



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

September 29, 2022

Mr. James Barstow
Vice President, Nuclear Regulatory Affairs
and Support Services
Tennessee Valley Authority
1101 Market Street, LP 4A-C
Chattanooga, TN 37402-2801

SUBJECT: SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2 – CORRECTION TO
AMENDMENT NOS. 358 AND 352 REGARDING TECHNICAL
SPECIFICATIONS TASK FORCE TRAVELER TSTF-505, REVISION 2,
“PROVIDE RISK-INFORMED EXTENDED COMPLETION TIMES –
RITSTF INITIATIVE 4B” (EPID L-2021-LLA-0145)

Dear Mr. Barstow:

By letter dated August 24, 2022 (ADAMS Accession No. ML22210A118), the U.S. Nuclear Regulatory Commission (NRC) issued Amendment Nos. 358 and 352 to Renewed Facility Operating License (RFOL) Nos. DPR-77 and DPR-79 for the Sequoyah Nuclear Plant, Units 1 and 2. The amendments modified technical specifications to permit the use of risk-informed completion times in accordance with Technical Specifications Task Force (TSTF) Traveler TSTF-505, Revision 2, “Provide Risk-Informed Extended Completion Times - RITSTF Initiative 4b.”

It was determined that typographical and formatting errors were inadvertently introduced during the preparation of the revised TS pages. Enclosure 1 to this letter is a list of the corrected revised TS pages. Enclosures 2 and 3 include a complete set of revised TS pages for each Unit, as issued with Amendment Nos. 358 and 352, but with corrections made to the pages listed in Enclosure 1. Please replace the corresponding pages issued by Amendment Nos. 358 and 352 for Sequoyah Nuclear Plant, Units 1 and 2, respectively. The errors do not change any of the conclusions in the safety evaluation associated with the August 24, 2022, Amendment Nos. 358 and 352.

If you have any questions, please contact me at (301) 415-1383 or via e-mail at Perry.Buckberg@nrc.gov.

Sincerely,

/RA/

Perry H. Buckberg, Senior Project Manager
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-327 and 50-328

Enclosures:

1. List of Technical Specification Pages Issued with Errors
2. Unit 1 - Complete Set of Amendment No. 358 Technical Specification Pages with Corrections
3. Unit 2 - Complete Set of Amendment No. 352 Technical Specification Pages with Corrections

cc: Listserv

ENCLOSURE 1

TECHNICAL SPECIFICATION PAGES ISSUED WITH ERRORS
FOR RENEWED FACILITY OPERATING LICENSE
NOS. DPR-77 AND DPR-79
LICENSE AMENDMENT NOS. 358 AND 352
TENNESSEE VALLEY AUTHORITY
SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2

TECHNICAL SPECIFICATION PAGES ISSUED WITH ERRORS
FOR RENEWED FACILITY OPERATING LICENSE
NOS. DPR-77 AND DPR-79
LICENSE AMENDMENT NOS. 358 AND 352
TENNESSEE VALLEY AUTHORITY
SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2

UNIT 1

- 1.3.1-10
- 3.3.1-3
- 3.3.1-6, 7, 8, 9, 10, 11, 12, and 13
- 3.3.1-17, 18, and 19
- 3.3.2-3, 6, 7, 8, 9, and 10
- 3.6.8-1
- 3.7.5-4
- 3.7.8-2
- 3.8.1-4 and 6
- 3.8.9-2
- 5.5-17 and 18

UNIT 2

- 1.3.1-10
- 3.3.1-2 and 3
- 3.3.1-5, 6, 7, 8, 9, 10, 11, 12, and 13
- 3.3.1-17, 18, and 19
- 3.3.2-3, 6, 8, 9, and 10
- 3.6.8-1
- 3.7.5-4
- 3.8.1-3, 4, and 6
- 5.5-17 and 18

ENCLOSURE 2

COMPLETE SET OF AMENDMENT NO. 358 TECHNICAL SPECIFICATION
PAGES WITH CORRECTIONS
FOR RENEWED FACILITY OPERATING LICENSE NO. DPR-77
LICENSE AMENDMENT NO. 358
TENNESSEE VALLEY AUTHORITY
SEQUOYAH NUCLEAR PLANT, UNIT 1
DOCKET NO. 50-327

1.3 Completion Times

EXAMPLES (continued)

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.

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.

EXAMPLE 1.3-8

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One subsystem inoperable.	A.1 Restore subsystem to OPERABLE status.	7 days <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. <u>AND</u> B.2 Be in MODE 5.	6 hours 36 hours

When a subsystem is declared inoperable, Condition A is entered. The 7 day Completion Time may be applied as discussed in Example 1.3-2. However, the licensee may elect to apply the Risk Informed Completion Time Program which permits calculation of a Risk Informed Completion Time (RICT) that may be used to complete the Required Action beyond the 7 day Completion Time. The RICT cannot exceed 30 days. After the 7 day Completion Time has expired, the subsystem must be restored to OPERABLE status within the RICT or Condition B must also be entered.

1.3 Completion Times

EXAMPLES (continued)

The Risk Informed Completion Time Program requires recalculation of the RICT to reflect changing plant conditions. For planned changes, the revised RICT must be determined prior to implementation of the change in configuration. For emergent conditions, the revised RICT must be determined within the time limits of the Required Action Completion Time (i.e., not the RICT) or 12 hours after the plant configuration change, whichever is less.

If the 7 day Completion Time clock of Condition A has expired and subsequent changes in plant condition result in exiting the applicability of the Risk Informed Completion Time Program without restoring the inoperable subsystem to OPERABLE status, Condition B is also entered and the Completion Time clocks for Required Actions B.1 and B.2 start.

If the RICT expires or is recalculated to be less than the elapsed time since the Condition was entered and the inoperable subsystem has not been restored to OPERABLE status, Condition B is also entered and the Completion Time clocks for Required Actions B.1 and B.2 start. If the inoperable subsystems are restored to OPERABLE status after Condition B is entered, Condition A is exited, and therefore, the Required Actions of Condition B may be terminated.

IMMEDIATE COMPLETION TIME	When "Immediately" is used as a Completion Time, the Required Action should be pursued without delay and in a controlled manner.
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3.3 INSTRUMENTATION

3.3.1 Reactor Trip System (RTS) Instrumentation

LCO 3.3.1 The RTS instrumentation for each Function in Table 3.3.1-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.1-1.

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions with one or more required channels or trains inoperable.	A.1 Enter the Condition referenced in Table 3.3.1-1 for the channel(s) or train(s).	Immediately
B. One Manual Reactor Trip channel inoperable.	B.1 Restore channel to OPERABLE status.	48 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program
C. One channel or train inoperable.	C.1 Restore channel or train to OPERABLE status. <u>OR</u> C.2.1 Initiate action to fully insert all rods. <u>AND</u>	48 hours 48 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	C.2.2 Place the Rod Control System in a condition incapable of rod withdrawal.	49 hours
D. One Power Range Neutron Flux - High channel inoperable.	<p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. The inoperable channel may be bypassed for up to 12 hours for surveillance testing and setpoint adjustment of other channels. 2. Perform SR 3.2.4.2 if input to QPTR from one or more Power Range Neutron Flux channels are inoperable with THERMAL POWER > 75% RTP. <p>-----</p> <p>D.1 Place channel in trip.</p>	<p>72 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>E. One channel inoperable.</p>	<p>-----NOTE----- The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels. -----</p> <p>E.1 Place channel in trip.</p>	<p>72 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<p>F. One Intermediate Range Neutron Flux channel inoperable.</p>	<p>F.1 Reduce THERMAL POWER to < P-6.</p> <p><u>OR</u></p> <p>F.2 Increase THERMAL POWER to > P-10.</p>	<p>24 hours</p> <p>24 hours</p>
<p>G. Two Intermediate Range Neutron Flux channels inoperable.</p>	<p>G.1 -----NOTE----- Limited plant cooldown or boron dilution is allowed provided the change is accounted for in the calculated SDM. -----</p> <p>Suspend operations involving positive reactivity additions.</p> <p><u>AND</u></p> <p>G.2 Reduce THERMAL POWER to < P-6.</p>	<p>Immediately</p> <p>2 hours</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>K. One channel inoperable.</p>	<p>-----NOTE----- The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels. -----</p> <p>K.1 Place channel in trip.</p>	<p>72 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<p>L. Required Action and associated Completion Time of Condition K not met.</p>	<p>L.1 Reduce THERMAL POWER to < P-7.</p>	<p>6 hours</p>
<p>M. One Turbine Trip channel inoperable.</p>	<p>-----NOTE----- The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels. -----</p> <p>M.1 Place channel in trip.</p>	<p>72 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<p>N. Required Action and associated Completion Time of Condition M not met.</p>	<p>N.1 Reduce THERMAL POWER to < P-9.</p>	<p>4 hours</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>O. One train inoperable.</p>	<p>-----NOTE----- One train may be bypassed for up to 4 hours for surveillance testing provided the other train is OPERABLE. -----</p> <p>O.1 Restore train to OPERABLE status.</p>	<p>24 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<p>P. One reactor trip breaker train inoperable.</p>	<p>-----NOTE----- One train may be bypassed for up to 4 hours for surveillance testing, provided the other train is OPERABLE. -----</p> <p>P.1 Restore train to OPERABLE status.</p>	<p>24 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<p>Q. One or more channels inoperable.</p>	<p>Q.1 Verify interlock is in required state for existing unit conditions.</p>	<p>1 hour</p>
<p>R. One or more channels inoperable.</p>	<p>R.1 Verify interlock is in required state for existing unit conditions.</p>	<p>1 hour</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
S. Required Action and associated Completion Time of Condition R not met.	S.1 Be in MODE 2.	6 hours
T. One trip mechanism inoperable for one reactor trip breaker.	<p>-----NOTE----- The reactor trip breaker train shall not be bypassed while one of the diverse trip features is inoperable except for up to 4 hours for performing maintenance to restore the breaker to OPERABLE status -----</p> <p>T.1 Restore trip mechanism to OPERABLE status.</p>	<p>48 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
U. One channel inoperable.	<p>-----NOTE----- The inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels. -----</p> <p>U.1 For the affected protection set, adjust the Trip Time Delay for one affected steam generator (T_S) to match the Trip Time Delay for multiple affected steam generators (T_M).</p> <p><u>AND</u></p>	<p>4 hours</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	U.2 Place channel in trip.	6 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program
V. One channel inoperable.	V.1 For the affected protection set, adjust the Steam Generator Water Level - Low-Low (EAM) channels trip setpoint to the same value as Steam Generator Water Level - Low-Low (Adverse). <u>OR</u> V.2 For the affected protection set, place the Steam Generator Water level--Low-Low channel(s) in trip.	6 hours 6 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program
W. One channel inoperable.	W.1 For the affected protection set, adjust the Trip Time Delays (T_S and T_M) threshold power level for zero seconds time delay to 0% RTP. <u>OR</u>	6 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	W.2 For the affected protection set, place the Steam Generator Water Level--Low-Low channel(s) in trip.	6 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program
X. Required Action and associated Completion Time of Condition B, D, E, O, P, Q, T, U, V, or W not met.	X.1 Be in MODE 3.	6 hours

SURVEILLANCE REQUIREMENTS

-----NOTE-----

Refer to Table 3.3.1-1 to determine which SRs apply for each RTS Function.

SURVEILLANCE	FREQUENCY
SR 3.3.1.1 Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.2 -----NOTE----- Not required to be performed until 12 hours after THERMAL POWER is $\geq 15\%$ RTP. Compare results of calorimetric heat balance calculation to power range channel output. Adjust power range channel output if absolute difference is $> 2\%$.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.3	<p>-----NOTE----- Not required to be performed until 96 hours after THERMAL POWER is \geq 15% RTP. -----</p> <p>Compare results of the core power distribution measurements to Nuclear Instrumentation System (NIS) AFD. Adjust NIS channel if absolute difference is \geq 3%.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.4	<p>-----NOTE----- This Surveillance must be performed on the reactor trip bypass breaker prior to placing the bypass breaker in service. -----</p> <p>Perform TADOT.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.5	Perform ACTUATION LOGIC TEST.	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.6	<p>-----NOTE----- Not required to be performed until 24 hours after THERMAL POWER is \geq 50% RTP. -----</p> <p>Calibrate excore channels to agree with core power distribution measurements.</p>	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.3.1.7</p> <p>-----NOTE----- Not required to be performed for source range instrumentation prior to entering MODE 3 from MODE 2 until 4 hours after entry into MODE 3. -----</p> <p>Perform COT.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.3.1.8</p> <p>-----NOTE----- This Surveillance shall include verification that interlocks P-6 and P-10 are in their required state for existing unit conditions. -----</p> <p>Perform COT.</p>	<p>-----NOTE----- Only required when not performed within the Frequency specified in the Surveillance Frequency Control Program -----</p> <p>Prior to reactor startup</p> <p><u>AND</u></p> <p>Four hours after reducing power below P-6 for source range instrumentation</p> <p><u>AND</u></p>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
	<p>Twelve hours after reducing power below P-10 for power and intermediate range instrumentation</p> <p><u>AND</u></p> <p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.3.1.9 -----NOTE----- Verification of setpoint is not required. ----- Perform TADOT.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.3.1.10 -----NOTE----- This Surveillance shall include verification that the time constants are adjusted to the prescribed values. ----- Perform CHANNEL CALIBRATION.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.3.1.11</p> <p style="text-align: center;">-----NOTE-----</p> <p>Neutron detectors are excluded from CHANNEL CALIBRATION.</p> <p style="text-align: center;">-----</p> <p>Perform CHANNEL CALIBRATION.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.3.1.12</p> <p style="text-align: center;">-----NOTE-----</p> <p>Verification of setpoint is not required.</p> <p style="text-align: center;">-----</p> <p>Perform TADOT.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.3.1.13</p> <p style="text-align: center;">-----NOTE-----</p> <p>Verification of setpoint is not required.</p> <p style="text-align: center;">-----</p> <p>Perform TADOT.</p>	<p>Prior to exceeding the P-9 interlock whenever the unit has been in MODE 3, if not performed within the previous 31 days</p>
<p>SR 3.3.1.14</p> <p style="text-align: center;">-----NOTE-----</p> <p>Neutron detectors are excluded from response time testing.</p> <p style="text-align: center;">-----</p> <p>Verify RTS RESPONSE TIME is within limits.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

Table 3.3.1-1 (page 4 of 9)
Reactor Trip System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	NOMINAL TRIP SETPOINT
12. Underfrequency RCPs	1 ^(g)	1 per bus	K	SR 3.3.1.9 SR 3.3.1.10 ^{(b)(c)} SR 3.3.1.14	≥ 56.973 Hz	57.0 Hz
13. Steam Generator (SG) Water Level						
a. Low-Low (Adverse)	1,2	3 per SG	U	SR 3.3.1.1 SR 3.3.1.7 ^{(b)(c)} SR 3.3.1.10 ^{(b)(c)} SR 3.3.1.14	≥ 14.4% NR Span	15.0% NR Span
Coincident with Containment Pressure (EAM)	1,2	4	V	SR 3.3.1.1 SR 3.3.1.7 ^{(b)(c)} SR 3.3.1.10 ^{(b)(c)} SR 3.3.1.14	≤ 0.6 psig	0.5 psig
and RCS Loop ΔT	1,2	4	W	SR 3.3.1.1 SR 3.3.1.7 ^{(b)(c)} SR 3.3.1.10 ^{(b)(c)} SR 3.3.1.14	RCS Loop ΔT variable input ≤ nominal trip setpoint + 2.5% RTP	RCS Loop ΔT variable input 50% RTP
with Time Delay T _s if one SG is affected					≤ (1.01)T _s (Note 3)	T _s (Note 3)
or Time Delay T _m if two or more SGs are affected					≤ (1.01)T _m (Note 3)	T _m (Note 3)

- (b) If the as-found channel setpoint is outside its predefined as-found tolerance, then the channel shall be evaluated to verify that it is functioning as required before returning the channel to service.
- (c) The instrument channel setpoint shall be reset to a value that is within the as-left tolerance around the Nominal Trip Setpoint (NTSP) at the completion of the surveillance; otherwise, the channel shall be declared inoperable. Setpoints more conservative than the NTSP are acceptable provided that the as-found and as-left tolerances apply to the actual setpoint implemented in the Surveillance procedures (field setting) to confirm channel performance. The methodologies used to determine the as-found and as-left tolerances are specified in UFSAR, Section 7.1.2.
- (g) Above the P-7 (Low Power Reactor Trips Block) interlock.

Table 3.3.1-1 (page 5 of 9)
Reactor Trip System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	NOMINAL TRIP SETPOINT
b. Low-Low (EAM)	1,2	3 per SG	U	SR 3.3.1.1 SR 3.3.1.7 ^{(b)(c)} SR 3.3.1.10 ^{(b)(c)} SR 3.3.1.14	≥ 10.1% NR Span	10.7% NR Span
Coincident with RCS Loop ΔT	1,2	4	W	SR 3.3.1.1 SR 3.3.1.7 ^{(b)(c)} SR 3.3.1.10 ^{(b)(c)} SR 3.3.1.14	RCS Loop ΔT variable input ≤ nominal trip setpoint + 2.5% RTP	RCS Loop ΔT variable input 50% RTP
with Time Delay T _s if one SG is affected					≤ (1.01)T _s (Note 3)	T _s (Note 3)
or Time Delay T _m if two or more SGs are affected					≤ (1.01)T _m (Note 3)	T _m (Note 3)
14. Turbine Trip						
a. Low Fluid Oil Pressure	1 ^(h)	3	M	SR 3.3.1.10 ^{(b)(c)} SR 3.3.1.13	≥ 710 psig	800 psig
b. Turbine Stop Valve Closure	1 ^(h)	4	M	SR 3.3.1.10 SR 3.3.1.13	≥ 1% open	1% open
15. Safety Injection (SI) Input from Engineered Safety Feature Actuation System (ESFAS)	1,2	2 trains	O	SR 3.3.1.12	NA	NA

- (b) If the as-found channel setpoint is outside its predefined as-found tolerance, then the channel shall be evaluated to verify that it is functioning as required before returning the channel to service.
- (c) The instrument channel setpoint shall be reset to a value that is within the as-left tolerance around the Nominal Trip Setpoint (NTSP) at the completion of the surveillance; otherwise, the channel shall be declared inoperable. Setpoints more conservative than the NTSP are acceptable provided that the as-found and as-left tolerances apply to the actual setpoint implemented in the Surveillance procedures (field setting) to confirm channel performance. The methodologies used to determine the as-found and as-left tolerances are specified in UFSAR, Section 7.1.2.
- (h) Above the P-9 (Power Range Neutron Flux) interlock.

Table 3.3.1-1 (page 6 of 9)
Reactor Trip System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	NOMINAL TRIP SETPOINT	
16. Reactor Trip System Interlocks							
a. Intermediate Range Neutron Flux, P-6	2 ^(f)	2	Q	SR 3.3.1.11	≥ 6 x 10 ⁻⁵ % RTP	1 x 10 ⁻⁴ % RTP	
b. Low Power Reactor Trips Block, P-7	1	1 per train	R	SR 3.3.1.5	NA	NA	
c. Power Range Neutron Flux, P-8	1	4	R	SR 3.3.1.11	≤ 37.4% RTP	35% RTP	
d. Power Range Neutron Flux, P-9	1	4	R	SR 3.3.1.11	≤ 52.4% RTP	50% RTP	
e. Power Range Neutron Flux, P-10	1,2	4	Q	SR 3.3.1.11	≥ 7.6% RTP and ≤ 12.4% RTP	10% RTP	
f. Turbine Impulse Pressure, P-13	1	2	R	SR 3.3.1.10	≤ 12.4% turbine power	10% turbine power	
17. Reactor Trip Breaker ⁽ⁱ⁾	1,2	2 trains	P	SR 3.3.1.4	NA	NA	
	3 ^(a) , 4 ^(a) , 5 ^(a)	2 trains	C	SR 3.3.1.4	NA	NA	
18. Reactor Trip Breaker Undervoltage and Shunt Trip Mechanisms	1,2	1 each per reactor trip breaker	T	SR 3.3.1.4	NA	NA	
	3 ^(a) , 4 ^(a) , 5 ^(a)	1 each per reactor trip breaker	C	SR 3.3.1.4	NA	NA	
19. Automatic Trip Logic	1,2	2 trains	O	SR 3.3.1.5	NA	NA	
	3 ^(a) , 4 ^(a) , 5 ^(a)	2 trains	C	SR 3.3.1.5	NA	NA	

(a) With Rod Control System capable of rod withdrawal or one or more rods not fully inserted.

(f) Below the P-6 (Intermediate Range Neutron Flux) interlocks.

(i) Including any reactor trip bypass breakers that are racked in and closed for bypassing a reactor trip breaker.

3.3 INSTRUMENTATION

3.3.2 Engineered Safety Feature Actuation System (ESFAS) Instrumentation

LCO 3.3.2 The ESFAS instrumentation for each Function in Table 3.3.2-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.2-1.

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions with one or more required channels or trains inoperable.	A.1 Enter the Condition referenced in Table 3.3.2-1 for the channel(s) or train(s).	Immediately
B. One channel or train inoperable.	B.1 Restore channel or train to OPERABLE status.	48 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. One train inoperable.</p>	<p>-----NOTE----- One train may be bypassed for up to 4 hours for surveillance testing provided the other train is OPERABLE. -----</p> <p>C.1 Restore train to OPERABLE status.</p>	<p>24 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<p>D. One channel inoperable.</p>	<p>-----NOTE----- The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels. -----</p> <p>D.1 Place channel in trip.</p>	<p>72 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. One Containment Pressure channel inoperable.	<p>-----NOTE----- One additional channel may be bypassed for up to 12 hours for surveillance testing of other channels. -----</p> <p>E.1 Place channel in bypass.</p>	72 hours
F. One channel inoperable.	<p>F.1 Restore channel to OPERABLE status.</p> <p><u>OR</u></p> <p>F.2 Declare the associated Main Steam Isolation Valve inoperable.</p>	<p>48 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p> <p>48 hours</p>
G. One channel or train inoperable.	G.1 Restore channel or train to OPERABLE status.	48 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>H. One train inoperable.</p>	<p>-----NOTE----- One train may be bypassed for up to 4 hours for surveillance testing provided the other train is OPERABLE. -----</p> <p>H.1 Restore train to OPERABLE status.</p>	<p>24 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<p>I. One channel inoperable.</p>	<p>-----NOTE----- The inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels. -----</p> <p>I.1 For the affected protection set, the Trip Time Delay for one affected steam generator (T_S) is adjusted to match the Trip Time Delay for multiple affected steam generators (T_M).</p> <p><u>AND</u></p> <p>I.2 Place channel in trip.</p>	<p>4 hours</p> <p>6 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>J. One channel inoperable.</p>	<p>J.1 For the affected protection set, adjust the Steam Generator Water Level - Low-Low (EAM) channels trip setpoint to the same value as Steam Generator Water Level -- Low-Low (Adverse).</p>	<p>6 hours</p>
	<p><u>OR</u></p> <p>J.2 For the affected protection set, place the Steam Generator Water Level-- Low-Low channel(s) in trip.</p>	<p>6 hours</p>
<p>K. One channel inoperable.</p>	<p>K.1 For the affected protection set, adjust the Trip Time Delays (T_S and T_M) threshold power level for zero seconds time delay to 0% RTP.</p>	<p>6 hours</p>
	<p><u>OR</u></p> <p>K.2 For the affected protection set, place the Steam Generator Water level-- Low-Low channel(s) in trip.</p>	<p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>L. One voltage sensor channel inoperable.</p>	<p>L.1 Restore the inoperable channel to OPERABLE status.</p> <p><u>OR</u></p> <p>L.2 Declare the associated auxiliary feedwater pump inoperable.</p>	<p>6 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p> <p>6 hours</p>
<p>M. Two or more voltage sensor channels inoperable.</p> <p><u>OR</u></p> <p>One required load shed timer channel inoperable.</p>	<p>M.1.1 Restore all but one voltage sensor channel to an OPERABLE status.</p> <p><u>AND</u></p> <p>M.1.2 Restore required load shed timer channel to an OPERABLE status.</p> <p><u>OR</u></p> <p>M.2 Declare the associated auxiliary feedwater pump inoperable.</p>	<p>1 hour</p> <p>1 hour</p> <p>1 hour</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>N. One Main Feedwater Pumps trip channel inoperable.</p>	<p>-----NOTE----- One channel may be inoperable during MODE 1 for up to 4 hours when placing the second main feedwater (MFW) pump in service or removing one of two MFW pumps from service. -----</p> <p>N.1 Restore channel to OPERABLE status.</p>	<p>48 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program</p>
<p>O. Required Action and associated Completion Time of Condition N not met.</p>	<p>O.1 Be in MODE 3.</p>	<p>6 hours</p>
<p>P. One channel inoperable.</p>	<p>P.1 Declare the associated auxiliary feedwater pump inoperable.</p>	<p>Immediately</p>
<p>Q. One channel inoperable.</p>	<p>-----NOTE----- One additional channel may be bypassed for up to 4 hours for surveillance testing. -----</p> <p>Q.1 Place channel in bypass.</p>	<p>6 hours</p>
<p>R. One or more channels inoperable.</p>	<p>R.1 Verify interlock is in required state for existing unit condition.</p>	<p>1 hour</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
S. Required Action and associated Completion Time of Conditions B, C, or Q not met.	S.1 Be in MODE 3.	6 hours
	<u>AND</u>	
	S.2 Be in MODE 5.	36 hours
T. Required Action and associated Completion Time of Conditions D, E, G, H, I, J, K, or R not met.	T.1 Be in MODE 3.	6 hours
	<u>AND</u>	
	T.2 Be in MODE 4.	12 hours
U. One train inoperable.	-----NOTE----- One train may be bypassed for up to 4 hours for surveillance testing provided the other train is OPERABLE. -----	
	U.1 Be in MODE 3.	12 hours
	<u>AND</u>	
	U.2 Be in MODE 5.	42 hours

SURVEILLANCE REQUIREMENTS

-----NOTE-----
Refer to Table 3.3.2-1 to determine which SRs apply for each ESFAS Function.

SURVEILLANCE	FREQUENCY
SR 3.3.2.1 Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.2.2	Perform ACTUATION LOGIC TEST.	In accordance with the Surveillance Frequency Control Program
SR 3.3.2.3	Perform MASTER RELAY TEST.	In accordance with the Surveillance Frequency Control Program
SR 3.3.2.4	Perform COT.	In accordance with the Surveillance Frequency Control Program
SR 3.3.2.5	Perform SLAVE RELAY TEST.	In accordance with the Surveillance Frequency Control Program
SR 3.3.2.6	<p>-----NOTE----- Verification of relay setpoints not required. -----</p> <p>Perform TADOT.</p>	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.3.2.7</p> <p>-----NOTE----- Verification of setpoint not required for manual initiation functions. -----</p> <p>Perform TADOT.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.3.2.8</p> <p>-----NOTE----- This Surveillance shall include verification that the time constants are adjusted to the prescribed values. -----</p> <p>Perform CHANNEL CALIBRATION.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.3.2.9</p> <p>-----NOTE----- Not required to be performed for the turbine driven AFW pump until 24 hours after SG pressure is ≥ 842 psig. -----</p> <p>Verify ESFAS RESPONSE TIMES are within limit.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.3.2.10</p> <p>-----NOTE----- Verification of setpoint not required. -----</p> <p>Perform TADOT.</p>	<p>Once per reactor trip breaker cycle</p>

Table 3.3.2-1 (page 7 of 9)
Engineered Safety Feature Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS		REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	NOMINAL TRIP SETPOINT
6. Auxiliary Feedwater							
c. Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.						
d. Loss of Offsite Power							
(1) Voltage Sensors	1,2,3		3 per shutdown board ^(j)	L,M	SR 3.3.2.6 SR 3.3.2.8 ^{(b)(c)} SR 3.3.2.9	Refer to Function 1 of Table 3.3.5-1 for setpoints and allowable values.	
(2) Load Shed Timer	1,2,3		1 per shutdown board ^(j)	M	SR 3.3.2.8 ^{(b)(c)} SR 3.3.2.9	Refer to Function 1 of Table 3.3.5-1 for setpoints and allowable values.	
e. Trip of all Main Feedwater Pumps	1,2 ^(k)		1 per pump	N	SR 3.3.2.7 SR 3.3.2.9	NA	NA
f. Auxiliary Feedwater Pump Suction Transfer on Suction Pressure - Low	1,2,3		3 per pump	P	SR 3.3.2.8 ^{(b)(c)}	≥ 2.44 psig (motor driven pump) ≥ 12 psig (turbine driven pump)	3.21 psig (motor driven pump) 13.9 psig (turbine driven pump)

- (b) If the as-found channel setpoint is outside its predefined as-found tolerance, then the channel shall be evaluated to verify that it is functioning as required before returning the channel to service.
- (c) The instrument channel setpoint shall be reset to a value that is within the as-left tolerance around the Nominal Trip Setpoint (NTSP) at the completion of the surveillance; otherwise, the channel shall be declared inoperable. Setpoints more conservative than the NTSP are acceptable provided that the as-found and as-left tolerances apply to the actual setpoint implemented in the Surveillance procedures (field setting) to confirm channel performance. The methodologies used to determine the as-found and as-left tolerances are specified in UFSAR, Section 7.1.2.
- (j) Unit 1 shutdown boards only.
- (k) When one or more Main Feedwater Pump(s) are supplying feedwater to steam generators.

Table 3.3.2-1 (page 8 of 9)
Engineered Safety Feature Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	NOMINAL TRIP SETPOINT
6. Auxiliary Feedwater						
g. Auxiliary Feedwater Suction Transfer Time Delays						
(1) Motor-Driven Pump	1,2,3	1 per pump	P	SR 3.3.2.8 ^{(b)(c)}	≤ 4.4 seconds and ≥ 3.6 seconds	4 seconds
(2) Turbine-Driven Pump	1,2,3	2 per pump	P	SR 3.3.2.8 ^{(b)(c)}	≤ 6.05 seconds and ≥ 4.95 seconds	5.5 seconds
7. Automatic Switchover to Containment Sump						
a. Automatic Actuation Logic and Actuation Relays	1,2,3,4	2 trains	U	SR 3.3.2.2 SR 3.3.2.3 SR 3.3.2.5	NA	NA
b. RWST Level - Low	1,2,3,4	4	Q	SR 3.3.2.1 SR 3.3.2.4 ^{(b)(c)} SR 3.3.2.8 ^{(b)(c)} SR 3.3.2.9	≤ 132.71" and ≥ 127.29" from tank base	130" from tank base
Coincident with Safety Injection and	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.					
Coincident with Containment Sump Level - High	1,2,3,4	4	Q	SR 3.3.2.1 SR 3.3.2.4 ^{(b)(c)} SR 3.3.2.8 ^{(b)(c)} SR 3.3.2.9	≤ 31.68 in. and ≥ 28.32 in. above el. 680 ft	30 in. above el. 680 ft

- (b) If the as-found channel setpoint is outside its predefined as-found tolerance, then the channel shall be evaluated to verify that it is functioning as required before returning the channel to service.
- (c) The instrument channel setpoint shall be reset to a value that is within the as-left tolerance around the Nominal Trip Setpoint (NTSP) at the completion of the surveillance; otherwise, the channel shall be declared inoperable. Setpoints more conservative than the NTSP are acceptable provided that the as-found and as-left tolerances apply to the actual setpoint implemented in the Surveillance procedures (field setting) to confirm channel performance. The methodologies used to determine the as-found and as-left tolerances are specified in UFSAR, Section 7.1.2.

Table 3.3.2-1 (page 9 of 9)
Engineered Safety Feature Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	NOMINAL TRIP SETPOINT
8. ESFAS Interlocks						
a. Reactor Trip, P-4	1,2,3	1 per train, 2 trains	G	SR 3.3.2.10	NA	NA
b. Pressurizer Pressure, P-11/ Not P-11						
(1) Not P-11, Automatic Unblock of Safety Injection on Increasing Pressure	1,2,3	3	R	SR 3.3.2.8	≤ 1975.2 psig	1970 psig
(2) P-11, Enable Manual Block of Safety Injection on Decreasing Pressure	1,2,3	3	R	SR 3.3.2.8	≥ 1956.8 psig	1962 psig

3.3 INSTRUMENTATION

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

LCO 3.3.5 The LOP DG start instrumentation for each Function in Table 3.3.5-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.5-1.

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions with one voltage sensor channel inoperable.	A.1 Restore the inoperable channel to OPERABLE status.	6 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. One or more Functions with two or more voltage sensor channels inoperable. <u>OR</u> One or more Functions with one required timer inoperable.	B.1.1 Restore all but one voltage sensor channel to OPERABLE status. <u>AND</u> B.1.2 Restore required timer to OPERABLE status.	1 hour 1 hour
C. One or more unbalanced voltage relays inoperable.	C.1 Restore unbalanced voltage relays to OPERABLE status.	1 hour

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.11 Pressurizer Power Operated Relief Valves (PORVs)

LCO 3.4.11 Each PORV and associated block valve shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

-----NOTE-----
Separate Condition entry is allowed for each PORV and each block valve.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more PORVs inoperable and capable of being manually cycled.	A.1 Close and maintain power to associated block valve.	1 hour
B. One PORV inoperable and not capable of being manually cycled.	B.1 Close associated block valve.	1 hour
	<u>AND</u>	
	B.2 Remove power from associated block valve.	1 hour
	<u>AND</u>	
	B.3 Restore PORV to OPERABLE status.	72 hours
		<u>OR</u>
		In accordance with the Risk Informed Completion Time Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. One block valve inoperable.</p>	<p>-----NOTE----- Required Actions C.1 and C.2 do not apply when block valve is inoperable solely as a result of complying with Required Action B.2 or E.2. -----</p> <p>C.1 Place associated PORV in manual control.</p> <p><u>AND</u></p> <p>C.2 Restore block valve to OPERABLE status.</p>	<p>1 hour</p> <p>72 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<p>D. Required Action and associated Completion Time of Condition A, B, or C not met.</p>	<p>D.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>D.2 Be in MODE 4.</p>	<p>6 hours</p> <p>12 hours</p>
<p>E. Two PORVs inoperable and not capable of being manually cycled.</p>	<p>E.1 Close associated block valves.</p> <p><u>AND</u></p> <p>E.2 Remove power from associated block valves.</p> <p><u>AND</u></p> <p>E.3 Be in MODE 3.</p> <p><u>AND</u></p> <p>E.4 Be in MODE 4.</p>	<p>1 hour</p> <p>1 hour</p> <p>6 hours</p> <p>12 hours</p>

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

3.5.2 ECCS - Operating

LCO 3.5.2 Two ECCS trains shall be OPERABLE.

-----NOTES-----

1. In MODE 3, both safety injection (SI) pump flow paths may be isolated by closing the isolation valves for up to 2 hours to perform pressure isolation valve testing per SR 3.4.14.1.
 2. In MODE 3, ECCS pumps may be made incapable of injecting to support transition into or from the Applicability of LCO 3.4.12, "Low Temperature Overpressure Protection (LTOP) System," for up to 4 hours or until the temperature of all RCS cold legs exceeds Low Temperature Overpressure Protection (LTOP) arming temperature specified in the PTLR plus 25°F, whichever comes first.
-

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more trains inoperable.	A.1 Restore train(s) to OPERABLE status.	72 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. <u>AND</u> B.2 Be in MODE 4.	6 hours 12 hours
C. Less than 100% of the ECCS flow equivalent to a single OPERABLE ECCS train available.	C.1 Enter LCO 3.0.3.	Immediately

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One or more penetration flow paths with one containment isolation valve inoperable for reasons other than Conditions E, F, and G.</p>	<p>A.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured.</p> <p><u>AND</u></p>	<p>4 hours for Category 1 or 8 CIVs</p> <p><u>AND</u></p> <p>8 hours for Category 2 or 9 CIVs</p> <p><u>AND</u></p> <p>12 hours for Category 3 or 10 CIVs</p> <p><u>AND</u></p> <p>24 hours for Category 4 or 11 CIVs</p> <p><u>AND</u></p> <p>48 hours for Category 5 or 12 CIVs</p> <p><u>AND</u></p> <p>72 hours for Category 6 or 13 CIVs</p> <p><u>AND</u></p> <p>7 days for Category 7 or 14 CIVs</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	<p>A.2</p> <p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. Isolation devices in high radiation areas may be verified by use of administrative means. 2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means. <p>-----</p> <p>Verify the affected penetration flow path is isolated.</p>	<p>Once per 31 days following isolation for isolation devices outside containment</p> <p><u>AND</u></p> <p>Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation devices inside containment</p>
<p>B. -----NOTE-----</p> <p>Only applicable to penetration flow paths with two containment isolation valves.</p> <p>-----</p> <p>One or more penetration flow paths with two containment isolation valves inoperable for reasons other than Conditions E, F, and G.</p>	<p>B.1</p> <p>Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.</p>	<p>1 hour</p>

3.6 CONTAINMENT SYSTEMS

3.6.6 Containment Spray System

LCO 3.6.6 Two containment spray subsystems shall be OPERABLE.

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

-----NOTE-----
RHR spray trains are not required to be OPERABLE in MODE 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One containment spray subsystem inoperable.	A.1 Restore containment spray subsystem to OPERABLE status.	72 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. <u>AND</u> B.2 Be in MODE 5.	6 hours 84 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.6.1 Verify each containment spray train manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.	In accordance with the Surveillance Frequency Control Program

3.6 CONTAINMENT SYSTEMS

3.6.8 Hydrogen Mitigation System (HMS)

LCO 3.6.8 Two HMS trains shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One HMS train inoperable.	<p>A.1 Restore HMS train to OPERABLE status.</p> <p><u>OR</u></p> <p>A.2 Perform SR 3.6.8.1 on the OPERABLE train.</p>	<p>7 days</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p> <p>Once per 7 days</p>
B. One containment region with no OPERABLE hydrogen ignitor.	B.1 Restore one hydrogen ignitor in the affected containment region to OPERABLE status.	<p>7 days</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	6 hours

3.6 CONTAINMENT SYSTEMS

3.6.11 Air Return System (ARS)

LCO 3.6.11 Two ARS trains shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One ARS train inoperable.	A.1 Restore ARS train to OPERABLE status.	72 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program
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

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.11.1 Verify each ARS fan starts on an actual or simulated actuation signal, after a delay of ≥ 9.0 minutes and ≤ 11.0 minutes, and operates for ≥ 15 minutes.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.11.2	Verify, with the ARS fan dampers closed, each ARS fan motor current is ≥ 24.5 amps and ≤ 39.5 amps.	In accordance with the Surveillance Frequency Control Program
SR 3.6.11.3	Verify, with the ARS fan not operating, each ARS fan damper opens when ≤ 68.1 in-lb of torque is applied to the counterweight.	In accordance with the Surveillance Frequency Control Program

3.7 PLANT SYSTEMS

3.7.2 Main Steam Isolation Valves (MSIVs)

LCO 3.7.2 Four MSIVs shall be OPERABLE.

APPLICABILITY: MODE 1,
MODES 2 and 3 except when all MSIVs are closed.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One MSIV inoperable in MODE 1.	A.1 Restore MSIV to OPERABLE status.	4 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 2.	6 hours
C. -----NOTE----- Separate Condition entry is allowed for each MSIV. ----- One or more MSIVs inoperable in MODE 2 or 3.	C.1 Close MSIV. <u>AND</u> C.2 Verify MSIV is closed.	4 hours Once per 7 days
D. Required Action and associated Completion Time of Condition C not met.	D.1 Be in MODE 3. <u>AND</u> D.2 Be in MODE 4.	6 hours 12 hours

3.7 PLANT SYSTEMS

3.7.5 Auxiliary Feedwater (AFW) System

LCO 3.7.5 Three AFW trains shall be OPERABLE.

-----NOTE-----
Only one AFW train, which includes a motor driven pump, is required to be OPERABLE in MODE 4.

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

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. Turbine driven AFW train inoperable due to one inoperable steam supply.</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><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<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><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<p>C. Turbine driven AFW train inoperable due to one inoperable steam supply.</p> <p><u>AND</u></p> <p>One motor driven AFW train inoperable.</p>	<p>C.1 Restore the steam supply to the turbine driven train to OPERABLE status.</p> <p><u>OR</u></p> <p>C.2 Restore the motor driven AFW train to OPERABLE status.</p>	<p>48 hours</p> <p>48 hours</p>
<p>D. Required Action and associated Completion Time of Condition A, B, or C not met.</p> <p><u>OR</u></p> <p>Two AFW trains inoperable in MODE 1, 2, or 3 for reasons other than Condition C.</p>	<p>D.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>D.2 Be in MODE 4.</p>	<p>6 hours</p> <p>18 hours</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>E. Three AFW trains inoperable in MODE 1, 2, or 3.</p>	<p>E.1 -----NOTE----- LCO 3.0.3 and all other LCO Required Actions requiring MODE changes are suspended until one AFW train is restored to OPERABLE status. ----- Initiate action to restore one AFW train to OPERABLE status.</p>	<p>Immediately</p>
<p>F. Required AFW train inoperable in MODE 4.</p>	<p>F.1 Initiate action to restore AFW train to OPERABLE status.</p>	<p>Immediately</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.7.5.1 -----NOTE----- AFW train(s) may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually realigned to the AFW mode of operation. ----- Verify each AFW manual, power operated, and automatic valve in each water flow path, and in both steam supply flow paths to the steam turbine driven pump, that is not locked, sealed, or otherwise secured in position, is in the correct position.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.7.5.2</p> <p>-----NOTE----- Not required to be performed for the turbine driven AFW pump until 24 hours after ≥ 842 psig in the steam generator. -----</p> <p>Verify the developed head of each AFW pump at the flow test point is greater than or equal to the required developed head.</p>	<p>In accordance with the Inservice Testing Program</p>
<p>SR 3.7.5.3</p> <p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. AFW train(s) may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually realigned to the AFW mode of operation. 2. Only required to be met in MODES 1, 2, and 3. <p>-----</p> <p>Verify each AFW automatic valve that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.7.5.4</p> <p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. Not required to be performed for the turbine driven AFW pump until 24 hours after ≥ 842 psig in the steam generator. 2. AFW train(s) may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually realigned to the AFW mode of operation. 3. Only required to be met in MODES 1, 2, and 3. <p>-----</p> <p>Verify each AFW pump starts automatically on an actual or simulated actuation signal.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>B. One ERCW System train inoperable for reasons other than Condition A.</p>	<p>B.1 -----NOTES----- 1. Enter applicable Conditions and Required Actions of LCO 3.8.1, "AC Sources - Operating," for emergency diesel generator made inoperable by ERCW System. 2. Enter applicable Conditions and Required Actions of LCO 3.4.6, "RCS Loops - MODE 4," for residual heat removal loops made inoperable by ERCW System. ----- Restore ERCW System train to OPERABLE status.</p>	<p>72 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program</p>
<p>C. Required Action and associated Completion Time of Condition A or B 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>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	<p>A.3 Restore offsite circuit to OPERABLE status.</p>	<p>72 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<p>B. One or more Train A DG(s) inoperable.</p> <p><u>OR</u></p> <p>One or more Train B DG(s) inoperable.</p>	<p>B.1 Perform SR 3.8.1.1 for the offsite circuits.</p> <p><u>AND</u></p> <p>B.2 Declare required feature(s) supported by the inoperable DG inoperable when its required redundant feature(s) is inoperable.</p> <p><u>AND</u></p> <p>B.3.1 Determine OPERABLE DGs are 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 DGs.</p> <p><u>AND</u></p> <p>B.4 Restore DG(s) to OPERABLE status.</p>	<p>1 hour</p> <p><u>AND</u></p> <p>Once per 8 hours thereafter</p> <p>4 hours from discovery of Condition B concurrent with inoperability of redundant required feature(s)</p> <p>24 hours</p> <p>24 hours</p> <p>7 days</p> <p><u>OR</u></p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
		In accordance with the Risk Informed Completion Time Program
<p>C. One offsite circuit inoperable solely due to an offsite power source to 6.9 kV Shutdown Board 2A-A or 2B-B inoperable.</p>	<p>C.1 Perform SR 3.8.1.1 for OPERABLE offsite circuit.</p> <p><u>AND</u></p> <p>C.2 Declare required feature(s) with no offsite power available inoperable when its redundant required feature(s) is inoperable.</p> <p><u>AND</u></p> <p>C.3 Restore offsite circuit to OPERABLE status.</p>	<p>1 hour</p> <p><u>AND</u></p> <p>Once per 8 hours thereafter</p> <p>24 hours from discovery of no offsite power to 6.9 kV Shutdown Board 2A-A or 2B-B concurrent with inoperability of redundant required feature(s)</p> <p>7 days</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. Two offsite circuits inoperable.</p>	<p>D.1 Declare required feature(s) inoperable when its redundant required feature(s) is inoperable.</p> <p><u>AND</u></p> <p>D.2 Restore one offsite circuit to OPERABLE status.</p>	<p>12 hours from discovery of Condition D concurrent with inoperability of redundant required features</p> <p>24 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<p>E. One offsite circuit inoperable for reasons other than Condition C.</p> <p><u>AND</u></p> <p>DG 1A-A or 1B-B inoperable.</p>	<p>E.1 Restore offsite circuit to OPERABLE status.</p> <p><u>OR</u></p> <p>E.2 Restore DG to OPERABLE status.</p>	<p>12 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p> <p>12 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>

ACTIONS (continued)

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

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.1.1	Verify correct breaker alignment and indicated power availability for each offsite circuit.	In accordance with the Surveillance Frequency Control Program
SR 3.8.1.2	<p>-----NOTES-----</p> <ol style="list-style-type: none"> All DG starts may be preceded by an engine prelube period and followed by a warmup period prior to loading. A modified DG start involving idling and gradual acceleration to synchronous speed may be used for this SR as recommended by the manufacturer. When modified start procedures are not used, the time, voltage, and frequency tolerances of SR 3.8.1.7 must be met. <p>-----</p> <p>Verify each DG starts from standby conditions and achieves steady state voltage ≥ 6800 V and ≤ 7260 V, and frequency ≥ 59.8 Hz and ≤ 60.2 Hz.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.8.1.3	<p>-----NOTES-----</p> <ol style="list-style-type: none"> DG loadings may include gradual loading as recommended by the manufacturer. Momentary transients outside the load range do not invalidate this test. This Surveillance shall be conducted on only one DG at a time. This SR shall be preceded by and immediately follow without shutdown a successful performance of SR 3.8.1.2 or SR 3.8.1.7. <p>-----</p> <p>Verify each DG is synchronized and loaded and operates for ≥ 60 minutes at a load ≥ 3960 kW and ≤ 4400 kW.</p>	In accordance with the Surveillance Frequency Control Program

3.8 ELECTRICAL POWER SYSTEMS

3.8.4 DC Sources - Operating

LCO 3.8.4 Two Vital DC electrical power trains and four diesel generator (DG) DC electrical power subsystems shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One or two vital battery chargers on one train inoperable.</p>	<p>A.1 Restore battery terminal voltage to greater than or equal to the minimum established float voltage.</p> <p><u>AND</u></p> <p>A.2 Verify battery float current \leq 2 amps.</p> <p><u>AND</u></p> <p>A.3 Restore vital battery chargers to OPERABLE status.</p>	<p>2 hours</p> <p>Once per 12 hours</p> <p>7 days</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<p>B. One vital DC electrical power train inoperable for reasons other than Condition A.</p>	<p>B.1 Restore vital DC electrical power train to OPERABLE status.</p>	<p>2 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Action and Associated Completion Time of Condition A or B not met.	C.1 Be in MODE 3.	6 hours
	<u>AND</u> C.2 Be in MODE 5.	36 hours
D. One or more DG DC electrical power subsystem(s) inoperable.	D.1 Declare associated DG(s) inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.4.1 Verify battery terminal voltage is greater than or equal to the minimum established float voltage.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.2 Verify each vital battery charger supplies ≥ 150 amps at greater than or equal to the minimum established float voltage for ≥ 4 hours. <u>OR</u> Verify each vital battery charger can recharge the battery to the fully charged state within 36 hours while supplying the largest combined demands of the various continuous steady state loads, after a battery discharge to the bounding design basis event discharge state.	In accordance with the Surveillance Frequency Control Program

3.8 ELECTRICAL POWER SYSTEMS

3.8.7 Inverters - Operating

LCO 3.8.7 The required Train A and Train B inverters shall be OPERABLE.

-----NOTE-----

Two inverters may be disconnected from their associated DC source for ≤ 24 hours to perform an equalizing charge on their associated common battery, provided:

- a. The associated AC vital instrument power board(s) are energized from their inverter using internal AC source, and
 - b. All other AC vital instrument power boards are energized from their associated OPERABLE inverters connected to their DC source.
-

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required inverter inoperable.	<p>A.1 -----NOTE----- Enter applicable Conditions and Required Actions of LCO 3.8.9, "Distribution Systems - Operating" with any AC vital instrument power board de-energized. -----</p> <p>Restore inverter to OPERABLE status.</p>	<p>24 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
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

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.7.1 Verify correct inverter voltage, frequency, and alignment to required AC vital instrument power boards.	In accordance with the Surveillance Frequency Control Program

3.8 ELECTRICAL POWER SYSTEMS

3.8.9 Distribution Systems - Operating

LCO 3.8.9 Two electrical power distribution trains shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One or more AC electrical power distribution subsystems inoperable due to one or more Unit 1 AC shutdown boards inoperable.</p>	<p>A.1 -----NOTE----- Enter applicable Conditions and Required Actions of LCO 3.8.4, "DC Sources - Operating," for vital DC electrical power trains made inoperable by inoperable AC electrical power distribution subsystems. ----- Restore Unit 1 AC electrical power distribution subsystem(s) to OPERABLE status.</p>	<p>8 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program</p>
<p>B. One or more AC vital instrument power distribution subsystems inoperable.</p>	<p>B.1 Restore AC vital instrument power distribution subsystem(s) to OPERABLE status.</p>	<p>8 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. One or more vital DC electrical power distribution subsystems inoperable.</p>	<p>C.1 Restore vital DC electrical power distribution subsystem(s) to OPERABLE status.</p>	<p>2 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program</p>
<p>-----NOTES-----</p>		
<p>1. Only applicable during planned maintenance.</p> <p>2. Only applicable when Unit 2 is defueled or in MODE 6 following defueled with Unit 2 refueling water cavity level \geq 23 ft. above top of reactor vessel flange.</p>		
<p>-----</p> <p>D. One or more AC electrical power distribution subsystems inoperable due to one or more Unit 2 AC shutdown boards inoperable.</p>	<p>D.1 Declare associated required feature(s) inoperable.</p>	<p>Immediately</p>
<p>E. One or more AC electrical power distribution subsystems inoperable due to one or more Unit 2 AC shutdown boards inoperable for reasons other than Condition D.</p>	<p>E.1 Restore Unit 2 AC electrical power distribution subsystem(s) to OPERABLE status.</p>	<p>24 hours</p>
<p>F. One or more DG DC electrical power distribution panels inoperable.</p>	<p>F.1 Declare associated supported DG inoperable.</p>	<p>Immediately</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
G. Required Action and associated Completion Time not met.	G.1 Be in MODE 3.	6 hours
	<u>AND</u>	
	G.2 Be in MODE 5.	36 hours
H. Two or more electrical power distribution subsystems inoperable that result in a loss of safety function.	H.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.9.1 Verify correct breaker alignments and voltage to required AC, vital DC, DG DC, and AC vital instrument electrical power distribution subsystems.	In accordance with the Surveillance Frequency Control Program

5.5 Programs and Manuals

5.5.16 Control Room Envelope (CRE) Habitability Program (continued)

- f. The provisions of SR 3.0.2 are applicable to the Frequencies for assessing CRE habitability, determining CRE unfiltered inleakage, and measuring CRE pressure and assessing the CRE boundary as required by paragraphs c and d, respectively.

5.5.17 Surveillance Frequency Control Program

This program provides controls for Surveillance Frequencies. The program shall ensure that Surveillance Requirements specified in the Technical Specifications are performed at intervals sufficient to assure the associated Limiting Conditions for Operation are met.

- a. The Surveillance Frequency Control Program shall contain a list of Frequencies of those Surveillance Requirements for which the Frequency is controlled by the program.
- b. Changes to the Frequencies listed in the Surveillance Frequency Control Program shall be made in accordance with NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1.
- c. The provisions of Surveillance Requirements 3.0.2 and 3.0.3 are applicable to the Frequencies established in the Surveillance Frequency Control Program.

5.5.18 Risk Informed Completion Time Program

This program provides controls to calculate a Risk Informed Completion Time (RICT) and must be implemented in accordance with NEI 06-09-A, Revision 0, "Risk-Managed Technical Specifications (RMTS) Guidelines." The program shall include the following:

- a. The RICT may not exceed 30 days;
- b. A RICT may only be utilized in MODE 1 and 2;
- c. When a RICT is being used, any change to the plant configuration, as defined in NEI 06-09-A, Appendix A, must be considered for the effect on the RICT.
 - 1. For planned changes, the revised RICT must be determined prior to implementation of the change in configuration.

5.5.18 Risk Informed Completion Time Program (continued)

2. For emergent conditions, the revised RICT must be determined within the time limits of the Required Action Completion Time (i.e., not the RICT) or 12 hours after the plant configuration change, whichever is less.
 3. Revising the RICT is not required if the plant configuration change would lower plant risk and would result in a longer RICT.
- d. For emergent conditions, if the extent of condition evaluation for inoperable structures, systems, or components (SSCs) is not complete prior to exceeding the Completion Time, the RICT shall account for the increased possibility of common cause failure (CCF) by either:
1. Numerically accounting for the increased possibility of CCF in the RICT calculation; or
 2. Risk Management Actions (RMAs) not already credited in the RICT calculation shall be implemented that support redundant or diverse SSCs that perform the function(s) of the inoperable SSCs, and, if practicable, reduce the frequency of initiating events that challenge the function(s) performed by the inoperable SSCs.
- e. The risk assessment approaches and methods shall be acceptable to the NRC. The plant PRA shall be based on the as-built, as-operated, and maintained plant; and reflect the operating experience at the plant, as specified in Regulatory Guide 1.200, Revision 2. Methods to assess the risk from extending the Completion Times must be PRA methods approved for use with this program, or other methods approved by the NRC for generic use; and any change in the PRA methods to assess risk that are outside these approval boundaries require prior NRC approval.
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ENCLOSURE 3

COMPLETE SET OF AMENDMENT NO. 352 TECHNICAL SPECIFICATION
PAGES WITH CORRECTIONS
OPERATING LICENSE NO. DPR-79
LICENSE AMENDMENT NO. 352
TENNESSEE VALLEY AUTHORITY
SEQUOYAH NUCLEAR PLANT, UNIT 2
DOCKET NO. 50-328

1.3 Completion Times

EXAMPLES (continued)

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.

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.

EXAMPLE 1.3-8

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One subsystem inoperable.	A.1 Restore subsystem to OPERABLE status.	7 days <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. <u>AND</u> B.2 Be in MODE 5.	6 hours 36 hours

When a subsystem is declared inoperable, Condition A is entered. The 7 day Completion Time may be applied as discussed in Example 1.3-2. However, the licensee may elect to apply the Risk Informed Completion Time Program which permits calculation of a Risk Informed Completion Time (RICT) that may be used to complete the Required Action beyond the 7 day Completion Time. The RICT cannot exceed 30 days. After the 7 day Completion Time has expired, the subsystem must be restored to OPERABLE status within the RICT or Condition B must also be entered.

1.3 Completion Times

EXAMPLES (continued)

The Risk Informed Completion Time Program requires recalculation of the RICT to reflect changing plant conditions. For planned changes, the revised RICT must be determined prior to implementation of the change in configuration. For emergent conditions, the revised RICT must be determined within the time limits of the Required Action Completion Time (i.e., not the RICT) or 12 hours after the plant configuration change, whichever is less.

If the 7 day Completion Time clock of Condition A has expired and subsequent changes in plant condition result in exiting the applicability of the Risk Informed Completion Time Program without restoring the inoperable subsystem to OPERABLE status, Condition B is also entered and the Completion Time clocks for Required Actions B.1 and B.2 start.

If the RICT expires or is recalculated to be less than the elapsed time since the Condition was entered and the inoperable subsystem has not been restored to OPERABLE status, Condition B is also entered and the Completion Time clocks for Required Actions B.1 and B.2 start. If the inoperable subsystems are restored to OPERABLE status after Condition B is entered, Condition A is exited, and therefore, the Required Actions of Condition B may be terminated.

IMMEDIATE COMPLETION TIME	When "Immediately" is used as a Completion Time, the Required Action should be pursued without delay and in a controlled manner.
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3.3 INSTRUMENTATION

3.3.1 Reactor Trip System (RTS) Instrumentation

LCO 3.3.1 The RTS instrumentation for each Function in Table 3.3.1-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.1-1.

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions with one or more required channels or trains inoperable.	A.1 Enter the Condition referenced in Table 3.3.1-1 for the channel(s) or train(s).	Immediately
B. One Manual Reactor Trip channel inoperable.	B.1 Restore channel to OPERABLE status.	48 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program
C. One channel or train inoperable.	C.1 Restore channel or train to OPERABLE status. <u>OR</u> C.2.1 Initiate action to fully insert all rods. <u>AND</u>	48 hours 48 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	C.2.2 Place the Rod Control System in a condition incapable of rod withdrawal.	49 hours
D. One Power Range Neutron Flux - High channel inoperable.	<p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. The inoperable channel may be bypassed for up to 12 hours for surveillance testing and setpoint adjustment of other channels. 2. Perform SR 3.2.4.2 if input to QPTR from one or more Power Range Neutron Flux channels are inoperable with THERMAL POWER >75% RTP. <p>-----</p> <p>D.1 Place channel in trip.</p>	<p>72 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>E. One channel inoperable.</p>	<p>-----NOTE----- The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels. -----</p> <p>E.1 Place channel in trip.</p>	<p>72 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<p>F. One Intermediate Range Neutron Flux channel inoperable.</p>	<p>F.1 Reduce THERMAL POWER to < P-6.</p> <p><u>OR</u></p> <p>F.2 Increase THERMAL POWER to > P-10.</p>	<p>24 hours</p> <p>24 hours</p>
<p>G. Two Intermediate Range Neutron Flux channels inoperable.</p>	<p>G.1 -----NOTE----- Limited plant cooldown or boron dilution is allowed provided the change is accounted for in the calculated SDM. -----</p> <p>Suspend operations involving positive reactivity additions.</p> <p><u>AND</u></p> <p>G.2 Reduce THERMAL POWER to < P-6.</p>	<p>Immediately</p> <p>2 hours</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>K. One channel inoperable.</p>	<p>-----NOTE----- The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels. -----</p> <p>K.1 Place channel in trip.</p>	<p>72 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<p>L. Required Action and associated Completion Time of Condition K not met.</p>	<p>L.1 Reduce THERMAL POWER to < P-7.</p>	<p>6 hours</p>
<p>M. One Turbine Trip channel inoperable.</p>	<p>-----NOTE----- The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels. -----</p> <p>M.1 Place channel in trip.</p>	<p>72 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<p>N. Required Action and associated Completion Time of Condition M not met.</p>	<p>N.1 Reduce THERMAL POWER to < P-9.</p>	<p>4 hours</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>O. One train inoperable.</p>	<p>-----NOTE----- One train may be bypassed for up to 4 hours for surveillance testing provided the other train is OPERABLE. -----</p> <p>O.1 Restore train to OPERABLE status.</p>	<p>24 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<p>P. One reactor trip breaker train inoperable.</p>	<p>-----NOTE----- One train may be bypassed for up to 4 hours for surveillance testing, provided the other train is OPERABLE. -----</p> <p>P.1 Restore train to OPERABLE status.</p>	<p>24 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<p>Q. One or more channels inoperable.</p>	<p>Q.1 Verify interlock is in required state for existing unit conditions.</p>	<p>1 hour</p>
<p>R. One or more channels inoperable.</p>	<p>R.1 Verify interlock is in required state for existing unit conditions.</p>	<p>1 hour</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
S. Required Action and associated Completion Time of Condition R not met.	S.1 Be in MODE 2.	6 hours
T. One trip mechanism inoperable for one reactor trip breaker.	<p>-----NOTE----- The reactor trip breaker train shall not be bypassed while one of the diverse trip features is inoperable except for up to 4 hours for performing maintenance to restore the breaker to OPERABLE status -----</p> <p>T.1 Restore trip mechanism to OPERABLE status.</p>	<p>48 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
U. One channel inoperable.	<p>-----NOTE----- The inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels. -----</p> <p>U.1 For the affected protection set, adjust the Trip Time Delay for one affected steam generator (T_S) to match the Trip Time Delay for multiple affected steam generators (T_M).</p> <p><u>AND</u></p>	<p>4 hours</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	<p>U.2 Place channel in trip.</p>	<p>6 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<p>V. One channel inoperable.</p>	<p>V.1 For the affected protection set, adjust the Steam Generator Water Level - Low-Low (EAM) channels trip setpoint to the same value as Steam Generator Water Level - Low-Low (Adverse).</p> <p><u>OR</u></p> <p>V.2 For the affected protection set, place the Steam Generator Water level--Low-Low channel(s) in trip.</p>	<p>6 hours</p> <p>6 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<p>W. One channel inoperable.</p>	<p>W.1 For the affected protection set, adjust the Trip Time Delays (T_S and T_M) threshold power level for zero seconds time delay to 0% RTP.</p> <p><u>OR</u></p>	<p>6 hours</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	W.2 For the affected protection set, place the Steam Generator Water Level--Low-Low channel(s) in trip.	6 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program
X. Required Action and associated Completion Time of Condition B, D, E, O, P, Q, T, U, V, or W not met.	X.1 Be in MODE 3.	6 hours

SURVEILLANCE REQUIREMENTS

-----NOTE-----

Refer to Table 3.3.1-1 to determine which SRs apply for each RTS Function.

SURVEILLANCE	FREQUENCY
SR 3.3.1.1 Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.2 -----NOTE----- Not required to be performed until 12 hours after THERMAL POWER is $\geq 15\%$ RTP. Compare results of calorimetric heat balance calculation to power range channel output. Adjust power range channel output if absolute difference is $> 2\%$.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.3.1.3</p> <p>-----NOTE----- Not required to be performed until 96 hours after THERMAL POWER is \geq 15% RTP. -----</p> <p>Compare results of the core power distribution measurements to Nuclear Instrumentation System (NIS) AFD. Adjust NIS channel if absolute difference is \geq 3%.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.3.1.4</p> <p>-----NOTE----- This Surveillance must be performed on the reactor trip bypass breaker prior to placing the bypass breaker in service. -----</p> <p>Perform TADOT.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.3.1.5</p> <p>Perform ACTUATION LOGIC TEST.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.3.1.6</p> <p>-----NOTE----- Not required to be performed until 24 hours after THERMAL POWER is \geq 50% RTP. -----</p> <p>Calibrate excore channels to agree with core power distribution measurements.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.3.1.7</p> <p>-----NOTE----- Not required to be performed for source range instrumentation prior to entering MODE 3 from MODE 2 until 4 hours after entry into MODE 3. -----</p> <p>Perform COT.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.3.1.8</p> <p>-----NOTE----- This Surveillance shall include verification that interlocks P-6 and P-10 are in their required state for existing unit conditions. -----</p> <p>Perform COT.</p>	<p>-----NOTE----- Only required when not performed within the Frequency specified in the Surveillance Frequency Control Program -----</p> <p>Prior to reactor startup</p> <p><u>AND</u></p> <p>Four hours after reducing power below P-6 for source range instrumentation</p> <p><u>AND</u></p>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
	<p>Twelve hours after reducing power below P-10 for power and intermediate range instrumentation</p> <p><u>AND</u></p> <p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.3.1.9 -----NOTE----- Verification of setpoint is not required. ----- Perform TADOT.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.3.1.10 -----NOTE----- This Surveillance shall include verification that the time constants are adjusted to the prescribed values. ----- Perform CHANNEL CALIBRATION.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.11	<p>-----NOTE----- Neutron detectors are excluded from CHANNEL CALIBRATION. -----</p> <p>Perform CHANNEL CALIBRATION.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.12	<p>-----NOTE----- Verification of setpoint is not required. -----</p> <p>Perform TADOT.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.13	<p>-----NOTE----- Verification of setpoint is not required. -----</p> <p>Perform TADOT.</p>	Prior to exceeding the P-9 interlock whenever the unit has been in MODE 3, if not performed within the previous 31 days
SR 3.3.1.14	<p>-----NOTE----- Neutron detectors are excluded from response time testing. -----</p> <p>Verify RTS RESPONSE TIME is within limits.</p>	In accordance with the Surveillance Frequency Control Program

Table 3.3.1-1 (page 4 of 9)
Reactor Trip System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	NOMINAL TRIP SETPOINT
12. Underfrequency RCPs	1 ^(g)	1 per bus	K	SR 3.3.1.9 SR 3.3.1.10 ^{(b)(c)} SR 3.3.1.14	≥ 56.973 Hz	57.0 Hz
13. Steam Generator (SG) Water Level						
a. Low-Low (Adverse)	1,2	3 per SG	U	SR 3.3.1.1 SR 3.3.1.7 ^{(b)(c)} SR 3.3.1.10 ^{(b)(c)} SR 3.3.1.14	≥ 14.4% NR Span	15.0% NR Span
Coincident with Containment Pressure (EAM)	1,2	4	V	SR 3.3.1.1 SR 3.3.1.7 ^{(b)(c)} SR 3.3.1.10 ^{(b)(c)} SR 3.3.1.14	≤ 0.6 psig	0.5 psig
and RCS Loop ΔT	1,2	4	W	SR 3.3.1.1 SR 3.3.1.7 ^{(b)(c)} SR 3.3.1.10 ^{(b)(c)} SR 3.3.1.14	RCS Loop ΔT variable input ≤ nominal trip setpoint + 2.5% RTP	RCS Loop ΔT variable input 50% RTP
with Time Delay T _s if one SG is affected					≤ (1.01)T _s (Note 3)	T _s (Note 3)
or Time Delay T _m if two or more SGs are affected					≤ (1.01)T _m (Note 3)	T _m (Note 3)

- (b) If the as-found channel setpoint is outside its predefined as-found tolerance, then the channel shall be evaluated to verify that it is functioning as required before returning the channel to service.
- (c) The instrument channel setpoint shall be reset to a value that is within the as-left tolerance around the Nominal Trip Setpoint (NTSP) at the completion of the surveillance; otherwise, the channel shall be declared inoperable. Setpoints more conservative than the NTSP are acceptable provided that the as-found and as-left tolerances apply to the actual setpoint implemented in the Surveillance procedures (field setting) to confirm channel performance. The methodologies used to determine the as-found and as-left tolerances are specified in UFSAR, Section 7.1.2.
- (g) Above the P-7 (Low Power Reactor Trips Block) interlock.

Table 3.3.1-1 (page 5 of 9)
Reactor Trip System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	NOMINAL TRIP SETPOINT
b. Low-Low (EAM)	1,2	3 per SG	U	SR 3.3.1.1 SR 3.3.1.7 ^{(b)(c)} SR 3.3.1.10 ^{(b)(c)} SR 3.3.1.14	≥ 10.1% NR Span	10.7% NR Span
Coincident with RCS Loop ΔT	1,2	4	W	SR 3.3.1.1 SR 3.3.1.7 ^{(b)(c)} SR 3.3.1.10 ^{(b)(c)} SR 3.3.1.14	RCS Loop ΔT variable input ≤ nominal trip setpoint + 2.5% RTP	RCS Loop ΔT variable input 50% RTP
with Time Delay T _s if one SG is affected					≤ (1.01)T _s (Note 3)	T _s (Note 3)
or Time Delay T _m if two or more SGs are affected					≤ (1.01)T _m (Note 3)	T _m (Note 3)
14. Turbine Trip						
a. Low Fluid Oil Pressure	1 ^(h)	3	M	SR 3.3.1.10 ^{(b)(c)} SR 3.3.1.13	≥ 710 psig	800 psig
b. Turbine Stop Valve Closure	1 ^(h)	4	M	SR 3.3.1.10 SR 3.3.1.13	≥ 1% open	1% open
15. Safety Injection (SI) Input from Engineered Safety Feature Actuation System (ESFAS)	1,2	2 trains	O	SR 3.3.1.12	NA	NA

- (b) If the as-found channel setpoint is outside its predefined as-found tolerance, then the channel shall be evaluated to verify that it is functioning as required before returning the channel to service.
- (c) The instrument channel setpoint shall be reset to a value that is within the as-left tolerance around the Nominal Trip Setpoint (NTSP) at the completion of the surveillance; otherwise, the channel shall be declared inoperable. Setpoints more conservative than the NTSP are acceptable provided that the as-found and as-left tolerances apply to the actual setpoint implemented in the Surveillance procedures (field setting) to confirm channel performance. The methodologies used to determine the as-found and as-left tolerances are specified in UFSAR, Section 7.1.2.
- (h) Above the P-9 (Power Range Neutron Flux) interlock.

Table 3.3.1-1 (page 6 of 9)
Reactor Trip System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	NOMINAL TRIP SETPOINT	
16. Reactor Trip System Interlocks							
a. Intermediate Range Neutron Flux, P-6	2 ^(f)	2	Q	SR 3.3.1.11	≥ 6 x 10 ⁻⁵ % RTP	1 x 10 ⁻⁴ % RTP	
b. Low Power Reactor Trips Block, P-7	1	1 per train	R	SR 3.3.1.5	NA	NA	
c. Power Range Neutron Flux, P-8	1	4	R	SR 3.3.1.11	≤ 37.4% RTP	35% RTP	
d. Power Range Neutron Flux, P-9	1	4	R	SR 3.3.1.11	≤ 52.4% RTP	50% RTP	
e. Power Range Neutron Flux, P-10	1,2	4	Q	SR 3.3.1.11	≥ 7.6% RTP and ≤ 12.4% RTP	10% RTP	
f. Turbine Impulse Pressure, P-13	1	2	R	SR 3.3.1.10	≤ 12.4% turbine power	10% turbine power	
17. Reactor Trip Breakers ⁽ⁱ⁾	1,2	2 trains	P	SR 3.3.1.4	NA	NA	
	3 ^(a) , 4 ^(a) , 5 ^(a)	2 trains	C	SR 3.3.1.4	NA	NA	
18. Reactor Trip Breaker Undervoltage and Shunt Trip Mechanisms	1,2	1 each per reactor trip breaker	T	SR 3.3.1.4	NA	NA	
	3 ^(a) , 4 ^(a) , 5 ^(a)	1 each per reactor trip breaker	C	SR 3.3.1.4	NA	NA	
19. Automatic Trip Logic	1,2	2 trains	O	SR 3.3.1.5	NA	NA	
	3 ^(a) , 4 ^(a) , 5 ^(a)	2 trains	C	SR 3.3.1.5	NA	NA	

(a) With Rod Control System capable of rod withdrawal or one or more rods not fully inserted.

(f) Below the P-6 (Intermediate Range Neutron Flux) interlocks.

(i) Including any reactor trip bypass breakers that are racked in and closed for bypassing a reactor trip breaker.

3.3 INSTRUMENTATION

3.3.2 Engineered Safety Feature Actuation System (ESFAS) Instrumentation

LCO 3.3.2 The ESFAS instrumentation for each Function in Table 3.3.2-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.2-1.

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions with one or more required channels or trains inoperable.	A.1 Enter the Condition referenced in Table 3.3.2-1 for the channel(s) or train(s).	Immediately
B. One channel or train inoperable.	B.1 Restore channel or train to OPERABLE status.	48 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. One train inoperable.</p>	<p>-----NOTE----- One train may be bypassed for up to 4 hours for surveillance testing provided the other train is OPERABLE. -----</p> <p>C.1 Restore train to OPERABLE status.</p>	<p>24 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<p>D. One channel inoperable.</p>	<p>-----NOTE----- The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels. -----</p> <p>D.1 Place channel in trip.</p>	<p>72 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. One Containment Pressure channel inoperable.	<p>-----NOTE----- One additional channel may be bypassed for up to 12 hours for surveillance testing of other channels. -----</p> <p>E.1 Place channel in bypass.</p>	72 hours
F. One channel inoperable.	<p>F.1 Restore channel to OPERABLE status.</p> <p><u>OR</u></p> <p>F.2 Declare the associated Main Steam Isolation Valve inoperable.</p>	<p>48 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p> <p>48 hours</p>
G. One channel or train inoperable.	G.1 Restore channel or train to OPERABLE status.	48 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>H. One train inoperable.</p>	<p>-----NOTE----- One train may be bypassed for up to 4 hours for surveillance testing provided the other train is OPERABLE. -----</p> <p>H.1 Restore train to OPERABLE status.</p>	<p>24 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<p>I. One channel inoperable.</p>	<p>-----NOTE----- The inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels. -----</p> <p>I.1 For the affected protection set, the Trip Time Delay for one affected steam generator (T_S) is adjusted to match the Trip Time Delay for multiple affected steam generators (T_M).</p> <p><u>AND</u></p> <p>I.2 Place channel in trip.</p>	<p>4 hours</p> <p>6 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>J. One channel inoperable.</p>	<p>J.1 For the affected protection set, adjust the Steam Generator Water Level - Low-Low (EAM) channels trip setpoint to the same value as Steam Generator Water Level -- Low-Low (Adverse).</p>	<p>6 hours</p>
	<p><u>OR</u></p> <p>J.2 For the affected protection set, place the Steam Generator Water Level-- Low-Low channel(s) in trip.</p>	<p>6 hours</p>
<p>K. One channel inoperable.</p>	<p>K.1 For the affected protection set, adjust the Trip Time Delays (T_S and T_M) threshold power level for zero seconds time delay to 0% RTP.</p>	<p>6 hours</p>
	<p><u>OR</u></p> <p>K.2 For the affected protection set, place the Steam Generator Water level-- Low-Low channel(s) in trip.</p>	<p>6 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>L. One voltage sensor channel inoperable.</p>	<p>L.1 Restore the inoperable channel to OPERABLE status.</p> <p><u>OR</u></p> <p>L.2 Declare the associated auxiliary feedwater pump inoperable.</p>	<p>6 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p> <p>6 hours</p>
<p>M. Two or more voltage sensor channels inoperable.</p> <p><u>OR</u></p> <p>One required load shed timer channel inoperable.</p>	<p>M.1.1 Restore all but one voltage sensor channel to an OPERABLE status.</p> <p><u>AND</u></p> <p>M.1.2 Restore required load shed timer channel to an OPERABLE status.</p> <p><u>OR</u></p> <p>M.2 Declare the associated auxiliary feedwater pump inoperable.</p>	<p>1 hour</p> <p>1 hour</p> <p>1 hour</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>N. One Main Feedwater Pumps trip channel inoperable.</p>	<p>-----NOTE----- One channel may be inoperable during MODE 1 for up to 4 hours when placing the second main feedwater (MFW) pump in service or removing one of two MFW pumps from service. -----</p> <p>N.1 Restore channel to OPERABLE status.</p>	<p>48 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program</p>
<p>O. Required Action and associated Completion Time of Condition N not met.</p>	<p>O.1 Be in MODE 3.</p>	<p>6 hours</p>
<p>P. One channel inoperable.</p>	<p>P.1 Declare the associated auxiliary feedwater pump inoperable.</p>	<p>Immediately</p>
<p>Q. One channel inoperable.</p>	<p>-----NOTE----- One additional channel may be bypassed for up to 4 hours for surveillance testing. -----</p> <p>Q.1 Place channel in bypass.</p>	<p>6 hours</p>
<p>R. One or more channels inoperable.</p>	<p>R.1 Verify interlock is in required state for existing unit condition.</p>	<p>1 hour</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
S. Required Action and associated Completion Time of Conditions B, C, or Q not met.	S.1 Be in MODE 3.	6 hours
	<u>AND</u>	
	S.2 Be in MODE 5.	36 hours
T. Required Action and associated Completion Time of Conditions D, E, G, H, I, J, K, or R not met.	T.1 Be in MODE 3.	6 hours
	<u>AND</u>	
	T.2 Be in MODE 4.	12 hours
U. One train inoperable.	-----NOTE----- One train may be bypassed for up to 4 hours for surveillance testing provided the other train is OPERABLE. -----	
	U.1 Be in MODE 3.	12 hours
	<u>AND</u>	
	U.2 Be in MODE 5.	42 hours

SURVEILLANCE REQUIREMENTS

-----NOTE-----
Refer to Table 3.3.2-1 to determine which SRs apply for each ESFAS Function.

SURVEILLANCE	FREQUENCY
SR 3.3.2.1 Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.2.2	Perform ACTUATION LOGIC TEST.	In accordance with the Surveillance Frequency Control Program
SR 3.3.2.3	Perform MASTER RELAY TEST.	In accordance with the Surveillance Frequency Control Program
SR 3.3.2.4	Perform COT.	In accordance with the Surveillance Frequency Control Program
SR 3.3.2.5	Perform SLAVE RELAY TEST.	In accordance with the Surveillance Frequency Control Program
SR 3.3.2.6	<p>-----NOTE----- Verification of relay setpoints not required. -----</p> <p>Perform TADOT.</p>	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.2.7	<p>-----NOTE----- Verification of setpoint not required for manual initiation functions. ----- Perform TADOT.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.3.2.8	<p>-----NOTE----- This Surveillance shall include verification that the time constants are adjusted to the prescribed values. ----- Perform CHANNEL CALIBRATION.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.3.2.9	<p>-----NOTE----- Not required to be performed for the turbine driven AFW pump until 24 hours after SG pressure is ≥ 842 psig. ----- Verify ESFAS RESPONSE TIMES are within limit.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.3.2.10	<p>-----NOTE----- Verification of setpoint not required. ----- Perform TADOT.</p>	Once per reactor trip breaker cycle

Table 3.3.2-1 (page 7 of 9)
Engineered Safety Feature Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	NOMINAL TRIP SETPOINT
6. Auxiliary Feedwater						
c. Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.					
d. Loss of Offsite Power						
(1) Voltage Sensors	1,2,3	3 per shutdown board ⁽ⁱ⁾	L,M	SR 3.3.2.6 SR 3.3.2.8 ^{(b)(c)} SR 3.3.2.9	Refer to Function 1 of Table 3.3.5-1 for setpoints and allowable values.	
(2) Load Shed Timer	1,2,3	1 per shutdown board ⁽ⁱ⁾	M	SR 3.3.2.8 ^{(b)(c)} SR 3.3.2.9	Refer to Function 1 of Table 3.3.5-1 for setpoints and allowable values.	
e. Trip of all Main Feedwater Pumps	1,2 ^(k)	1 per pump	N	SR 3.3.2.7 SR 3.3.2.9	NA	NA
f. Auxiliary Feedwater Pump Suction Transfer on Suction Pressure - Low	1,2,3	3 per pump	P	SR 3.3.2.8 ^{(b)(c)}	≥ 2.44 psig (motor driven pump)	3.21 psig (motor driven pump)
					≥ 12 psig (turbine driven pump)	13.9 psig (turbine driven pump)

- (b) If the as-found channel setpoint is outside its predefined as-found tolerance, then the channel shall be evaluated to verify that it is functioning as required before returning the channel to service.
- (c) The instrument channel setpoint shall be reset to a value that is within the as-left tolerance around the Nominal Trip Setpoint (NTSP) at the completion of the surveillance; otherwise, the channel shall be declared inoperable. Setpoints more conservative than the NTSP are acceptable provided that the as-found and as-left tolerances apply to the actual setpoint implemented in the Surveillance procedures (field setting) to confirm channel performance. The methodologies used to determine the as-found and as-left tolerances are specified in UFSAR, Section 7.1.2.
- (j) Unit 2 shutdown boards only.
- (k) When one or more Main Feedwater Pump(s) are supplying feedwater to steam generators.

Table 3.3.2-1 (page 8 of 9)
Engineered Safety Feature Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	NOMINAL TRIP SETPOINT
6. Auxiliary Feedwater						
g. Auxiliary Feedwater Suction Transfer Time Delays						
(1) Motor-Driven Pump	1,2,3	1 per pump	P	SR 3.3.2.8 ^{(b)(c)}	≤ 4.4 seconds and ≥ 3.6 seconds	4 seconds
(2) Turbine-Driven Pump	1,2,3	2 per pump	P	SR 3.3.2.8 ^{(b)(c)}	≤ 6.05 seconds and ≥ 4.95 seconds	5.5 seconds
7. Automatic Switchover to Containment Sump						
a. Automatic Actuation Logic and Actuation Relays	1,2,3,4	2 trains	U	SR 3.3.2.2 SR 3.3.2.3 SR 3.3.2.5	NA	NA
b. RWST Level - Low	1,2,3,4	4	Q	SR 3.3.2.1 SR 3.3.2.4 ^{(b)(c)} SR 3.3.2.8 ^{(b)(c)} SR 3.3.2.9	≤ 132.71" and ≥ 127.29" from tank base	130" from tank base
Coincident with Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.					
and						
Coincident with Containment Sump Level - High	1,2,3,4	4	Q	SR 3.3.2.1 SR 3.3.2.4 ^{(b)(c)} SR 3.3.2.8 ^{(b)(c)} SR 3.3.2.9	≤ 31.68 in. and ≥ 28.32 in. above el. 680 ft	30 in. above el. 680 ft

- (b) If the as-found channel setpoint is outside its predefined as-found tolerance, then the channel shall be evaluated to verify that it is functioning as required before returning the channel to service.
- (c) The instrument channel setpoint shall be reset to a value that is within the as-left tolerance around the Nominal Trip Setpoint (NTSP) at the completion of the surveillance; otherwise, the channel shall be declared inoperable. Setpoints more conservative than the NTSP are acceptable provided that the as-found and as-left tolerances apply to the actual setpoint implemented in the Surveillance procedures (field setting) to confirm channel performance. The methodologies used to determine the as-found and as-left tolerances are specified in UFSAR, Section 7.1.2.

Table 3.3.2-1 (page 9 of 9)
Engineered Safety Feature Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	NOMINAL TRIP SETPOINT
8. ESFAS Interlocks						
a. Reactor Trip, P-4	1,2,3	1 per train, 2 trains	G	SR 3.3.2.10	NA	NA
b. Pressurizer Pressure, P-11/ Not P-11						
(1) Not P-11, Automatic Unblock of Safety Injection on Increasing Pressure	1,2,3	3	R	SR 3.3.2.8	≤ 1975.2 psig	1970 psig
(2) P-11, Enable Manual Block of Safety Injection on Decreasing Pressure	1,2,3	3	R	SR 3.3.2.8	≥ 1956.8 psig	1962 psig

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.11 Pressurizer Power Operated Relief Valves (PORVs)

LCO 3.4.11 Each PORV and associated block valve shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

-----NOTE-----
Separate Condition entry is allowed for each PORV and each block valve.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more PORVs inoperable and capable of being manually cycled.	A.1 Close and maintain power to associated block valve.	1 hour
B. One PORV inoperable and not capable of being manually cycled.	B.1 Close associated block valve. <u>AND</u>	1 hour
	B.2 Remove power from associated block valve. <u>AND</u>	1 hour
	B.3 Restore PORV to OPERABLE status.	72 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. One block valve inoperable.</p>	<p>-----NOTE----- Required Actions C.1 and C.2 do not apply when block valve is inoperable solely as a result of complying with Required Action B.2 or E.2. -----</p> <p>C.1 Place associated PORV in manual control.</p> <p><u>AND</u></p> <p>C.2 Restore block valve to OPERABLE status.</p>	<p>1 hour</p> <p>72 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<p>D. Required Action and associated Completion Time of Condition A, B, or C not met.</p>	<p>D.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>D.2 Be in MODE 4.</p>	<p>6 hours</p> <p>12 hours</p>
<p>E. Two PORVs inoperable and not capable of being manually cycled.</p>	<p>E.1 Close associated block valves.</p> <p><u>AND</u></p> <p>E.2 Remove power from associated block valves.</p> <p><u>AND</u></p> <p>E.3 Be in MODE 3.</p> <p><u>AND</u></p> <p>E.4 Be in MODE 4.</p>	<p>1 hour</p> <p>1 hour</p> <p>6 hours</p> <p>12 hours</p>

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

3.5.2 ECCS - Operating

LCO 3.5.2 Two ECCS trains shall be OPERABLE.

-----NOTES-----

1. In MODE 3, both safety injection (SI) pump flow paths may be isolated by closing the isolation valves for up to 2 hours to perform pressure isolation valve testing per SR 3.4.14.1.
 2. In MODE 3, ECCS pumps may be made incapable of injecting to support transition into or from the Applicability of LCO 3.4.12, "Low Temperature Overpressure Protection (LTOP) System," for up to 4 hours or until the temperature of all RCS cold legs exceeds Low Temperature Overpressure Protection (LTOP) arming temperature specified in the PTLR plus 25°F, whichever comes first.
-

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more trains inoperable.	A.1 Restore train(s) to OPERABLE status.	72 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. <u>AND</u> B.2 Be in MODE 4.	6 hours 12 hours
C. Less than 100% of the ECCS flow equivalent to a single OPERABLE ECCS train available.	C.1 Enter LCO 3.0.3.	Immediately

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One or more penetration flow paths with one containment isolation valve inoperable for reasons other than Conditions E, F, and G.</p>	<p>A.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured.</p> <p><u>AND</u></p>	<p>4 hours for Category 1 or 8 CIVs</p> <p><u>AND</u></p> <p>8 hours for Category 2 or 9 CIVs</p> <p><u>AND</u></p> <p>12 hours for Category 3 or 10 CIVs</p> <p><u>AND</u></p> <p>24 hours for Category 4 or 11 CIVs</p> <p><u>AND</u></p> <p>48 hours for Category 5 or 12 CIVs</p> <p><u>AND</u></p> <p>72 hours for Category 6 or 13 CIVs</p> <p><u>AND</u></p> <p>7 days for Category 7 or 14 CIVs</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	<p>A.2</p> <p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. Isolation devices in high radiation areas may be verified by use of administrative means. 2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means. <p>-----</p> <p>Verify the affected penetration flow path is isolated.</p>	<p>Once per 31 days following isolation for isolation devices outside containment</p> <p><u>AND</u></p> <p>Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation devices inside containment</p>
<p>B. -----NOTE-----</p> <p>Only applicable to penetration flow paths with two containment isolation valves.</p> <p>-----</p> <p>One or more penetration flow paths with two containment isolation valves inoperable for reasons other than Conditions E, F, and G.</p>	<p>B.1</p> <p>Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.</p>	<p>1 hour</p>

3.6 CONTAINMENT SYSTEMS

3.6.6 Containment Spray System

LCO 3.6.6 Two containment spray subsystems shall be OPERABLE.

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

-----NOTE-----
RHR spray trains are not required to be OPERABLE in MODE 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One containment spray subsystem inoperable.	A.1 Restore containment spray subsystem to OPERABLE status.	72 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. <u>AND</u> B.2 Be in MODE 5.	6 hours 84 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.6.1 Verify each containment spray train manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.	In accordance with the Surveillance Frequency Control Program

3.6 CONTAINMENT SYSTEMS

3.6.8 Hydrogen Mitigation System (HMS)

LCO 3.6.8 Two HMS trains shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One HMS train inoperable.	A.1 Restore HMS train to OPERABLE status.	7 days <u>OR</u> In accordance with the Risk Informed Completion Time Program
	<u>OR</u> A.2 Perform SR 3.6.8.1 on the OPERABLE train.	Once per 7 days
B. One containment region with no OPERABLE hydrogen ignitor.	B.1 Restore one hydrogen ignitor in the affected containment region to OPERABLE status.	7 days <u>OR</u> In accordance with the Risk Informed Completion Time Program
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	6 hours

3.6 CONTAINMENT SYSTEMS

3.6.11 Air Return System (ARS)

LCO 3.6.11 Two ARS trains shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One ARS train inoperable.	A.1 Restore ARS train to OPERABLE status.	72 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program
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

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.11.1 Verify each ARS fan starts on an actual or simulated actuation signal, after a delay of ≥ 9.0 minutes and ≤ 11.0 minutes, and operates for ≥ 15 minutes.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.11.2	Verify, with the ARS fan dampers closed, each ARS fan motor current is ≥ 24.5 amps and ≤ 39.5 amps.	In accordance with the Surveillance Frequency Control Program
SR 3.6.11.3	Verify, with the ARS fan not operating, each ARS fan damper opens when ≤ 68.1 in-lb of torque is applied to the counterweight.	In accordance with the Surveillance Frequency Control Program

3.7 PLANT SYSTEMS

3.7.2 Main Steam Isolation Valves (MSIVs)

LCO 3.7.2 Four MSIVs shall be OPERABLE.

APPLICABILITY: MODE 1,
MODES 2 and 3 except when all MSIVs are closed.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One MSIV inoperable in MODE 1.	A.1 Restore MSIV to OPERABLE status.	4 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 2.	6 hours
C. -----NOTE----- Separate Condition entry is allowed for each MSIV. ----- One or more MSIVs inoperable in MODE 2 or 3.	C.1 Close MSIV. <u>AND</u> C.2 Verify MSIV is closed.	4 hours Once per 7 days
D. Required Action and associated Completion Time of Condition C not met.	D.1 Be in MODE 3. <u>AND</u> D.2 Be in MODE 4.	6 hours 12 hours

3.7 PLANT SYSTEMS

3.7.5 Auxiliary Feedwater (AFW) System

LCO 3.7.5 Three AFW trains shall be OPERABLE.

-----NOTE-----
Only one AFW train, which includes a motor driven pump, is required to be OPERABLE in MODE 4.

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

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. Turbine driven AFW train inoperable due to one inoperable steam supply.</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><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<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><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<p>C. Turbine driven AFW train inoperable due to one inoperable steam supply.</p> <p><u>AND</u></p> <p>One motor driven AFW train inoperable.</p>	<p>C.1 Restore the steam supply to the turbine driven train to OPERABLE status.</p> <p><u>OR</u></p> <p>C.2 Restore the motor driven AFW train to OPERABLE status.</p>	<p>48 hours</p> <p>48 hours</p>
<p>D. Required Action and associated Completion Time of Condition A, B, or C not met.</p> <p><u>OR</u></p> <p>Two AFW trains inoperable in MODE 1, 2, or 3 for reasons other than Condition C.</p>	<p>D.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>D.2 Be in MODE 4.</p>	<p>6 hours</p> <p>18 hours</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Three AFW trains inoperable in MODE 1, 2, or 3.	<p>E.1 -----NOTE----- LCO 3.0.3 and all other LCO Required Actions requiring MODE changes are suspended until one AFW train is restored to OPERABLE status. -----</p> <p>Initiate action to restore one AFW train to OPERABLE status.</p>	Immediately
F. Required AFW train inoperable in MODE 4.	F.1 Initiate action to restore AFW train to OPERABLE status.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.7.5.1 -----NOTE----- AFW train(s) may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually realigned to the AFW mode of operation. -----</p> <p>Verify each AFW manual, power operated, and automatic valve in each water flow path, and in both steam supply flow paths to the steam turbine driven pump, that is not locked, sealed, or otherwise secured in position, is in the correct position.</p>	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.7.5.2</p> <p>-----NOTE----- Not required to be performed for the turbine driven AFW pump until 24 hours after ≥ 842 psig in the steam generator. -----</p> <p>Verify the developed head of each AFW pump at the flow test point is greater than or equal to the required developed head.</p>	<p>In accordance with the Inservice Testing Program</p>
<p>SR 3.7.5.3</p> <p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. AFW train(s) may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually realigned to the AFW mode of operation. 2. Only required to be met in MODES 1, 2, and 3. <p>-----</p> <p>Verify each AFW automatic valve that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.7.5.4</p> <p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. Not required to be performed for the turbine driven AFW pump until 24 hours after ≥ 842 psig in the steam generator. 2. AFW train(s) may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually realigned to the AFW mode of operation. 3. Only required to be met in MODES 1, 2, and 3. <p>-----</p> <p>Verify each AFW pump starts automatically on an actual or simulated actuation signal.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>B. One ERCW System train inoperable for reasons other than Condition A.</p>	<p>B.1</p> <p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. Enter applicable Conditions and Required Actions of LCO 3.8.1, "AC Sources - Operating," for emergency diesel generator made inoperable by ERCW System. 2. Enter applicable Conditions and Required Actions of LCO 3.4.6, "RCS Loops - MODE 4," for residual heat removal loops made inoperable by ERCW System. <p>-----</p> <p>Restore ERCW System train to OPERABLE status.</p>	<p>72 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<p>C. Required Action and associated Completion Time of Condition A or B not met.</p>	<p>C.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>C.2 Be in MODE 5.</p>	<p>6 hours</p> <p>36 hours</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	<p>A.3 Restore offsite circuit to OPERABLE status.</p>	<p>72 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<p>B. One or more Train A DG(s) inoperable.</p> <p><u>OR</u></p> <p>One or more Train B DG(s) inoperable.</p>	<p>B.1 Perform SR 3.8.1.1 for the offsite circuits.</p> <p><u>AND</u></p> <p>B.2 Declare required feature(s) supported by the inoperable DG inoperable when its required redundant feature(s) is inoperable.</p> <p><u>AND</u></p> <p>B.3.1 Determine OPERABLE DGs are 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 DGs.</p> <p><u>AND</u></p> <p>B.4 Restore DG(s) to OPERABLE status.</p>	<p>1 hour</p> <p><u>AND</u></p> <p>Once per 8 hours thereafter</p> <p>4 hours from discovery of Condition B concurrent with inoperability of redundant required feature(s)</p> <p>24 hours</p> <p>24 hours</p> <p>7 days</p> <p><u>OR</u></p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
		In accordance with the Risk Informed Completion Time Program
<p>C. One offsite circuit inoperable solely due to an offsite power source to 6.9 kV Shutdown Board 1A-A or 1B-B inoperable.</p>	<p>C.1 Perform SR 3.8.1.1 for OPERABLE offsite circuit.</p> <p><u>AND</u></p> <p>C.2 Declare required feature(s) with no offsite power available inoperable when its redundant required feature(s) is inoperable.</p> <p><u>AND</u></p> <p>C.3 Restore offsite circuit to OPERABLE status.</p>	<p>1 hour</p> <p><u>AND</u></p> <p>Once per 8 hours thereafter</p> <p>24 hours from discovery of no offsite power to 6.9 kV Shutdown Board 1A-A or 1B-B concurrent with inoperability of redundant required feature(s)</p> <p>7 days</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. Two offsite circuits inoperable.</p>	<p>D.1 Declare required feature(s) inoperable when its redundant required feature(s) is inoperable.</p> <p><u>AND</u></p> <p>D.2 Restore one offsite circuit to OPERABLE status.</p>	<p>12 hours from discovery of Condition D concurrent with inoperability of redundant required features</p> <p>24 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<p>E. One offsite circuit inoperable for reasons other than Condition C.</p> <p><u>AND</u></p> <p>DG 2A-A or 2B-B inoperable.</p>	<p>E.1 Restore offsite circuit to OPERABLE status.</p> <p><u>OR</u></p> <p>E.2 Restore DG to OPERABLE status.</p>	<p>12 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p> <p>12 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>

ACTIONS (continued)

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

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.1.1	Verify correct breaker alignment and indicated power availability for each offsite circuit.	In accordance with the Surveillance Frequency Control Program
SR 3.8.1.2	<p>-----NOTES-----</p> <ol style="list-style-type: none"> All DG starts may be preceded by an engine prelube period and followed by a warmup period prior to loading. A modified DG start involving idling and gradual acceleration to synchronous speed may be used for this SR as recommended by the manufacturer. When modified start procedures are not used, the time, voltage, and frequency tolerances of SR 3.8.1.7 must be met. <p>-----</p> <p>Verify each DG starts from standby conditions and achieves steady state voltage ≥ 6800 V and ≤ 7260 V, and frequency ≥ 59.8 Hz and ≤ 60.2 Hz.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.8.1.3	<p>-----NOTES-----</p> <ol style="list-style-type: none"> DG loadings may include gradual loading as recommended by the manufacturer. Momentary transients outside the load range do not invalidate this test. This Surveillance shall be conducted on only one DG at a time. This SR shall be preceded by and immediately follow without shutdown a successful performance of SR 3.8.1.2 or SR 3.8.1.7. <p>-----</p> <p>Verify each DG is synchronized and loaded and operates for ≥ 60 minutes at a load ≥ 3960 kW and ≤ 4400 kW.</p>	In accordance with the Surveillance Frequency Control Program

3.8 ELECTRICAL POWER SYSTEMS

3.8.4 DC Sources - Operating

LCO 3.8.4 Two Vital DC electrical power trains and four diesel generator (DG) DC electrical power subsystems shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One or two vital battery chargers on one train inoperable.</p>	<p>A.1 Restore battery terminal voltage to greater than or equal to the minimum established float voltage.</p> <p><u>AND</u></p> <p>A.2 Verify battery float current \leq 2 amps.</p> <p><u>AND</u></p> <p>A.3 Restore vital battery chargers to OPERABLE status.</p>	<p>2 hours</p> <p>Once per 12 hours</p> <p>7 days</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<p>B. One vital DC electrical power train inoperable for reasons other than Condition A.</p>	<p>B.1 Restore vital DC electrical power train to OPERABLE status.</p>	<p>2 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Action and Associated Completion Time of Condition A or B not met.	C.1 Be in MODE 3.	6 hours
	<u>AND</u> C.2 Be in MODE 5.	36 hours
D. One or more DG DC electrical power subsystem(s) inoperable.	D.1 Declare associated DG(s) inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.4.1 Verify battery terminal voltage is greater than or equal to the minimum established float voltage.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.2 Verify each vital battery charger supplies ≥ 150 amps at greater than or equal to the minimum established float voltage for ≥ 4 hours. <u>OR</u> Verify each vital battery charger can recharge the battery to the fully charged state within 36 hours while supplying the largest combined demands of the various continuous steady state loads, after a battery discharge to the bounding design basis event discharge state.	In accordance with the Surveillance Frequency Control Program

3.8 ELECTRICAL POWER SYSTEMS

3.8.7 Inverters - Operating

LCO 3.8.7 The required Train A and Train B inverters shall be OPERABLE.

-----NOTE-----

Two inverters may be disconnected from their associated DC source for ≤ 24 hours to perform an equalizing charge on their associated common battery, provided:

- a. The associated AC vital instrument power board(s) are energized from their inverter using internal AC source, and
 - b. All other AC vital instrument power boards are energized from their associated OPERABLE inverters connected to their DC source.
-

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One required inverter inoperable.</p>	<p>A.1 -----NOTE----- Enter applicable Conditions and Required Actions of LCO 3.8.9, "Distribution Systems - Operating" with any AC vital instrument power board de-energized. ----- Restore inverter to OPERABLE status.</p>	<p>24 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
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

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.7.1 Verify correct inverter voltage, frequency, and alignment to required AC vital instrument power boards.	In accordance with the Surveillance Frequency Control Program

3.8 ELECTRICAL POWER SYSTEMS

3.8.9 Distribution Systems - Operating

LCO 3.8.9 Two electrical power distribution trains shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One or more AC electrical power distribution subsystems inoperable due to one or more Unit 2 AC shutdown boards inoperable.</p>	<p>A.1 -----NOTE----- Enter applicable Conditions and Required Actions of LCO 3.8.4, "DC Sources - Operating," for vital DC electrical power trains made inoperable by inoperable AC electrical power distribution subsystems. ----- Restore Unit 2 AC electrical power distribution subsystem(s) to OPERABLE status.</p>	<p>8 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program</p>
<p>B. One or more AC vital instrument power distribution subsystems inoperable.</p>	<p>B.1 Restore AC vital instrument power distribution subsystem(s) to OPERABLE status.</p>	<p>8 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. One or more vital DC electrical power distribution subsystems inoperable.</p>	<p>C.1 Restore vital DC electrical power distribution subsystem(s) to OPERABLE status.</p>	<p>2 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program</p>
<p>-----NOTES-----</p>		
<p>1. Only applicable during planned maintenance.</p> <p>2. Only applicable when Unit 1 is defueled or in MODE 6 following defueled with Unit 1 refueling water cavity level \geq 23 ft. above top of reactor vessel flange.</p>		
<p>-----</p> <p>D. One or more AC electrical power distribution subsystems inoperable due to one or more Unit 1 AC shutdown boards inoperable.</p>	<p>D.1 Declare associated required feature(s) inoperable.</p>	<p>Immediately</p>
<p>E. One or more AC electrical power distribution subsystems inoperable due to one or more Unit 1 AC shutdown boards inoperable for reasons other than Condition D.</p>	<p>E.1 Restore Unit 1 AC electrical power distribution subsystem(s) to OPERABLE status.</p>	<p>24 hours</p>
<p>F. One or more DG DC electrical power distribution panels inoperable.</p>	<p>F.1 Declare associated supported DG inoperable.</p>	<p>Immediately</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
G. Required Action and associated Completion Time not met.	G.1 Be in MODE 3.	6 hours
	<u>AND</u>	
	G.2 Be in MODE 5.	36 hours
H. Two or more electrical power distribution subsystems inoperable that result in a loss of safety function.	H.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.9.1 Verify correct breaker alignments and voltage to required AC, vital DC, DG DC, and AC vital instrument electrical power distribution subsystems.	In accordance with the Surveillance Frequency Control Program

5.5 Programs and Manuals

5.5.16 Control Room Envelope (CRE) Habitability Program (continued)

- f. The provisions of SR 3.0.2 are applicable to the Frequencies for assessing CRE habitability, determining CRE unfiltered inleakage, and measuring CRE pressure and assessing the CRE boundary as required by paragraphs c and d, respectively.

5.5.17 Surveillance Frequency Control Program

This program provides controls for Surveillance Frequencies. The program shall ensure that Surveillance Requirements specified in the Technical Specifications are performed at intervals sufficient to assure the associated Limiting Conditions for Operation are met.

- a. The Surveillance Frequency Control Program shall contain a list of Frequencies of those Surveillance Requirements for which the Frequency is controlled by the program.
- b. Changes to the Frequencies listed in the Surveillance Frequency Control Program shall be made in accordance with NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1.
- c. The provisions of Surveillance Requirements 3.0.2 and 3.0.3 are applicable to the Frequencies established in the Surveillance Frequency Control Program.

5.5.18 Risk Informed Completion Time Program

This program provides controls to calculate a Risk Informed Completion Time (RICT) and must be implemented in accordance with NEI 06-09-A, Revision 0, "Risk-Managed Technical Specifications (RMTS) Guidelines." The program shall include the following:

- a. The RICT may not exceed 30 days;
- b. A RICT may only be utilized in MODE 1 and 2;
- c. When a RICT is being used, any change to the plant configuration, as defined in NEI 06-09-A, Appendix A, must be considered for the effect on the RICT.
 - 1. For planned changes, the revised RICT must be determined prior to implementation of the change in configuration.

5.5 Programs and Manuals

5.5.18 Risk Informed Completion Time Program (continued)

2. For emergent conditions, the revised RICT must be determined within the time limits of the Required Action Completion Time (i.e., not the RICT) or 12 hours after the plant configuration change, whichever is less.
 3. Revising the RICT is not required if the plant configuration change would lower plant risk and would result in a longer RICT.
- d. For emergent conditions, if the extent of condition evaluation for inoperable structures, systems, or components (SSCs) is not complete prior to exceeding the Completion Time, the RICT shall account for the increased possibility of common cause failure (CCF) by either:
1. Numerically accounting for the increased possibility of CCF in the RICT calculation; or
 2. Risk Management Actions (RMAs) not already credited in the RICT calculation shall be implemented that support redundant or diverse SSCs that perform the function(s) of the inoperable SSCs, and, if practicable, reduce the frequency of initiating events that challenge the function(s) performed by the inoperable SSCs.
- e. The risk assessment approaches and methods shall be acceptable to the NRC. The plant PRA shall be based on the as-built, as-operated, and maintained plant; and reflect the operating experience at the plant, as specified in Regulatory Guide 1.200, Revision 2. Methods to assess the risk from extending the Completion Times must be PRA methods approved for use with this program, or other methods approved by the NRC for generic use; and any change in the PRA methods to assess risk that are outside these approval boundaries require prior NRC approval.
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SUBJECT: SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2 – CORRECTION TO AMENDMENT NOS. 358 AND 352 REGARDING TECHNICAL SPECIFICATIONS TASK FORCE TRAVELER TSTF-505, REVISION 2, “PROVIDE RISK-INFORMED EXTENDED COMPLETION TIMES – RITSTF INITIATIVE 4B” (EPID L-2021-LLA-0145) DATED SEPTEMBER 29, 2022

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