

1717 Wakonade Drive
Welch, MN 55089

800.895.4999
xcelenergy.com



June 26, 2018

L-PI-18-031
10 CFR 50.90

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Prairie Island Nuclear Generating Plant, Units 1 and 2
Docket Nos. 50-282 and 50-306
Renewed Facility Operating License Nos. DPR-42 and DPR-60

License Amendment Request to Adopt TSTF-439, Revision 2, "Eliminate Second Completion Times Limiting Time from Discovery of Failure to Meet an LCO"

References: 1) Letter from the TSTF to the NRC, "TSTF-439, Revision 2, 'Eliminate Second Completion Times Limiting Time From Discovery of Failure To Meet an LCO'", dated June 20, 2005. (ADAMS Accession No. ML051860296)

Pursuant to 10 CFR 50.90, Northern States Power Company, a Minnesota Corporation, doing business as Xcel Energy (hereafter "NSPM"), hereby submits an amendment to the Technical Specifications (TS) for the Prairie Island Nuclear Generating Plant (PINGP). The proposed change eliminates second Completion Times limiting time from discovery of failure to meet a Limiting Condition for Operation (LCO). These changes are consistent with NRC-approved Technical Specification Task Force (TSTF) Traveler TSTF-439, Revision 2, "Eliminate Second Completion Times Limiting Time From Discovery of Failure To Meet an LCO" (Reference 1).

The Enclosure provides NSPM's evaluation of the proposed change. Attachment 1 to the Enclosure provides the marked-up TS pages. Attachment 2 to the Enclosure provides the revised (re-typed) TS pages. Attachment 3 to the Enclosure provides the marked-up TS Bases pages provided for information only.

NSPM requests approval of the proposed amendment by July 26, 2019, with an implementation period of 90 days.

In accordance with 10 CFR 50.91, NSPM is notifying the State of Minnesota of this request by transmitting a copy of this letter and enclosure to the designated State Official.

If there are any questions or if additional information is needed, please contact Mr. Peter Gohdes at (612) 330-6503 or Peter.Gohdes@xenuclear.com.

Summary of Commitments

This letter makes no new commitments and no revisions to existing commitments.

I declare under penalty of perjury, that the foregoing is true and correct.

Executed on June 26, 2018.



Scott Sharp
Site Vice President, Prairie Island Nuclear Generating Plant
Northern States Power Company – Minnesota

Enclosure

cc: Administrator, Region III, USNRC
Project Manager, Prairie Island, USNRC
Resident Inspector, Prairie Island, USNRC
State of Minnesota

ENCLOSURE

PRAIRIE ISLAND NUCLEAR GENERATING PLANT

Evaluation of Proposed Change

License Amendment Request

Adopt TSTF-439, Revision 2, “Eliminate Second Completion Times Limiting Time from Discovery of Failure to Meet an LCO”

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License Amendment Request

Adopt TSTF-439, Revision 2, “Eliminate Second Completion Times Limiting Time from Discovery of Failure to Meet an LCO”

1.0 SUMMARY DESCRIPTION

Pursuant to 10 CFR 50.90, Northern States Power Company, a Minnesota Corporation, doing business as Xcel Energy (hereafter “NSPM”), hereby submits an amendment to the Technical Specifications (TS) for the Prairie Island Nuclear Generating Plant (PINGP). The proposed change eliminates second Completion Times limiting time from discovery of failure to meet a limiting condition for operation (LCO). These changes are consistent with NRC-approved Technical Specification Task Force (TSTF) Traveler TSTF-439, Revision 2, “Eliminate Second Completion Times Limiting Time From Discovery of Failure To Meet an LCO” (Reference 1).

2.0 DETAILED DESCRIPTION

2.1 Description of the Proposed Change

The guidance of NUREG 1431, Revision 1, “Standard Technical Specifications Westinghouse Plants” (Reference 2), was used to convert the PINGP custom TSs (CTS) to the improved TSs (ITS), which was issued as amendments 158 and 149 for PINGP Unit 1 and Unit 2 respectively (Reference 3). The ITS conversion introduced into the PINGP TS a second Completion Time for certain Required Actions that establish a limit on the maximum time allowed for any combination of Conditions that result in a single continuous failure to meet the LCO. These Completion Times, henceforth referred to as “second Completion Times”, are joined by an “AND” logical connector to the Condition-specific Completion Time and state “X days from discovery of failure to meet the LCO”, where “X” varies by specification. The intent of the second Completion Time was to preclude entry into and out of the ACTIONS for an indefinite period of time without meeting the LCO by providing a limit on the amount of time that the LCO could not be met for various combinations of Conditions.

TSTF-439 deletes the second Completion Times from the impacted Required Actions. It also revises Example 1.3-3 to remove the second Completion Times and to revise the discussion in that Example to state that alternating between Conditions in such a manner that operation could continue indefinitely without ever restoring systems to meet the LCO is inconsistent with the basis of the Completion Times and is inappropriate. Specifically, the proposed change deletes the second Completion Times associated with the following PINGP TSs Required Actions:

- TS 3.6.5, “Containment Spray and Cooling Systems”, Required Actions A.1, C.1, and D.2
- TS 3.7.5, “Auxiliary Feedwater (AFW) System”, Required Actions A.1 and B.1
- TS 3.7.8, “Cooling Water (CL) System”, Required Actions A.1, B.3, and D.1

- TS 3.8.1, "AC Sources-Operating", Required Actions A.2 and B.4
- TS 3.8.9, "Distribution Systems-Operating", Required Actions A.1, B.1, and C.1

The TS Bases associated with these Required Actions are also being revised to delete the corresponding discussion of the second Completion Times. See the markup of the TS and TS Bases included as Attachments 1 and 3 of this Enclosure respectively.

2.2 Variations and Other Administrative Changes

NSPM is proposing the following variation from the TS changes described in TSTF-439. This variation does not affect the applicability of TSTF-439 or the NRC staff's model safety evaluation to the proposed license amendment.

- As TS 3.7.8 in NUREG-1431 did not contain second Completion Times, it was not included in the scope of TSTF-439. However, PINGP TS 3.7.8 Conditions A and D are plant specific and not found in NUREG-1431. Consequently, as the current PINGP TS 3.7.8 contains second Completion Times, it falls within the scope of the proposed change and has been included as a variation.

In addition, minor administrative formatting changes are made as marked up in Attachment 1 to this Enclosure.

2.3 Facility Description

NSPM owns and operates the PINGP, which is a two unit plant located on the right bank of the Mississippi River within the city limits of Red Wing, Minnesota. Each unit at PINGP employs a two-loop pressurized water reactor designed and supplied by Westinghouse Electric Corporation. The initial PINGP application for a Construction Permit and Operating License was submitted to the Atomic Energy Commission (AEC) on April 5, 1967. The Final Safety Analysis Report was submitted for application of an Operating License on January 28, 1971. Unit 1 began commercial operation on December 16, 1973, and Unit 2 began commercial operation on December 21, 1974.

The PINGP was designed and constructed to comply with NSPM's understanding of the intent of the AEC General Design Criteria (GDC) for Nuclear Power Plant Construction Permits, as published on July 11, 1967. PINGP was not licensed to NUREG-0800, Standard Review Plan.

3.0 TECHNICAL EVALUATION

As discussed in TSTF-439, Revision 2, the adoption of a second Completion Time was based on an NRC concern that a plant could continue to operate indefinitely with an LCO governing safety significant systems never being met by alternately meeting the requirements of separate Conditions. In 1991, the NRC could not identify any regulatory requirement or program that could prevent this misuse of the TS. With the promulgation of the Maintenance Rule,

implementation of the Reactor Oversight Process, and the inclusion of administrative controls as discussed herein, there would exist strong disincentive to continued operation with concurrent multiple inoperabilities rendering second Completion Times unnecessary.

Maintenance Rule

10 CFR 50.65(a)(1), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants" (Maintenance Rule), requires each licensee to monitor the performance or condition of systems, structures, and components (SSCs) against licensee-established goals to ensure that the SSCs are capable of fulfilling their intended functions. If the performance or condition of the SSC does not meet established goals, appropriate corrective action is required to be taken. The NRC resident inspectors monitor the licensee's Corrective Action Program and could take action if the licensee's maintenance program allowed the systems required by a single LCO to become concurrently inoperable multiple times. The performance and condition monitoring activities required by 10 CFR 50.65(a)(1) and (a)(2) would identify if poor maintenance practices resulted in multiple entries into the Actions of the TS and unacceptable unavailability of these SSCs. The effectiveness of these performance monitoring activities and associated corrective actions is evaluated at least every refueling cycle, not to exceed 24 months per 10 CFR 50.65(a)(3).

Under the TS, the Completion Time for one system is not affected by other inoperable equipment. The second Completion Times were an attempt to influence the Completion Time for one system based on the condition of another system, if two systems were required by the same LCO. However, 10 CFR 50.65(a)(4) is a much better mechanism to apply this influence as the Maintenance Rule considers all inoperable risk-significant equipment, not just one or two systems governed by the same LCO.

Under 10 CFR 50.65(a)(4), the risk impact of all inoperable risk-significant equipment is assessed and managed when performing preventative or corrective maintenance. Risk assessments at PINGP are conducted using the procedures and guidance endorsed by Regulatory Guide 1.160, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants". Regulatory Guide 1.160 endorses the guidance in Section 11 of NUMARC 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants" (Reference 4). These documents address general guidance for conduct of the risk assessment, quantitative and qualitative guidelines for establishing risk management actions, and example risk management actions. These include actions to:

- plan and conduct other activities in a manner that controls overall risk,
- increase risk awareness by shift and management personnel,
- reduce the duration of the condition,
- minimize the magnitude of risk increases through the establishment of backup success paths or compensatory measures,
- and determine that the proposed maintenance is acceptable.

The comprehensive program provides much greater assurance of safe plant operation than the second Completion Times in the TS.

Reactor Oversight Process

NEI 99-02, "Regulatory Assessment Performance Indicator Guideline", describes the tracking and reporting of performance indicators to support the NRC's Reactor Oversight Process (ROP) (Reference 5). The NRC noted endorsement of NEI 99-02 in RIS 2001-11, "Voluntary Submission of Performance Indicator Data" (Reference 6). NEI 99-02, Section 2.2, describes the Mitigating Systems Cornerstone. NEI 99-02 specifically addresses the emergency AC power systems, the auxiliary feedwater system, and the cooling water support system. Extended unavailability due to multiple entries into the ACTIONS would affect the NRC's evaluation of the licensee's performance under the ROP.

Administrative Controls

In addition to these programs, a requirement is added to Section 1.3 of the TS to require administrative controls to limit the maximum time allowed for any combination of Conditions that result in a single contiguous occurrence of failing to meet the LCO. These administrative controls should consider plant risk and shall limit the maximum contiguous time of failing to meet the LCO. This TS requirement, when considered with the regulatory processes discussed above, provides an equivalent level of plant safety without the unnecessary complication of the TS by second Completion Times on some Specifications.

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

The following NRC requirements are applicable to the proposed change:

Title 10 Code of Federal Regulations 50.36(c)(2)

The regulations of Title 10 of the Code of Federal Regulations (10 CFR), "Technical Specifications", establish the requirements related to the content of the TS. Section 50.36(c)(2) states:

When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specifications until the condition can be met.

Title 10 Code of Federal Regulations 50.65

The regulations of 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants", establish a performance-based rule to ensure that nuclear power plant structures, systems, and components (SSCs) will be maintained so that they will perform their intended function when required.

The proposed change continues to meet the requirements of these regulations.

4.2 Precedent

The proposed change is consistent with NRC-approved license amendments issued to Exelon Nuclear on November 22, 2016 (Reference 7), and NextEra Energy on October 5, 2015 (Reference 8).

These approved changes are similar to the changes proposed in this request. There are no differences between the plant and design licensing basis for PINGP and the units referenced above that would affect the applicability of the change.

4.3 No Significant Hazards Consideration

Pursuant to 10 CFR 50.90, Northern States Power Company, a Minnesota Corporation, doing business as Xcel Energy (hereafter "NSPM"), hereby submits an amendment to the Technical Specifications (TS) for the Prairie Island Nuclear Generating Plant (PINGP). The proposed change eliminates second Completion Times limiting time from discovery of failure to meet a limiting condition for operation (LCO). These changes are consistent with NRC-approved Technical Specification Task Force (TSTF) Traveler TSTF-439, Revision 2, "Eliminate Second Completion Times Limiting Time From Discovering of Failure to Meet an LCO" (Reference 1).

NSPM has evaluated whether a significant hazards consideration is involved with the proposed amendment(s) by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment", as discussed below:

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

Response: No

The proposed change eliminates second Completion Times from the Technical Specifications. Completion Times are not an initiator to any accident previously evaluated. As a result, the probability of an accident previously evaluated is not affected. The consequences of an accident during the revised Completion Time are no different than the consequences of the same accident during the existing Completion Times. As a result, the consequences of an accident previously evaluated are not affected by this change. The proposed change does not alter or prevent the ability of SSCs from performing their intended function to mitigate the consequences of an initiating event within the assumed acceptance limits. The proposed change does not affect the source term, containment isolation, or radiological release assumptions used in evaluating the radiological consequences of an accident previously evaluated. Further, the proposed change does not increase the types or amounts of radioactive effluent that may be released offsite nor significantly increase individual or cumulative occupational/public radiation exposures. The proposed change is consistent with the safety analysis assumptions and resultant consequences.

Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

Response: No

The proposed change does not involve a physical alteration of the plant (i.e., no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. The proposed change does not alter any assumptions made in the safety analysis.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

Response: No

The proposed change to delete the second Completion Time does not alter the manner in which safety limits, limiting safety system settings, or limiting conditions for operation are determined. The safety analysis acceptance criteria are not affected by this change. The proposed change will not result in plant operation in a configuration outside of the design basis.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, NSPM concludes that the proposed amendment does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c); and, accordingly, a finding of "no significant hazards consideration" is justified.

4.4 Conclusions

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

5.0 ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or a significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

6.0 REFERENCES

1. Letter from the TSTF to the NRC, "TSTF-439, Revision 2, 'Eliminate Second Completion Times Limiting Time From Discovery of Failure To Meet an LCO'", dated June 20, 2005. (ADAMS Accession No. ML051860296)
2. NRC Report, NUREG-1431, Revision 1, "Standard Technical Specifications – Westinghouse Plants", April 1995.
3. Letter from the NRC to the Nuclear Management Company (NMC), "Prairie Island Nuclear Generating Plant, Units 1 and 2 - Issuance of Amendments Re: Conversion to Improved Technical Specifications (TAC Nos. MB0695 and MB0696)", dated July 26, 2002. (ADAMS Accession No. ML022070661)
4. Nuclear Energy Institute (NEI), NUMARC 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance of Nuclear Power Plants".
5. NEI Guideline, NEI 99-02, "Regulatory Assessment Performance Indicator Guideline".
6. NRC Regulatory Issue Summary (RIS), RIS 2001-011, "Voluntary Submission of Performance Indicator Data", dated May 11, 2001. (ADAMS Accession No. ML011240144)
7. Letter from the NRC to Exelon Nuclear, "Nine Mile Point Nuclear Station, Unit 2 – Issuance of Amendment RE: Adoption of Technical Specification Task Force (TSTF) 439 (CAC NO. MF7449)", dated November 22, 2016. (ADAMS Accession No. ML16281A596)

8. Letter from the NRC to NextEra Energy, "St. Lucie Plant, Unit Nos. 1 and 2 – Issuance of Amendments Regarding Adoption of Technical Specification Task Force Traveler-439, Revision 2, 'Eliminate Second Completion Times Limiting Time from Discovery of Failure to Meet an LCO' (TAC Nos. MF5370 and MF5371)", dated October 5, 2015. (ADAMS Accession No. ML15251A094)

ENCLOSURE, ATTACHMENT 1

PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2

License Amendment Request

Adopt TSTF-439, Revision 2, "Eliminate Second Completion
Times Limiting Time from Discovery of Failure to Meet an LCO"

TECHNICAL SPECIFICATION PAGES (Markup)

(13 Pages Follow)

1.3 Completion Times

DESCRIPTION (continued) The above Completion Time extension does not apply to a Completion Time with a modified “time zero.” This modified “time zero” may be expressed as a repetitive time (i.e., “once per 8 hours,” where the Completion Time is referenced from a previous completion of the Required Action versus the time of Condition entry) or as a time modified by the phrase "from discovery . . ."

~~Example 1.3-3 illustrates one use of this type of Completion Time. The 10-day Completion Time specified for Conditions A and B in Example 1.3-3 may not be extended.~~ An example of a modified "time zero" with the Completion Time expressed as "once per 8 hours" is illustrated in Example 1.3-6, Condition A. In this example, the Completion Time may not be extended.

1.3 Completion Times

EXAMPLES
(continued)

EXAMPLE 1.3-3

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One Function X train inoperable.	A.1 Restore Function X train to OPERABLE status.	7 days AND 10 days from discovery of failure to meet the LCO
B. One Function Y train inoperable.	B.1 Restore Function Y train to OPERABLE status.	72 hours AND 10 days from discovery of failure to meet the LCO

1.3 Completion Times

EXAMPLES

EXAMPLE 1.3-3 (continued)

~~The Completion Times of Conditions A and B are modified by a logical connector with a separate 10 day Completion Time measured from the time it was discovered the LCO was not met. In this example, without the separate Completion Time, it would be possible to alternate between Conditions A, B, and C in such a manner that operation could continue indefinitely without ever restoring systems to meet the LCO. The separate Completion Time modified by the phrase "from discovery of failure to meet the LCO" is designed to prevent indefinite continued operation while not meeting the LCO. This Completion Time allows for an exception to the normal "time zero" for beginning the Completion Time "clock". In this instance, the Completion Time "time zero" is specified as commencing at the time the LCO was initially not met, instead of at the time the associated Condition was entered. It is possible to alternate between Conditions A, B, and C in such a manner that operation could continue indefinitely without ever restoring systems to meet the LCO. However, doing so would be inconsistent with the basis of the Completion Times. Therefore, there shall be administrative controls to limit the maximum time allowed for any combination of Conditions that result in a single contiguous occurrence of failing to meet the LCO. These administrative controls shall ensure that the Completion Times for those Conditions are not inappropriately extended.~~

It is possible to alternate between Conditions A, B, and C in such a manner that operation could continue indefinitely without ever restoring systems to meet the LCO. However, doing so would be inconsistent with the basis of the Completion Times. Therefore, there shall be administrative controls to limit the maximum time allowed for any combination of Conditions that result in a single contiguous occurrence of failing to meet the LCO. These administrative controls shall ensure that the Completion Times for those Conditions are not inappropriately extended.

3.6 CONTAINMENT SYSTEMS

3.6.5 Containment Spray and Cooling Systems

LCO 3.6.5 Two containment spray trains and two containment cooling trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One containment spray train inoperable.	A.1 Restore containment spray train to OPERABLE status.	72 hours AND 10 days from discovery of failure to meet the LCO
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 3. AND	6 hours
	B.2 Be in MODE 5.	84 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. One or both containment cooling fan coil unit(s) (FCU) in one train inoperable.	C.1 Restore containment cooling FCU(s) to OPERABLE status.	7 days <u>AND</u> 10 days from discovery of failure to meet the LCO
D. One containment cooling FCU in each train inoperable.	D.1 Initiate action to isolate both inoperable FCUs. <u>AND</u> D.2 Restore all FCUs to OPERABLE status.	Immediately 7 days <u>AND</u> 10 days from discovery of failure to meet the LCO
E. Required Action and associated Completion Time of Condition C or D not met.	E.1 Be in MODE 3. <u>AND</u> E.2 Be in MODE 5.	6 hours 36 hours

(administrative change)



Revised by ~~letter dated August 29, 2006.~~

ACTIONS

Add dash (administrative change)



-----NOTE-----

LCO 3.0.4.b is not applicable.

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One steam supply to turbine driven AFW pump inoperable.</p> <p><u>OR</u></p> <p>-----NOTE----- Only applicable if MODE 2 has not been entered following refueling. -----</p> <p>One turbine driven AFW pump inoperable in MODE 3 following refueling.</p>	<p>A.1 Restore affected equipment to OPERABLE status.</p>	<p>7 days</p> <p>AND</p> <p>10 days from discovery of failure to meet the LCO</p>
<p>B. One AFW train inoperable in MODE 1, 2, or 3 for reasons other than Condition A.</p>	<p>B.1 Restore AFW train to OPERABLE status.</p>	<p>72 hours</p> <p>AND</p> <p>10 days from discovery of failure to meet the LCO</p>

administrative change

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.1 Restore one safeguards CL pump to OPERABLE status.	7 days AND 10 days from discovery of failure to meet the LCO
B. One CL supply header inoperable.	<p style="text-align: center;">-----NOTES-----</p> 1. Unit 1 enter applicable Conditions and Required Actions of LCO 3.8.1, “AC Sources-MODES 1, 2, 3, and 4,” for emergency diesel generator made inoperable by CL System. 2. Both units enter applicable Conditions and Required Actions of LCO 3.4.6, “RCS Loops-MODE 4,” for residual heat removal loops made inoperable by CL System. <p style="text-align: center;">-----</p> B.1 Verify vertical motor driven CL pump OPERABLE. AND	4 hours

administrative change

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. (continued)	B.2 Verify opposite train diesel driven CL pump OPERABLE. <u>AND</u> B.3 Restore CL supply header to OPERABLE status.	4 hours 72 hours <u>AND</u> 10 days from discovery of failure to meet the LCO
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3. <u>AND</u> C.2 Be in MODE 5.	6 hours 36 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. -----NOTE----- Separate Condition entry is allowed for each stored diesel driven CL pump fuel oil supply. -----</p> <p>One or both stored diesel driven CL pump fuel oil supply(s) < 7 days and ≥ 6 days.</p>	<p>D.1 Restore fuel oil supply to ≥ 7 days.</p>	<p>48 hours</p> <p><u>AND</u></p> <p>9 days from discovery of failure to meet the LCO</p>
<p>E. -----NOTE----- Separate Condition entry is allowed for each stored diesel driven CL pump fuel oil supply. -----</p> <p>One or both stored diesel driven CL pump fuel oil supply(s) < 6 days.</p> <p><u>OR</u></p> <p>Required Action and associated Completion Time of Condition D not met.</p>	<p>E.1 Declare associated diesel driven CL pump inoperable.</p>	<p>Immediately</p>

administrative change

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.2 Restore path to OPERABLE status.	7 days AND 21 days from discovery of failure to meet LCO
B. One DG inoperable.	B.1 Perform SR 3.8.1.1 for the paths. AND B.2 Declare required feature(s) supported by the inoperable DG inoperable when its required redundant feature(s) is inoperable. AND	1 hour AND Once per 8 hours thereafter 4 hours from discovery of Condition B concurrent with inoperability of redundant required feature(s)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. (continued)	<p>B.3.1 Determine OPERABLE DG is not inoperable due to common cause failure.</p> <p><u>OR</u></p> <p>B.3.2 Perform SR 3.8.1.2 for OPERABLE DG.</p> <p><u>AND</u></p> <p>B.4 Restore DG to OPERABLE status.</p>	<p>24 hours</p> <p>24 hours</p> <p>14 days</p> <p><u>AND</u></p> <p>21 days from discovery of failure to meet LCO</p>

3.8 ELECTRICAL POWER SYSTEMS

3.8.9 Distribution Systems-Operating

LCO 3.8.9 Train A and Train B safeguards AC and DC, and Reactor Protection Instrument AC electrical power distribution subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One or more safeguards AC electrical power distribution subsystems inoperable.</p>	<p>-----NOTE----- Enter applicable Conditions and Required Actions of LCO 3.8.4, "DC Sources - Operating," for DC trains made inoperable by inoperable power distribution subsystems. -----</p> <p>A.1 Restore safeguards AC electrical power distribution subsystems to OPERABLE status.</p>	<p>8 hours</p> <p>AND</p> <p>16 hours from discovery of failure to meet LCO</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>B. One or more safeguards DC electrical power distribution subsystems inoperable.</p>	<p>B.1 Restore safeguards DC electrical power distribution subsystems to OPERABLE status.</p>	<p>2 hours <u>AND</u> 16 hours from discovery of failure to meet LCO</p>
<p>C. One Reactor Protection Instrument AC panel inoperable.</p>	<p>C.1 Restore Reactor Protection Instrument AC panel to OPERABLE status.</p>	<p>2 hours <u>AND</u> 16 hours from discovery of failure to meet LCO</p>
<p>D. Required Action and associated Completion Time not met.</p>	<p>D.1 Be in MODE 3. <u>AND</u> D.2 Be in MODE 5.</p>	<p>6 hours 36 hours</p>

ENCLOSURE, ATTACHMENT 2

PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2

License Amendment Request

Adopt TSTF-439, Revision 2, "Eliminate Second Completion
Times Limiting Time from Discovery of Failure to Meet an LCO"

TECHNICAL SPECIFICATION PAGES (Re-typed)

(27 Pages Follow)

1.3 Completion Times

DESCRIPTION (continued) The above Completion Time extension does not apply to a Completion Time with a modified “time zero.” This modified “time zero” may be expressed as a repetitive time (i.e., “once per 8 hours,” where the Completion Time is referenced from a previous completion of the Required Action versus the time of Condition entry) or as a time modified by the phrase "from discovery . . ." An example of a modified "time zero" with the Completion Time expressed as "once per 8 hours" is illustrated in Example 1.3-6, Condition A. In this example, the Completion Time may not be extended.

1.3 Completion Times

EXAMPLES
(continued)

EXAMPLE 1.3-3

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One Function X train inoperable.	A.1 Restore Function X train to OPERABLE status.	7 days
B. One Function Y train inoperable.	B.1 Restore Function Y train to OPERABLE status.	72 hours
C. One Function X train inoperable. <u>AND</u> One Function Y train inoperable.	C.1 Restore Function X train to OPERABLE status. <u>OR</u> C.2 Restore Function Y train to OPERABLE status.	72 hours 72 hours

When one Function X train and one Function Y train are inoperable, Condition A and Condition B are concurrently applicable. The

1.3 Completion Times

EXAMPLES

EXAMPLE 1.3-3 (continued)

Completion Times for Condition A and Condition B are tracked separately for each train starting from the time each train was declared inoperable and the Condition was entered. A separate Completion Time is established for Condition C and tracked from the time the second train was declared inoperable (i.e., the time the situation described in Condition C was discovered).

If Required Action C.2 is completed within the specified Completion Time, Conditions B and C are exited. If the Completion Time for Required Action A.1 has not expired, operation may continue in accordance with Condition A. The remaining Completion Time in Condition A is measured from the time the affected train was declared inoperable (i.e., initial entry into Condition A).

It is possible to alternate between Conditions A, B, and C in such a manner that operation could continue indefinitely without ever restoring systems to meet the LCO. However, doing so would be inconsistent with the basis of the Completion Times. Therefore, there shall be administrative controls to limit the maximum time allowed for any combination of Conditions that result in a single contiguous occurrence of failing to meet the LCO. These administrative controls shall ensure that the Completion Times for those Conditions are not inappropriately extended.

1.3 Completion Times

EXAMPLES
(continued)

EXAMPLE 1.3-4

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more valves inoperable.	A.1 Restore valve(s) to OPERABLE status.	4 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	6 hours
	<u>AND</u> B.2 Be in MODE 4.	12 hours

A single Completion Time is used for any number of valves inoperable at the same time. The Completion Time associated with Condition A is based on the initial entry into Condition A and is not tracked on a per valve basis. Declaring subsequent valves inoperable, while Condition A is still in effect, does not trigger the tracking of separate Completion Times.

Once one of the valves has been restored to OPERABLE status, the Condition A Completion Time is not reset, but continues from the time the first valve was declared inoperable. The Completion Time may be extended if the valve restored to OPERABLE status was the first inoperable valve. The Condition A Completion Time may be extended for up to 4 hours provided this does not result in any subsequent valve being inoperable for > 4 hours.

1.3 Completion Times

EXAMPLES EXAMPLE 1.3-4 (continued)

If the Completion Time of 4 hours (plus the extension) expires while one or more valves are still inoperable, Condition B is entered.

EXAMPLE 1.3-5

ACTIONS

-----NOTE-----
Separate Condition entry is allowed for each inoperable valve.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more valves inoperable.	A.1 Restore valve to OPERABLE status.	4 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	6 hours
	<u>AND</u> B.2 Be in MODE 4.	12 hours

The Note above the ACTIONS Table is a method of modifying how the Completion Time is tracked. If this method of modifying how the Completion Time is tracked was applicable only to a specific Condition, the Note would appear in that Condition rather than at the top of the ACTIONS Table.

1.3 Completion Times

EXAMPLES

EXAMPLE 1.3-5 (continued)

The Note allows Condition A to be entered separately for each inoperable valve, and Completion Times tracked on a per valve basis. When a valve is declared inoperable, Condition A is entered and its Completion Time starts. If subsequent valves are declared inoperable, Condition A is entered for each valve and separate Completion Times start and are tracked for each valve.

If the Completion Time associated with a valve in Condition A expires, Condition B is entered for that valve. If the Completion Times associated with subsequent valves in Condition A expire, Condition B is entered separately for each valve and separate Completion Times start and are tracked for each valve. If a valve that caused entry into Condition B is restored to OPERABLE status, Condition B is exited for that valve.

Since the Note in this example allows multiple Condition entry and tracking of separate Completion Times, Completion Time extensions do not apply.

1.3 Completion Times

EXAMPLES
(continued)

EXAMPLE 1.3-6

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One channel inoperable.	A.1 Perform SR 3.x.x.x.	Once per 8 hours
	<u>OR</u> A.2 Reduce THERMAL POWER to $\leq 50\%$ RTP.	8 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	6 hours

Entry into Condition A offers a choice between Required Action A.1 or A.2. Required Action A.1 has a “once per” Completion Time, which qualifies for the 25% extension, per SR 3.0.2, to each performance after the initial performance. The initial 8 hour interval of Required Action A.1 begins when Condition A is entered and the initial performance of Required Action A.1 must be complete within the first 8 hour interval. If Required Action A.1 is followed, and the Required Action is not met within the Completion Time (plus the extension allowed by SR 3.0.2), Condition B is entered. If Required

1.3 Completion Times

EXAMPLES

EXAMPLE 1.3-6 (continued)

Action A.2 is followed and the Completion Time of 8 hours is not met, Condition B is entered.

If after entry into Condition B, Required Action A.1 or A.2 is met, Condition B is exited and operation may then continue in Condition A.

1.3 Completion Times

EXAMPLES
(continued)

EXAMPLE 1.3-7

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One subsystem inoperable.	A.1 Verify affected subsystem isolated.	1 hour <u>AND</u> Once per 8 hours thereafter
	<u>AND</u> A.2 Restore subsystem to OPERABLE status.	72 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	6 hours
	<u>AND</u> B.2 Be in MODE 5.	36 hours

Required Action A.1 has two Completion Times. The 1 hour Completion Time begins at the time the Condition is entered and each “Once per 8 hours thereafter” interval begins upon performance of Required Action A.1.

1.3 Completion Times

EXAMPLES

EXAMPLE 1.3-7 (continued)

If after Condition A is entered, Required Action A.1 is not met within either the initial 1 hour or any subsequent 8 hour interval from the previous performance (plus the extension allowed by SR 3.0.2), Condition B is entered. The Completion Time clock for Condition A does not stop after Condition B is entered, but continues from the time Condition A was initially entered. If Required Action A.1 is met after Condition B is entered, Condition B is exited and operation may continue in accordance with Condition A, provided the Completion Time for Required Action A.2 has not expired.

IMMEDIATE
COMPLETION
TIME

When “Immediately” is used as a Completion Time, the Required Action should be pursued without delay and in a controlled manner.

3.6 CONTAINMENT SYSTEMS

3.6.5 Containment Spray and Cooling Systems

LCO 3.6.5 Two containment spray trains and two containment cooling trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One containment spray train inoperable.	A.1 Restore containment spray train to OPERABLE status.	72 hours
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 3.	6 hours
	<u>AND</u> B.2 Be in MODE 5.	84 hours
C. One or both containment cooling fan coil unit(s) (FCU) in one train inoperable.	C.1 Restore containment cooling FCU(s) to OPERABLE status.	7 days

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One containment cooling FCU in each train inoperable.	D.1 Initiate action to isolate both inoperable FCUs.	Immediately
	<u>AND</u> D.2 Restore all FCUs to OPERABLE status.	7 days
E. Required Action and associated Completion Time of Condition C or D not met.	E.1 Be in MODE 3.	6 hours
	<u>AND</u> E.2 Be in MODE 5.	36 hours

ACTIONS

-----NOTE-----
 LCO 3.0.4.b is not applicable.

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One steam supply to turbine driven AFW pump inoperable.</p> <p><u>OR</u></p> <p>-----NOTE----- Only applicable if MODE 2 has not been entered following refueling. ----- One turbine driven AFW pump inoperable in MODE 3 following refueling.</p>	<p>A.1 Restore affected equipment to OPERABLE status.</p>	<p>7 days</p>
<p>B. One AFW train inoperable in MODE 1, 2, or 3 for reasons other than Condition A.</p>	<p>B.1 Restore AFW train to OPERABLE status.</p>	<p>72 hours</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.1 Restore one safeguards CL pump to OPERABLE status.	7 days
B. One CL supply header inoperable.	<p>-----NOTES-----</p> <p>1. Unit 1 enter applicable Conditions and Required Actions of LCO 3.8.1, “AC Sources-MODES 1, 2, 3, and 4,” for emergency diesel generator made inoperable by CL System.</p> <p>2. Both units enter applicable Conditions and Required Actions of LCO 3.4.6, “RCS Loops-MODE 4,” for residual heat removal loops made inoperable by CL System.</p> <p>-----</p> <p>B.1 Verify vertical motor driven CL pump OPERABLE.</p> <p><u>AND</u></p> <p>B.2 Verify opposite train diesel driven CL pump OPERABLE.</p> <p><u>AND</u></p> <p>B.3 Restore CL supply header to OPERABLE status.</p>	<p>4 hours</p> <p>4 hours</p> <p>72 hours</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. Required Action and associated Completion Time not met.</p>	<p>C.1 Be in MODE 3. <u>AND</u> C.2 Be in MODE 5.</p>	<p>6 hours 36 hours</p>
<p>D. -----NOTE----- Separate Condition entry is allowed for each stored diesel driven CL pump fuel oil supply. ----- One or both stored diesel driven CL pump fuel oil supply(s) < 7 days and ≥ 6 days.</p>	<p>D.1 Restore fuel oil supply to ≥ 7 days.</p>	<p>48 hours</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>E. -----NOTE----- Separate Condition entry is allowed for each stored diesel driven CL pump fuel oil supply. -----</p> <p>One or both stored diesel driven CL pump fuel oil supply(s) < 6 days.</p> <p><u>OR</u></p> <p>Required Action and associated Completion Time of Condition D not met.</p>	<p>E.1 Declare associated diesel driven CL pump inoperable.</p>	<p>Immediately</p>

3.8 ELECTRICAL POWER SYSTEMS

3.8.1 AC Sources-Operating

LCO 3.8.1 The following AC electrical sources shall be OPERABLE:

- a. Two paths between the offsite transmission grid and the onsite 4 kV Safeguards Distribution System; and
- b. Two diesel generators (DGs) capable of supplying the onsite 4 kV Safeguards Distribution System.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

-----NOTE-----

LCO 3.0.4.b is not applicable to DGs.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required path inoperable.	A.1 Perform SR 3.8.1.1 for the OPERABLE path.	1 hour <u>AND</u> Once per 8 hours thereafter
	<u>AND</u> A.2 Restore path to OPERABLE status.	7 days

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One DG inoperable.	B.1 Perform SR 3.8.1.1 for the paths.	1 hour <u>AND</u> Once per 8 hours thereafter
	<u>AND</u>	
	B.2 Declare required feature(s) supported by the inoperable DG inoperable when its required redundant feature(s) is inoperable.	4 hours from discovery of Condition B concurrent with inoperability of redundant required feature(s)
	<u>AND</u>	
	B.3.1 Determine OPERABLE DG is not inoperable due to common cause failure. <u>OR</u>	24 hours
	B.3.2 Perform SR 3.8.1.2 for OPERABLE DG.	24 hours
	<u>AND</u>	
	B.4 Restore DG to OPERABLE status.	14 days

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. Two paths inoperable.</p>	<p>C.1 Declare required feature(s) inoperable when its redundant required feature(s) is inoperable.</p> <p><u>AND</u></p> <p>C.2 Restore one path to OPERABLE status.</p>	<p>12 hours from discovery of Condition C concurrent with inoperability of redundant required features</p> <p>24 hours</p>
<p>D. One path inoperable.</p> <p><u>AND</u></p> <p>One DG inoperable.</p>	<p>-----NOTE----- Enter applicable Conditions and Required Actions of LCO 3.8.9, “Distribution Systems-Operating,” when Condition D is entered with no AC power source to either train. -----</p> <p>D.1 Restore path to OPERABLE status.</p> <p><u>OR</u></p> <p>D.2 Restore DG to OPERABLE status.</p>	<p>12 hours</p> <p>12 hours</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Two DGs inoperable.	E.1 Restore one DG to OPERABLE status.	2 hours
F. Required Action and associated Completion Time of Condition A, B, C, D, or E not met.	F.1 Be in MODE 3. <u>AND</u> F.2 Be in MODE 5.	6 hours 36 hours
G. Two DGs inoperable and one or more paths inoperable. <u>OR</u> One DG inoperable and two paths inoperable.	G.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.1.1 Verify correct breaker alignment and indicated power availability for each required path.	7 days
SR 3.8.1.2 -----NOTES----- 1. Performance of SR 3.8.1.6 satisfies this SR. 2. All DG starts may be preceded by an engine prelube period and followed by a warmup period prior to loading. 3. A modified DG start involving idling and gradual acceleration to synchronous speed may be used for this SR in consideration of manufacturer’s recommendations. When modified start procedures are not used, the time, voltage, and frequency tolerances of SR 3.8.1.6 must be met. ----- Verify each DG starts from standby conditions and achieves steady state voltage ≥ 3740 V and ≤ 4580 V, and frequency ≥ 58.8 Hz and ≤ 61.2 Hz.	31 days

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.3 -----NOTES-----</p> <ol style="list-style-type: none"> 1. DG loadings may include gradual loading in consideration of manufacturer's recommendations. 2. Momentary transients outside the load range do not invalidate this test. 3. This Surveillance shall be conducted on only one DG at a time. 4. This SR shall be preceded by and immediately follow without shutdown a successful performance of SR 3.8.1.2 or SR 3.8.1.6. <p>-----</p> <p>Verify each DG is synchronized and loaded and operates for ≥ 60 minutes at a load:</p> <ol style="list-style-type: none"> a. Unit 1; ≥ 2500 kW; and b. Unit 2; ≥ 5100 kW and ≤ 5300 kW. 	<p>31 days</p>
<p>SR 3.8.1.4 Verify fuel oil level above lower limit switch in each day tank.</p>	<p>31 days</p>
<p>SR 3.8.1.5 Verify the fuel oil transfer system operates to transfer fuel oil from storage tank to the day tank.</p>	<p>31 days</p>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.6 -----NOTE----- All DG starts may be preceded by an engine prelube period. -----</p> <p>Verify each DG starts from standby condition and achieves:</p> <ul style="list-style-type: none"> a. In ≤ 10 seconds, voltage ≥ 3740 V and frequency ≥ 58.8 Hz; and b. Steady state voltage ≥ 3740 V and ≤ 4580 V, and frequency ≥ 58.8 Hz and ≤ 61.2 Hz. 	<p>184 days</p>
<p>SR 3.8.1.7 Verify each DG does not trip during and following a load rejection of:</p> <ul style="list-style-type: none"> 1. Unit 1 ≥ 650 kW; and 2. Unit 2 ≥ 860 kW. 	<p>24 months</p>
<p>SR 3.8.1.8 Verify each DG's automatic trips are bypassed on an actual or simulated safety injection signal except:</p> <ul style="list-style-type: none"> a. Engine overspeed; b. Generator differential current; and c. Ground fault (Unit 1 only). 	<p>-----NOTE----- SR 3.0.2 interval extension (1.25 times the interval) applies to this SR -----</p> <p>24 months</p>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.9 -----NOTES-----</p> <ol style="list-style-type: none"> 1. Momentary transients outside the load and power factor ranges do not invalidate this test. 2. If performed with DG synchronized with offsite power, it shall be performed at a power factor ≤ 0.85. However, if grid conditions do not permit, the power factor limit is not required to be met. Under this condition the power factor shall be maintained as close to the limit as practicable. <p>-----</p> <p>Verify each DG operates for ≥ 24 hours:</p> <ol style="list-style-type: none"> a. For ≥ 2 hours loaded: <ul style="list-style-type: none"> Unit 1 ≥ 2832 kW, and ≤ 3000 kW Unit 2 ≥ 5400 kW, and ≤ 5940 kW; and b. For the remaining hours of the test loaded: <ul style="list-style-type: none"> Unit 1 ≥ 2500 kW, and Unit 2 ≥ 4860 kW; and c. Achieves steady state voltage ≥ 3740 V and ≤ 4580 V; and frequency ≥ 58.8 Hz and ≤ 61.2 Hz. 	<p>24 months</p>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.10 -----NOTES-----</p> <ol style="list-style-type: none"> 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not be performed in MODE 1, 2, 3, or 4. 3. 12 Battery Charger not required to be energized in SR 3.8.1.10(c) until completion of this SR during Unit 1 2011 refueling outage.* <p>-----</p> <p>Verify on an actual or simulated loss of offsite power signal in conjunction with an actual or simulated safety injection actuation signal:</p> <ol style="list-style-type: none"> a. De-energization of emergency buses; b. Load shedding from emergency buses; and c. DG auto-starts from standby condition and energizes emergency loads in ≤ 60 seconds. 	<p>24 months</p>
<p>SR 3.8.1.11 -----NOTE-----</p> <p>All DG starts may be preceded by an engine prelube period.</p> <p>-----</p> <p>Verify on an actual or simulated loss of offsite power signal that the DG auto-starts from standby condition.</p>	<p>24 months</p>

*A modification will be installed during or prior to the Unit 1 2011 refueling outage to assure the 12 Battery Charger is automatically powered from its normal bus within 60 seconds. Compliance with this SR will be demonstrated after implementation of the modification.

3.8 ELECTRICAL POWER SYSTEMS

3.8.9 Distribution Systems-Operating

LCO 3.8.9 Train A and Train B safeguards AC and DC, and Reactor Protection Instrument AC electrical power distribution subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One or more safeguards AC electrical power distribution subsystems inoperable.</p>	<p>-----NOTE----- Enter applicable Conditions and Required Actions of LCO 3.8.4, “DC Sources - Operating,” for DC trains made inoperable by inoperable power distribution subsystems. -----</p> <p>A.1 Restore safeguards AC electrical power distribution subsystems to OPERABLE status.</p>	<p>8 hours</p>
<p>B. One or more safeguards DC electrical power distribution subsystems inoperable.</p>	<p>B.1 Restore safeguards DC electrical power distribution subsystems to OPERABLE status.</p>	<p>2 hours</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. One Reactor Protection Instrument AC panel inoperable.	C.1 Restore Reactor Protection Instrument AC panel to OPERABLE status.	2 hours
D. Required Action and associated Completion Time not met.	D.1 Be in MODE 3.	6 hours
	<u>AND</u> D.2 Be in MODE 5.	36 hours
E. Two trains with inoperable distribution subsystems that result in a loss of safety function. OR Two or more Reactor Protection Instrument AC panels inoperable.	E.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.9.1 Verify correct breaker and switch alignments and voltage to safeguards AC, DC, and Reactor Protection Instrument AC electrical power distribution subsystems.	7 days

ENCLOSURE, ATTACHMENT 3

PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2

License Amendment Request

Adopt TSTF-439, Revision 2, "Eliminate Second Completion
Times Limiting Time from Discovery of Failure to Meet an LCO"

**TECHNICAL SPECIFICATION BASES PAGES (Markup)
(Provided for Information Only)**

(16 Pages Follow)

BASES

LCO
(continued) up to and including 70°F. When the CL supply temperature is above 70°F with one CL strainer isolated, the containment cooling train on the associated CL header is not OPERABLE. If Technical Specification (TS) 3.6.5 Condition D has been entered, then the above correlation between CL strainer status, CL supply temperature and containment cooling train OPERABILITY is not applicable. In this case the remaining two containment cooling fan coil units provide adequate heat removal within the TS 3.6.5 Condition D allowed Completion Time.

APPLICABILITY In MODES 1, 2, 3, and 4, a LOCA or SLB could cause a release of radioactive material to containment and an increase in containment pressure and temperature requiring the operation of the containment spray trains and containment cooling trains.

In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Thus, the Containment Spray System and the Containment Cooling System are not required to be OPERABLE in MODES 5 and 6.

ACTIONS A.1

With one containment spray train inoperable, the inoperable containment spray train must be restored to OPERABLE status within 72 hours. In this Condition, the remaining OPERABLE spray and cooling trains are adequate to perform the iodine removal and containment cooling functions. The 72 hour Completion Time takes into account the redundant heat removal capability afforded by the other Containment Spray train, reasonable time for repairs, and low probability of a LOCA or SLB occurring during this period.

~~The 10 day portion of the Completion Time for Required Action A.1 is based upon engineering judgment. It takes into account the low probability of coincident entry into two Conditions in this Specification coupled with the low probability of an accident~~

BASES

ACTIONS

~~A.1 (continued)~~

~~occurring during this time. Refer to Section 1.3, "Completion Times," for a more detailed discussion of the purpose of the "from discovery of failure to meet the LCO" portion of the Completion Time.~~

B.1 and B.2

If the inoperable containment spray train cannot be restored to OPERABLE status within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within 84 hours. The allowed Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging plant systems. The extended interval to reach MODE 5 allows additional time for attempting restoration of the containment spray train and is reasonable when considering the driving force for a release of radioactive material from the Reactor Coolant System is reduced in MODE 3.

C.1

With one or both of the containment cooling fan coil units (FCU) in one train inoperable, the inoperable FCU(s) must be restored to OPERABLE status within 7 days. In this degraded condition the remaining OPERABLE containment spray and cooling trains provide iodine removal capabilities and are capable of providing at least 100% of the heat removal needs. The 7 day Completion Time was developed taking into account the heat removal capabilities afforded by combinations of the Containment Spray System and Containment Cooling System and the low probability of a DBA occurring during this period.

BASES

ACTIONS

C.1 (continued)

~~The 10-day portion of the Completion Time for Required Action C.1 is based upon engineering judgment. It takes into account the low probability of coincident entry into two Conditions in this Specification coupled with the low probability of an accident occurring during this time. Refer to Section 1.3 for a more detailed discussion of the purpose of the "from discovery of failure to meet the LCO" portion of the Completion Time.~~

D.1 and D.2

Condition D applies when one FCU in each train is inoperable. With two FCUs inoperable, the Required Actions are to isolate cooling water flow to both inoperable FCUs immediately. This will assure the containment cooling function continues to be provided.

The LCO requires the OPERABILITY of a number of components within the subsystems. Due to the redundancy of components within the containment cooling system, the inoperability of two FCU does not render the containment cooling system incapable of performing its function. Engineering analyses demonstrate that two OPERABLE FCUs, one in each train, are capable of providing the necessary cooling.

With a FCU inoperable in both containment cooling trains and a FCU OPERABLE in both containment cooling trains, the two remaining OPERABLE FCUs can provide the necessary cooling provided the cooling water flow to the inoperable FCUs is isolated.

When one FCU in each containment cooling train is inoperable, both inoperable FCUs must be restored to OPERABLE status within 7 days. In this degraded condition the remaining OPERABLE containment spray and FCU from each cooling train provide iodine removal capabilities and are capable of providing at least 100% of the heat removal needs. The 7 day Completion Time was developed taking into account the heat removal capabilities afforded by combinations of the Containment Spray System and Containment

BASES

ACTIONS

D.1 and D.2 (continued)

Cooling System and the low probability of a DBA occurring during this period.

~~The 10 day portion of the Completion Time for Required Action D.2 is based upon engineering judgment. It takes into account the low probability of coincident entry into two Conditions in this Specification coupled with the low probability of an accident occurring during this time. Refer to Section 1.3 for a more detailed discussion of the purpose of the "from discovery of failure to meet the LCO" portion of the Completion Time.~~

E.1 and E.2

If the Required Action and associated Completion Time of Condition C or D of this LCO are not met, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE
REQUIREMENTS

SR 3.6.5.1

Verifying the correct alignment for manual, power operated, and automatic valves in the containment spray flow path provides assurance that the proper flow paths will exist for Containment Spray System operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since these were verified to be in the correct position prior to locking, sealing, or securing. This SR does not require any testing or valve manipulation. Rather, it involves verification that those valves outside containment (there are no valves inside containment) and capable of potentially being mispositioned are in the correct position.

BASES

ACTIONS

A.1 (continued)

- b. For the inoperability of a turbine driven AFW pump while in MODE 3 immediately subsequent to a refueling outage, the 7 day Completion Time is reasonable due to the minimal decay heat levels in this situation; and
- c. For both the inoperability of a steam supply line to the turbine driven pump and an inoperable turbine driven AFW pump while in MODE 3 immediately following a refueling outage, the 7 day Completion Time is reasonable due to the availability of the redundant OPERABLE motor driven AFW pump, and due to the low probability of an event requiring the use of the turbine driven AFW pump.

~~The second Completion Time for Required Action A.1 establishes a limit on the maximum time allowed for any combination of Conditions to be inoperable during any continuous failure to meet this LCO.~~

~~The 10-day Completion Time provides a limitation time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which Conditions A and B are entered concurrently. The AND connector between 7 days and 10 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met.~~

Condition A is modified by a Note which limits the applicability of the Condition when the unit has not entered MODE 2 following a refueling. Condition A allows one AFW train to be inoperable for 7 days vice the 72 hour Completion Time in Condition B. This longer Completion Time is based on the reduced decay heat following refueling and prior to the reactor being critical.

BASES

ACTIONS
(continued)

B.1

With one of the required AFW trains (pump or flow path) inoperable in MODE 1, 2, or 3 for reasons other than Condition A, action must be taken to restore OPERABLE status within 72 hours. This Condition includes the loss of two steam supply lines to the turbine driven AFW pump. The 72 hour Completion Time is reasonable, based on redundant capabilities afforded by the AFW System, time needed for repairs, and the low probability of a DBA occurring during this time period.

~~The second Completion Time for Required Action B.1 establishes a limit on the maximum time allowed for any combination of Conditions to be inoperable during any continuous failure to meet this LCO.~~

~~The 10 day Completion Time provides a limitation time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which Conditions A and B are entered concurrently. The AND connector between 72 hours and 10 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met.~~

C.1 and C.2

When Required Action A.1 or B.1 cannot be completed within the required Completion Time, or if two AFW trains are inoperable in MODE 1, 2, or 3, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 4 within 12 hours.

The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

BASES

ACTIONS

A.1

If no safeguards CL pumps are OPERABLE for one train, action must be taken to restore one CL safeguards pump to OPERABLE status within 7 days.

Either the diesel driven CL pump for the train may be restored to OPERABLE status, or the 121 CL pump may be aligned to fulfill the safeguards function for the train that has no OPERABLE safeguards CL pump.

The 7 day Completion Time is based on:

- a. Low probability of loss of offsite power during the period;
- b. The low probability of a DBA occurring during this time period;
- c. The safeguards cooling capabilities afforded by the remaining OPERABLE train; and
- d. The capability to route water from the non-safeguards pumps, if needed.

~~The second Completion Time for Required Action A.1 establishes a limit on the maximum time allowed for combinations of Conditions A and B to be inoperable during any continuous failure to meet this LCO for these Conditions.~~

~~The 10-day Completion Time provides a limitation time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which Conditions A and B are entered concurrently. The AND connector between 7 days and 10 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met.~~

Required Action A.1 is modified by 3 Notes. Note 1 requires Unit 1 entry into the applicable Conditions and Required Actions of LCO

BASES

ACTIONS

B.1, B.2 and B.3 (continued)

Conditions may occur in the CL System piping, valves, or instrumentation downstream of the supply header (e.g., closed or failed valves, failed piping, or instrumentation in a return header) that can result in the supply header being considered inoperable. In such cases, Condition B and related Required Actions shall apply.

In this Condition, the remaining OPERABLE CL header is adequate to perform the heat removal function. However, the overall redundancy is reduced because only a single CL train remains OPERABLE.

Required Action B.1 ensures that the vertical motor driven 121 CL pump may be used to provide redundancy for the safeguards CL pump on the OPERABLE header. Required Action B.3 assures adequate system reliability is maintained.

~~The second Completion Time for Required Action B.3 establishes a limit on the maximum time allowed for combinations of Conditions A and B to be inoperable during any continuous failure to meet this LCO for these Conditions.~~

~~The 10-day Completion Time provides a limitation time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which Conditions A and B are entered concurrently. The AND connector between 7 days and 10 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met.~~

Required Actions B.1, B.2, and B.3 are modified by two Notes.

The first Note indicates that the applicable Conditions and Required Actions of LCO 3.8.1, “AC Sources-Operating,” should be entered for Unit 1 since an inoperable CL train results in an inoperable emergency diesel generator.

BASES

ACTIONS

D.1 (continued)

inoperable stored diesel driven CL pump fuel oil supply. Complying with the Required Actions for one inoperable stored diesel driven CL pump fuel oil supply may allow for continued operation, and subsequent inoperable stored diesel driven CL pump fuel oil supply is governed by separate Condition entry and application of associated Required Actions.

In this Condition, the 7 day stored diesel driven CL pump fuel oil supply is not available. However, the Condition is restricted to fuel oil supply reductions that maintain at least a 6 day supply. The fuel oil supply equivalent to a 6 day supply is 9,297 gallons. This restriction allows sufficient time for obtaining the requisite replacement volume and performing the analyses required prior to addition of fuel oil to the tank(s). A period of 48 hours is considered sufficient to complete restoration of the required supply prior to declaring the diesel driven CL pumps inoperable. This period is acceptable based on the remaining 6 day fuel oil supply, the fact that procedures will be initiated to obtain replenishment, availability of the vertical motor driven CL pump and the low probability of an event during this brief period.

~~The second Completion Time for Required Action D.1 establishes a limit on the maximum time allowed for combinations of Conditions A and D to be inoperable during any continuous failure to meet this LCO for these Conditions.~~

~~The 9 day Completion Time provides a limitation time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which Conditions A and D are entered concurrently. The AND connector between 48 hours and 9 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met.~~

BASES (continued)

ACTIONS

A Note prohibits the application of LCO 3.0.4.b to an inoperable DG. There is an increased risk associated with entering a MODE or other specified condition in the Applicability with an inoperable DG and the provision of LCO 3.0.4.b, which allow entry into a MODE or other specified condition in the Applicability with the LCO not met after performance of a risk assessment addressing inoperable systems and components, should not be applied in this circumstance.

A.1

To ensure a highly reliable power source remains with one path inoperable, it is necessary to verify the OPERABILITY of the remaining required path on a more frequent basis. Since the Required Action only specifies “perform,” a failure of SR 3.8.1.1 acceptance criteria does not result in a Required Action not met. However, if the second path fails SR 3.8.1.1, there are no OPERABLE paths, and Condition C, for two paths inoperable, is entered.

A.2

Operation may continue in Condition A for a period that should not exceed 7 days. With one path inoperable, the reliability of the offsite system is degraded, and the potential for a loss of offsite power is increased, with attendant potential for a challenge to the unit safety systems. In this Condition, however, the remaining OPERABLE path and DGs are adequate to supply electrical power to the onsite Safeguards Distribution System.

The 7 day Completion Time takes into account the capacity and capability of the remaining AC sources, a reasonable time for repairs, and the low probability of a DBA occurring during this period.

~~The second Completion Time for Required Action A.2 establishes a limit on the maximum time allowed for any combination of required AC power sources to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition A is entered~~

BASES

ACTIONS

~~A.2 (continued)~~

~~while, for instance, a DG is inoperable and that DG is subsequently returned OPERABLE, the LCO may already have been not met for up to 14 days. This could lead to a total of 21 days, since initial failure to meet the LCO, to restore the offsite circuit. At this time, a DG could again become inoperable, the circuit restored OPERABLE, and an additional 14 days (for a total of 35 days) allowed prior to complete restoration of the LCO. The 21 day Completion Time provides a limit on the time allowed in a specified condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which Conditions A and B are entered concurrently. The "AND" connector between the 7 day and 21 day Completion Times means that both Completion Times apply simultaneously, and the more restrictive Completion Time must be met.~~

~~The Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This will result in establishing the "time zero" at the time that the LCO was initially not met, instead of at the time Condition A was entered.~~

B.1

To ensure a highly reliable power source remains with an inoperable DG, it is necessary to verify the availability of the paths on a more frequent basis. Since the Required Action only specifies "perform," a failure of SR 3.8.1.1 acceptance criteria does not result in a Required Action being not met. However, if a path fails to pass SR 3.8.1.1, it is inoperable and additional Conditions and Required Actions apply.

BASES

ACTIONS

B.3.1 and B.3.2 (continued)

According to the Maintenance Rule, 24 hours is reasonable to confirm that the OPERABLE DG is not affected by the same problem as the inoperable DG.

B.4

Operation may continue in Condition B for a period that should not exceed 14 days.

In Condition B, the remaining OPERABLE DG and paths are adequate to supply electrical power to the onsite Safeguards Distribution System. The 14 day Completion Time takes into account the capacity and capability of the remaining AC sources, a reasonable time for repairs, and the low probability of a DBA occurring during this period.

~~The second Completion Time for Required Action B.4 establishes a limit on the maximum time allowed for any combination of required AC power sources to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition B is entered while, for instance, an offsite circuit is inoperable and that circuit is subsequently restored OPERABLE, the LCO may already have been not met for up to 7 days. This could lead to a total of 21 days, since initial failure to meet the LCO, to restore the DG. At this time, an offsite circuit could again become inoperable, the DG restored OPERABLE, and an additional 7 days (for a total of 28 days) allowed prior to complete restoration of the LCO. The 21 day Completion Time provides a limit on time allowed in a specified condition after discovery of failure to meet the LCO. This limit~~

BASES

ACTIONS

~~B.4 (continued)~~

~~is considered reasonable for situations in which Conditions A and B are entered concurrently. The "AND" connector between the 14 day and 21 day Completion Times means that both Completion Times apply simultaneously, and the more restrictive Completion Time must be met.~~

~~As in Required Action B.2, the Completion Time allows for an exception to the normal "time zero" for beginning the allowed time "clock." This will result in establishing the "time zero" at the time that the LCO was initially not met, instead of at the time Condition B was entered.~~

C.1 and C.2

Required Action C.1, which applies when two paths are inoperable, is intended to provide assurance that an event with a coincident single failure will not result in a complete loss of redundant required safety functions. The Completion Time for this failure of redundant required features is 12 hours. The rationale for the 12 hours is that a Completion Time of 24 hours is allowed for two paths inoperable, based upon the assumption that two complete safety trains are OPERABLE. When a concurrent redundant required feature failure exists, this assumption is not the case, and a Completion Time of 12 hours is appropriate. These features are powered from redundant AC safety trains.

BASES

ACTIONS

A.1 (continued)

- a. The potential for decreased safety if the unit operator's attention is diverted from the evaluations and actions necessary to restore power to the affected train, to the actions associated with taking the unit to shutdown within this time limit; and
- b. The potential for an event in conjunction with a single failure of a redundant component in the train with AC power.

~~The second Completion Time for Required Action A.1 establishes a limit on the maximum time allowed for any combination of required distribution subsystems to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition A is entered while, for instance, a DC bus is inoperable and subsequently restored OPERABLE, the LCO may already have been not met for up to 2 hours. This could lead to a total of 10 hours, since initial failure of the LCO, to restore the AC distribution system. At this time, a DC circuit could again become inoperable, and AC distribution restored OPERABLE. This could continue indefinitely.~~

~~The Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This will result in establishing the "time zero" at the time the LCO was initially not met, instead of the time Condition A was entered. The 16 hour Completion Time is an acceptable limitation on this potential to fail to meet the LCO indefinitely.~~

Required Action A.1 is modified by a Note that requires the applicable Conditions and Required Actions of LCO 3.8.4, "DC Sources - Operating," to be entered for DC trains made inoperable by inoperable AC power distribution subsystems. This is an exception to LCO 3.0.6 and ensures the proper actions are taken for these components. Inoperability of a distribution system can result in loss of charging power to batteries and eventual loss of DC power. This Note ensures that the appropriate attention is given to restoring charging power to batteries, if necessary, after loss of distribution systems.

BASES

ACTIONS

B.1 (continued)

- c. The potential for an event in conjunction with a single failure of a redundant component.

~~The second Completion Time for Required Action B.1 establishes a limit on the maximum time allowed for any combination of required distribution subsystems to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition B is entered while, for instance, an AC bus is inoperable and subsequently returned OPERABLE, the LCO may already have been not met for up to 8 hours. This could lead to a total of 10 hours, since initial failure of the LCO, to restore the DC distribution system. At this time, an AC train could again become inoperable, and DC distribution restored OPERABLE. This could continue indefinitely.~~

~~This Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This will result in establishing the "time zero" at the time the LCO was initially not met, instead of the time Condition B was entered. The 16 hour Completion Time is an acceptable limitation on this potential to fail to meet the LCO indefinitely.~~

C.1

With one Reactor Protection Instrument AC panel inoperable, the remaining OPERABLE Reactor Protection Instrument AC panels are capable of supporting the minimum safety functions necessary to shut down the unit and maintain it in the safe shutdown condition. Overall reliability is reduced, however, since an additional single failure could result in the minimum ESF functions not being supported. Therefore, the required Reactor Protection Instrument AC panel must be restored to OPERABLE status within 2 hours by powering the panel from the associated inverter or inverter bypass transformer.

BASES

ACTIONS

C.1 (continued)

~~The second Completion Time for Required Action C.1 establishes a limit on the maximum allowed for any combination of required distribution subsystems to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition C is entered while, for instance, an AC bus is inoperable and subsequently returned OPERABLE, the LCO may already have been not met for up to 8 hours. This could lead to a total of 10 hours, since initial failure of the LCO, to restore the vital bus distribution system. At this time, an AC train could again become inoperable, and vital bus distribution restored OPERABLE. This could continue indefinitely.~~

~~This Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock."~~

~~This will result in establishing the "time zero" at the time the LCO was initially not met, instead of the time Condition C was entered. The 16 hour Completion Time is an acceptable limitation on this potential to fail to meet the LCO indefinitely.~~

D.1 and D.2

If the inoperable distribution subsystem cannot be restored to OPERABLE status within the required Completion Time, the unit must be brought to a MODE in which the LCO does not apply. To achieve this status, the unit must be brought to at least MODE 3 within 6 hours and to MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging plant systems.