NRC PRE-APPLICATION MEETING

PRAIRIE ISLAND TSTF-589

License Amendment Request to Adopt TSTF-589,
“Eliminate Automatic Diesel Generator Start During Shutdown”
6/22/26

AGENDA

Purpose

Technical Specification (TS) Comparison & Variations

Schedule

PURPOSE

Discuss proposed license amendment for Prairie Island Nuclear Generating Plant (PINGP) Units 1 and 2 to revise Technical Specifications (TS) to adopt TSTF-589 to eliminate TS requirements for automatic emergency diesel generator start and loading during shutdown.

TS VARIATIONS & COMPARISON

TSTF-589 TS 3.3.5 markup

3.3 INSTRUMENTATION

3.3.5 Loss of Power (LOP) Diesel Generator (DG) Start Instrumentation

LCO 3.3.5 [Three] channels per bus of the loss of voltage Function and [three] channels per bus of the degraded voltage Function shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and ~~4.~~
~~When associated DG is required to be OPERABLE by LCO 3.8.2, "AC Sources—Shutdown."~~

ACTIONS

----------NOTE----------
Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions with one channel per bus inoperable.	A.1 ----------NOTE---------- The inoperable channel may be bypassed for up to [4] hours for surveillance testing of other channels. ---------- Place channel in trip.	[6] hours [OR In accordance with the Risk Informed Completion Time Program]

Proposed PINGP TS 3.3.4 markup

3.3 INSTRUMENTATION

3.3.4 4 kV Safeguards Bus Voltage Instrumentation

LCO 3.3.4 The following 4 kV safeguards bus voltage instrumentation Functions shall be OPERABLE:

a. Four channels per bus of the undervoltage Function;

b. Four channels per bus of the degraded voltage Function; and

c. One automatic load sequencer per bus.

APPLICABILITY: MODES 1, 2, 3, and 4;
~~When associated Diesel Generator (DG) is required to be OPERABLE by LCO 3.8.2, "AC Sources-Shutdown."~~

ACTIONS

----------NOTE----------
Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ----------NOTE---------- Only applicable to Functions a and b. ---------- One or more Functions with one channel per bus inoperable.	A.1 Place channel in bypass.	6 hours

~~ACTIONS (continued)~~

~~CONDITION~~	~~REQUIRED ACTION~~	~~COMPLETION TIME~~
~~E. ----------NOTE---------- Only applicable in MODES 5 or 6. Required Action and associated Completion Time of Condition A or B not met. OR Function a or b or both with three channels per bus inoperable. OR One required automatic load sequencer inoperable.~~	~~E.1 Enter applicable Condition(s) and Required Action(s) of LCO 3.8.2, "AC Sources—Shutdown" for the DG made inoperable from inoperable 4 kV safeguards bus voltage instrumentation.~~	~~Immediately~~

TS VARIATIONS & COMPARISON (CONT)

TSTF-589 TS 3.8.2 markup

TSTF-589, Rev. 0

AC Sources - Shutdown
3.8.2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.2.1 ----------NOTE---------- The following SRs are not required to be performed: SR 3.8.1.3, SR 3.8.1.9, ~~through~~ SR 3.8.1.10~~4~~, SR 3.8.1.1~~43~~ and ~~through~~ SR 3.8.1.16~~, and [SR 3.8.1.18]~~. ---------- **The following SRs are applicable for ~~For~~** AC sources required to be OPERABLE: **SR 3.8.1.1, SR 3.8.1.2, SR 3.8.1.3, SR 3.8.1.4, SR 3.8.1.5, SR 3.8.1.6, SR 3.8.1.9, SR 3.8.1.10, SR 3.8.1.14, SR 3.8.1.16** ~~, the SRs of Specification 3.8.1, "AC Sources - Operating," except SR 3.8.1.8, SR 3.8.1.12, SR 3.8.1.17, SR 3.8.1.19, and SR 3.8.1.20, are applicable.~~	In accordance with applicable SRs

Westinghouse STS 3.8.2-3 Rev. 5.0

Proposed PINGP TS 3.8.2 markup

AC Sources – Shutdown
3.8.2

3.8 ELECTRICAL POWER SYSTEMS

3.8.2 AC Sources – Shutdown

LCO 3.8.2 The following AC electrical power sources shall be OPERABLE:

a. One path between the offsite transmission grid and the onsite 4 kV Safeguards Distribution System required by LCO 3.8.10, "Distribution Systems-Shutdown "; and

b. One diesel generator (DG) capable of supplying one train of the onsite 4 kV Safeguards Distribution System required by LCO 3.8.10.

~~----------NOTE----------~~
~~LCO 3.8.2 may not be applicable for a period of 8 hours during the performance of SR 3.8.1.10.~~
~~----------~~

APPLICABILITY: MODES 5 and 6,
During movement of irradiated fuel assemblies.

ACTIONS

----------NOTE----------
LCO 3.0.3 not applicable.

Prairie Island Units 1 and 2 3.8.2-1 Unit 1 – Amendment No. 158 Unit 2 – Amendment No. 149

AC Sources – Shutdown
3.8.2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.2.1 ----------NOTE---------- The following SRs are not required to be performed: SR 3.8.1.2, SR 3.8.1.3, ~~and~~ SR 3.8.1.7 ~~through~~ ~~SR 3.8.1.10~~. ---------- **, and SR 3.8.1.9.** ~~For AC sources required to be OPERABLE, the SRs of Specification 3.8.1, "AC Sources-Operating," are applicable.~~ **The following SRs are applicable for AC sources required to be OPERABLE: SR 3.8.1.1, SR 3.8.1.2, SR 3.8.1.3, SR 3.8.1.4, SR 3.8.1.5, SR 3.8.1.7, SR 3.8.1.9**	In accordance with applicable SRs

TS VARIATIONS & COMPARISON (CONT)

PINGP TS differ from NUREG-1431 (Westinghouse STS) Rev 5 used in TSTF-589. None of the variations affect the applicability of TSTF-589. Specific variations are as follows:

Variation 1: The PINGP TS utilize different numbering and titles than the STS on which TSTF-589 was based. Specifically, the PINGP equivalent of STS LCO 3.3.5, “Loss of Power (LOP) Diesel Generator (DG) Start Instrumentation,” is LCO 3.3.4, "4 KV Safeguards Bus Voltage Instrumentation."

Variation 2: The PINGP voltage relaying includes undervoltage and degraded voltage functions and, therefore, are not limited to loss of offsite power. These functions provide offsite source transfer in addition to DG start. Additionally, instead of the two STS LCO 3.3.5 functions of loss of voltage and degraded voltage, the PINGP LCO 3.3.4 includes three functions:

Four channels per bus undervoltage

Four channels per bus degraded voltage

One automatic load sequencer per bus

As a result, PINGP TS 3.3.4 PINGP TS Conditions and Required Actions have been modified from STS to be consistent with the PINGP logic. These differences reflect the plant-specific design, which does not include any assumed automatic start of DGs while shutdown.

(continued)

TS VARIATIONS & COMPARISON (CONT)

Variation 3: The construction of the PINGP TS LCO 3.3.4 Conditions and Required Actions reflects the addition of the automatic load sequencer function and includes modified Conditions and Required Actions, specifically:

- Condition C includes a Note that it only applies in MODES 1 through 4 and adds a condition for an inoperable load sequencer,
- Condition D includes Mode changes in the event that the Required Actions and Completion Times of Condition C are not met,
- Condition E includes a Note that it only applies in MODES 5 or 6 and adds a condition for one load sequencer inoperable. The Required Action for Condition E is to enter the applicable Conditions and Required Actions of LCO 3.8.2 for the associated DG.

These differences reflect the plant-specific design, which does not include any assumed automatic start of DGs while shutdown.

Variation 4: PINGP SR 3.8.2.1 includes SR 3.8.1.10, which differs from the STS, which does not include STS SR 3.8.1.19 (the equivalent of PINGP TS SR 3.8.1.10). PINGP TS 3.8.2 Applicablility includes a Note that LCO 3.8.2 may not be applicable for a period of 8 hours during the performance of SR 3.8.1.10 and the Note for SR 3.8.2.1 excludes SR 3.8.1.10 from needing to be performed. SR 3.8.1.10 will no longer be applicable to SR 3.8.2.1 following the adoption of the TSTF, so these differences are eliminated.

Variation 5: The PINGP TS 3.8.1 SRs differ from the STS 3.8.1 SRs as shown on the following table.

TS VARIATIONS & COMPARISON (CONT)

STS 3.8.1 SRs Compared to PINGP TS 3.8.1 SRs and Proposed Changes to PINGP TS SR 3.8.2.1

STS SR Number	PINGP TS SR Number	Changing Exception in Note?	Changing Applicability in SR 3.8.2.1 and basis if changing?
3.8.1.1	3.8.1.1	No. Not in Note.	No. Will remain applicable.
3.8.1.2	3.8.1.2	No. PINGP TS differ from STS. NSPM proposes to maintain this difference consistent with the PINGP Bases for the SR 3.8.1.2 Note.	No. Will remain applicable.
3.8.1.3	3.8.1.3	No. Will remain in Note.	No. Will remain applicable.
3.8.1.4	3.8.1.4	No. Not in Note.	No. Will remain applicable.
3.8.1.5	Not in PINGP TS	NA	NA
3.8.1.6	3.8.1.5	No. Not in Note.	No. Will remain applicable.
3.8.1.7	3.8.1.6	No. Not in Note.	Yes. Will remove applicability because there is no minimum diesel generator start time assumed during shutdown.
3.8.1.8	Not in PINGP TS	NA	NA
3.8.1.9	Not in PINGP TS	NA	NA
3.8.1.10	3.8.1.7	No. Will remain in Note.	No. Will remain applicable.
3.8.1.11	3.8.1.11	No. Not in Note.	Yes. Will remove applicability because there is no automatic diesel generator start or bus load shedding assumed during shutdown. There is no minimum diesel generator start time assumed during shutdown.
3.8.1.12	Not in PINGP TS	NA	NA
3.8.1.13	3.8.1.8	Yes. Currently in Note, but will be removed because the SR will no longer applicable with adoption of the TSTF.	Yes. Will remove applicability because the diesel generator is not assumed to start on a loss of voltage signal or safety injection actuation signal during shutdown.
3.8.1.14	3.8.1.9	No. Will remain in Note.	No. Will remain applicable.
3.8.1.15	Not in PINGP TS	NA	NA
3.8.1.16	Not in PINGP TS	NA	NA
3.8.1.17	Not in PINGP TS	NA	NA
3.8.1.18	Not in PINGP TS	NA	NA
3.8.1.19	3.8.1.10	Yes. Currently in Note, but will be removed because the SR will no longer applicable with adoption of the TSTF.	Yes. Will remove applicability because the safety injection actuation signal is not required to be operable during shutdown.
3.8.1.20	Not in PINGP TS	NA	NA

SCHEDULE

NSPM plans to submit the LAR by September 25, 2026, with implementation within 90 days of approval.