven pump associated with that reactor plus one motor-driven pump are OPERABLE.

   b. For two-unit operation, all four auxiliary feedwater pumps are OPERABLE.

   c. Valves and piping associated with the above components are OPERABLE except that during ~~STARTUP OPERATION~~ HOT STANDBY and HOT SHUTDOWN necessary changes may be made in motor-operated valve position. All such changes shall be under direct administrative control.

3.4.B.1.d. A minimum of 100,000 gallons of water is available in the condensate storage tanks and a backup supply of river water is available through the cooling water system.

e. Motor operated valves MV-32242 and MV-32243 (Unit 2 valves MV-32248 and MV-32249) shall have valve position monitor lights OPERABLE and shall be locked in the open position by having the motor control center supply breakers physically locked in the off position.

f. Manual valves in the above systems that could (if one is improperly positioned) reduce flow below that assumed for accident analysis shall be locked in the proper position for emergency use. During POWER OPERATION, changes in valve position will be under direct administrative control.

g. The condensate supply cross connect valve C-41-2, to the auxiliary feedwater pumps shall be blocked and tagged open. Any changes in position of this valve shall be under direct administrative control.

2. ~~During STARTUP OPERATION or POWER OPERATION, any~~ Any one of the following conditions of inoperability may exist for each unit provided STARTUP OPERATION is discontinued (except as noted in 3.4.B.2.a) until OPERABILITY is restored. If OPERABILITY is not restored within the time specified, place the affected unit (or either unit in the case of a motor driven AFW pump inoperability) in at least HOT SHUTDOWN within the next 6 hours and reduce reactor coolant system average temperature below 350°F within the following 6 hours.

a. A Turbine Driven AFW pump, system valves and piping may be inoperable for 72 hours. STARTUP OPERATION may continue with a Turbine Driven AFW Pump and/or associated system valves inoperable based solely on the In-Service testing requirements of TS section 4.2.A.2 and flow verification having not been met, provided all other requirements for operability are satisfied. The pump and/or associated system valves must be tested and operable prior to exceeding 10% reactor power or 72 hours from increasing RCS temperature above 350°F.

b. A motor driven AFW pump, system valves and piping may be inoperable for 72 hours.

c. The condensate storage tanks may be inoperable for 48 hours provided the cooling water system is available as a backup supply of water to the auxiliary feedwater pumps.

d. The backup supply of river water provided by the cooling water system may be inoperable for 48 hours provided a minimum of 100,000 gallons of water is available in the condensate storage tanks.

e. The valve position monitor lights for motor operated valves MV-32242 and MV-32243 (Unit 2 valves MV-32248 and MV-32249) may be inoperable for 72 hours provided the associated valves' positions are verified to be open once each shift.

Action Statements

ACTION 25: With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 6 hours or be in at least HOT SHUTDOWN within the next 6 hours. Operation in HOT SHUTDOWN may proceed provided the main steam isolation valves are closed, if not, be in at least INTERMEDIATE SHUTDOWN within the following 6 hours. However, one channel may be bypassed for up to 8 hours for surveillance testing per Specification 4.1, provided the other channel is OPERABLE.

ACTION 26: With the number of OPERABLE channels one less than the Total Number of Channels, declare the associated auxiliary feedwater pump inoperable and take the action required by Specification 3.4.B.2.

ACTION 27: With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 6 hours and close the associated valve.

ACTION 28: With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 6 hours or be in at least HOT SHUTDOWN within the next 6 hours. However, one channel may be bypassed for up to 8 hours for surveillance testing per Specification 4.1, provided the other channel is OPERABLE.

ACTION 29: With the number of OPERABLE channels less than the Total Number of Channels, operation in the applicable MODE may proceed provided the following conditions are satisfied:

a. The inoperable channel(s) is placed in the tripped condition within 6 hours, and,

b. The Minimum Channels OPERABLE requirement is met; however, one inoperable channel may be bypassed at a time for up to 4 hours for surveillance testing of other channels per Specification 4.1

Action Statements

ACTION 30: With the number of OPERABLE channels one less than the Total Number of Channels, declare the associated auxiliary feedwater pump inoperable and take the action required by Specification 3.4.B.2. However, one channel may be bypassed for up to 8 hours for surveillance testing per Specification 4.1, provided the other channel is OPERABLE.

ACTION 31: With the number of OPERABLE channels one less than the Total Number of Channels, operation in the applicable MODE may proceed provided the inoperable channel is placed in the bypassed condition within 6 hours.

ACTION 32: With the number of OPERABLE channels two less than the Total Number of Channels, operation in the applicable MODE may proceed provided the following conditions are satisfied:

a. One inoperable channel is placed in the bypassed condition within 6 hours, and,

b. The other inoperable channel is placed in the tripped condition within 6 hours, and,

c. All of the channels associated with the redundant 4kV Safeguards Bus are OPERABLE.

ACTION 33: If the requirements of ACTIONS 30 or 31 cannot be met within the time specified, or with the number of OPERABLE channels three less than the Total Number of Channels, declare the associated diesel generator(s) inoperable and take the ACTION required by Specification 3.7.B.

ACTION 34: With the number of OPERABLE channels less than the Total Number of Channels, operation may proceed provided the inoperable channel is placed in the tripped condition within 6 hours and the Minimum Channels OPERABLE requirement is met. Restore the inoperable channel to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ACTION 35: With one channel inoperable, restore the inoperable channel to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ACTION 36: Two channels may be inoperable for up to 1 hour for surveillance testing per Specifications 4.1. Restore at least one channel to OPERABLE status within this 1 hour or initiate the action necessary to place the affected unit in HOT SHUTDOWN, and be in at least Hot SHUTDOWN within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

3.7.B. ~~During STARTUP OPERATION or POWER OPERATION, any~~ Any of the following conditions of inoperability may exist for the times specified, provided STARTUP OPERATION is discontinued until OPERABILITY is restored. If OPERABILITY is not restored within the time specified, place the affected unit(s) in at least HOT SHUTDOWN within the next 6 hours and be in COLD SHUTDOWN within the following 30 hours.

1. One diesel generator may be inoperable for 7 days provided (a) the OPERABILITY of the other diesel generator is demonstrated* by performance of surveillance requirement 4.6.A.1.e within 24 hours **, (b) all engineered safety features equipment associated with the operable diesel generator is OPERABLE, (c) the two required paths from the grid to the plant 4 kV safeguards distribution system are OPERABLE and (d) the OPERABILITY of the two required paths from the grid shall be verified OPERABLE within 1 hour and at least once per 8 hours thereafter.

2. One of the two required paths from the grid to the unit 4 kV safeguards distribution system may be inoperable for 7 days provided (a) D1 and D2 (Unit 2: D5 and D6) diesel generators are already operating or are demonstrated to be OPERABLE by sequentially performing surveillance requirement 4.6.A.1.e on each diesel generator within 24 hours and (b) the OPERABLE path from the grid shall be verified OPERABLE within 1 hour and at least once per 8 hours thereafter.

3. One of the two required paths from the grid to the unit 4 kV safeguards distribution system and one diesel generator may be inoperable for 12 hours provided, (a) the OPERABILITY of the other diesel generator is demonstrated* by performance of Surveillance Requirement 4.6.A.1.e within 8 hours **, (b) all engineered safety features equipment associated with the OPERABLE diesel generator is OPERABLE, and (c) the OPERABLE path from the grid shall be verified OPERABLE within 1 hour and at least once per 8 hours thereafter.

4. Both of the two required paths from the grid to the unit 4 kV safeguards distribution system may be inoperable for 12 hours provided the D1 and D2 (Unit 2: D5 and D6) diesel generators are already operating or are demonstrated to be OPERABLE by sequentially performing Surveillance requirement 4.6.A.1.e on each diesel generator within 8 hours.

* The OPERABILITY of the other diesel generator need not be demonstrated if the diesel generator inoperability was due to preplanned preventative maintenance or testing.

** This test is required to be completed regardless of when the inoperable diesel generator is restored to OPERABILITY.

3.10 CONTROL ROD AND POWER DISTRIBUTION LIMITS

Applicability

Applies to the limits on core fission power distribution and to the limits on control rod operations.

Objective

To assure 1) core subcriticality after reactor trip, 2) acceptable core power distributions during POWER OPERATION, and 3) limited potential reactivity insertions caused by hypothetical control rod ejection.

Specification

A. Shutdown Margin

1. The SHUTDOWN MARGIN shall be maintained within the limits specified in the ~~Core Operating Limits Report~~ CORE OPERATING LIMITS REPORT when in HOT SHUTDOWN, INTERMEDIATE SHUTDOWN and COLD SHUTDOWN.

2. With the SHUTDOWN MARGIN less than the applicable limit specified in 3.10.A.1 above, within 15 minutes initiate boration to restore SHUTDOWN MARGIN to within the applicable limit.

B. Power Distribution Limits

1. At all times, except during low power PHYSICS TESTING, measured hot channel factors, F^N_Q and $F^N_{\Delta H}$, as defined below and in the bases, shall meet the following limits:

   $F^N_Q \times 1.03 \times 1.05^* \leq (F_Q^{RTP} / P) \times K(Z)$

   $F^N_{\Delta H} \times 1.04^{**} \leq F_{\Delta H}^{RTP} \times [1 + PFDH(1-P)]$

   Where the following definitions apply:

   - F_Q^{RTP} is the F_Q limit at RATED THERMAL POWER specified in the CORE OPERATING LIMITS REPORT.

   - $F_{\Delta H}^{RTP}$ is the $F_{\Delta H}$ limit at RATED THERMAL POWER specified in the CORE OPERATING LIMITS REPORT.

   - PFDH is the Power Factor Multiplier for $F^N_{\Delta H}$ specified in the CORE OPERATING LIMITS REPORT.

   - K(Z) is a normalized function that limits $F_Q(z)$ axially as specified in the CORE OPERATING LIMITS REPORT.

* For Unit 1, Cycle 19, when the number of available moveable detector thimbles is greater than or equal to 50% and less than 75% of the total, the 5% measurement uncertainty shall be increased to [5% + (3-T/9)(3%)] where T is the number of available thimbles.

** For Unit 1, Cycle 19, when the number of available moveable detector thimbles is greater than or equal to 50% and less than 75% of the total, the 4% measurement uncertainty shall be increased to [4% + (3-T/9)(2%)] where T is the number of available thimbles.

3.10.C.2 If the QUADRANT POWER TILT RATIO exceeds 1.02 but is less than 1.07 for a sustained period of more than 24 hours, or if such a tilt recurs intermittently, the reactor shall be brought to the HOT SHUTDOWN condition. Subsequent operation below 50% of rating, for testing, shall be permitted.

3. Except for PHYSICS TESTS if the QUADRANT POWER TILT RATIO exceeds 1.07, the reactor shall be brought to the HOT SHUTDOWN condition. Subsequent operation below 50% of rating, for testing, shall be permitted.

4. If the core is operating above 85% power with one excore nuclear channel inoperable, then the core quadrant power balance shall be determined daily and after a 10% power change using either 2 movable detectors or 4 core thermocouples per quadrant, per Specification 3.11.

D. Rod Insertion Limits

1. The shutdown rods shall be limited in physical insertion as specified in the CORE OPERATING LIMITS REPORT when the reactor is critical or approaching criticality.

2. When the reactor is critical or approaching criticality, the control banks shall be limited in physical insertion as specified in the CORE OPERATING LIMITS REPORT.

3. Insertion limits do not apply during PHYSICS TESTS or during periodic exercise of individual rods. The ~~shutdown margin~~ SHUTDOWN MARGIN specified in the ~~Core Operating Limits Report~~ CORE OPERATING LIMITS REPORT must be maintained except for low power PHYSICS TESTING. For this test the reactor may be critical with all but one high worth full-length control rod inserted for a period not to exceed 2 hours per year provided a rod drop test is run on the high worth full-length rod prior to this particular low power PHYSICS TEST.

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TABLE NOTATIONS

FREQUENCY NOTATION

NOTATION	FREQUENCY
S	Shift
D	Daily
M	Monthly
Q	Quarterly
R	Each Refueling Shutdown
N.A.	Not Applicable

TABLE NOTATION

(20) One manual switch shall be tested at each refueling on a STAGGERED TEST BASIS.

(21) Trip function may be blocked in this MODE below a reactor coolant system pressure of 2000 psig.

(22) Each train shall be tested at least every two months on a STAGGERED TEST BASIS.

(23) When either main steam isolation valve is open.

(24) When reactor coolant system average temperature is greater than 520°F and either main steam isolation valve is open.

(25) See Offsite Dose Calculation Manual (OCDM) Table 3.3 ~~4.17-2~~.

(26) Whenever CONTAINMENT INTEGRITY is required and either of the containment purge systems are in operation.

(27) Not Used

(28) Not Used

(29) Not Used

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4.2 INSERVICE INSPECTION AND TESTING OF PUMPS AND VALVES REQUIREMENTS

Applicability

Applies to in-service structural surveillance of the reactor coolant pressure boundary, other systems important to safety and testing of pumps and valves.

Objective

To assure the continued integrity of the reactor coolant pressure boundary and other systems important to safety.

Specification

A. Inspection Requirements

1. Inservice inspection of ASME Code Class 1, Class 2, and Class 3 components shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g), except where relief has been granted by the Commission pursuant to 10 CFR 50, Section 50.55a(g)(6)(i). The additional inspections listed in Table TS.4.2-1 shall also be performed as specified.

2. In addition to other specified tests, inservice testing of ASME Code Class 1, Class 2, and Class 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(f) ~~(g)~~, except where specific written relief has been granted by the NRC.

EXHIBIT C

License Amendment Request Dated February 2, 2001
Clarification of Applicability for Allowed Outage Times

Revised Technical Specification Pages

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APPENDIX A TECHNICAL SPECIFICATIONS

LIST OF FIGURES

TABLE TS.1-1

OPERATIONAL MODES

MODE	TITLE	REACTIVITY CONDITION	% RATED THERMAL POWER	AVERAGE COOLANT TEMPERATURE	REACTOR VESSEL HEAD CLOSURE BOLTS FULLY TENSIONED
1	POWER OPERATION	Critical	> 2%	NA	YES
2	HOT STANDBY**	Critical	≤ 2%	NA	YES
3	HOT SHUTDOWN**	Subcritical	NA	≥ 350°F	YES
4	INTERMEDIATE SHUTDOWN**	Subcritical	NA	< 350°F ≥ 200°F	YES
5	COLD SHUTDOWN	Subcritical	NA	< 200°F	YES
6	REFUELING	NA*	NA	NA	NO

* Boron concentration of the reactor coolant system and the refueling cavity sufficient to ensure that the more restrictive of the following conditions is met:

a. $K_{eff} \leq 0.95$,

b. Boron concentration ≥ 2000 ppm, or

c. SHUTDOWN MARGIN as specified in the CORE OPERATING LIMITS REPORT.

** Prairie Island specific MODE title, not consistent with Standard Technical Specification MODE titles. MODE numbers are consistent with Standard Technical Specification MODE numbers.

2.0 SAFETY LIMITS AND LIMITING SAFETY SYSTEM SETTING

2.1 SAFETY LIMITS

A. Reactor Core Safety Limits

In MODES 1 and 2, the combination of thermal power (measured in ΔT), pressurizer pressure, and the highest reactor coolant system loop average temperature shall not exceed the limits shown in Figure TS.2.1-1.

B. Reactor Coolant System Pressure Safety Limit

In MODES 1, 2, 3, 4, and 5, the reactor coolant system pressure shall not exceed 2735 psig.

2.2 SAFETY LIMIT VIOLATIONS

A. If SAFETY LIMIT 2.1.A. is violated, restore compliance and be in MODE 3 within 1 hour.

B. If SAFETY LIMIT 2.1.B. is violated:

1. In MODE 1 or 2, restore compliance and be in MODE 3 within 1 hour.

2. In MODE 3, 4, or 5, restore compliance within 5 minutes.

C. If a SAFETY LIMIT is violated, within 1 hour notify the NRC Operations Center in accordance with 10CFR50.72.

D. If a SAFETY LIMIT is violated, within 24 hours notify the corporate officer having corporate responsibility for overall plant nuclear safety, and the Chairman of the Safety Audit Committee or their designated alternates.

E. If a SAFETY LIMIT is violated, within 30 days a Licensee Event Report (LER) shall be prepared pursuant to 10 CFR 50.73. The LER shall be submitted to the NRC, the corporate officer having corporate responsibility for overall plant nuclear safety and the Safety Audit Committee.

F. If a SAFETY LIMIT is violated, operation of the unit shall not be resumed until authorized by the NRC.

3.1.A.2 Reactor Coolant System Pressure Control

a. Pressurizer

(1) A reactor shall not be made or maintained critical nor shall reactor coolant system average temperature exceed 350°F unless there is a steam bubble in the pressurizer and heater groups A and B are operable (except as specified in 3.1.A.2.a.2 and 3.1.A.2.a.3 below).

(2) Group A or B pressurizer heater group may be inoperable for 72 hours provided STARTUP OPERATION is discontinued until OPERABILITY is restored. If OPERABILITY is not restored within the time specified, be in at least HOT SHUTDOWN within the next 6 hours and reduce reactor coolant system average temperature below 350°F within the following 6 hours.

(3) With the pressurizer otherwise inoperable, within one hour initiate the action necessary to place the unit in HOT SHUTDOWN, and be in at least HOT SHUTDOWN within the next 6 hours and reduce reactor coolant average temperature below 350°F within the following 6 hours.

b. Pressurizer Safety Valves

(1) Reactor Coolant System average temperature greater than or equal to 350°F

A reactor shall not be made or maintained critical nor shall reactor coolant system average temperature exceed 350°F unless two pressurizer safety valves are OPERABLE, with lift settings of 2485 psig ±1%. If these conditions cannot be satisfied, discontinue STARTUP OPERATION and within 15 minutes initiate the action necessary to place the unit in HOT SHUTDOWN, and be in at least HOT SHUTDOWN within the next 6 hours and reduce reactor coolant system average temperature below 350°F within the following 6 hours.

(2) Reactor Coolant System Average Temperature below 350°F

At least one pressurizer safety valve shall be OPERABLE, with a lift setting of 2485 psig ±1%, whenever the head is on the reactor vessel, except during hydrostatic tests. With no pressurizer safety valve OPERABLE, promptly place an OPERABLE residual heat removal loop into operation.

3.1.A.2.c Pressurizer Power Operated Relief Valves

(1) Reactor Coolant System average temperature greater than or equal to 350°F

(a) Reactor coolant system average temperature shall not exceed 350°F unless two power operated relief valves (PORVs) and their associated block valves are OPERABLE (except as specified in 3.1.A.2.c(1)(b) below).

(b) Any one of the following conditions of inoperability may exist for each unit. If OPERABILITY is not restored within the time specified or the required action cannot be completed, be in at least HOT SHUTDOWN within the next 6 hours and reduce reactor coolant system average temperature below 350°F within the following 6 hours.

1. With one or both PORVs inoperable because of excessive seat leakage, within one hour either restore the PORV(s) to OPERABLE status or close the associated block valve(s) with power maintained to the block valve(s).

2. With one PORV inoperable due to causes other than excessive seat leakage, within one hour either restore the PORV to OPERABLE status or close and remove power from the associated block valve. Restore the PORV to OPERABLE status within the following 72 hours.

3. With both PORVs inoperable due to causes other than excessive seat leakage, within one hour either restore at least one PORV to OPERABLE status or close and remove power from the associated block valves and be in at least HOT SHUTDOWN within the next 6 hours and reduce reactor coolant system average temperature below 350°F within the following 6 hours.

4. With one block valve inoperable, within one hour either restore the block valve to OPERABLE status or place its associated PORV in manual control. Restore the block valve to OPERABLE status within the following 72 hours.

5. With both block valves inoperable, within one hour either restore the block valves to OPERABLE status or place the PORVs in manual control. Restore at least one block valve to OPERABLE status within the next hour.

(2) Reactor Coolant System average temperature greater than or equal to the temperature specified in the PTLR for disabling both safety injection pumps and below the Over Pressure Protection System Enable Temperature specified in the PTLR

With Reactor Coolant System temperature greater than or equal to the temperature specified in the PTLR for disabling both safety injection pumps and less than the Over Pressure Protection System Enable Temperature specified in the PTLR; both pressurizer power operated relief valves (PORVs) shall be OPERABLE (except as specified in 3.1.A.2.c.(2).(a) and 3.1.A.2.c.(2).(b) below) with the Over Pressure Protection System enabled, the associated block valve open, and the associated backup air supply charged.

3.1.A.2.c.(2).(a) One PORV may be inoperable for 7 days. If these conditions cannot be met, depressurize and vent the reactor coolant system through at least a 3 square inch vent within the next 8 hours.

(b) With both PORVs inoperable, complete depressurization and venting of the RCS through at least a 3 square inch vent within 8 hours.

(3) Reactor Coolant System average temperature below the temperature specified in the PTLR for disabling both safety injection pumps

With Reactor Coolant System temperature less than the temperature specified in the PTLR for disabling both safety injection pumps, when the head is on the reactor vessel and the reactor coolant system is not vented through a 3 square inch or larger vent; both Pressurizer power operated relief valves (PORVs) shall be OPERABLE (except as specified in 3.1.A.2.c.(3).(a) and 3.1.A.2.c.(3).(b) below) with the Over Pressure Protection System enabled, the associated block valve open, and the associated backup air supply charged.

(a) One PORV may be inoperable for 24 hours. If these conditions cannot be met, depressurize and vent the reactor coolant system through at least a 3 square inch vent within 8 hours.

(b) With both PORVs inoperable, complete depressurization and venting of the RCS through at least a 3 square inch vent within 8 hours.

3.1.A.3 Reactor Coolant Vent System

a. A reactor shall not be made or maintained critical nor shall reactor coolant system average temperature exceed 200°F unless Reactor Coolant Vent System paths from both the reactor vessel head and pressurizer steam space are OPERABLE and closed (except as specified in 3.1.A.3.b and 3.1.A.3.c below).

b. Any one of the following conditions of inoperability may exist for each unit provided STARTUP OPERATION is discontinued until OPERABILITY is restored. If any one of these conditions is not restored to an OPERABLE status within 30 days, be in at least HOT SHUTDOWN within the next 6 hours and in COLD SHUTDOWN within the following 30 hours:

(1) Either both of the parallel vent valves in the reactor vessel head vent path are inoperable, or the associated vent path segment is inoperable, or

(2) Either both of the parallel vent valves in the pressurizer vent path are inoperable, or the associated vent path segment is inoperable, or

(3) The vent valve to the pressurizer relief tank discharge line or the associated vent path segment is inoperable, or

(4) The vent valve to the containment atmospheric discharge line or the associated vent path segment is inoperable.

c. With no Reactor Coolant Vent System path OPERABLE, restore at least one vent path to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

3.1.B. Pressure/Temperature Limits

1. Reactor Coolant System

a. The Unit 1 and Unit 2 Reactor Coolant Systems (except the pressurizer) temperature, pressure, heatup rates, and cooldown rates shall be maintained within the limits specified in the PRESSURE AND TEMPERATURE LIMITS REPORT (PTLR).

b. If these conditions cannot be satisfied, restore the temperature and/or pressure to within the limits within 30 minutes; perform an engineering evaluation to determine the effects of the out-of-limit condition on the structural integrity of the Reactor Coolant System; determine that the Reactor Coolant System remains acceptable for continued operation or be in at least HOT SHUTDOWN within the next 6 hours and reduce the reactor coolant system average temperature and pressure to less than 200°F and 500 psig, respectively, within the following 30 hours.

2. Pressurizer

a. The pressurizer temperature shall be limited to:

1. A maximum heatup of 100°F in any 1-hour period.

2. A maximum cooldown of 200°F in any 1-hour period.

b. The pressurizer spray shall not be used if the temperature difference between the pressurizer and the spray fluid is greater than 320°F.

c. If these conditions cannot be satisfied, restore the temperature to within the limits within 30 minutes; perform an engineering evaluation to determine the effects of the out-of-limit condition on the structural integrity of the pressurizer; determine that the pressurizer remains acceptable for continued operation or be in at least HOT SHUTDOWN within the next 6 hours and reduce the pressurizer pressure to less than 500 psig within the following 30 hours.

3.2.B.6. Motor-operated valve Number 8809C (Boric Acid Storage Tank to the SI Pumps) for that unit shall be open, shall have its valve position monitor light OPERABLE, and shall have its motor control center supply breaker physically locked in the off position.

7. Manual valves in the boric acid system shall be physically locked in the position required for automatic boric acid injection following a steam line break accident.

C. Any one of the following conditions of inoperability may exist for each unit during the time intervals specified, provided STARTUP OPERATION is discontinued until OPERABILITY is restored (except as specified in 3.2.D below). If OPERABILITY is not restored within the time specified, place the affected unit in at least HOT SHUTDOWN within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

1. Two of the three charging pumps may be inoperable for 72 hours.

2. A unit may operate for 2 hours with no OPERABLE boric acid storage tank.

3. One of the 2 independent flow paths in each unit for boric acid addition to the core may be inoperable for 72 hours. Prior to initiating repairs, the other flow path shall be verified OPERABLE.

4. One channel of heat tracing may be inoperable for 72 hours.

5. Any one redundant automatic valve required for boric acid injection following a steam line break may be inoperable for 72 hours.

6. The valve position monitor light for motor-operated valve No. 8809C (Boric Acid Storage Tank to the SI Pumps) may be inoperable for 72 hours provided the valve position is verified to be open once each shift.

D. During plant shutdown, if the boron concentration of the reactor coolant system is equivalent to or greater than the COLD SHUTDOWN boron concentration, the requirements of 3.2.B.2 are not required to be satisfied.

3.3.A.1.f. Manual valves in the above systems that could (if one is improperly positioned) reduce injection flow below that assumed for accident analyses, shall be blocked and tagged in the proper position for injection. RHR system valves, however, may be positioned as necessary to regulate plant heatup or cooldown rates when the reactor is subcritical. All changes in valve position shall be under direct administrative control.

g. The following valve conditions shall exist:

(1) Safety injection system motor-operated valves 8801A, 8801B, 8806A shall have valve position monitor lights OPERABLE and shall be locked in the open position by having the motor control center supply breakers physically locked in the off position.

(2) Safety injection system motor-operated valves 8816A and 8816B shall be closed, shall have valve position monitor lights OPERABLE, and shall have the motor control center supply breakers physically locked in the off position.

(3) Accumulator discharge valves 8800A and 8800B shall have position monitor lights and alarms OPERABLE.

(4) Residual Heat Removal System valves 8701A and 8701B shall have normal valve position indication OPERABLE.

2. Any one of the following conditions of inoperability may exist provided STARTUP OPERATION is discontinued until OPERABILITY is restored. If OPERABILITY is not restored within the time specified, be in at least HOT SHUTDOWN within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

a. One safety injection pump may be inoperable for 72 hours.

b. One residual heat removal pump may be inoperable for 72 hours.

c. One residual heat exchanger may be inoperable for 72 hours.

d. Any redundant valve in the system required for safety injection, may be inoperable for 72 hours.

e. One accumulator may be inoperable for one hour whenever pressurizer pressure is greater than 1000 psig.

f. One safety injection system and one residual heat system may be inoperable for 72 hours provided the redundant safety injection system and heat removal system required for functioning during accident conditions is OPERABLE.

3.3.B. Containment Cooling Systems

1. A reactor shall not be made or maintained critical nor shall reactor coolant system average temperature exceed 200°F unless the following conditions are satisfied (except as specified in 3.3.B.2 below):

   a. Two containment spray pumps are OPERABLE.

   b. Four containment fan cooler units are OPERABLE.

   c. The spray additive tank is OPERABLE with not less than 2590 gallons of solution with a sodium hydroxide concentration of 9% to 11% by weight inclusive.

   d. Manual valves in the above systems that could (if improperly positioned) reduce spray flow below that assumed for accident analysis, shall be blocked and tagged in the proper position. During POWER OPERATION, changes in valve position will be under direct administrative control.

   e. The containment spray system motor operated valves MV-32096 and MV-32097 (Unit 2 valves: MV-32108 and MV-32109) shall be closed and shall have the motor control center supply breakers in the off position.

2. Any one of the following conditions of inoperability may exist provided STARTUP OPERATION is discontinued until OPERABILITY is restored. If OPERABILITY is not restored within the time specified, be in at least HOT SHUTDOWN within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

   a. One containment fan cooler train may be inoperable for 7 days.

   b. One containment spray train may be inoperable for 72 hours.

   c. The spray additive tank may be inoperable for 24 hours.

3.3.C. Component Cooling Water System

1. Single Unit Operation

a. A reactor shall not be made or maintained critical nor shall reactor coolant system average temperature exceed 200°F, unless the following conditions are satisfied (except as specified in 3.3.C.1.b below):

(1) The two component cooling pumps assigned to that unit are OPERABLE.

(2) The two component cooling heat exchangers assigned to that unit are OPERABLE.

b. Any one of the following conditions of inoperability may exist provided STARTUP OPERATION is discontinued until OPERABILITY is restored. If OPERABILITY is not restored within the time specified, be in at least HOT SHUTDOWN within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

(1) One of the assigned component cooling pumps may be inoperable for 72 hours.

(2) One of the assigned component cooling heat exchangers may be inoperable for 72 hours.

3.3.C.2. Two-Unit Operation

a. A second reactor shall not be made or maintained critical nor shall reactor coolant system average temperature exceed 200°F, unless the following conditions are satisfied (except as specified in 3.3.C.2.b below):

(1) Three component cooling pumps are OPERABLE.

(2) Four component cooling heat exchangers are OPERABLE.

b. Either one of the following conditions of inoperability may exist provided STARTUP OPERATION is discontinued until operability is restored. If OPERABILITY is not restored within the time specified, place the affected unit(s) in at least HOT SHUTDOWN within the next 6 hours and be in COLD SHUTDOWN within the following 30 hours.

(1) One of the three component cooling pumps may be inoperable for 72 hours.

(2) One of the two component cooling heat exchangers associated with each unit may be inoperable for 72 hours.

3.3.D.2. The following conditions of inoperability may exist provided STARTUP OPERATION is discontinued until OPERABILITY is restored. If OPERABILITY is not restored within the time specified, be in at least HOT SHUTDOWN within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

a. Two of the five cooling water pumps may be inoperable for 7 days with the following stipulation.

If the inoperable pumps are any two of these: #12 Cooling Water Pump, #22 Cooling Water Pump, and #121 Cooling Water Pump, the following conditions shall apply:

(1) the engineered safety features associated with the OPERABLE safeguards cooling water pump are OPERABLE; and

(2) both paths from transmission grid to the unit 4 kV safeguards buses are OPERABLE (applicable to Unit 1 operation only); and

(3) this condition of inoperability (i.e., two safeguards pumps inoperable simultaneously) may not exceed 7 days in any consecutive 30 day period.

b. One of the two required cooling water headers may be inoperable for 72 hours provided:

(1) the diesel-driven pump and the diesel generator associated with safety features on the OPERABLE header are OPERABLE.

(2) the horizontal motor-driven pump associated with the OPERABLE header and the vertical motor-driven pump are OPERABLE.

c. One of the Safeguards Traveling Screens may be inoperable for 90 days provided a sluice gate connecting the Emergency Bay and the Circ Water Bay is open (except during periods of testing not to exceed 24 hours).

d. Both Safeguards Traveling Screens may be inoperable for 7 days provided a sluice gate connecting the Emergency Bay and the Circ Water Bay is open.

e. The Emergency Cooling Water line from the Mississippi River may be inoperable for 7 days provided that a sluice gate connecting the Emergency Bay and the Circ Water Bay is open.

3.4 STEAM AND POWER CONVERSION SYSTEM

Applicability

Applies to the operating status of the steam and power conversion system.

Objective

To specify minimum conditions of steam-relieving capacity and auxiliary feed- water supply necessary to assure the capability of removing decay heat from the reactor, and to limit the concentration of activity that might be released by steam relief to the atmosphere.

Specification

A. Steam Generator Safety and Power Operated Relief Valves

1. A reactor shall not be made or maintained critical nor shall reactor coolant system average temperature exceed 350°F unless the following conditions are satisfied (except as specified in 3.4.A.2 below):

   a. Ten steam generator safety valves shall be OPERABLE with lift settings of 1077, 1093, 1110, 1120 and 1131 psig ± 3% except during testing.

   b. Both steam generator power-operated relief valves for that reactor are OPERABLE.

2. The following condition of inoperability may exist provided STARTUP OPERATION is discontinued until OPERABILITY is restored. If OPERABILITY is not restored within the time specified, be in at least HOT SHUTDOWN within the next 6 hours and reduce reactor coolant system average temperature below 350°F within the following 6 hours.

   a. One steam generator power-operated relief valve may be inoperable for 48 hours.

B. Auxiliary Feedwater System

1. A reactor shall not be made or maintained critical nor shall reactor coolant system average temperature exceed 350°F unless the following conditions are satisfied (except as specified in 3.4.B.2 below):

   a. For single unit operation, the turbine-driven pump associated with that reactor plus one motor-driven pump are OPERABLE.

   b. For two-unit operation, all four auxiliary feedwater pumps are OPERABLE.

   c. Valves and piping associated with the above components are OPERABLE except that during HOT STANDBY and HOT SHUTDOWN necessary changes may be made in motor-operated valve position. All such changes shall be under direct administrative control.

3.4.B.1.d. A minimum of 100,000 gallons of water is available in the condensate storage tanks and a backup supply of river water is available through the cooling water system.

e. Motor operated valves MV-32242 and MV-32243 (Unit 2 valves MV-32248 and MV-32249) shall have valve position monitor lights OPERABLE and shall be locked in the open position by having the motor control center supply breakers physically locked in the off position.

f. Manual valves in the above systems that could (if one is improperly positioned) reduce flow below that assumed for accident analysis shall be locked in the proper position for emergency use. During POWER OPERATION, changes in valve position will be under direct administrative control.

g. The condensate supply cross connect valve C-41-2, to the auxiliary feedwater pumps shall be blocked and tagged open. Any changes in position of this valve shall be under direct administrative control.

2. Any one of the following conditions of inoperability may exist for each unit provided STARTUP OPERATION is discontinued (except as noted in 3.4.B.2.a) until OPERABILITY is restored. If OPERABILITY is not restored within the time specified, place the affected unit (or either unit in the case of a motor driven AFW pump inoperability) in at least HOT SHUTDOWN within the next 6 hours and reduce reactor coolant system average temperature below 350°F within the following 6 hours.

a. A Turbine Driven AFW pump, system valves and piping may be inoperable for 72 hours. STARTUP OPERATION may continue with a Turbine Driven AFW Pump and/or associated system valves inoperable based solely on the In-Service testing requirements of TS section 4.2.A.2 and flow verification having not been met, provided all other requirements for operability are satisfied. The pump and/or associated system valves must be tested and operable prior to exceeding 10% reactor power or 72 hours from increasing RCS temperature above 350°F.

b. A motor driven AFW pump, system valves and piping may be inoperable for 72 hours.

c. The condensate storage tanks may be inoperable for 48 hours provided the cooling water system is available as a backup supply of water to the auxiliary feedwater pumps.

d. The backup supply of river water provided by the cooling water system may be inoperable for 48 hours provided a minimum of 100,000 gallons of water is available in the condensate storage tanks.

e. The valve position monitor lights for motor operated valves MV-32242 and MV-32243 (Unit 2 valves MV-32248 and MV-32249) may be inoperable for 72 hours provided the associated valves' positions are verified to be open once each shift.

Action Statements

ACTION 25: With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 6 hours or be in at least HOT SHUTDOWN within the next 6 hours. Operation in HOT SHUTDOWN may proceed provided the main steam isolation valves are closed, if not, be in at least INTERMEDIATE SHUTDOWN within the following 6 hours. However, one channel may be bypassed for up to 8 hours for surveillance testing per Specification 4.1, provided the other channel is OPERABLE.

ACTION 26: With the number of OPERABLE channels one less than the Total Number of Channels, declare the associated auxiliary feedwater pump inoperable and take the action required by Specification 3.4.B.2.

ACTION 27: With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 6 hours and close the associated valve.

ACTION 28: With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 6 hours or be in at least HOT SHUTDOWN within the next 6 hours. However, one channel may be bypassed for up to 8 hours for surveillance testing per Specification 4.1, provided the other channel is OPERABLE.

ACTION 29: With the number of OPERABLE channels less than the Total Number of Channels, operation in the applicable MODE may proceed provided the following conditions are satisfied:

a. The inoperable channel(s) is placed in the tripped condition within 6 hours, and,

b. The Minimum Channels OPERABLE requirement is met; however, one inoperable channel may be bypassed at a time for up to 4 hours for surveillance testing of other channels per Specification 4.1

Action Statements

ACTION 30: With the number of OPERABLE channels one less than the Total Number of Channels, declare the associated auxiliary feedwater pump inoperable and take the action required by Specification 3.4.B.2. However, one channel may be bypassed for up to 8 hours for surveillance testing per Specification 4.1, provided the other channel is OPERABLE.

ACTION 31: With the number of OPERABLE channels one less than the Total Number of Channels, operation in the applicable MODE may proceed provided the inoperable channel is placed in the bypassed condition within 6 hours.

ACTION 32: With the number of OPERABLE channels two less than the Total Number of Channels, operation in the applicable MODE may proceed provided the following conditions are satisfied:

a. One inoperable channel is placed in the bypassed condition within 6 hours, and,

b. The other inoperable channel is placed in the tripped condition within 6 hours, and,

c. All of the channels associated with the redundant 4kV Safeguards Bus are OPERABLE.

ACTION 33: If the requirements of ACTIONS 30 or 31 cannot be met within the time specified, or with the number of OPERABLE channels three less than the Total Number of Channels, declare the associated diesel generator(s) inoperable and take the ACTION required by Specification 3.7.B.

ACTION 37: With the number of OPERABLE channels less than the Total Number of Channels, operation may proceed provided the inoperable channel is placed in the tripped condition within 6 hours and the Minimum Channels OPERABLE requirement is met. Restore the inoperable channel to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ACTION 38: With one channel inoperable, restore the inoperable channel to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ACTION 39: Two channels may be inoperable for up to 1 hour for surveillance testing per Specifications 4.1. Restore at least one channel to OPERABLE status within this 1 hour or initiate the action necessary to place the affected unit in HOT SHUTDOWN, and be in at least Hot SHUTDOWN within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

3.7.B. Any of the following conditions of inoperability may exist for the times specified, provided STARTUP OPERATION is discontinued until OPERABILITY is restored. If OPERABILITY is not restored within the time specified, place the affected unit(s) in at least HOT SHUTDOWN within the next 6 hours and be in COLD SHUTDOWN within the following 30 hours.

1. One diesel generator may be inoperable for 7 days provided (a) the OPERABILITY of the other diesel generator is demonstrated* by performance of surveillance requirement 4.6.A.1.e within 24 hours **, (b) all engineered safety features equipment associated with the operable diesel generator is OPERABLE, (c) the two required paths from the grid to the plant 4 kV safeguards distribution system are OPERABLE and (d) the OPERABILITY of the two required paths from the grid shall be verified OPERABLE within 1 hour and at least once per 8 hours thereafter.

2. One of the two required paths from the grid to the unit 4 kV safeguards distribution system may be inoperable for 7 days provided (a) D1 and D2 (Unit 2: D5 and D6) diesel generators are already operating or are demonstrated to be OPERABLE by sequentially performing surveillance requirement 4.6.A.1.e on each diesel generator within 24 hours and (b) the OPERABLE path from the grid shall be verified OPERABLE within 1 hour and at least once per 8 hours thereafter.

3. One of the two required paths from the grid to the unit 4 kV safeguards distribution system and one diesel generator may be inoperable for 12 hours provided, (a) the OPERABILITY of the other diesel generator is demonstrated* by performance of Surveillance Requirement 4.6.A.1.e within 8 hours **, (b) all engineered safety features equipment associated with the OPERABLE diesel generator is OPERABLE, and (c) the OPERABLE path from the grid shall be verified OPERABLE within 1 hour and at least once per 8 hours thereafter.

4. Both of the two required paths from the grid to the unit 4 kV safeguards distribution system may be inoperable for 12 hours provided the D1 and D2 (Unit 2: D5 and D6) diesel generators are already operating or are demonstrated to be OPERABLE by sequentially performing Surveillance requirement 4.6.A.1.e on each diesel generator within 8 hours.

* The OPERABILITY of the other diesel generator need not be demonstrated if the diesel generator inoperability was due to preplanned preventative maintenance or testing.

** This test is required to be completed regardless of when the inoperable diesel generator is restored to OPERABILITY.

3.10 CONTROL ROD AND POWER DISTRIBUTION LIMITS

Applicability

Applies to the limits on core fission power distribution and to the limits on control rod operations.

Objective

To assure 1) core subcriticality after reactor trip, 2) acceptable core power distributions during POWER OPERATION, and 3) limited potential reactivity insertions caused by hypothetical control rod ejection.

Specification

A. Shutdown Margin

1. The SHUTDOWN MARGIN shall be maintained within the limits specified in the CORE OPERATING LIMITS REPORT when in HOT SHUTDOWN, INTERMEDIATE SHUTDOWN and COLD SHUTDOWN.

2. With the SHUTDOWN MARGIN less than the applicable limit specified in 3.10.A.1 above, within 15 minutes initiate boration to restore SHUTDOWN MARGIN to within the applicable limit.

B. Power Distribution Limits

1. At all times, except during low power PHYSICS TESTING, measured hot channel factors, F^N_Q and $F^N_{\Delta H}$, as defined below and in the bases, shall meet the following limits:

   $F^N_Q \times 1.03 \times 1.05^{*} \leq (F_Q^{RTP} / P) \times K(Z)$

   $F^N_{\Delta H} \times 1.04^{**} \leq F_{\Delta H}^{RTP} \times [1 + PFDH(1-P)]$

   Where the following definitions apply:

   - F_Q^{RTP} is the F_Q limit at RATED THERMAL POWER specified in the CORE OPERATING LIMITS REPORT.

   - $F_{\Delta H}^{RTP}$ is the $F_{\Delta H}$ limit at RATED THERMAL POWER specified in the CORE OPERATING LIMITS REPORT.

   - PFDH is the Power Factor Multiplier for $F^N_{\Delta H}$ specified in the CORE OPERATING LIMITS REPORT.

   - K(Z) is a normalized function that limits $F_Q(z)$ axially as specified in the CORE OPERATING LIMITS REPORT.

* For Unit 1, Cycle 19, when the number of available moveable detector thimbles is greater than or equal to 50% and less than 75% of the total, the 5% measurement uncertainty shall be increased to [5% + (3-T/9)(3%)] where T is the number of available thimbles.

** For Unit 1, Cycle 19, when the number of available moveable detector thimbles is greater than or equal to 50% and less than 75% of the total, the 4% measurement uncertainty shall be increased to [4% + (3-T/9)(2%)] where T is the number of available thimbles.

3.10.C.2 If the QUADRANT POWER TILT RATIO exceeds 1.02 but is less than 1.07 for a sustained period of more than 24 hours, or if such a tilt recurs intermittently, the reactor shall be brought to the HOT SHUTDOWN condition. Subsequent operation below 50% of rating, for testing, shall be permitted.

3. Except for PHYSICS TESTS if the QUADRANT POWER TILT RATIO exceeds 1.07, the reactor shall be brought to the HOT SHUTDOWN condition. Subsequent operation below 50% of rating, for testing, shall be permitted.

4. If the core is operating above 85% power with one excore nuclear channel inoperable, then the core quadrant power balance shall be determined daily and after a 10% power change using either 2 movable detectors or 4 core thermocouples per quadrant, per Specification 3.11.

D. Rod Insertion Limits

1. The shutdown rods shall be limited in physical insertion as specified in the CORE OPERATING LIMITS REPORT when the reactor is critical or approaching criticality.

2. When the reactor is critical or approaching criticality, the control banks shall be limited in physical insertion as specified in the CORE OPERATING LIMITS REPORT.

3. Insertion limits do not apply during PHYSICS TESTS or during periodic exercise of individual rods. The SHUTDOWN MARGIN specified in the CORE OPERATING LIMITS REPORT must be maintained except for low power PHYSICS TESTING. For this test the reactor may be critical with all but one high worth full-length control rod inserted for a period not to exceed 2 hours per year provided a rod drop test is run on the high worth full-length rod prior to this particular low power PHYSICS TEST.

TABLE NOTATIONS

FREQUENCY NOTATION

NOTATION	FREQUENCY
S	Shift
D	Daily
M	Monthly
Q	Quarterly
R	Each Refueling Shutdown
N.A.	Not Applicable

TABLE NOTATION

(20) One manual switch shall be tested at each refueling on a STAGGERED TEST BASIS.

(21) Trip function may be blocked in this MODE below a reactor coolant system pressure of 2000 psig.

(22) Each train shall be tested at least every two months on a STAGGERED TEST BASIS.

(23) When either main steam isolation valve is open.

(24) When reactor coolant system average temperature is greater than 520°F and either main steam isolation valve is open.

(25) See Offsite Dose Calculation Manual (OCDM) Table 3.3.

(26) Whenever CONTAINMENT INTEGRITY is required and either of the containment purge systems are in operation.

(27) Not Used

(28) Not Used

(29) Not Used

TABLE TS.4.1-1B
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4.2 INSERVICE INSPECTION AND TESTING OF PUMPS AND VALVES REQUIREMENTS

Applicability

Applies to in-service structural surveillance of the reactor coolant pressure boundary, other systems important to safety and testing of pumps and valves.

Objective

To assure the continued integrity of the reactor coolant pressure boundary and other systems important to safety.

Specification

A. Inspection Requirements

1. Inservice inspection of ASME Code Class 1, Class 2, and Class 3 components shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g), except where relief has been granted by the Commission pursuant to 10 CFR 50, Section 50.55a(g)(6)(i). The additional inspections listed in Table TS.4.2-1 shall also be performed as specified.

2. In addition to other specified tests, inservice testing of ASME Code Class 1, Class 2, and Class 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(f), except where specific written relief has been granted by the NRC.

DISCARD

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