

## Integrated Industry / NRC Priority List for Travelers to be Incorporated into Revision 2

(Includes all Active Travelers that are not Approved, Withdrawn, or Rejected with Rejection Accepted)

Traveler #	Short Title	Traveler Status	Responsibility for Next Action/ Target Date	NRC Contact/ Date Sent to NRC	Industry Contact
TSTF-16, Rev. 2	Add Action to LCO 3.8.9 to require entry into LCO 3.0.3 when there is a loss of function	NRC Action Pending	NRC Unassigned	Tomlinson, Ed 11/23/99	Pontious, Harry
TSTF-52, Rev. 3	Implement 10 CFR 50, Appendix J, Option B	Under TSTF Consideration	TSTF Unassigned	Giardina, Bob With TSTF	Buschbaum, Denny
TSTF-207, Rev. 4	Completion Time for Restoration of Various Excessive Leakage Rates	Under TSTF Consideration	TSTF Unassigned	Giardina, Bob With TSTF	Pontious, Harry
TSTF-276, Rev. 2	Revise DG full load rejection test	NRC Action Pending	NRC Unassigned	Tomlinson, Ed 8/31/99	Pontious, Harry
TSTF-283, Rev. 3	Modify Section 3.8 Mode restriction Notes	NRC Action Pending	NRC Unassigned	Tomlinson, Ed 1/11/00	Buschbaum, Denny
TSTF-286, Rev. 2	Define "Operations Involving Positive Reactivity Additions"	NRC Action Pending	NRC Unassigned	Tomlinson, Ed 1/11/00	Buschbaum, Denny
TSTF-287, Rev. 5	Ventilation System Envelope Allowed Outage Time	NRC Action Pending	NRC Unassigned	Giardina, Bob 1/11/00	Buschbaum, Denny
TSTF-306, Rev. 1	Add Action to LCO 3.3.6.1 to give option to isolate the penetration	Under TSTF Consideration	TSTF Unassigned	Schulten, Carl With TSTF	Pontious, Harry
TSTF-332, Rev. 0	ECCS Response Time Testing	Reviewer Recommends Changes	TSTF Unassigned	<del>Gilles, Nan</del> <i>Carl Schulten</i> 4/30/99	Pontious, Harry
TSTF-333, Rev. 1	Allowed performance time for testing Diesel Generators	NRC Rejects: TSTF Considering	TSTF Unassigned	Tomlinson, Ed 10/20/99	Pontious, Harry
TSTF-334, Rev. 0	Relaxed Surveillance Frequency for Excess Flow Check Valve Testing	NRC Action Pending	NRC Unassigned	Giardina, Bob 6/23/99	Pontious, Harry
TSTF-340, Rev. 3	Allow 7 day Completion Time for a turbine-driven AFW pump inoperable	NRC Action Pending	NRC Unassigned	Harbuck, Craig 2/25/00	Weber, Tom

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Traveler #	Short Title	Traveler Status	Responsibility for Next Action/ Target Date		NRC Contact/ Date Sent to NRC	Industry Contact
TSTF-342, Rev. 0	Revise SR 3.3.1.5, Calibration, and associated requirements for power range channels	NRC Requests Changes: TSTF Considering	TSTF	Unassigned	Schulten, Carl 7/20/99	Clarkson, Noel
TSTF-352, Rev. 0	Provide Consistent Completion Time to Reach MODE 4	NRC Requests Changes: TSTF Considering	TSTF	Unassigned	<del>Weston, Mag</del> <i>Tjader, Bob</i> 8/4/99	Weber, Tom
TSTF-355, Rev. 0	Make changes to RTS and ESF Tables	Reviewer Recommends Approval	NRC	Unassigned	Schulten, Carl 1/11/00	Buschbaum, Denny
TSTF-357, Rev. 0	Relocate value for CPR safety limit to the COLR	NRC Action Pending	NRC	Unassigned	Tjader, Bob 10/20/99	Pontious, Harry
TSTF-360, Rev. 0	DC Electrical Rewrite	NRC Action Pending	NRC	Unassigned	Tomlinson, Ed 2/25/00	Clarkson, Noel
TSTF-361, Rev. 0	Allow standby SDC/RHR/DHR loop to inoperable to support testing	NRC Action Pending	NRC	Unassigned	Weston, Mag 12/27/99	Weber, Tom
TSTF-362, Rev. 0	Change to the VFPT in ITS Section 5.0 in accordance with GL 99-02	Under TSTF Consideration	TSTF	Unassigned	Tjader, Bob With TSTF	Weber, Tom
TSTF-363, Rev. 0	Revise Topical Report references in ITS 5.6.5, COLR	Under TSTF Consideration	TSTF	Unassigned	Tjader, Bob With TSTF	Pontious, Harry

**Number: 20**

**TSTF STATUS as of March 7, 2000**

<u>TSTF #</u>	<u>Subject</u>	<u>Status</u>
016 R.2	RA added for LCO 3.0.3 Entry on LOF	TSB reviewing
052 R.2	10CFR50 App J Opt B	OG reviewing
076 R.1	Reqt for onsite review deleted	Approved
204 R.3	DC Sources S/D & Inverters	Approved
207 R.3	CT to Restore Excess Leak Rate	OG reviewing
242 R.1	SR Freq change to perform PR & IR COT	Approved; TGD proposes edits
275 R.0	EDG Start Signals	Approved
276 R.2	DG Full Load Rejection Test	TSB reviewing
283 R.3	3.8 Mode Restriction Notes	TSB reviewing
284 R.3	Met vs Performed	Approved
286 R.2	OPS Involving Pos reactivity Additions	TSB reviewing
287 R.4	Vent Syst Envelope AOT	Approved
295 R.0	PAM Note	Approved; TGD proposes edits
297 R.1	3.3.2.2 RA; FW-Mn Turb Hi Water Lvl	Approved
306 R.0	3.3.6.1 added Action	OG to mod Bases
322 R.2	Secondary Containment SR Mod	Approved; TGD proposes edits
330 R.0	UHS TS Changes	OG reviewing
332 R.0	ECCS RTT	OG reviewing
333 R.1	DG Performance Time Test	Rejected
334 R.0	Excess Flow Check Valve SR Freq	To Be Modified; OG reviewing
340 R.3	Turb AFW Pump, ADT	Approved
342 R.0	SR 3.3.1.5 on PR Cals	OG reviewing
352 R.0	Revise CT to reach Mode 4	Mod required

**TSTF STATUS as of March 7, 2000 (Continued)**

<u>TSTF #</u>	<u>Subject</u>	<u>Status</u>
355 R.0	RTS & ESF Tables Changes	Approved
356 R.1	Ice Condenser SR	Approved
357 R.0	BWR MCPR SL to COLR	Rejected; BWROG Chmn to appeal;
360 R.0	Consolidated 3.8 Changes	Under negotiation (critical path item)
361 R.0	Note on TS Suspension during SR Perf	SRXB reviewing

## TSTF 016 BASES REVIEW

In response to a Modification request by NRC for TSTF 016 Rev 1, the TSTF argued that the existing bases adequately defined "subsystem" for the purposes of 3.8.9. A review of the WOG standard provided the material cited below, which does appear to do an adequate job with one small exception as noted by the bold italics prefix added at one location. (Other NUREGS will have to be reviewed to see if similar material is provided.) However, the Bases for 3.8.9 need to be modified to state precisely why the specification as worded is acceptable. The following replacement for the first sentence in the Bases is suggested:

*"With one or more AC electrical power distribution subsystems inoperable, the minimum safety functions can still be accomplished, assuming no single failure, as long as one set of redundant required equipment (AC buses, distribution panels, motor control centers, load centers) supporting each safety function remains energized to their proper voltages. Redundant required equipment is listed in Table \_\_\_\_\_."*

### WOG B 3.8-1 AC Sources

"The onsite Class 1E AC Distribution System is divided into redundant load groups (trains) so that the loss of any one group does not prevent the minimum safety functions from being performed. Each train has connections to two preferred offsite power sources and a single DG."

### WOG Background, Distribution Systems - Operating (B3.8-79)

"The onsite Class 1E AC, DC and AC Vital bus electrical power distribution systems are divided by train into [two] redundant and independent AC, DC and AC Vital bus electrical power distribution subsystems."

"The AC electrical power subsystem for each train consists of a primary ESF 4.16 kv bus, and secondary [480 and 120] V buses, distribution panel, motor control centers and load centers."

"The secondary AC electrical power distribution *subsystem* for each train includes the safety related load centers, motor control centers, and distribution panels shown in Table B3.8.9-1."

"The list of all required distribution buses is presented in Table B3.8.9-1".

### WOG LCO B3.8-81

"OPERABLE" AC electrical power distribution subsystems require the assorted buses, load centers, motor energized to their proper voltages."

TSTF - 16 STS Comparisons

BWO (NUREG-1430)	WOG (NUREG1431)	CEOG (NUREG1432)	BWR4 (NUREG1433)	BWR6 (NUREG1434)
<b>3.8.1 BASES BACKGROUND</b>				
<p>The onsite Class 1E AC Distribution System is divided into redundant load groups (trains) so that the loss of any one group does not prevent the minimum safety functions from being performed. Each train has connections to two preferred offsite power sources and a single DG.</p>	<p>The onsite Class 1E AC Distribution System is divided into redundant load groups (trains) so that the loss of any one group does not prevent the minimum safety functions from being performed. Each train has connections to two preferred offsite power sources and a single DG.</p>	<p>The onsite Class 1E AC Distribution System is divided into redundant load groups (trains) so that the loss of any one group does not prevent the minimum safety functions from being performed. Each train has connections to two preferred offsite power sources and a single DG.</p>	<p>The Class 1E AC distribution system is divided into redundant load groups, so loss of any one group does not prevent the minimum safety functions from being performed. Each load group has connections to two preferred offsite power supplies and a single DG.</p>	<p>The Class 1E AC distribution system supplies electrical power to three divisional load groups, with each division powered by an independent Class 1E 4.16 kV ESF bus (refer to LCO 3.8.9, "Distribution Systems - Operating"). Each ESF bus has three separate and independent offsite sources of power. Each ESF bus has a dedicated onsite DG. The ESF systems of any two of the three divisions provide for the minimum safety functions necessary to shut down the unit and maintain it in a safe shutdown condition.</p>

BWOG (NUREG-1430)	WOG (NUREG1431)	CEOG (NUREG1432)	BWR4 (NUREG1433)	BWR6 (NUREG1434)
<b>3.8.9 BASES BACKGROUND</b>				
<p>The onsite Class 1E AC, DC, and AC vital bus electrical power distribution systems are divided by train into [two] redundant and independent AC, DC, and AC vital bus electrical power distribution subsystems.</p>	<p>The onsite Class 1E AC, DC, and AC vital bus electrical power distribution systems are divided by train into [two] redundant and independent AC, DC, and AC vital bus electrical power distribution subsystems.</p>	<p>The onsite Class 1E AC, DC, and AC vital bus electrical power distribution systems are divided by train into [two] redundant and independent AC, DC, and AC vital bus electrical power distribution subsystems.</p>	<p>The onsite Class 1E AC and DC electrical power distribution system is divided into redundant and independent AC, DC, and AC vital bus electrical power distribution subsystems.</p>	<p>The onsite Class 1E AC and DC electrical power distribution system is divided by division into three independent AC, DC, and AC vital bus electrical power distribution subsystems.</p>
<p>The AC electrical power subsystem for each train consists of a primary Engineered Safety Feature (ESF) 4.16 kV bus and secondary [480 and 120] V buses, distribution panels, motor control centers and load centers.</p>	<p>The AC electrical power subsystem for each train consists of a primary Engineered Safety Feature (ESF) 4.16 kV bus and secondary [480 and 120] V buses, distribution panels, motor control centers and load centers.</p>	<p>The AC primary electrical power distribution system consists of two 4.16 kV Engineered Safety Feature (ESF) buses, each having at least [one separate and independent offsite source of power] as well as a dedicated onsite diesel generator (DG) source.</p>	<p>The primary AC distribution system consists of three 4.16 kV Engineered Safety Feature (ESF) buses each having an offsite source of power as well as a dedicated onsite diesel generator (DG) source.</p>	<p>The primary AC distribution system consists of each 4.16 kV Engineered Safety Feature (ESF) bus that has at least one separate and independent offsite source of power, as well as a dedicated onsite diesel generator (DG) source.</p>

BWO (NUREG-1430)	WOG (NUREG1431)	CEOG (NUREG1432)	BWR4 (NUREG1433)	BWR6 (NUREG1434)
The secondary AC electrical power distribution system for each train includes the safety related load centers, motor control centers, and distribution panels shown in Table B 3.8.9-1.	The secondary AC electrical power distribution system for each train includes the safety related load centers, motor control centers, and distribution panels shown in Table B 3.8.9-1.	The secondary AC electrical power distribution system for each train includes the safety related load centers, motor control centers, and distribution panels shown in Table B 3.8.9-1.	The secondary plant distribution system includes 600 VAC emergency buses 2C and 2D and associated load centers, and transformers.	The secondary plant AC distribution system includes 480 V ESF load centers and associated loads, motor control centers, and transformers.
The list of all required distribution buses is presented in Table B 3.8.9-1.	The list of all required distribution buses is presented in Table B 3.8.9-1.	The list of all required distribution buses is presented in Table B 3.8.9-1.	The list of all distribution buses is presented in Table B 3.8.9-1.	The list of all distribution buses is located in Table [8.1.X.X].
<b>3.8.9 BASES LCO</b>				
OPERABLE AC electrical power distribution subsystems require the associated buses, load centers, motor control centers, and distribution panels to be energized to their proper voltages.	OPERABLE AC electrical power distribution subsystems require the associated buses, load centers, motor control centers, and distribution panels to be energized to their proper voltages.	OPERABLE AC electrical power distribution subsystems require the associated buses, load centers, motor control centers, and distribution panels to be energized to their proper voltages.	The AC electrical power distribution subsystems require the associated buses and electrical circuits to be energized to their proper voltages.	OPERABLE AC, electrical power distribution subsystems require the associated buses to be energized to their proper voltages.



**Proposed New Actions for UHS TS**  
**Establish Periodic Remedial Actions to Permit Continued Operation Indefinitely**

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. [ Water level of UHS below limit.	B.1 Verify required cooling capacity maintained.	[1] hour  <u>AND</u> Once per [8] hours thereafter
	<u>AND</u> B.2 Verify UHS level $\geq$ [ ] ft.	Once per [8] hours ]
C. [ Temperature of UHS above limit.	C.1 Verify required cooling capacity maintained.	[1] hour  <u>AND</u> Once per [8] hours thereafter
	<u>AND</u> C.2 Verify UHS temperature $\leq$ [ ] °F.	Once per [8] hours ]

**Issue 1 Restrictions on the Evaluation to Verify Required Cooling Capacity is Maintained**

Details of what constitutes maintaining the required cooling capacity should be described in the Bases for the Actions; for example, it should utilize the analysis of record. More specifically, we need to somehow capture the criteria that when the primary temperature and level requirements are not met, the evaluation justifying continued operation must be consistent with the analysis of record. The only difference being that during the period when the primary level and temperature requirements are not met, the licensee can credit the actual conditions that exist (e.g., number of heat exchanger tubes plugged and tube fouling conditions if known, bulk UHS level and temperature, air temperature and humidity, wind conditions, containment temperature, etc.), but no changes in analytical methodology or in other assumptions would be allowed. The worst-case single failure would also have to be assumed.

Issue 2 Basis for Secondary Level and Temperature Limits

The secondary level and temperature limits in Required Actions B.2 and C.2, respectively, would be based on plant-specific limitations and would have to be justified in the amendment application. Specifically, these secondary UHS level and temperature limits should be established based on the limitations imposed by plant equipment.

Issue 3 Basis for Periodic Completion Times

The periodic Completion Times should reflect reasonable rates of level and temperature changes based on plant experience.

Issue 4 Option: Relief from Assuming a Single Failure

If the evaluation justifying continued operation allows an exception to the single failure criteria, then there should be a limitation on the amount of time that could be allowed in this condition. In other words, an Action would have to be constructed to allow operation for only a limited time period.

**TSTF STATUS as of March 8, 2000**

<u>TSTF #</u>	<u>Subject</u>	<u>Status</u>
016 R.2	RA added for LCO 3.0.3 Entry on LOF	OG to consider revising 3.8 Bases
052 R.2	10CFR50 App J Opt B	OG to provide R.3
076 R.1	Req't for onsite review deleted	Approved
204 R.3	DC Sources S/D & Inverters	Approved
207 R.3	CT to Restore Excess Leak Rate	OG to provide R.4
242 R.1	SR Freq change to perform PR & IR COT	Approved
275 R.0	EDG Start Signals	Approved
276 R.2	DG Full Load Rejection Test	TSB reviewing
283 R.3	3.8 Mode Restriction Notes	TSB reviewing
284 R.3	Met vs Performed	Approved
286 R.2	OPS Involving Pos reactivity Additions	TSB reviewing
287 R.5	Vent Syst Envelope AOT	Approved
295 R.0	PAM Note	Approved
297 R.1	3.3.2.2 RA; FW-Mn Turb Hi Water Lvl	Approved
306 R.0	3.3.6.1 added Action	OG to provide R.1
322 R.2	Secondary Containment SR Mod	Approved
330 R.0	UHS TS Changes	OG reviewing
332 R.0	ECCS RTT	NRC Tech Branch reviewing
333 R.1	DG Performance Time Test	Rejected; OG considering response
334 R.0	Excess Flow Check Valve SR Freq	NRC to revise SE
340 R.3	Turb AFW Pump, ADT	Approved
342 R.0	SR 3.3.1.5 on PR Cals	OG to provide R.1
352 R.0	Revise CT to reach Mode 4	Mod required, OG reviewing

**TSTF STATUS as of March 8, 2000 (Continued)**

<u>TSTF #</u>	<u>Subject</u>	<u>Status</u>
355 R.0	RTS & ESF Tables Changes	Approved
356 R.1	Ice Condenser SR	Approved
357 R.0	BWR MCPR SL to COLR	Rejected; BWROG Chmn to discuss
360 R.0	Consolidated 3.8 Changes	Under negotiation (critical path item)
361 R.0	Note on TS Suspension during SR Perf	SRXB reviewing
362, R.0	VFTP in 5.5 revised IAW GL 99-02	OG preparing
363, R.0	Revise COLR Topical references in 5.6.5	OG preparing

Matrix: Table of Sections affected by TSTFs (as of March 7, 2000)

TSTF NO./# FILES	NUREG-1430 (BWOG)		NUREG-1431 (WOG)		NUREG-1432 (CEOG)		NUREG-1433 (BWR/4)		NUREG-1434 (BWR/6)	
	SPEC	BASES	SPEC	BASES	SPEC	BASES	SPEC	BASES	SPEC	BASES
002, R.1/10	3.8.3	B3.8.3	3.8.3	B3.8.3	3.8.3	B3.8.3	3.8.3	B3.8.3	3.8.3	B3.8.3
005, R.1/1						B2.1.1				
006, R.1/2	3.0		3.0							
008, R.2/25	3.8.1, 3.8.4	B3.0, B3.8.1, B3.8.4	3.8.1, 3.8.4	B3.0, B3.8.1, B3.8.4	3.8.1, 3.8.4	B3.0, B3.8.1, B3.8.4	3.8.1, 3.8.4	B3.0, B3.8.1, B3.8.4	3.8.1, 3.8.4	B3.0, B3.8.1, B3.8.4
009, R.1/28	3.1.1, 3.1.4, 3.1.5, 3.1.8, 3.1.9	B3.1.8, B3.1.9	3.1.1, 3.1.2, 3.1.6, 3.1.7, 3.1.10*	B3.1.10*	3.1.1(A), 3.1.2(A), 3.1.5(A), 3.1.6(A), 3.1.7(A), 3.1.9(A), 3.1.1(D), 3.1.2(D), 3.1.5(D), 3.1.6(D), 3.1.7(D), 3.1.10(D)	B3.1.9(A), B3.1.10(D)	3.1.1	B3.1.1	3.1.1	B3.1.1
012, R.1/10			TOC, 3.0.7, 3.1.9, 3.1.10, 3.1.11	B3.0.7, B3.1.9, B3.1.10, B3.1.11						
013, R.1/2			3.1.4	B3.1.4						
014, R.4/2			3.1.10	B3.1.10						
015, R.1/1				B3.1.5						
017, R.1/10	3.6.2	B3.6.2	3.6.2	B3.6.2	3.6.2	B3.6.2	3.6.1.2	B3.6.1.2	3.6.1.2	B3.6.1.2

TSTF NO./# FILES	NUREG-1430 (BWO)		NUREG-1431 (WOG)		NUREG-1432 (CEOG)		NUREG-1433 (BWR/4)		NUREG-1434 (BWR/6)	
017, R.2/10	3.6.2	B3.6.2	3.6.2	B3.6.2	3.6.2	B3.6.2	3.6.1.2	B3.6.1.2	3.6.1.2	B3.6.1.2
018, R.1/8			3.6.19	B3.6.19	3.6.11	B3.6.11	3.6.4.1	B3.6.4.1	3.6.4.1	B3.6.4.1
019, R.1/13	1.1	B3.3.1, B3.3.17, B3.3.18	1.1	B3.3.1, B3.3.3, B3.3.4	1.1	B3.3.11(A), B3.3.12(A), B3.3.11(D), B3.3.12(D)				
020/6	3.9.6	B3.9.6	3.9.7	B3.9.7	3.9.6	B3.9.6				
023, R.3/3			3.9.2	B3.9.2, B3.9.3						
024, R.1/1			3.2.3(A)							
026/6	3.4.2	B3.4.2	3.4.2	B3.4.2	3.4.2	B3.4.2				
027, R.3/6	3.4.2	B3.4.2	3.4.2	B3.4.2	3.4.2	B3.4.2				
028/6	3.4.16	B3.4.16	3.4.16	B3.4.16	3.4.16	B3.4.16				
030, R.2/10 (superseded)	3.6.3	B3.6.3	3.6.3	B3.6.3	3.6.3	B3.6.3	3.6.1.3	B3.6.1.3	3.6.1.3	B3.6.1.3
030, R.3/10	3.6.3	B3.6.3	3.6.3	B3.6.3	3.6.3	B3.6.3	3.6.1.3	B3.6.1.3	3.6.1.3	B3.6.1.3
032/4							3.1.3	B3.1.3	3.1.3	B3.1.3
033/4							3.1.3	B3.1.3	3.1.3	B3.1.3
034/4							3.1.3	B3.1.3	3.1.3	B3.1.3
035/4							3.4.10	B3.4.10	3.4.11	B3.4.11
036, R.4/50	3.7.13, 3.8.2, 3.8.5, 3.8.8, 3.8.10	B3.7.13, B3.8.2, B3.8.5, B3.8.8, B3.8.10	3.7.13, 3.8.2, 3.8.5, 3.8.8, 3.8.10, 3.3.8	B3.7.13, B3.8.2, B3.8.5, B3.8.8, B3.8.10, B3.3.8	3.8.2, 3.8.5, 3.8.8, 3.8.10, 3.3.10(D), 3.7.14	B3.8.2, B3.8.5, B3.8.8, B3.8.10, B3.3.10(D), B3.7.14	3.8.2, 3.8.5, 3.8.8, 3.8.10	B3.8.2, B3.8.5, B3.8.8, B3.8.10	3.8.2, 3.8.5, 3.8.8, 3.8.10	B3.8.2, B3.8.5, B3.8.8, B3.8.10

TSTF NO./# FILES	NUREG-1430 (BWOG)		NUREG-1431 (WOG)		NUREG-1432 (CEOG)		NUREG-1433 (BWR/4)		NUREG-1434 (BWR/6)	
037, R2/28	3.3.17, 3.8.1, 5.6	B3.3.17, B3.8.1	3.3.3, 3.8.1, 5.6	B3.3.3, B3.8.1	3.3.11(A), 3.3.11(D), 3.8.1, 5.6	B3.3.11(A), B3.3.11(D), B3.8.1	3.3.3.1, 3.8.1, 5.6	B3.3.3.1, B3.8.1	3.3.3.1, 3.8.1, 5.6	B3.3.3.1, B3.8.1
038/10	3.8.4	B3.8.4	3.8.4	B3.8.4	3.8.4	B3.8.4	3.8.4	B3.8.4	3.8.4	B3.8.4
040/2	1.1				1.1					
042/1	3.0									
043/1	B3.0									
045, R.1/10 (superseded)	3.6.3	B3.6.3	3.6.3	B3.6.3	3.6.3	B3.6.3	3.6.1.3	B3.6.1.3	3.6.1.3	B3.6.1.3
045, R.2/16	3.6.3	B3.6.3	3.6.3	B3.6.3	3.6.3	B3.6.3	3.6.1.3, 3.6.4.2	B3.6.1.3, B3.6.4.2	3.6.1.3, 3.6.4.2, 3.6.5.3	B3.6.1.3, B3.6.4.2, B3.6.5.3
046, R.1/16	3.6.3	B3.6.3	3.6.3	B3.6.3	3.6.3	B3.6.3	3.6.1.3, 3.6.4.2	B3.6.1.3, B3.6.4.2	3.6.1.3, 3.6.4.2, 3.6.5.3	B3.6.1.3, B3.6.4.2, B3.6.5.3
047/1					1.1					
053, R.1/1		B3.4.11								
054, R.1/3		B3.4.13		B3.4.13		B3.4.13				
055/1						B3.4.12				
056/2		B3.4.11				B3.4.11				
057/2		B3.4.10				B3.4.10				
058, R.1/2					3.5.2	B3.5.2				
059, R.1/2					3.5.1	B3.5.1				
060/10	3.4.15	B3.4.15	3.4.15	B3.4.15	3.4.15	B3.4.15	3.4.6	B3.4.6	3.4.7	B3.4.7
061/3	3.4.13		3.4.13		3.4.13					

TSTF NO./# FILES	NUREG-1430 (BWOG)		NUREG-1431 (WOG)		NUREG-1432 (CEOG)		NUREG-1433 (BWR/4)		NUREG-1434 (BWR/6)	
062/1					3.4.1					
063/1	3.4.7									
065, R.1/34	2.0, 5.1, 5.2, 5.5, [5.7]	B2.1.1	2.0, 5.1, 5.2, 5.5, [5.7]	B2.1.1	2.0(A), 2.0(D), 5.1, 5.2, 5.5, [5.7]	B2.1.1(A), B2.1.2(A), B2.1.1(D), B2.1.2(D)	2.0, 5.1, 5.2, 5.5, [5.7]	B2.1.1	2.0, 5.1, 5.2, 5.5, [5.7]	B2.1.1
066/1					3.4.16					
067/23					1.1, 3.1.5(A), 3.1.6(A), 3.1.7(A), 3.1.8(A), 3.1.9(A), 3.1.5(D), 3.1.6(D), 3.1.7(D), 3.1.9(D), 3.1.10(D)	B3.1.1(A), B3.1.5(A), B3.1.6(A), B3.1.7(A), B3.1.8(A), B3.1.9(A), B3.1.1(D), B3.1.5(D), B3.1.6(D), B3.1.7(D), B3.1.9(D), B3.1.10(D)				
068, R.2/6	3.9.3	B3.9.3	3.9.4	B3.9.4	3.9.3	B3.9.3				
069/1					3.3.1(D)					
070, R.1/6	3.7.15	B3.7.15	3.7.16	B3.7.16	3.7.17	B3.7.17				
071, R.2/5		B3.0		B3.0		B3.0		B3.0		B3.0
072/2					3.3.1	B3.3.1				
073/1					3.3.1					
074/1					3.3.5					
075/1					3.3.3					



TSTF NO./# FILES	NUREG-1430 (BWOG)		NUREG-1431 (WOG)		NUREG-1432 (CEOG)		NUREG-1433 (BWR/4)		NUREG-1434 (BWR/6)	
076/8					3.3.1, 3.3.2, 3.3.5, 3.3.7	B3.3.1, B3.3.2, B3.3.5, B3.3.7				
077/4					3.2.1, 3.2.4	B3.2.1, B3.2.4				
078/5					3.5.2, 3.6.6A, 3.6.6B	B3.6.6A, B3.6.6B				
079, R.1/4					3.3.3 (A), 3.3.4 (D)	B3.3.3 (A), B3.3.4 (D)				
080, R.1 / 2 (Integrate w/085, R.1)					3.3.1(A)	B3.3.1(A)				
081/2					3.3.1(A)	B3.3.1(A)				
082, R.1/4					3.3.2(A), 3.3.2(D)	B3.3.2(A), B3.3.2(D)				
083/4					3.3.3(A), 3.3.4(D)	B3.3.3(A), B3.3.4(D)				
084/2					3.3.9	B3.3.9				
085, R.1/2 (Integrate w/080, R.1)					3.3.1(A)	B3.3.1(A)				
087, R.2/4			3.4.5, 3.4.9	B3.4.5, B3.4.9						
089/2			3.1.8	B3.1.8						
090/4	3.5.3	B3.5.3	3.5.3	B3.5.3						
093, R.3/4			3.4.9	B3.4.9	3.4.9	B3.4.9				

TSTF NO./# FILES	NUREG-1430 (BWO)		NUREG-1431 (WOG)		NUREG-1432 (CEOG)		NUREG-1433 (BWR/4)		NUREG-1434 (BWR/6)	
094, R.1/4			3.4.9	B3.4.9	3.4.9	B3.4.9				
095/6		3.2.1A, 3.2.1B, 3.2.2	B3.2.1A, B3.2.1B, B3.2.2							
096, R.1/6	3.9.2	B3.9.2	3.9.3	B3.9.3	3.9.2	B3.9.2				
097/2			3.2.1B	B3.2.1B						
098, R.2/2			3.2.1B	B3.2.1B						
099/2			3.2.1B	B3.2.1B						
100/3	3.7.4		3.7.4		3.7.4					
101/6	3.7.5	B3.7.5	3.7.5	B3.7.5	3.7.5	B3.7.5				
104/10	3.0	B3.0	3.0	B3.0	3.0	B3.0	3.0	B3.0	3.0	B3.0
106, R.1/5	5.5		5.5		5.5		5.5		5.5	
107, R.4/8	3.1.4	B3.1.4	3.1.5	B3.1.5	3.1.5(A), 3.1.5(D)	B3.1.5(A), B3.1.5(D)				
108, R.1/4			3.1.10 <sup>1</sup> , 3.4.19	B3.1.10, B3.4.19						
109/2			3.2.4	B3.2.4						
110, R.2/22	3.1.4, 3.1.6, 3.1.7, 3.2.1, 3.2.3, 3.2.4	B3.1.4, B3.1.6, B3.1.7, B3.2.1, B3.2.3, B3.2.4	3.1.5, 3.1.7, 3.2.3A, 3.2.3B, 3.2.4	B3.1.5, B3.1.7, B3.2.3A, B3.2.3B, B3.2.4						

<sup>1</sup>Westinghouse section 3.1.10 and it's Bases were renumbered as 3.1.9 and B3.1.9; the original Westinghouse section 3.1.9 and it's Bases was deleted (see TSTF-012, R.1, approved 10/29/96).

TSTF NO./# FILES	NUREG-1430 (BWOG)		NUREG-1431 (WOG)		NUREG-1432 (CEOG)		NUREG-1433 (BWR/4)		NUREG-1434 (BWR/6)	
111, R.6/3			1.1	B3.3.1, B3.3.2						
112, R.1/2			3.2.3A	B3.2.3A						
114/2				B3.4.7		B3.4.7				
116, R.2/12	3.4.13, 3.4.15	B3.4.13, B3.4.15	3.4.13, 3.4.15	B3.4.13, B3.4.15	3.4.13, 3.4.15	B3.4.13, B3.4.15				
117/2			3.5.1	B3.5.1						
118/5	5.5		5.5		5.5		5.5		5.5	
122/5		B3.0		B3.0		B3.0		B3.0		B3.0
123, R.1/1	4.0									
124/1	1.1									
125/2	1.1	B3.2.2								
126/1	2.0									
127, R.1/2					3.1.5(A)	B3.1.5(A)				
128, R.1/2					3.5.5	B3.5.5				
129/2					3.4.1	B3.4.1				
130, R.1/2					3.3.11(D)	B3.3.11(D)				
132/1					3.3.1(D)					
133, R.1/1						B3.5.5				
134, R.1/4					3.1.8, 3.1.9	B3.1.8, B3.1.9				
135, R.3/6			3.3.1, 3.3.2, 3.3.9	B3.3.1, B3.3.2, B3.3.9						

TSTF NO./# FILES	NUREG-1430 (BWOG)		NUREG-1431 (WOG)		NUREG-1432 (CEOG)		NUREG-1433 (BWR/4)		NUREG-1434 (BWR/6)	
136/81			3.0, 3.1.1, 3.1.2, 3.1.3, 3.1.4, 3.1.5, 3.1.6, 3.1.7, 3.1.8, 3.1.9 <sup>2</sup> , 3.1.10, 3.1.11	B3.0, B3.1.1, B3.1.2, B3.1.3, B3.1.4, B3.1.5, B3.1.6, B3.1.7, B3.1.8, B3.1.9, B3.1.10, B3.1.11, B3.2.1B, B3.2.2, B3.2.4, B3.4.1, B3.4.2, B3.9.1	3.1.1(A), 3.1.2(A), 3.1.3(A), 3.1.4(A), 3.1.5(A), 3.1.6(A), 3.1.7(A), 3.1.8(A), 3.1.9(A), 3.2.2(A), 3.2.3(A), 3.3.13(A), 3.1.1(D), 3.1.2(D), 3.1.3(D), 3.1.4(D), 3.1.5(D), 3.1.6(D), 3.1.7(D), 3.1.8(D), 3.1.9(D), 3.1.10(D), 3.3.3(D), 3.3.13(D)	B3.1.1(A), B3.1.2(A), B3.1.3(A), B3.1.4(A), B3.1.5(A), B3.1.6(A), B3.1.7(A), B3.1.8(A), B3.1.9(A), B3.2.1(A), B3.2.2(A), B3.2.3(A), B3.2.4(A), B3.2.5(A), B3.3.1(A), B3.1.1(D), B3.1.2(D), B3.1.3(D), B3.1.4(D), B3.1.5(D), B3.1.6(D), B3.1.7(D), B3.1.8(D), B3.1.9(D), B3.1.10(D), B3.4.1, B3.9.1				
137/4		B3.4.16		B3.4.16		B3.4.16				B3.4.8
139, R.1/5		B3.7.14		B3.7.15		B3.7.16		B3.7.8		B3.7.7
140/6	3.7.6	B3.7.6	3.7.6	B3.7.6	3.7.6	B3.7.6				
142/8	3.1.2	B3.1.2	3.1.3	B3.1.3	3.1.3(A), 3.1.3(D)	B3.1.3(A), B3.1.3(D)				

<sup>2</sup>See Footnote 1.

TSTF NO./# FILES	NUREG-1430 (BWOG)		NUREG-1431 (WOG)		NUREG-1432 (CEOG)		NUREG-1433 (BWR/4)		NUREG-1434 (BWR/6)	
143/6	3.1.4, 3.1.6				3.1.5(A), 3.1.5(D)	B3.1.5(A), B3.1.5(D)				
144/2					2.0(A)	B2.1.1(A)				
146/2					3.9.4	B3.9.4				
148/2					3.3.1	B3.3.1				
149/1					3.2.1(D)					
150/2					3.2.4(D)	B3.2.4(D)				
151, R.1/1			B3.4.11							
152/5	5.6		5.6		5.6		5.6		5.6	
153/48	3.4.5, 3.4.6, 3.4.7, 3.4.8, 3.9.4	B3.4.5, B3.4.6, B3.4.7, B3.4.8, B3.9.4	3.4.5, 3.4.6, 3.4.7, 3.4.8, 3.5.2, 3.9.5	B3.4.5, B3.4.6, B3.4.7, B3.4.8, B3.5.2, B3.9.5	3.4.5, 3.4.6, 3.4.7, 3.4.8, 3.9.4	B3.4.5, B3.4.6, B3.4.7, B3.4.8, B3.9.4	3.4.8, 3.4.9, 3.9.8, 3.9.9	B3.4.8, B3.4.9, B3.9.8, B3.9.9	3.4.9, 3.4.10, 3.9.8, 3.9.9	B3.4.9, B3.4.10, B3.9.8, B3.9.9
154, R.2/11		B3.1.8, B3.1.9		B3.1.9, B3.1.10, B3.1.11, B3.4.19		B3.1.8(A), B3.1.9(A), B3.1.9(D), B3.1.10(D), B3.4.17				
156, R.1/2	3.1.9	B3.1.9								
158, R.1/2	3.1.5	B3.1.5								
159, R.1/2	3.1.6	B3.1.6								
160, R.1/10	3.1.4, 3.1.8, 3.2.1, 3.2.2, 3.2.5	B3.1.4, B3.1.8, B3.2.1, B3.2.2, B3.2.5								

TSTF NO./# FILES	NUREG-1430 (BWOG)		NUREG-1431 (WOG)		NUREG-1432 (CEOG)		NUREG-1433 (BWR/4)		NUREG-1434 (BWR/6)	
161, R.1/4			3.3.6, 3.3.7	B3.3.6, B3.3.7						
162/1				B3.4.9						
163, R.2/10	3.8.1	B3.8.1	3.8.1	B3.8.1	3.8.1	B3.8.1	3.8.1	B3.8.1	3.8.1	B3.8.1
164/2			3.2.3A	B3.2.3A						
165/5		B3.0		B3.0		B3.0		B3.0		B3.0
166/5	3.0		3.0		3.0		3.0		3.0	
169/2* (superseded)			3.3.1	B3.3.1						
170/4					3.3.3(A), 3.3.4(D)	B3.3.3(A), B3.3.4(D)				
172/1					3.1.4(A)					
173/3		B3.7.17		B3.7.18		B3.7.19				
174/3		B3.7.6		B3.7.6		B3.7.6				
175/1						B3.7.8				
176, R.2/2					3.1.4(D), 3.1.4(A)					
177/1						B3.4.5				
178/2					3.3.1(A), 3.3.4(A)					
179/1					3.3.1(A)					
180/2					3.3.2(A)	B3.3.2(A)				
181/4					3.3.3(A), 3.3.4(D)	B3.3.3(A), B3.3.4(D)				

TSTF NO./# FILES	NUREG-1430 (BWOG)		NUREG-1431 (WOG)		NUREG-1432 (CEOG)		NUREG-1433 (BWR/4)		NUREG-1434 (BWR/6)	
182/4					3.3.3(A), 3.3.4(D)	B3.3.3(A), B3.3.4(D)				
184/2					3.3.7(A)	B3.3.7(A)				
185/1					3.3.7(A)					
186/2					3.3.7(A), 3.3.8(A)					
187/6					3.3.5(A), 3.3.9(A), 3.3.6(D)	B3.3.5(A), B3.3.9(A), B3.3.6(D)				
188/1					3.3.11(A)					
189/1						B3.3.1(A)				
190/3						B3.3.1(A), B3.3.2(A), B3.3.4(A)				
191/1						B3.3.1(A)				
192/1						B3.3.3(A)				
193/2					3.1.5(A)	B3.1.5(A)				
194/4					3.1.8(A), 3.1.9(D)	B3.1.8(A), B3.1.9(D)				
195/1						B3.4.6				
197, R.2/12	3.9.4, 3.9.5	B3.9.4, B3.9.5	3.9.5, 3.9.6	B3.9.5, B3.9.6	3.9.4, 3.9.5	B3.9.4, B3.9.5				
204,R3/20	3.8.5, 3.8.8	B3.8.5, B3.8.8	3.8.5, 3.8.8	B3.8.5, B3.8.8	3.8.5, 3.8.8	B3.8.5, B3.8.8	3.8.5, 3.8.8	B3.8.5, B3.8.8	3.8.5, 3.8.8	B3.8.5, B3.8.8

TSTF NO./# FILES	NUREG-1430 (BWO)		NUREG-1431 (WOG)		NUREG-1432 (CEOG)		NUREG-1433 (BWR/4)		NUREG-1434 (BWR/6)	
205, R.3/94	1.1	B3.3.1, B3.3.2, B3.3.3, B3.3.4, B3.3.5, B3.3.6, B3.3.7, B3.3.8, B3.3.11, B3.3.12, B3.3.13, B3.3.14, B3.3.15, B3.3.16, B3.4.12, B3.4.15, B3.7.5	1.1	B3.3.1, B3.3.2, B3.3.4, B3.3.5, B3.3.6, B3.3.7, B3.3.8, B3.3.9, B3.4.12, B3.4.15, B3.4.19	1.1	B3.1.5A, B3.3.1A, B3.3.2A, B3.3.3A, B3.3.4A, B3.3.5A, B3.3.6A, B3.3.7A, B3.3.8A, B3.3.9A, B3.3.10A, B3.3.12A, B3.3.13A, B3.3.1D, B3.3.2D, B3.3.3D, B3.3.4D, B3.3.5D, B3.3.6D, B3.3.7D, B3.3.8D, B3.3.9D, B3.3.10D, B3.3.12D, B3.3.13D, B3.4.12, B3.4.15, B3.4.17	1.1	B3.3.1.1, B3.3.1.2, B3.3.2.1, B3.3.2.2, B3.3.4.1, B3.3.4.2, B3.3.5.1, B3.3.5.2, B3.3.6.1, B3.3.6.2, B3.3.6.3, B3.3.6.4, B3.3.7.1, B3.3.8.1, B3.3.8.2, B3.4.6, B3.9.2	1.1	B3.3.1.1, B3.3.1.2, B3.3.2.1, B3.3.4.1, B3.3.4.2, B3.3.5.1, B3.3.5.2, B3.3.6.1, B3.3.6.2, B3.3.6.3, B3.3.6.4, B3.3.6.5, B3.3.7.1, B3.3.8.1, B3.3.8.2, B3.4.7, B3.9.1
206/4							3.6.2.1	B3.6.2.1	3.6.2.1	B3.6.2.1
208/1							3.0			
209, R.1/1	3.7.2									
210/1		B3.7.16								
211/4	3.3.3, 3.3.4	B3.3.3, B3.3.4								



TSTF NO./# FILES	NUREG-1430 (BWOG)		NUREG-1431 (WOG)		NUREG-1432 (CEOG)		NUREG-1433 (BWR/4)		NUREG-1434 (BWR/6)	
212, R.1/4	3.3.3, 3.3.4	B3.3.3, B3.3.4								
214/2	3.9.1	B3.9.1								
216/4	3.1.5, 3.2.1	B3.1.5, B3.2.1								
217, R.1/8	3.3.1, 3.3.3, 3.3.5, 3.3.11	B3.3.1, B3.3.3, B3.3.5, B3.3.11								
218/2	3.3.1	B3.3.1								
219/2	3.4.12	B3.4.12								
220/2	3.1.6	B3.1.6								
221/1							3.10.8			
222, R.1/4							3.1.4	B3.1.4	3.1.4	B 3.1.4
225/4							3.9.1	B3.9.1	3.9.1	B3.9.1
227/3							3.3.4.1	B3.3.4.1		B3.3.4.1
229/2							3.2.2	B3.2.2		
230, R.1/4							3.6.2.3	B3.6.2.3	3.6.2.3	B3.6.2.3
233/12			1.1, 3.4.6, 3.4.7, 3.4.10, 3.4.12, 3.5.2	B3.4.6, B3.4.7, B3.4.10, B3.4.12, B3.5.2, 5.6						
234, R.1/2			3.1.8	B3.1.8						
235, R.1/6	3.7.1	B3.7.1	3.7.1	B3.7.1	3.7.1	B3.7.1				
237, R.1/1			5.5							

TSTF NO./# FILES	NUREG-1430 (BWOG)		NUREG-1431 (WOG)		NUREG-1432 (CEOG)		NUREG-1433 (BWR/4)		NUREG-1434 (BWR/6)	
238/2			3.1.7	B3.1.7						
239/2			3.1.6	B3.1.6						
241, R.4/6			3.2.1A, 3.2.1B, 3.2.4	B3.2.1A, B3.2.1B, B3.2.4						
242, R.1/2			3.3.1.8	B3.3.1.8						
243/1			3.4.12							
245/2			3.7.5	B3.7.5						
246/2			3.3.1	B3.3.1						
247/4			3.4.11	B3.4.11	3.4.11	B3.4.11				
249/3		B3.1.8, B3.1.9		B3.1.9 <sup>3</sup>						
253/10	3.8.1	B3.8.1	3.8.1	B3.8.1	3.8.1	B 3.8.1	3.8.1	B 3.8.1	3.8.1	B 3.8.1
255, R.1/6	3.7.16	B3.7.16	3.7.17	B3.7.17	3.7.18	B3.7.18				
256/4	3.1.9	B3.1.9	3.1.9	B3.1.9						
258, R.4/5	5.2, 5.3, 5.5, 5.6, [5.7]		5.2, 5.3, 5.5, 5.6, [5.7]		5.2, 5.3, 5.5, 5.6, [5.7]		5.2, 5.3, 5.5, 5.6, [5.7]		5.2, 5.3, 5.5, 5.6, [5.7]	
261/3	3.4.5, 3.4.6				3.4.6					

<sup>3</sup>In a March 18, 1998 telephone conversation with Jim Davis, NEI, the SA determined that the change to WOG section B3.1.10 in this traveler, would consider approved travelers TSTF-012, R.1 (approved 10/96), and TSTF-014, R.4 (approved 5/97). TSTF-012, R.1, deleted LCO 3.1.9 and LCO 3.1.11 and their associated Bases, and renumbered LCO 3.1.10, and it's associated Bases, to 3.1.9. TSTF-014, R.4, added SR 3.1.10.3 (now SR 3.1.9.3) to WOG B3.1.10 (now B3.1.9) and renumbered SR 3.1.10.3 (now 3.1.9.3) to 3.1.10.4 (now 3.1.9.4).

TSTF NO./# FILES	NUREG-1430 (BWOG)		NUREG-1431 (WOG)		NUREG-1432 (CEOG)		NUREG-1433 (BWR/4)		NUREG-1434 (BWR/6)	
263, R.3/24	3.4.5, 3.4.6, 3.4.7, 3.4.8	B3.4.5, B3.4.6, B3.4.7, B3.4.8	3.4.5, 3.4.6, 3.4.7, 3.4.8	B3.4.5, B3.4.6, B3.4.7, B3.4.8	3.4.5, 3.4.6, 3.4.7, 3.4.8	B3.4.5, B3.4.6, B3.4.7, B3.4.8				
264/11	3.3.9, 3.3.10	B3.3.1, B3.3.9, B3.3.10					3.3.1.1	B3.3.1.1, B3.3.1.2	3.3.1.1	B3.3.1.1, B3.3.1.2
265, R.2/14	3.4.5, 3.4.6, 3.4.7	B3.4.5, B3.4.6, B3.4.7	3.4.5, 3.4.7	B3.4.5, B3.4.7	3.4.5, 3.4.7	B3.4.5, B3.4.7				
266, R.3/12	3.3.18	B3.3.18	3.3.4	B3.3.4	3.3.12A, 3.3.12D	B3.3.12A, B3.3.12D	3.3.3.2	B3.3.3.2	3.3.3.2	B3.3.3.2
268/6	3.7.5	B3.7.5	3.7.5	B3.7.5	3.7.5	B3.7.5				
269, R.1/10 (superseded)	3.6.3	B3.6.3	3.6.3	B3.6.3	3.6.3	B3.6.3	3.6.3	B3.6.3	3.6.3	B3.6.3
269, R.2/16	3.6.3	B3.6.3	3.6.3	B3.6.3	3.6.3	B3.6.3	3.6.1.3, 3.6.4.2	B3.6.1.3, B3.6.4.2	3.6.1.3, 3.6.4.2, 3.6.5.3	B3.6.1.3, B3.6.4.2, B3.6.5.3
271, R.1/6	3.4.12	B3.4.12	3.4.12	B3.4.12	3.4.12	B3.4.12				
272, R.1/6	3.9.1	B3.9.1	3.9.1	B3.9.1	3.9.1	B3.9.1				
273, R.2/10	5.5	B3.0	5.5	B3.0	5.5	B3.0	5.5	B3.0	5.5	B3.0
275/4							3.3.5.1	B3.3.5.1	3.3.5.1	B3.3.5.1
278/5	3.8.6		3.8.6		3.8.6		3.8.6		3.8.6	
279/5	5.5		5.5		5.5		5.5		5.5	
280, R.1/6	3.4.12	B3.4.12	3.4.12	B3.4.12	3.4.12	B3.4.12				

TSTF NO./# FILES	NUREG-1430 (BWOG)		NUREG-1431 (WOG)		NUREG-1432 (CEOG)		NUREG-1433 (BWR/4)		NUREG-1434 (BWR/6)	
284, R.3/38	1.4, 3.1.11, 3.4.12, 3.7.5	B3.1.11, B3.4.12, B3.7.5	1.4, 3.1.11, 3.4.11	B3.1.11, B3.4.11	1.4, 3.1.4A, 3.1.4D, 3.1.7A, 3.1.7D, 3.2.1A, 3.2.1D, 3.2.3D, 3.2.4D, 3.3.8.3D, 3.3.8.3D, 3.4.11, 3.7.5	B3.1.4A, B3.1.4D, B3.1.7A, B3.1.7D, B3.2.1A, B3.2.1D, B3.2.4D, B3.3.8.3D, B3.3.8.3D, B3.4.11, B3.7.5	1.4		1.4	
285, R.1/6	3.4.12	B3.4.12	3.4.12	B3.4.12	3.4.12	B3.4.12				
287, R.4/26	3.7.10, 3.7.12, 3.7.13	B3.7.10, B3.7.12, B3.7.13	3.7.10, 3.7.12, 3.7.13, 3.7.14	B3.7.10, B3.7.12, B3.7.13, B3.7.14	3.7.11, 3.7.13, 3.7.14, 3.7.15	B3.7.11, B3.7.13, B3.7.14, b3.7.15	3.7.4	B3.7.4	3.7.3	B3.7.3
289/12	3.7.2, 3.7.3	B3.7.2, B3.7.3	3.7.2, 3.7.3	B3.7.2, B3.7.3	3.7.2, 3.7.3	B3.7.2, B3.7.3				
290/6			3.2.1A, 3.2.1B, 3.2.1C (new section)	B3.2.1A, B3.2.1B, B3.2.1C (new section)						
291/2	3.3.10,	B3.3.10								
292/1		B3.3.1								
293/1	B3.3.9									
295/10	3.3.1.7	B3.3.1.7	3.3.3	B3.3.3	3.3.11	B3.3.11	3.3.3.1	B3.3.3.1	3.3.3.1	B3.3.3.1
297, R.1/8							3.3.2.2, 3.3.4.1, 3.3.4.2	B3.3.2.2, B3.3.4.1, B3.3.4.2	3.3.4.2	B3.3.4.2

TSTF NO./# FILES	NUREG-1430 (BWOG)		NUREG-1431 (WOG)		NUREG-1432 (CEOG)		NUREG-1433 (BWR/4)		NUREG-1434 (BWR/6)	
298/4							3.4.3	B3.4.3	3.4.4	B3.4.4
300/10	3.8.2	B3.8.2	3.8.2	B3.8.2	3.8.2	B3.8.2	3.8.2	B3.8.2	3.8.2	B3.8.2
301/8							3.5.1, 3.5.3	B3.5.1, B3.5.3	3.5.1, 3.5.3	B3.5.1, B3.5.3
303/2					3.1.8A, 3.1.9D					
305/4					3.1.9A, 3.1.10D	B3.1.9A, B3.1.10D				
307/2					3.4.10	B3.4.10				
309, R.2/2			3.4.11	B3.4.11						
311/2			3.3.1	B3.3.1						
312, R.1/6	3.9.3	B3.9.3	3.9.4	B3.9.4	3.9.3	B3.9.3				
314/4			3.1.5, 3.2.4	B3.1.5, B3.2.4						
315/2			3.1.10	B3.1.10						
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318/2							3.5.1	B3.5.1		
319/4							3.7.7	B3.7.7	3.7.6	B3.7.6
322,R.2/8			3.6.19	B3.6.19	3.6.11	B3.6.11	3.6.4.1	B3.6.4.1	3.6.4.1	B3.6.4.1
323/2							3.6.1.3	B3.6.1.3		
324, R.1/4					3.3.1D, 3.3.2D	B3.3.1D, B3.3.2D				
325/6	3.5.2	B3.5.2	3.5.2	B3.5.2	3.5.2	B3.5.2				
326/1						B3.7.10				

TSTF NO./# FILES	NUREG-1430 (BWOG)		NUREG-1431 (WOG)		NUREG-1432 (CEOG)		NUREG-1433 (BWR/4)		NUREG-1434 (BWR/6)	
327/4	3.3.9, 3.3.10	B3.3.9, B3.3.10								
328/1			3.3.2							
329/1				B3.4.17						
331/1				B3.1.5						
338/2			3.2.1A	B3.2.1A						
339, R.1/5			2.0, 3.3.1, 3.4.1	B2.1.1, B3.4.1						
348/5	5.6		5.6		5.6		5.6		5.6	
350/1						B3.1.5D				
351/2					3.7.10	B3.7.10				
353/4							3.4.10	B3.4.10	3.4.11	B3.4.11
355/8		B3.3.1	3.3.1, 3.3.2	B3.3.1, B3.3.2		B3.3.1		B3.3.1.1.		B3.3.1.1

EDIT NO./# FILES	NUREG-1430 (BWOG)		NUREG-1431 (WOG)		NUREG-1432 (CEOG)		NUREG-1433 (BWR/4)		NUREG-1434 (BWR/6)	
011/5					3.3.1	B3.3.1, B3.3.2, B3.3.3, B3.3.5				
012/2	3.0	B3.0								

EDIT NO./# FILES	NUREG-1430 (BWOG)		NUREG-1431 (WOG)		NUREG-1432 (CEOG)		NUREG-1433 (BWR/4)		NUREG-1434 (BWR/6)	
013/12					3.1.4(A), 3.1.4(D), 3.2.1(A), 3.2.3(A), 3.2.5(A)	B3.2.1(A), B3.2.2(A), B3.2.3(A), B3.2.4(A), B3.2.5(A), B3.2.1(D), B3.2.2(D)				

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## Summary of Rev 2 Publication Changes

1. Reduced the number of Volumes from 3 to 2, one for Specifications and one for Bases.
2. Separate Table of Contents are provided for each Volume, one for Specifications and one for Bases.
3. The page numbering for each section/specification of the STS starts with page 1 preceded by a section/specification prefix. The page number for each TOC entry was removed and was replaced by the Revision number and date.
4. Sections/specifications that were not changed since issued as Rev. 1 04/07/95 will retain this revision and date on the page footer.
5. The TOC heading was changed from "Table of Contents" to "Table of Contents / Revision Summary" (left justified) and "Revision - Date" (right justified).
6. To allow unique page numbering, beginning with page number 1, the two STS sections numbered 3.0 were renumbered 3.0.1 and 3.0.2, LCO Applicability & SR Applicability, respectively.
7. After the publication of Revision 2 of the STS via the Government Printing Office, NRC does not plan to publish subsequent revisions in a complete hard copy set. Subsequent revisions of individual sections/specifications will be issued on an individual basis. The format of NRC Official documents is PDF, where a separate document will be updated for Specifications and another for Bases, upon each issuance of subsequent revisions of individual sections/specifications. NRC will continue to make the individual sections/specifications available in the Corel8 WordPerfect format via its STS Home Page. The frequency at which revisions to the STS will be issued is expected to be frequent, every 2 or 3 months as the need arises rather than every 4 or 5 years as with Revisions 1 and 2.
8. The names of some styles were changed such the style with the same name in different chapters or sections would not be defined differently. This permits the creation of a single file of all Specifications, Bases, or both, without conflicting styles. This simplifies the creation of a single PDF file for all the Specifications and another for all Bases.



## PREFACE

This NUREG contains the improved Standard Technical Specifications (STS) for Westinghouse plants. Revision 2 incorporates the cumulative changes to Revision 1, which was published in April 1995. The changes reflected in Revision 2 resulted from the experience gained from license amendment applications to convert to these improved STS or to adopt partial improvements to existing technical specifications. This NUREG is the result of extensive public technical meetings and discussions between the Nuclear Regulatory Commission (NRC) staff and various nuclear power plant licensees, Nuclear Steam Supply System (NSSS) Owners Groups, and the Nuclear Energy Institute (NEI). The improved STS were developed based on the criteria in the Final Commission Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors, dated July 22, 1993 (58 FR 39132) which was subsequently codified by changes to Section 36 of Part 50 of Title 10 of the Code of Federal Regulations (10 CFR 50.36). Licensees are encouraged to upgrade their technical specifications consistent with those criteria and conforming, to the extent practical and consistent with the licensing basis for the facility, to Revision 2 to the improved STS. The Commission continues to place the highest priority on requests for complete conversions to the improved STS. Licensees adopting portions of the improved STS to existing technical specifications should adopt all related requirements, as applicable, to achieve a high degree of standardization and consistency.

Those specifications and bases which were not modified since they were issued as Revision 1 retain that revision number and date. Since all Table of Contents entries start on page number 1, with a specification or bases number prefix, page numbers are no longer listed in the Table of Contents. The Table of Contents is now a Table of Contents / Revision Summary where the revision number and date are listed, for each specification and bases, in lieu of page numbers. The NRC will not publish subsequent revisions of its STS in hard copy form, but rather only in a portable document format (PDF) which is the agency standard for official record copies of documents. Users will have access to the subsequent revisions of the STS in the PDF format from the NRC Home page (<http://www.nrc.gov>) and may replace the out-dated revisions within this collection with a printed copy of the updated PDF document.

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## 1.0 USE AND APPLICATION

## 1.1 Definitions

**- NOTE -**

The defined terms of this section appear in capitalized type and are applicable throughout these Technical Specifications and Bases.

<u>Term</u>	<u>Definition</u>
<b>ACTIONS</b>	<b>ACTIONS</b> shall be that part of a Specification that prescribes Required Actions to be taken under designated Conditions within specified Completion Times.
<b>ACTUATION LOGIC TEST</b>	An <b>ACTUATION LOGIC TEST</b> shall be the application of various simulated or actual input combinations in conjunction with each possible interlock logic state required for <b>OPERABILITY</b> of a logic circuit and the verification of the required logic output. The <b>ACTUATION LOGIC TEST</b> , as a minimum, shall include a continuity check of output devices.
<b>AXIAL FLUX DIFFERENCE (AFD)</b>	<b>AFD</b> shall be the difference in normalized flux signals between the [top and bottom halves of a two section excore neutron detector].
<b>CHANNEL CALIBRATION</b>	A <b>CHANNEL CALIBRATION</b> shall be the adjustment, as necessary, of the channel output such that it responds within the necessary range and accuracy to known values of the parameter that the channel monitors. The <b>CHANNEL CALIBRATION</b> shall encompass all devices in the channel required for channel <b>OPERABILITY</b> . Calibration of instrument channels with resistance temperature detector (RTD) or thermocouple sensors may consist of an in-place qualitative assessment of sensor behavior and normal calibration of the remaining adjustable devices in the channel. The <b>CHANNEL CALIBRATION</b> may be performed by means of any series of sequential, overlapping, or total channel steps.
<b>CHANNEL CHECK</b>	A <b>CHANNEL CHECK</b> shall be the qualitative assessment, by observation, of channel behavior during operation. This determination shall include, where possible, comparison of the channel indication and status to other indications or status derived from independent instrument channels measuring the same parameter.

## 2.0 SAFETY LIMITS (SLs)

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### 2.1 SLs

#### 2.1.1 Reactor Core SLs

In MODES 1 and 2, the combination of THERMAL POWER, Reactor Coolant System (RCS) highest loop average temperature, and pressurizer pressure shall not exceed the limits specified in the COLR in order to preserve the following fuel design criteria:

2.1.1.1 The departure from nucleate boiling ratio (DNBR) shall be maintained  $\geq$  [1.17 for the WRB-1/WRB-2 DNB correlations].

2.1.1.2 The peak fuel centerline temperature shall be maintained  $<$  [5080°F, decreasing by 58°F per 10,000 MWD/MTU of burnup].

#### 2.1.2 Reactor Coolant System Pressure SL

In MODES 1, 2, 3, 4, and 5, the RCS pressure shall be maintained  $\leq$  [2735] psig.

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### 2.2 SAFETY LIMIT VIOLATIONS

2.2.1 If SL 2.1.1 is violated, restore compliance and be in MODE 3 within 1 hour.

2.2.2 If SL 2.1.2 is violated:

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

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

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**3.0.1 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY**

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**LCO 3.0.1** LCOs shall be met during the MODES or other specified conditions in the Applicability, except as provided in LCO 3.0.2 and 3.0.7.

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**LCO 3.0.2** Upon discovery of a failure to meet an LCO, the Required Actions of the associated Conditions shall be met, except as provided in LCO 3.0.5 and LCO 3.0.6.

If the LCO is met or is no longer applicable prior to expiration of the specified Completion Time(s), completion of the Required Action(s) is not required unless otherwise stated.

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**LCO 3.0.3** When an LCO is not met and the associated ACTIONS are not met, an associated ACTION is not provided, or if directed by the associated ACTIONS, the unit shall be placed in a MODE or other specified condition in which the LCO is not applicable. Action shall be initiated within 1 hour to place the unit, as applicable, in:

- a. MODE 3 within 7 hours,
- b. MODE 4 within 13 hours, and
- c. MODE 5 within 37 hours.

Exceptions to this Specification are stated in the individual Specifications.

Where corrective measures are completed that permit operation in accordance with the LCO or ACTIONS, completion of the actions required by LCO 3.0.3 is not required.

LCO 3.0.3 is only applicable in MODES 1, 2, 3, and 4.

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**LCO 3.0.4** When an LCO is not met, entry into a MODE or other specified condition in the Applicability shall not be made except when the associated ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time. This Specification shall not prevent changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

Exceptions to this Specification are stated in the individual Specifications.

LCO 3.0.4 is only applicable for entry into a MODE or others specified condition in the Applicability in MODES 1, 2, 3, and 4.

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LCO Applicability

LCO 3.0.4 (continued)

**- REVIEWER'S NOTE -**

LCO 3.0.4 has been revised so that changes in MODES or other specified conditions in the Applicability that are part of a shutdown of the unit shall not be prevented. In addition, LCO 3.0.4 has been revised so that it is only applicable for entry into a MODE or other specified condition in the Applicability in MODES 1, 2, 3, and 4. The MODE change restrictions in LCO 3.0.4 were previously applicable in all MODES. Before this version of LCO 3.0.4 can be implemented on a plant-specific basis, the licensee must review the existing technical specifications to determine where specific restrictions on MODE changes or Required Actions should be included in individual LCOs to justify this change; such an evaluation should be summarized in a matrix of all existing LCOs to facilitate NRC staff review of a conversion to the STS.

LCO 3.0.5

Equipment removed from service or declared inoperable to comply with ACTIONS may be returned to service under administrative control solely to perform testing required to demonstrate its OPERABILITY or the OPERABILITY of other equipment. This is an exception to LCO 3.0.2 for the system returned to service under administrative control to perform the testing required to demonstrate OPERABILITY.

LCO 3.0.6

When a supported system LCO is not met solely due to a support system LCO not being met, the Conditions and Required Actions associated with this supported system are not required to be entered. Only the support system LCO ACTIONS are required to be entered. This is an exception to LCO 3.0.2 for the supported system. In this event, an evaluation shall be performed in accordance with Specification 5.5.15, "Safety Function Determination Program (SFDP)." If a loss of safety function is determined to exist by this program, the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists are required to be entered.

When a support system's Required Action directs a supported system to be declared inoperable or directs entry into Conditions and Required Actions for a supported system, the applicable Conditions and Required Actions shall be entered in accordance with LCO 3.0.2.

LCO 3.0.7

Test Exception LCOs [3.1.8 and 3.4.19] allow specified Technical Specification (TS) requirements to be changed to permit performance of special tests and operations. Unless otherwise specified, all other TS

LCO Applicability

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LCO 3.0.7 (continued)

requirements remain unchanged. Compliance with Test Exception LCOs is optional. When a Test Exception LCO is desired to be met but is not met, the ACTIONS of the Test Exception LCO shall be met. When a Test Exception LCO is not desired to be met, entry into a MODE or other specified condition in the Applicability shall be made in accordance with the other applicable Specifications.

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### 3.0.2 SURVEILLANCE REQUIREMENT (SR) APPLICABILITY

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**SR 3.0.1** SRs shall be met during the MODES or other specified conditions in the Applicability for individual LCOs, unless otherwise stated in the SR. Failure to meet a Surveillance, whether such failure is experienced during the performance of the Surveillance or between performances of the Surveillance, shall be failure to meet the LCO. Failure to perform a Surveillance within the specified Frequency shall be failure to meet the LCO except as provided in SR 3.0.3. Surveillances do not have to be performed on inoperable equipment or variables outside specified limits.

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**SR 3.0.2** The specified Frequency for each SR is met if the Surveillance is performed within 1.25 times the interval specified in the Frequency, as measured from the previous performance or as measured from the time a specified condition of the Frequency is met.

For Frequencies specified as "once," the above interval extension does not apply.

If a Completion Time requires periodic performance on a "once per . . ." basis, the above Frequency extension applies to each performance after the initial performance.

Exceptions to this Specification are stated in the individual Specifications.

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**SR 3.0.3** If it is discovered that a Surveillance was not performed within its specified Frequency, then compliance with the requirement to declare the LCO not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified Frequency, whichever is less. This delay period is permitted to allow performance of the Surveillance.

If the Surveillance is not performed within the delay period, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.

When the Surveillance is performed within the delay period and the Surveillance is not met, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.

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**SR 3.0.4** Entry into a MODE or other specified condition in the Applicability of an LCO shall not be made unless the LCO's Surveillances have been met within their specified Frequency. This provision shall not prevent entry into MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

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SR Applicability

SR 3.0.4 (continued)

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SR 3.0.4 is only applicable for entry into a MODE or other specified condition in the Applicability in MODES 1, 2, 3 and 4.

**- REVIEWER'S NOTE -**

SR 3.0.4 has been revised so that changes in MODES or other specified conditions in the Applicability that are part of a shutdown of the unit shall not be prevented. In addition, SR 3.0.4 has been revised so that it is only applicable for entry into a MODE or other specified condition in the Applicability in MODES 1, 2, 3, and 4. The MODE change restrictions in SR 3.0.4 were previously applicable in all MODES. Before this version of SR 3.0.4 can be implemented on a plant-specific basis, the licensee must review the existing technical specifications to determine where specific restrictions on MODE changes or Required Actions should be included in individual LCOs to justify this change; such an evaluation should be summarized in a matrix of all existing LCOs to facilitate NRC staff review of a conversion to the STS.

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## PREFACE

This NUREG contains the improved Standard Technical Specifications (STS) for Westinghouse plants. Revision 2 incorporates the cumulative changes to Revision 1, which was published in April 1995. The changes reflected in Revision 2 resulted from the experience gained from license amendment applications to convert to these improved STS or to adopt partial improvements to existing technical specifications. This NUREG is the result of extensive public technical meetings and discussions between the Nuclear Regulatory Commission (NRC) staff and various nuclear power plant licensees, Nuclear Steam Supply System (NSSS) Owners Groups, and the Nuclear Energy Institute (NEI). The improved STS were developed based on the criteria in the Final Commission Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors, dated July 22, 1993 (58 FR 39132) which was subsequently codified by changes to Section 36 of Part 50 of Title 10 of the Code of Federal Regulations (10 CFR 50.36) (60 FR 36953). Licensees are encouraged to upgrade their technical specifications consistent with those criteria and conforming, to the extent practical and consistent with the licensing basis for the facility, to Revision 2 to the improved STS. The Commission continues to place the highest priority on requests for complete conversions to the improved STS. Licensees adopting portions of the improved STS to existing technical specifications should adopt all related requirements, as applicable, to achieve a high degree of standardization and consistency.

Those specifications and bases which were not modified since they were issued as Revision 1 retain that revision number and date. Since all Table of Contents entries start on page number 1, with a specification or bases number prefix, page numbers are no longer listed in the Table of Contents. The Table of Contents is now a Table of Contents / Revision Summary where the revision number and date are listed, for each specification and bases, in lieu of page numbers. The NRC will not publish subsequent revisions of its STS in hard copy form, but rather only in a portable document format (PDF) which is the agency standard for official record copies of documents. Users will have access to the subsequent revisions of the STS in the PDF format from the NRC Home page (<http://www.nrc.gov>) and may replace the out-dated revisions within this collection with a printed copy of the updated PDF document.

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## B 2.1 SAFETY LIMITS (SLs)

### B 2.1.1 Reactor Core SLs

#### BASES

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#### BACKGROUND

GDC 10 (Ref. 1) requires that specified acceptable fuel design limits are not exceeded during steady state operation, normal operational transients, and anticipated operational occurrences (AOOs). This is accomplished by having a departure from nucleate boiling (DNB) design basis, which corresponds to a 95% probability at a 95% confidence level (the 95/95 DNB criterion) that DNB will not occur and by requiring that fuel centerline temperature stays below the melting temperature.

The restrictions of this SL prevent overheating of the fuel and cladding, as well as possible cladding perforation, that would result in the release of fission products to the reactor coolant. Overheating of the fuel is prevented by maintaining the steady state peak linear heat rate (LHR) below the level at which fuel centerline melting occurs. Overheating of the fuel cladding is prevented by restricting fuel operation to within the nucleate boiling regime, where the heat transfer coefficient is large and the cladding surface temperature is slightly above the coolant saturation temperature.

Fuel centerline melting occurs when the local LHR, or power peaking, in a region of the fuel is high enough to cause the fuel centerline temperature to reach the melting point of the fuel. Expansion of the pellet upon centerline melting may cause the pellet to stress the cladding to the point of failure, allowing an uncontrolled release of activity to the reactor coolant.

Operation above the boundary of the nucleate boiling regime could result in excessive cladding temperature because of the onset of DNB and the resultant sharp reduction in heat transfer coefficient. Inside the steam film, high cladding temperatures are reached, and a cladding water (zirconium water) reaction may take place. This chemical reaction results in oxidation of the fuel cladding to a structurally weaker form. This weaker form may lose its integrity, resulting in an uncontrolled release of activity to the reactor coolant.

The proper functioning of the Reactor Protection System (RPS) and steam generator safety valves prevents violation of the reactor core SLs.



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**3.0.1 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY**

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**LCO 3.0.1** LCOs shall be met during the MODES or other specified conditions in the Applicability, except as provided in LCO 3.0.2 and 3.0.7.

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**LCO 3.0.2** Upon discovery of a failure to meet an LCO, the Required Actions of the associated Conditions shall be met, except as provided in LCO 3.0.5 and LCO 3.0.6.

If the LCO is met or is no longer applicable prior to expiration of the specified Completion Time(s), completion of the Required Action(s) is not required unless otherwise stated.

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**LCO 3.0.3** When an LCO is not met and the associated ACTIONS are not met, an associated ACTION is not provided, or if directed by the associated ACTIONS, the unit shall be placed in a MODE or other specified condition in which the LCO is not applicable. Action shall be initiated within 1 hour to place the unit, as applicable, in:

- a. MODE 3 within 7 hours,
- b. MODE 4 within 13 hours, and
- c. MODE 5 within 37 hours.

Exceptions to this Specification are stated in the individual Specifications.

Where corrective measures are completed that permit operation in accordance with the LCO or ACTIONS, completion of the actions required by LCO 3.0.3 is not required.

LCO 3.0.3 is only applicable in MODES 1, 2, 3, and 4.

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**LCO 3.0.4** When an LCO is not met, entry into a MODE or other specified condition in the Applicability shall not be made except when the associated ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time. This Specification shall not prevent changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

Exceptions to this Specification are stated in the individual Specifications.

LCO 3.0.4 is only applicable for entry into a MODE or others specified condition in the Applicability in MODES 1, 2, 3, and 4.

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