TENNESSEE VALLEY AUTHORITY

License Amendment Request

Rebaseline Watts Bar
Technical Specifications Sections 3.4, 3.7, and 3.9

February 3, 2025

Agenda

- Background
- TVA Self Assessment
- Solution
- TS Section 3.4, 3.7, and 3.9 Rebaseline
- LAR Schedule

Background

- Watts Bar Unit 1 received its Operating License on 2/7/1996.
- Watts Bar Unit 2 received its Operating License on 10/22/2015
- Both unit Technical Specifications (TS) are based on NUREG-1431 Revision 0, issued on 9/28/1992
- Few TSTF travelers were adopted for Unit 1 to maintain TS consistency with eventual licensing of Unit 2.
- NRC issued Amendments 170/76 on 12/17/2024 (ML24285A207) which revised TS 3.1 and 3.2 to adopt 13 TSTF travelers

TVA Self Assessment

- TVA performed a self assessment of the remaining unadopted TSTF travelers for WBN.
- There are 108 remaining TSTF Travelers that have not been adopted by WBN.
- Of these 108 TSTF travelers, approximately 60 were determined to be beneficial to be adopted for WBN and are grouped as shown on the next page:

TVA Self Assessment

- TS Chapters 1, 3.06, and 5 (11 Travelers) (TSTFs 19, 18, 166, 233[1], 273, 284, 362, 374, 419, 475, and 485)
- TS 3.3 (9 Travelers) (TSTFs 36[1], 37[1], 161, 169, 242, 246, 286, 347, 371)
- TS 3.5 (4 Travelers) (TSTFs 90, 117, 233[1], 325) and TS 3.4.11 (TSTFs 247 and 309)
- TS 3.6 (3 Travelers) (TSTFs 30, 46, 207)
- TS 3.7 (8 Travelers) (TSTFs 20, 36[1], 140, 245, 289, 340, 352[1], 412, 491)
- TS 3.8 (10 Travelers) (TSTFs 2, 16, 36[1], 37[1], 163, 253, 283, 286[1], 400, and 433)
- TS 3.4 and 3.9 (17 Travelers) (TSTFs 26, 27, 87, 96, 116, 197, 233[1], 263, 265, 272, 280, 286[1], 309, 349, 352[1], 361, and 438)

[1]Affects multiple TSs

TVA Self Assessment

TVA is grouping these unadopted TSTF travelers as follows:

- LAR #1 (TS Chapters 1, 3.06, and 5) - total of 11 travelers (includes TS 1.1 portion of TSTF 233)
- LAR #2 (TS 3.3) – total of 9 travelers (includes TS 3.3 portion of TSTFs 36, 37, and 286)
- LAR #3 (TS 3.4.11, 3.5, 3.6, 3.7) – total of 15 travelers (includes TS 3.7 portions of TSTF 36, TSTF-309 revision to TS 3.4.11, and TS 3.5 portion of TSTF-233) (TSTF-352 is included in LAR #5)
- LAR #4 (TS 3.8) – total of 10 travelers (includes TS 3.8 portion of TSTFs 36, 37, and 286)
- LAR #5 [TS 3.4, 3.7 (TSTF-352), and 3.9] – total of 17 travelers (includes TS 3.4 and 3.9 portions of TSTF 286)

TVA Self Assessment

- LARs #1, #2, #3, and #4 are impacted by the WBN LAR to adopt TSTF 505, “Provide Risk-Informed Extended Completion Times - RITSTF Initiative 4b,” which was submitted to the NRC on by December 27, 2024 (ML24362A110).
- Because TSTF 505 will affect most of the same Tech Specs in these LARs, delaying LARs #1, #2, #3, and #4 until after TSTF-505 will avoid potential linked submittals.
- LAR #5 (TS 3.4 and 3.9) is not affected by TSTF-505 and is the subject of this pre-submittal meeting.

Solution

To reduce the backlog of unadopted TSTF travelers, TVA is “rebaselining” discrete sections of the TS:

- Multiple travelers affecting common sections of the TS will be included in a bundled License Amendment Request (LAR).
- Each traveler will have its own section in the LAR with identical subsections.
- TS markups will be color coded for the effects of each traveler.

TS Section 3.4, 3.7, & 3.9 Rebaseline

As noted, this LAR will be the rebaseline of TS Sections 3.4 and 3.9, and will adopt 17 travelers:

- TSTF-26-A, Revision 0, “Revise the Action for Minimum Temperature for Criticality to match the Applicability ”
- TSTF-27-A, Revision 3 – “Revise SR frequency for Minimum Temperature for Criticality ”
- TSTF-87-A, Revision 2 – “Revise ‘RTBs open’ & ‘CRDM de-energized’ Actions to ‘incapable of rod withdrawal ’”
- TSTF-96-A, Revision 1 – “Delete the initial performance of the boron concentration measurement with no source range detectors ”
- TSTF 116-A, Revision 2 – “RCS Inventory Balance SR: Steady State Clarification ”
- TSTF-197-A, Revision 2 – “Require containment closure when shutdown cooling requirements are not met ”
- TSTF-233-A, Rev 0 – “Relocate LTOP Arming Temperature to PTLR (except for Technical Specification [TS] 1.1) ”
- TSTF-263-A, Revision 3 – “Correct usage of ‘required’ components and base ACTIONS on inoperable required equipment ”

TS Section 3.4, 3.7, & 3.9 Rebaseline (continued)

- TSTF-265-A, Revision 2 – “Clarify 3.4 ‘non-operating loop’ SRs ”
- TSTF-272-A, Revision 1 – “Refueling Boron Concentration Clarification ”
- TSTF-280-A, Revision 1 – “Exempt SRs on LTOP equipment not used to satisfy the LCO ”
- TSTF-286-A, Revision 2 (TS 3.4 and 3.9 only) – “Define ‘Operations Involving Positive Reactivity Additions’" [includes TS 3.4 and 3.9 portions of TSTF 286, remaining TS changes will be in a separate license amendment request(LAR)]
- TSTF-309-A, Revision 2 – “Revise Pressurizer PORV Actions to not require cycling of block valve when closed for isolation”
- TSTF-349-A, Revision 1 – “Add Note to LCO 3.9.5 Allowing Shutdown Cooling Loops Removal from Operation ”
- TSTF-352-A, Revision 1 – “Provide Consistent Completion Time to Reach MODE 4 ”

TS Section 3.4, 3.7, & 3.9 Rebaseline (continued)

- TSTF-361-A, Revision 2 – “Allow standby SDC/RHR/DHR loop to inoperable to support testing ”
- TSTF-438-A, Revision 0 – “Clarify Exception Notes to be Consistent with the Requirement Being Excepted ”

TS Section 3.4, 3.7, & 3.9 Rebaseline (continued)

Subsections for each traveler:

- Description of Proposed Change – includes a statement that TVA has reviewed the approved traveler and has determined that it is applicable to WBN.
- Differences Between the Proposed Change and the Approved Traveler - this topic describes differences between the changes proposed to the WBN TS and the STS mark ups provided in the approved traveler.
- Summary of the Approved Traveler Justification - this topic summarizes the justification utilized by the NRC when approving the traveler.
- Differences Between the Plant-Specific Justification and the Approved Traveler Justification - This topic describes any differences between the traveler justification utilized by the NRC when approving the traveler and the justification for adopting the traveler in the WBN TS.

TS Section 3.4, 3.7, & 3.9 Rebaseline (continued)

Subsections for each traveler:

- NRC Approval - this topic describes NRC approval of the traveler, including any NRC approval letters, as applicable.
- List of Affected Pages - this topic lists the WBN TS and TS Bases pages affected by the adoption of this traveler.
- Regulatory Analysis - this topic cites applicable regulatory criteria, any relevant precedent, and provides an evaluation of whether, or not, a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment."

TS Section 3.4, 3.7, & 3.9 Rebaseline (continued)

LAR will affect the following TS:

- TS 3.4.2 RCS Minimum Temperature for Criticality
- TS 3.4.5 RCS Loops - MODE 3
- TS 3.4.6 RCS Loops - MODE 4
- TS 3.4.7 RCS Loops - MODE 5, Loops Filled
- TS 3.4.8 RCS Loops - MODE 5, Loops Not Filled
- TS 3.4.9 Pressurizer
- TS 3.4.10 Pressurizer Safety Valves
- TS 3.4.12 Cold Overpressure Mitigation System (COMS)
- TS 3.4.15 RCS Leakage Detection Instrumentation
- TS 3.7.4 Atmospheric Dump Valves (ADVs)

TS Section 3.4, 3.7, & 3.9 Rebaseline (continued)

LAR will affect the following TS:

- TS 3.9.1 Boron Concentration
- TS 3.9.3 Nuclear Instrumentation
- TS 3.9.5 Residual Heat Removal (RHR) and Coolant Circulation - High Water Level
- TS 3.9.6 Residual Heat Removal (RHR) and Coolant Circulation – Low Water Level

TS Section 3.4, 3.7, & 3.9 Rebaseline (continued)

See attached TS markups for WBN Unit 1, similar changes for WBN Unit 2

Green TSTF-26, Rev. 0
Red TSTF-27, Rev. 3

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.2 RCS Minimum Temperature for Criticality

LCO 3.4.2 Each RCS loop average temperature (T_{avg}) shall be $\geq$ 551°F.

APPLICABILITY: MODE 1,
MODE 2 with $k_{eff} \geq 1.0$.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. T_{avg} in one or more RCS loops not within limit.	A.1 Be in MODE ~~3~~2 with $k_{eff} < 1.0$.	30 minutes

Green TSTF-26, Rev. 0
Red TSTF-27, Rev. 3

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.2.1	Verify RCS T_{avg} in each loop $\geq$ 551°F.	~~NOTE~~ ~~Only required if T_{avg} - T_{ref} deviation alarm not reset and any RCS loop T_{avg} < 561°F~~ In accordance with the Surveillance Frequency Control Program

Grey TSTF-438-A, Rev 0 Red TSTF-87-A Rev 2 Blue TSTF-263, Rev 3 Orange TSTF-265 Rev 2 Purple TSTF-286, Rev 2

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.5 RCS Loops - MODE 3

LCO 3.4.5 Two RCS loops shall be OPERABLE, and either:

a. Two RCS loops shall be in operation when the Rod Control System is capable of rod withdrawal; or

b. One RCS loop shall be in operation when the Rod Control System is not capable of rod withdrawal.

----------NOTE----------
All reactor coolant pumps may be ~~de-energized~~removed ~~from~~ operation for ≤ 1 hour per 8 hour period provided:

a. No operations are permitted that would cause ~~reduction of the RCS boron concentration;~~ introduction of coolant into the RCS with boron concentration less than required to meet the SDM of LCO 3.1.1 "SHUTDOWN MARGIN (SDM)"; and

b. Core outlet temperature is maintained at least 10°F below saturation temperature.

APPLICABILITY: MODE 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required RCS loop inoperable.	A.1 Restore required RCS loop to OPERABLE status.	72 hours
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 4.	12 hours

(continued)

Grey TSTF-438-A, Rev 0 Red TSTF-87-A Rev 2 Blue TSTF-263, Rev 3 Orange TSTF-265 Rev 2 Purple TSTF-286, Rev 2

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. One required RCS loop not in operation with~~, and reactor trip breakers closed and~~ Rod Control System capable of rod withdrawal.	C.1 Restore required RCS loop to operation. OR C.2 ~~De-energize all control rod drive mechanisms (CRDMs).~~Place the Rod Control System in a condition incapable of rod withdrawal.	1 hour 1 hour
D. Two required ~~All~~ RCS loops inoperable. OR Required ~~No~~ RCS loop(s) not in operation.	D.1 ~~De-energize all CRDMs~~Place the Rod Control System in a condition incapable of rod withdrawal. AND D.2 Suspend ~~all operations involving a reduction of RCS boron concentration~~operations that would cause introduction of coolant into the RCS with boron concentration less than required to meet SDM of LCO 3.1.1. AND D.3 Initiate action to restore one RCS loop to OPERABLE status and operation.	Immediately Immediately Immediately

(continued)

Grey TSTF-438-A, Rev 0 Red TSTF-87-A Rev 2 Blue TSTF-263, Rev 3 Orange TSTF-265 Rev 2 Purple TSTF-286, Rev 2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.5.1	Verify required RCS loops are in operation.	In accordance with the Surveillance Frequency Control Program
SR 3.4.5.2	Verify steam generator secondary side water levels are greater than or equal to 32% narrow range for required RCS loops.	In accordance with the Surveillance Frequency Control Program
SR 3.4.5.3	----------NOTE---------- Not required to be performed until 24 hours after a required pump is not in operation. ---------- Verify correct breaker alignment and indicated power are available to each~~the~~ required pump ~~that is not in operation~~.	In accordance with the Surveillance Frequency Control Program

Green - conformance with STS and TSTF-263
Blue TSTF-263, Rev 3 Orange TSTF-265 Rev 2, Purple TSTF-286, Rev 2 Red TSTF 233 Rev 0

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.6 RCS Loops - MODE 4

LCO 3.4.6 Two loops shall be OPERABLE, and consist of either:

a. Any combination of RCS loops and residual heat removal (RHR) loops, and one loop shall be in operation, when the rod control system is not capable of rod withdrawal; or

b. Two RCS loops, and both loops shall be in operation, when the rod control system is capable of rod withdrawal.

----------NOTES----------

1. No RCP shall be started with any RCS cold leg temperature ~~≤ 350ºF~~ less than or equal to the COMS arming temperature specified in the PTLR unless the secondary side water temperature of each steam generator (SG) is ≤ 50°F above each of the RCS cold leg temperatures.

2. For the initial 7 hours after entry into MODE 3 from MODE 1 or MODE 2, two loops shall consist of:

   a. Two RCS loops with one loop in operation when the rod control system is not capable of rod withdrawal; or

   b. Two RCS loops with both loops in operation when the rod control system is capable of rod withdrawal.

3. Average reactor coolant temperature shall be maintained > 200ºF for the initial 7 hours after entry into MODE 3 from MODE 1 or MODE 2.

APPLICABILITY: MODE 4.

Green - conformance with STS and TSTF-263
Blue TSTF-263, Rev 3 Orange TSTF-265 Rev 2, Purple TSTF-286, Rev 2 Red TSTF 233 Rev 0

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ~~Only~~ ~~o~~One required ~~RCS~~ loop OPERABLE. ~~AND~~ ~~Two RHR loops inoperable.~~ ~~OR~~ ~~Less than 7 hours since entry into MODE 3 from MODE 1 or MODE 2.~~	A.1 Initiate action to restore a second required RCS or RHR loop to OPERABLE status. AND A,2 ----------NOTE---------- Only required if RHR loop is OPERABLE. ---------- Be in MODE 5.	Immediately 24 hours
~~B. One required RHR loop inoperable.~~ ~~AND~~ ~~No RCS loops OPERABLE.~~	~~B.1 Be in MODE 5.~~	~~24 hours~~
~~C~~B. One required RCS loop not in operation, and reactor trip breakers closed and Rod Control System capable of rod withdrawal.	B~~C~~.1 Restore required RCS loop to operation. OR B~~C~~.2 De-energize all control rod drive mechanisms (CRDMs).	1 hour 1 hour
~~D~~C. Two ~~R~~required ~~RCS or RHR~~ loops inoperable. OR ~~NO r~~Required ~~RCS or RHR~~ loop not in operation.	~~D.1 De-energize all CRDMs.~~ ~~AND~~ ~~D.2~~C.1 Suspend ~~all~~ operations ~~involving a reduction of RCS boron concentration~~that would cause introduction of coolant into the RCS with boron concentration less than required to meet SDM of LCO 3.1.1. AND	~~Immediately~~ Immediately (continued)

Green - conformance with STS and TSTF-263
Blue TSTF-263, Rev 3 Orange TSTF-265 Rev 2, Purple TSTF-286, Rev 2 Red TSTF 233 Rev 0

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. (continued)	~~D.3~~C.2 Initiate action to restore one required loop to OPERABLE status and operation.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.6.1	Verify two RCS loop are in operation when the rod control system is capable of rod withdrawal.	In accordance with the Surveillance Frequency Control Program
SR 3.4.6.2	Verify ~~one~~ required RHR or RCS loop is in operation when the rod control system is not capable of rod withdrawal.	In accordance with the Surveillance Frequency Control Program
SR 3.4.6.3	Verify SG secondary side water levels are greater than or equal to 32% narrow range for required RCS loops.	In accordance with the Surveillance Frequency Control Program
SR 3.4.6.4	----------NOTE---------- Not required to be performed until 24 hours after a required pump is not in operation. ---------- Verify correct breaker alignment and indicated power are available to each~~the~~ required pump ~~that is not in operation~~.	In accordance with the Surveillance Frequency Control Program

Blue TSTF-263, Rev 3 Orange TSTF-265 Rev 2 Purple TSTF-286, Rev 2, Red TSTF 233 Rev 0

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.7 RCS Loops - MODE 5, Loops Filled

LCO 3.4.7 One residual heat removal (RHR) loop shall be OPERABLE and in operation, and either:

a. One additional RHR loop shall be OPERABLE; or

b. The secondary side water level of at least two steam generators (SGs) shall be greater than or equal to 32% narrow range.

----------NOTES----------

1. One required RHR loop may be inoperable for up to 2 hours for surveillance testing provided that the other RHR loop is OPERABLE and in operation.

2. No reactor coolant pump shall be started with one or more RCS cold leg temperatures less than or equal to ~~350°F~~the COMS arming temperature specified in the PTLR unless the secondary side water temperature of each SG is less than or equal to 50°F above each of the RCS cold leg temperatures.

3. All RHR loops may be removed from operation during planned heatup to MODE 4 when at least one RCS loop is in operation.

APPLICABILITY: MODE 5 with RCS loops filled.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required RHR loop inoperable. AND One RHR loop OPERABLE~~Required SGs secondary side water levels not within limits~~.	A.1 Initiate action to restore a second RHR loop to OPERABLE status. OR A.2 Initiate action to restore required SGs secondary side water levels to within limits.	Immediately Immediately

(continued)

Blue TSTF-263, Rev 3 Orange TSTF-265 Rev 2 Purple TSTF-286, Rev 2, Red TSTF 233 Rev 0

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One or more required SGs with secondary side water level not within limit. AND One RHR loop OPERABLE.	B.1 Initiate action to restore one RHR loop to OPERABLE status. AND B.2 Initiate action to restore required SGs secondary side water level to within limit.	Immediately Immediately
~~B~~C. No ~~R~~required RHR loops OPERABLE~~inoperable~~. OR Required ~~No~~ RHR loop not in operation.	~~B~~C.1 Suspend ~~all~~ operations ~~involving a reduction of RCS boron concentration~~that would cause introduction of coolant into the RCS with boron concentration less than required to meet SDM of LCO 3.1.1. AND ~~B~~C.2 Initiate action to restore one RHR loop to OPERABLE status and operation.	Immediately Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.7.1 Verify ~~one~~required RHR loop is in operation.	In accordance with the Surveillance Frequency Control Program

(continued)

Blue TSTF-263, Rev 3 Orange TSTF-265 Rev 2 Purple TSTF-286, Rev 2, Red TSTF 233 Rev 0

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.4.7.2	Verify SG secondary side water level is greater than or equal to 32% narrow range in required SGs.	In accordance with the Surveillance Frequency Control Program
SR 3.4.7.3	----------NOTE---------- Not required to be performed until 24 hours after a required pump is not in operation. ---------- Verify correct breaker alignment and indicated power are available to each ~~the~~ required RHR pump ~~that is not in operation~~.	In accordance with the Surveillance Frequency Control Program

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.8 RCS Loops - MODE 5, Loops Not Filled

LCO 3.4.8 Two residual heat removal (RHR) loops shall be OPERABLE and one RHR loop shall be in operation.

----------NOTES----------

1. All RHR pumps may be ~~de-energized~~removed from operation for ≤ 15 minutes when switching from one loop to another provided:
   a. The core outlet temperature is maintained > 10°F below saturation temperature.
   b. No operations are permitted that would cause ~~a reduction of the RCS boron concentration~~introduction of coolant into the RCS with boron concentration less than required to meet the SDM of LCO 3.1.1; and
   c. No draining operations to further reduce the RCS water volume are permitted.
2. One RHR loop may be inoperable for ≤ 2 hours for surveillance testing provided that the other RHR loop is OPERABLE and in operation.

APPLICABILITY: MODE 5 with RCS loops not filled.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required RHR loop inoperable.	A.1 Initiate action to restore RHR loop to OPERABLE status.	Immediately

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. No ~~R~~required RHR loop~~s~~ in~~OPERABLE~~. OR ~~No~~ Required RHR loop not in operation.	B.1 Suspend ~~all~~ operations~~involving reduction in RCS boron concentration~~that would cause introduction of coolant into the RCS with boron concentration less than required to meet SDM of LCO 3.1.1. AND B.2 Initiate action to restore one RHR loop to OPERABLE status and operation.	Immediately Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.8.1	Verify ~~one~~required RHR loop is in operation.	In accordance with the Surveillance Frequency Control Program
SR 3.4.8.2	----------NOTE---------- Not required to be performed until 24 hours after a required pump is not in operation. ---------- Verify correct breaker alignment and indicated power are available to ~~each~~the required RHR pump~~that is not in operation~~.	In accordance with the Surveillance Frequency Control Program

Red TSTF-87-A, Rev 2

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.9 Pressurizer

LCO 3.4.9 The pressurizer shall be OPERABLE with:

a. Pressurizer water level ≤ 92%; and

b. Two groups of pressurizer heaters OPERABLE with the capacity of each group ≥ 150 kW.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Pressurizer water level not within limit.	A.1 Be in MODE 3 ~~with reactor trip breakers open~~.	6 hours
	AND	
	A.2 Fully insert all rods.	6 hours
	AND	
	A.3 Place Rod Control System in a condition incapable of rod withdrawal.	6 hours
	AND	
	A.~~2~~4 Be in MODE 4.	12 hours
B. One required group of pressurizer heaters inoperable.	B.1 Restore required group of pressurizer heaters to OPERABLE status.	72 hours
C. Required Action and associated Completion Time of Condition B not met.	C.1 Be in MODE 3.	6 hours
	AND	
	C.2 Be in MODE 4.	12 hours

Green TSTF 233 Rev 0 and the WBN Unit 2 TS and STS

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.10 Pressurizer Safety Valves

LCO 3.4.10 Three pressurizer safety valves shall be OPERABLE with lift settings ≥ 2410 psig and ≤ 2560 psig.

APPLICABILITY: MODES 1, 2, and 3.
MODE 4 with all RCS cold leg temperatures greater than the COMS arming temperature specified in the PTLR.

----------NOTE----------
The lift settings are not required to be within the LCO limits during MODE 3 and MODE 4 with all RCS cold leg temperatures greater than the COMS arming temperature specified in the PTLR for the purpose of setting the pressurizer safety valves under ambient (hot) conditions. This exception is allowed for 54 hours following entry into MODE 3 provided a preliminary cold setting was made prior to heatup.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	One pressurizer safety valve inoperable.	A.1	Restore valve to OPERABLE status.	15 minutes
B.	Required Action and associated Completion Time not met. OR Two or more pressurizer safety valves inoperable.	B.1 AND B.2	Be in MODE 3. Be in MODE 4 with any RCS cold leg temperature less than or equal to the COMS arming temperature specified in the PTLR.	6 hours 12 hours

Red TSTF-280 Rev 1 Blue TSTF-352-A Rev 1, Green TSTF 233 Rev 0 and the WBN Unit 2 TS and STS

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.12 Cold Overpressure Mitigation System (COMS)

LCO 3.4.12 A COMS System shall be OPERABLE with a maximum of one charging pump and no safety injection pump capable of injecting into the RCS and the accumulators isolated and ~~either a or b below~~one of the following pressure relief capabilities:~~.~~

a. ~~Two RCS relief valves, as follows:~~

~~1.~~ Two power operated relief valves (PORVs) with lift settings within the limits specified in the PTLR, or

~~2~~b. One PORV with a lift setting within the limits specified in the PTLR and the RHR suction relief valve with a setpoint ≥ 436.5 psig and ≤ 463.5 psig.

~~b~~c. The RCS depressurized and an RCS vent capable of relieving > 475 gpm water flow.

----------NOTES----------

1. Two charging pumps may be made capable of injecting for less than or equal to one hour for pump swap operations.

2. Accumulator may be unisolated when accumulator pressure is less than the maximum RCS Pressure for the existing RCS cold leg temperature allowed by the P/T limit curves provided in the PTLR.

3. One safety injection pump and one charging pump may be capable of injecting into the RCS for the purpose of testing in MODE 5 or MODE 6 when the reactor vessel head is on, provided the pressurizer manway cover is removed to provide a vent path for adequate pressure relief.

APPLICABILITY: MODES 4 with any RCS cold leg temperature ≤ COMS arming temperature specified in the PTLR,
~~and~~MODE 5,
MODE 6 when the reactor vessel head is on.

Red TSTF-280 Rev 1 Blue TSTF-352-A Rev 1, Green TSTF 233 Rev 0 and the WBN Unit 2 TS and STS

ACTIONS (continued)

CONDITION		REQUIRED ACTION		COMPLETION TIME
D.	Required Action and associated Completion Time of Condition C not met.	D.1	Increase RCS cold leg temperature to ~~> 350°F~~greater than the COMS arming temperature specified in the PTLR. OR D.2 Depressurize affected accumulator to less than the maximum RCS pressure for existing cold leg temperature allowed in the PTLR.	12 hours 12 hours
E.	One required RCS relief valve inoperable in MODE 4.	E.1	Restore required RCS relief valve to OPERABLE status.	7 days
F.	One required RCS relief valve inoperable in MODE 5 or 6.	F.1	Restore required RCS relief valve to OPERABLE status.	24 hours
G.	Two required RCS relief valves inoperable. OR Required Action and associated Completion Time of Condition A, B, D, E, or F not met. OR COMS inoperable for any reason other than Condition A, B, C, D, E, or F.	G.1	Depressurize RCS and establish RCS vent.	~~8~~12 hours

Red TSTF-280 Rev 1 Blue TSTF-352-A Rev 1, Green TSTF 233 Rev 0 and the WBN Unit 2 TS and STS

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.4.12.4	~~----------NOTE----------~~ ~~Only required to be performed when complying with LCO 3.4.12.b.~~ ~~----------~~ Verify required RCS vent open.	In accordance with the Surveillance Frequency Control Program
SR 3.4.12.5	Verify PORV block valve is open for each required PORV.	In accordance with the Surveillance Frequency Control Program
SR 3.4.12.6	Verify both RHR suction isolation valves are locked open with operator power removed for the required RHR suction relief valve.	In accordance with the Surveillance Frequency Control Program
SR 3.4.12.7	----------NOTE---------- Not r~~R~~equired to be ~~met~~performed until~~within~~ 12 hours after decreasing RCS cold leg temperature to ~~≤less than or equal to~~ ~~the~~ COMS arming temperature specified in the PTLR. ---------- Perform a COT on each required PORV, excluding actuation.	In accordance with the Surveillance Frequency Control Program
SR 3.4.12.8	Perform CHANNEL CALIBRATION for each required PORV actuation channel.	In accordance with the Surveillance Frequency Control Program

Red TSTF-116-A, Rev 2

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.15 RCS Leakage Detection Instrumentation

LCO 3.4.15 The following RCS leakage detection instrumentation shall be OPERABLE:

a. One containment pocket sump level monitor; and

b. One lower containment atmosphere particulate radioactivity monitor.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Required containment pocket sump level monitor inoperable.	A.1 ----------NOTE---------- Not required until 12 hours after establishment of steady state operation. ----------	
	Perform SR 3.4.13.1.	Once per 24 hours
	AND	
	A.2 Restore required containment pocket sump level monitor to OPERABLE status.	30 days

(continued)

Red TSTF-116-A, Rev 2

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required containment atmosphere particulate radioactivity monitor inoperable.	B.1.1 Analyze grab samples of the containment atmosphere. OR B.1.2 ----------NOTE---------- Not required until 12 hours after establishment of steady state operation. ---------- Perform SR 3.4.13.1. AND B.2 Restore required containment atmosphere particulate radioactivity monitor to OPERABLE status.	Once per 24 hours Once per 24 hours 30 days
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3. AND C.2 Be in MODE 5.	6 hours 36 hours
D. All required monitors inoperable.	D.1 Enter LCO 3.0.3.	Immediately

Blue TSTF-352-A Rev 1

3.7 PLANT SYSTEMS

3.7.4 Atmospheric Dump Valves (ADVs)

LCO 3.7.4 Four ADV lines shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3,
MODE 4 when steam generator is relied upon for heat removal.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	One required ADV line inoperable.	A.1	Restore required ADV line to OPERABLE status.	7 days
B.	One train (two ADV lines) inoperable due to one train of ACAS inoperable.	B.1	Restore ADV lines to OPERABLE status.	72 hours
C.	Two or more required ADV lines inoperable for reasons other than Condition B.	C.1	Restore all but one ADV line to OPERABLE status.	24 hours
D.	Required Action and associated Completion Time not met.	D.1	Be in MODE 3.	6 hours
		AND		
		D.2	Be in MODE 4 without reliance upon steam generator for heat removal.	~~18~~24 hours

Green – TSTF-272-A, Rev 1

3.9 REFUELING OPERATIONS

3.9.1 Boron Concentration

LCO 3.9.1 Boron concentrations of the Reactor Coolant System, the refueling canal, and the refueling cavity shall be maintained within the limit specified in the COLR.

APPLICABILITY: MODE 6.

----------NOTE----------
Only applicable to the refueling canal and refueling cavity when connected to the RCS.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Boron concentration not within limit.	A.1 Suspend CORE ALTERATIONS. AND A.2 Suspend positive reactivity additions. AND A.3 Initiate action to restore boron concentration to within limit.	Immediately Immediately Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.1.1	Verify boron concentration is within the limit specified in COLR.	In accordance with the Surveillance Frequency Control Program

Red TSTF-96-A Rev 1
Purple TSTF-286-A Rev 2

3.9 REFUELING OPERATIONS

3.9.3 Nuclear Instrumentation

LCO 3.9.3 Two source range neutron flux monitors shall be OPERABLE.

APPLICABILITY: MODE 6.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required source range neutron flux monitor inoperable.	A.1 Suspend CORE ALTERATIONS. AND	Immediately
	A.2 ~~Suspend positive reactivity additions~~.Suspend operations that would cause introduction of coolant into the RCS with boron concentration less than required to meet the boron concentration of LCO 3.9.1.	Immediately
B. Two required source range neutron flux monitors inoperable.	B.1 Initiate action to restore one source range neutron flux monitor to OPERABLE status. AND	Immediately
	B.2 Perform SR 3.9.1.1.	~~4 hours~~ ~~AND~~ Once per 12 hours ~~thereafter~~

Blue – TSTF-197-A, Rev 2
Purple TSTF-286-A Rev 2

3.9 REFUELING OPERATIONS

3.9.5 Residual Heat Removal (RHR) and Coolant Circulation - High Water Level

LCO 3.9.5 One RHR loop shall be OPERABLE and in operation.

---NOTE---
The required RHR loop may be removed from operation for ≤ 1 hour per 8 hour period, provided no operations are permitted that would cause ~~reduction~~ introduction of coolant into the Reactor Coolant System with boron concentration less than that required to meet the minimum required boron concentration of LCO 3.9.1, "Boron Concentration."

APPLICABILITY: MODE 6 with the water level ≥ 23 ft above the top of reactor vessel flange.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. RHR loop requirements not met.	A.1 Suspend operations ~~involving a reduction in reactor coolant boron concentration~~that would cause introduction of coolant into the RCS with boron concentration less than required to meet the boron concentration of LCO 3.9.1.	Immediately
	AND	
	A.2 Suspend loading irradiated fuel assemblies in the core.	Immediately
	AND	
	A.3 Initiate action to satisfy RHR loop requirements.	Immediately
	AND	
		(continued)

Blue – TSTF-197-A, Rev 2
Purple TSTF-286-A Rev 2

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.4 ~~Close all containment penetrations providing direct access from containment atmosphere to outside atmosphere.~~Close equipment hatch and secure with four bolts. AND A.5 Close one door in each air lock. AND A.6.1 Close each penetration providing direct access from the containment atmosphere to the outside atmosphere with a manual or automatic isolation valve, blind flange, or equivalent. OR A.6.2 Verify each penetration is capable of being closed by an OPERABLE automatic Containment Ventilation isolation valve.	4 hours 4 hours 4 hours 4 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.5.1	Verify one RHR loop is in operation and circulating reactor coolant at a flow rate of ≥ 2000 gpm.	In accordance with the Surveillance Frequency Control Program

Blue – TSTF-197-A, Rev 2 Purple TSTF-286-A Rev 2 Orange TSTF 349- Rev 1, Brown TSTF 361-A, Rev 2 Grey TSTF-438 Rev 0

3.9 REFUELING OPERATIONS

3.9.6 Residual Heat Removal (RHR) and Coolant Circulation - Low Water Level

LCO 3.9.6 Two RHR loops shall be OPERABLE, and one RHR loop shall be in operation.

----------NOTES----------

1. All RHR pumps may be removed from operation for ≤ 15 minutes when switching from one train to another provided:
   a. The core outlet temperature is maintained > 10 degrees F below saturation temperature;
   b. No operations are permitted that would cause introduction of coolant into the Reactor Coolant System (RCS) with boron concentration less than that required to meet the minimum required boron concentration of LCO 3.9.1; and
   c. No draining operations to further reduce RCS water volume are permitted.
2. One required RHR loop may be inoperable for up to 2 hours for surveillance testing, provided that the other RHR loop is OPERABLE and in operation.

APPLICABILITY: MODE 6 with the water level < 23 ft above the top of reactor vessel flange.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Less than the required number of RHR loops OPERABLE.	A.1 Initiate action to restore required RHR loops to OPERABLE status. OR A.2 Initiate action to establish ≥ 23 ft of water above the top of reactor vessel flange.	Immediately Immediately

(continued)

Blue – TSTF-197-A, Rev 2 Purple TSTF-286-A Rev 2 Orange TSTF 349- Rev 1, Brown TSTF 361-A, Rev 2
Grey TSTF-438 Rev 0

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. No RHR loop in operation.	B.1 Suspend operations ~~involving a reduction in reactor coolant boron concentration~~that would cause introduction of coolant into the RCS with boron concentration less than required to meet the boron concentration of LCO 3.9.1.	Immediately
	AND	
	B.2 Initiate action to restore one RHR loop to operation.	Immediately
	AND	
	B.3 ~~Close all containment penetrations providing direct access from containment atmosphere to outside atmosphere.~~B.3 Close equipment hatch and secure with four bolts.	4 hours
	AND	
	B.4 Close one door in each air lock.	4 hours
	AND	
	B.5.1 Close each penetration providing direct access from the containment atmosphere to the outside atmosphere with a manual or automatic isolation valve, blind flange, or equivalent.	4 hours
	OR	
	B.5.2 Verify each penetration is capable of being closed by an OPERABLE automatic Containment Ventilation isolation valve.	4 hours

Precedent

- As previously mentioned, the format and content of this LAR is consistent with the NRC issued Amendments 170/76 on 12/17/2024 (ML24285A207) which revised TS 3.1 and 3.2 to adopt 13 TSTF travelers.
- Precedents for other utility LARs for the individual TSTFs are identified in the respective sections of the LAR. For example, NRC Amendments 297/293 for Catawba Nuclear Station, Units 1 and 2, dated January 4, 2018 (ML17296A208) which, in part, adopted TSTFs 197, 349, 352, 361, and 438.

LAR Schedule

- Projected submittal by March 14, 2025, with a requested approval within one year
- A 180-day implementation period is proposed