

1.4 Frequency

EXAMPLES
(continued)

EXAMPLE 1.4-1 SINGLE FREQUENCY

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
Perform CHANNEL CHECK.	12 hours

Example 1.4-1 contains the type of SR most often encountered in the Technical Specifications (TS). The Frequency specifies an interval (12 hours) during which the associated Surveillance must be performed at least one time. Performance of the Surveillance initiates the subsequent interval. Although the Frequency is stated as 12 hours, an extension of the time interval to 1.25 times the stated Frequency is allowed by SR 3.0.2 for operational flexibility. The measurement of this interval continues at all times, even when the SR is not required to be met per SR 3.0.1 (such as when the equipment is inoperable, a variable is outside specified limits, or the unit is outside the Applicability of the LCO). If the interval specified by SR 3.0.2 is exceeded while the unit is in a MODE or other specified condition in the Applicability of the LCO, and the performance of the Surveillance is not otherwise modified (refer to Example 1.4-3), then SR 3.0.3 becomes applicable.

If the interval as specified by SR 3.0.2 is exceeded while the unit is not in a MODE or other specified condition in the Applicability of the LCO for which performance of the SR is required, then SR 3.0.4 becomes applicable. The Surveillance must be performed within the Frequency requirements of SR 3.0.2, as modified by SR 3.0.3, prior to entry into the MODE or other specified condition or the LCO is considered not met (in accordance with SR 3.0.1) and LCO 3.0.4 becomes applicable.

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3.0 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY

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.

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If the LCO is met or is no longer applicable prior to expiration of the specified Completion Time(s), completion of the Required Action(s) is not required unless otherwise stated.

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.

LCO 3.0.4 When an LCO is not met, entry into a MODE or other specified condition in the Applicability shall only be made:

- a. 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; or

(continued)

3.0 LCO APPLICABILITY

LCO 3.0.4
(continued)

- b. After performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate; exceptions to this Specification are stated in the individual Specifications; or
- c. When an allowance is stated in the individual value, parameter, or other Specification.

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.

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, additional evaluations and limitations may be required 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.

(continued)

3.0 SR APPLICABILITY

SR 3.0.3
(continued) 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.

SR 3.0.4 Entry into a MODE or other specified condition in the Applicability of an LCO shall only be made when the LCO's Surveillances have been met within their specified Frequency, except as provided by SR 3.0.3. When an LCO is not met due to Surveillances not having been met, entry into a MODE or other specified condition in the Applicability shall only be made in accordance with LCO 3.0.4.

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.

3.1 REACTIVITY CONTROL SYSTEMS

3.1.1 SHUTDOWN MARGIN (SDM)

LCO 3.1.1 SDM shall be \geq the limit specified in the COLR.

APPLICABILITY: MODES 3, 4, and 5.

ACTIONS

-----NOTE-----

While this LCO is not met, transition to a lower MODE within the Applicability is not permitted.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. SDM not within limit.	A.1 Initiate boration to restore SDM to within limit.	15 minutes

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.1.1.1 Verify SDM is \geq the limit specified in the COLR.	24 hours

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 inoperable.	A.1 Enter the Condition referenced in Table 3.3.1-1 for the channel(s).	Immediately
B. One Manual Reactor Trip channel inoperable.	B.1 Restore channel to OPERABLE status.	48 hours
	<u>OR</u> B.2 Be in MODE 3.	54 hours
C. -----NOTE----- While this LCO is not met for Functions 1, 17, 18, or 19 in MODES 3, 4, or 5, closing the reactor trip breakers is not permitted. ----- One channel or train inoperable.	C.1 Restore channel or train to OPERABLE status. <u>OR</u> C.2 Open RTBs.	48 hours 49 hours

(continued)

3.3 INSTRUMENTATION

3.3.3 Post Accident Monitoring (PAM) Instrumentation

LCO 3.3.3 The PAM instrumentation for each Function in Table 3.3.3-1 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

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 inoperable.	A.1 Enter the applicable Condition referenced in Table 3.3.3-1 for the channels.	Immediately
B. -----NOTE----- For containment isolation valve position indication, separate Condition entry is allowed for each penetration flow path. ----- One required channel inoperable.	B.1 Restore the channel to OPERABLE status.	30 days

(continued)

3.3 INSTRUMENTATION

3.3.4 Remote Shutdown System

LCO 3.3.4 The Remote Shutdown System Functions in Table 3.3.4-1 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required Functions inoperable.	A.1 Restore required Function to OPERABLE status.	30 days
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	6 hours
	<u>AND</u> B.2 Be in MODE 4.	12 hours

3.3 INSTRUMENTATION

3.3.8 High Flux at Shutdown Alarm (HFASA)

LCO 3.3.8 Two channels of HFASA shall be OPERABLE.

APPLICABILITY: MODES 3, 4, and 5

-----NOTE-----
The HFASA may be blocked in MODE 3 during reactor startup.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One channel of HFASA inoperable.	A.1 -----NOTE----- LCO 3.0.4c is applicable provided Required Actions B.1 and B.2 are met. ----- Restore channel to OPERABLE status.	48 hours
B. Required Action and associated Completion Time of Condition A not met. <u>OR</u> Two channels of HFASA inoperable.	B.1 Perform SR 3.1.1.1 (verify SDM). <u>AND</u> B.2 Perform SR 3.9.2.1 (verify unborated water source isolated).	1 hour <u>AND</u> Once per 12 hours thereafter 4 hours <u>AND</u> Once per 14 days thereafter

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One RHR loop inoperable.	A.1 Initiate action to restore RHR loop to OPERABLE status.	Immediately
B. Required RHR loops inoperable. <u>OR</u> No RHR loop in operation.	B.1 Suspend all operations involving reduction in RCS boron concentration. <u>AND</u> B.2 Initiate action to restore one RHR loop to OPERABLE status and to operation.	Immediately Immediately
C. One or more valves used to isolate unborated water sources not secured in closed position.	C.1 Initiate action to secure valve(s) in closed position.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.8.1 Verify one RHR loop is in operation.	12 hours
SR 3.4.8.2 Verify correct breaker alignment and indicated power are available to the required RHR pump that is not in operation.	7 days
SR 3.4.8.3 Verify each valve that isolates unborated water sources is secured in the closed position.	31 days

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.

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

(continued)

ACTIONS

-----NOTES-----

1. LCO 3.0.4b is not applicable for entry in MODE 4, entry into MODE 6 with the reactor vessel head on from MODE 6, and entry into MODE 5 from MODE 6 with the reactor vessel head on.
 2. With one required PORV inoperable for the purpose of cold overpressure protection, entry into MODE 4 from MODE 3 is permitted provided that RCS temperature is maintained above 275°F, and, within 36 hours, either: the PORV is restored to OPERABLE status; or, an RHR suction relief valve is placed in service so that the requirements of LCO 3.4.12 are met. Otherwise, the reactor vessel must be depressurized and vented in accordance with Required Action F.1.
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CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more safety injection pumps capable of injecting into the RCS.	A.1 Render all safety injection pumps incapable of injecting into the RCS.	4 hours
B. An accumulator not isolated when the accumulator pressure is greater than or equal to the maximum RCS pressure for existing cold leg temperature allowed in the PTLR.	B.1 Isolate affected accumulator.	1 hour
C. Required Action and associated Completion Time of Condition B not met.	C.1 Increase RCS cold leg temperature to > 350°F. <u>OR</u> C.2 Depressurize affected accumulator to less than the maximum RCS pressure for existing cold leg temperature allowed in the PTLR.	12 hours 12 hours
D. One required RCS relief valve inoperable in MODE 4.	D.1 Restore required RCS relief valve to OPERABLE status.	7 days

(continued)

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.15 RCS Leakage Detection Instrumentation

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

- a. The containment normal sumps level and reactor cavity sump monitors;
- b. One containment atmosphere radioactivity monitor (gaseous or particulate); and
- c. Either the containment air cooler condensate flow rate or a containment atmosphere gaseous or particulate radioactivity monitoring system not taken credit for in item b.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One containment sump monitor inoperable.	A.1 Perform SR 3.4.13.1.	Once per 24 hours
B. Two or more containment sump monitors inoperable	B.1 Perform SR 3.4.13.1	Once per 24 hours
	<u>AND</u> B.2 Restore at least two containment sump monitors to OPERABLE status.	30 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. Required containment atmosphere radioactivity monitor(s) inoperable.</p>	<p>C.1.1 Analyze grab samples of the containment atmosphere.</p>	<p>Once per 24 hours</p>
	<p><u>OR</u></p>	
	<p>C.1.2 Perform SR 3.4.13.1.</p>	<p>Once per 24 hours</p>
	<p><u>AND</u></p>	
<p>D. Required containment air cooler condensate flow rate monitor inoperable.</p>	<p>C.2.1 Restore required containment atmosphere radioactivity monitor(s) to OPERABLE status.</p>	<p>30 days</p>
	<p><u>OR</u></p>	
	<p>C.2.2 Verify containment air cooler condensate flow rate monitor is OPERABLE.</p>	<p>30 days</p>
	<p>D.1 Perform SR 3.4.15.2.</p>	<p>Once per 8 hours</p>
	<p><u>OR</u></p>	
	<p>D.2 Perform SR 3.4.13.1.</p>	<p>Once per 24 hours</p>

(continued)

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.16 RCS Specific Activity

LCO 3.4.16 The specific activity of the reactor coolant shall be within limits.

APPLICABILITY: MODES 1 and 2,
MODE 3 with RCS average temperature (T_{avg}) \geq 500°F.

ACTIONS

-----NOTE-----
LCO 3.0.4c is applicable.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. DOSE EQUIVALENT I-131 > 1.0 μ Ci/gm.	A.1 Verify DOSE EQUIVALENT I-131 within the acceptable region of Figure 3.4.16-1.	Once per 4 hours
	<u>AND</u> A.2 Restore DOSE EQUIVALENT I-131 to within limit.	48 hours
B. Gross specific activity of the reactor coolant not within limit.	B.1 Perform SR 3.4.16.2.	4 hours
	<u>AND</u> B.2 Be in MODE 3 with $T_{avg} < 500^\circ\text{F}$.	6 hours

(continued)

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

3.5.3 ECCS - Shutdown

LCO 3.5.3 One ECCS train shall be OPERABLE.

APPLICABILITY: MODE 4.

ACTIONS

-----NOTE-----
LCO 3.0.4b is not applicable to ECCS centrifugal charging pump subsystem.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Required ECCS residual heat removal (RHR) subsystem inoperable.	A.1 Initiate action to restore required ECCS RHR subsystem to OPERABLE status.	Immediately
B. Required ECCS centrifugal charging subsystem inoperable. <u>AND</u> At least 100% of the ECCS flow equivalent to a single OPERABLE ECCS train available.	B.1 Restore required ECCS centrifugal charging subsystem to OPERABLE status.	72 hours
C. Required ECCS centrifugal charging subsystem inoperable.	C.1 Restore required ECCS centrifugal charging subsystem to OPERABLE status.	1 hour
D. Required Actions and associated Completion Times of Conditions B or C not met.	D.1 Be in MODE 5.	24 hours

3.7 PLANT SYSTEMS

3.7.4 Atmospheric Relief Valves (ARVs)

LCO 3.7.4 Three ARV lines shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required ARV line inoperable.	A.1 Restore required ARV line to OPERABLE status.	30 days
B. Two or more required ARV lines inoperable.	B.1 Restore at least two ARV lines to OPERABLE status.	24 hours
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	6 hours
	<u>AND</u> C.2 Be in MODE 4	18 hours

3.7 PLANT SYSTEMS

3.7.5 Auxiliary Feedwater (AFW) System

LCO 3.7.5 Three AFW trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

-----NOTE-----
LCO 3.0.4b is not applicable when entering MODE 1.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One steam supply to turbine driven AFW pump inoperable.	A.1 Restore steam supply to OPERABLE status.	7 days <u>AND</u> 10 days from discovery of failure to meet the LCO
B. One AFW train inoperable for reasons other than Condition A.	B.1 Restore AFW train to OPERABLE status.	72 hours <u>AND</u> 10 days from discovery of failure to meet the LCO

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. One NSCW basin transfer pump inoperable.</p>	<p>C.1 Restore the transfer pump to OPERABLE status.</p> <p><u>OR</u></p> <p>C.2.1 Implement an alternate method of basin transfer.</p> <p><u>AND</u></p> <p>C.2.2 Restore the transfer pump to OPERABLE status.</p>	<p>8 days</p> <p>8 days</p> <p>31 days</p>
<p>D. Required Action and associated Completion Time not met.</p> <p><u>OR</u></p> <p>UHS inoperable for reasons other than Conditions A, B, or C.</p>	<p>D.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>D.2 Be in MODE 5.</p>	<p>6 hours</p> <p>36 hours</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Control room air temperature not within limit.	E.1 Restore control room air temperature to within limit.	7 days
F. Required Action and associated Completion Time not met.	<p>F.1 -----NOTE----- Required Action F.1 is not applicable when entering this Condition from Condition B, D, or E. -----</p> <p>Lock closed the outside air (OSA) intake dampers of the affected unit and lock open the OSA intake dampers of the unaffected unit.</p> <p><u>AND</u></p> <p>F.2 Place the affected units(s) in MODE 3.</p> <p><u>AND</u></p> <p>F.3 Place the affected unit(s) in MODE 5.</p>	<p>1 hour</p> <p>7 hours</p> <p>37 hours</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
G. Control room air temperature not within limit.	G.1 Restore control room air temperature to within limit.	7 days
H. Required Action and associated Completion Time not met for operating unit.	H.1 Place the unit in MODE 3.	6 hours
	<u>AND</u> H.2 Place the unit in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.11.1 The Surveillance Requirements of Specification 3.7.10 are applicable.	In accordance with applicable SRs.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>E. Four CREFS trains inoperable.</p> <p><u>OR</u></p> <p>The CREFS train required in the emergency mode by Required Actions of Conditions A, B, C, or D not capable of being powered by an OPERABLE emergency power source.</p>	<p>E.1 Suspend movement of irradiated fuel assemblies.</p> <p><u>AND</u></p> <p>E.2 Suspend CORE ALTERATIONS.</p>	<p>Immediately</p> <p>Immediately</p>
<p>F. Control room air temperature not within limit.</p>	<p>F.1 Restore control room air temperature to within limit.</p>	<p>7 days</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.7.12.1 The Surveillance Requirements of Specification 3.7.10 are applicable.</p>	<p>In accordance with applicable SRs.</p>

3.8 ELECTRICAL POWER SYSTEMS

3.8.1 AC Sources - Operating

LCO 3.8.1 The following AC electrical sources shall be OPERABLE:

- a. Two qualified circuits between the offsite transmission network and the onsite Class 1E AC Electrical Power Distribution System; and
- b. Two diesel generators (DGs) capable of supplying the onsite Class 1E power distribution subsystem(s).

Automatic load sequencers for Train A and Train B ESF buses shall be OPERABLE.

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

ACTIONS

-----NOTE-----

LCO 3.0.4b is not applicable to DGs.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required offsite circuit inoperable.	A.1 Perform SR 3.8.1.1 for required OPERABLE offsite circuit. <u>AND</u>	1 hour <u>AND</u> Once per 8 hours thereafter (continued)

3.9 REFUELING OPERATIONS

3.9.1 Boron Concentration

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

APPLICABILITY: MODE 6.

ACTIONS

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

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.9.1.1 Verify boron concentration is within the limit specified in the COLR.	72 hours

3.9 REFUELING OPERATIONS

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

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

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. Less than the required number of RHR loops OPERABLE.</p>	<p>A.1 Initiate action to restore required RHR loops to OPERABLE status.</p> <p><u>OR</u></p> <p>A.2 Initiate action to establish ≥ 23 ft of water above the top of reactor vessel flange.</p>	<p>Immediately</p> <p>Immediately</p>
<p>B. No RHR loop in operation.</p>	<p>B.1 Suspend operations involving a reduction in reactor coolant boron concentration.</p> <p><u>AND</u></p>	<p>Immediately</p> <p>(continued)</p>