

1.4 Frequency

EXAMPLES
(continued)

EXAMPLE 1.4-1

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 prior to entry into the MODE or other specified condition, as modified by SR 3.0.3, or the LCO is considered not met (in accordance with SR 3.0.1) and LCO 3.0.4 becomes applicable.

(continued)

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 and LCO 3.0.7.

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If the LCO is met or is no longer applicable prior to expiration of the specified Completion Time(s), completion of the Required Action(s) is not required, unless otherwise stated.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

(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, 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.

(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.

3.3 INSTRUMENTATION

3.3.1 Reactor Protective System (RPS) Instrumentation - Operating

LC0 3.3.1 Four RPS trip and bypass removal channels for each Function in Table 3.3.1-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.1-1. (Before CPC Upgrade)

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions with one automatic RPS trip channel inoperable.	A.1 Place channel in bypass or trip.	1 hour
	<u>AND</u> A.2 Restore channel to OPERABLE status.	Prior to entering MODE 2 following next MODE 5 entry
B. One or more Functions with two automatic RPS trip channels inoperable.	B.1 Place one channel in bypass and the other in trip.	1 hour

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. One or more Functions with one automatic bypass removal channel inoperable.</p>	<p>C.1 Disable bypass channel. <u>OR</u> C.2.1 Place affected automatic trip channel in bypass or trip. <u>AND</u> C.2.2 Restore bypass removal channel and associated automatic trip channel to OPERABLE status.</p>	<p>1 hour 1 hour Prior to entering MODE 2 following next MODE 5 entry</p>
<p>D. One or more Functions with two automatic bypass removal channels inoperable.</p>	<p>D.1 Disable bypass channels. <u>OR</u> D.2 Place one affected automatic trip channel in bypass and place the other in trip.</p>	<p>1 hour 1 hour</p>
<p>E. One or more core protection calculator (CPC) channels with a cabinet high temperature alarm.</p>	<p>E.1 Perform CHANNEL FUNCTIONAL TEST on affected CPC.</p>	<p>12 hours</p>

(continued)

3.3 INSTRUMENTATION

3.3.1 Reactor Protective System (RPS) Instrumentation – Operating

LCO 3.3.1 Four RPS trip and bypass removal channels for each Function in Table 3.3.1-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.1-1. (After CPC Upgrade)

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions with one automatic RPS trip channel inoperable.	A.1 Place channel in bypass or trip.	1 hour
	<u>AND</u> A.2 Restore channel to OPERABLE status.	Prior to entering MODE 2 following next MODE 5 entry
B. One or more Functions with two automatic RPS trip channels inoperable:	B.1 Place one channel in bypass and the other in trip.	1 hour

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. One or more Functions with one automatic bypass removal channel inoperable.</p>	<p>C.1 Disable bypass channel.</p> <p><u>OR</u></p> <p>C.2.1 Place affected automatic trip channel in bypass or trip.</p> <p><u>AND</u></p> <p>C.2.2 Restore bypass removal channel and associated automatic trip channel to OPERABLE status.</p>	<p>1 hour</p> <p>1 hour</p> <p>Prior to entering MODE 2 following next MODE 5 entry</p>
<p>D. One or more Functions with two automatic bypass removal channels inoperable.</p>	<p>D.1 Disable bypass channels.</p> <p><u>OR</u></p> <p>D.2 Place one affected automatic trip channel in bypass and place the other in trip.</p>	<p>1 hour</p> <p>1 hour</p>
<p>E. Required Action and associated Completion Time not met.</p>	<p>E.1 Be in MODE 3</p>	<p>6 hours</p>

(continued)

3.3 INSTRUMENTATION

3.3.2 Reactor Protective System (RPS) Instrumentation – Shutdown

LCO 3.3.2 Four RPS trip and bypass removal channels 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 RPS Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more functions with one automatic RPS trip channel inoperable.	A.1 Place channel in bypass or trip.	1 hour
	<u>AND</u> A.2 Restore channel to OPERABLE status.	Prior to entering MODE 2 following next MODE 5 entry
B. One or more functions with two automatic RPS trip channels inoperable.	B.1 Place one channel in bypass and place the other in trip.	1 hour

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. One or more functions with one automatic bypass removal channel inoperable.</p>	<p>C.1 Disable bypass channel. <u>OR</u> C.2.1 Place affected channel in bypass or trip. <u>AND</u> C.2.2 Restore bypass removal channel and associated automatic trip channel to OPERABLE status.</p>	<p>1 hour 1 hour Prior to entering MODE 2 following next MODE 5 entry</p>
<p>D. One or more functions with two automatic bypass removal channels inoperable.</p>	<p>D.1 Disable bypass channels. <u>OR</u> D.2 Place one affected automatic trip channel bypass and place the other in trip.</p>	<p>1 hour 1 hour</p>
<p>E. Required Action and associated Completion Time not met.</p>	<p>E.1 Open all RTCBs.</p>	<p>1 hour</p>

3.3 INSTRUMENTATION

3.3.5 Engineered Safety Features Actuation System (ESFAS) Instrumentation

LCO 3.3.5 Four ESFAS trip and bypass removal channels 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 ESFAS Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions with one automatic ESFAS trip channel inoperable.	A.1 Place channel in bypass or trip.	1 hour
	<u>AND</u> A.2 Restore channel to OPERABLE status.	Prior to entering MODE 2 following next MODE 5 entry
B. One or more Functions with two automatic ESFAS trip channels inoperable.	B.1 Place one channel in bypass and the other in trip.	1 hour

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. One or more Functions with one automatic bypass removal channel inoperable.</p>	<p>C.1 Disable bypass channel. <u>OR</u> C.2.1 Place affected automatic trip channel in bypass or trip. <u>AND</u> C.2.2 Restore bypass removal channel and associated automatic trip channel to OPERABLE status.</p>	<p>1 hour 1 hour Prior to entering MODE 2 following next MODE 5 entry</p>
<p>D. One or more Functions with two automatic bypass removal channels inoperable.</p>	<p>D.1 Disable bypass channels. <u>OR</u> D.2 Place one affected automatic trip channel in bypass and place the other in trip.</p>	<p>1 hour 1 hour</p>
<p>E. Required Action and associated Completion Time not met.</p>	<p>E.1 Be in MODE 3. <u>AND</u> E.2 Be in MODE 4.</p>	<p>6 hours 12 hours</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>B. Two LOVS channels per DG inoperable.</p>	<p>B.1 Enter applicable Conditions and Required Actions for the associated DG made inoperable by DG - LOVS instrumentation.</p> <p><u>OR</u></p> <p>B.2 Place one channel in bypass and the other channel in trip.</p>	<p>1 hour</p> <p>1 hour</p>
<p>C. More than two LOVS channels per DG inoperable.</p>	<p>C.1 Restore all but two channels to OPERABLE status.</p>	<p>1 hour</p>
<p>D. Required Action and associated Completion Time not met.</p>	<p>D.1 Enter applicable Conditions and Required Actions for the associated DG made inoperable by DG - LOVS instrumentation.</p>	<p>Immediately</p>

3.3 INSTRUMENTATION

3.3.10 Post Accident Monitoring (PAM) Instrumentation

LCO 3.3.10 The PAM instrumentation for each Function in Table 3.3.10-1 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 required channel inoperable.	A.1 Restore required channel to OPERABLE status.	30 days
B. Required Action and associated Completion Time of Condition A not met.	B.1 Initiate action in accordance with Specification 5.6.6.	Immediately
C. -----NOTE----- Not applicable to hydrogen monitor channels. ----- One or more Functions with two required channels inoperable.	C.1 Restore one channel to OPERABLE status.	7 days

(continued)

3.3 INSTRUMENTATION

3.3.11 Remote Shutdown System

LCO 3.3.11 The Remote Shutdown System Instrumentation Functions in Table 3.3.11-1 and each Remote Shutdown System disconnect switch and control circuit 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 in Table 3.3.11.1 inoperable.	A.1 Restore required Functions to OPERABLE status.	30 days
B. One or more remote shutdown system disconnect switches or control circuits inoperable.	B.1 Restore required switch(s)/circuit(s) to OPERABLE status	30 days
	<u>OR</u> B.2 Issue procedure changes that identify alternate disconnect methods or control circuits	30 days
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.	12 hours

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.13 Low Temperature Overpressure Protection (LTOP) System

LCO 3.4.13 An LTOP System shall be OPERABLE consisting of:

- a. Two OPERABLE Shutdown Cooling System suction line relief valves with lift settings ≤ 467 psig aligned to provide overpressure protection for the RCS; or
- b. The RCS depressurized and an RCS vent of ≥ 16 square inches.

-----NOTE-----
No RCP shall be started unless the secondary side water temperature in each steam generator (SG) is $\leq 100^\circ\text{F}$ above each of the RCS cold leg temperatures.

APPLICABILITY: MODE 4 when any RCS cold leg temperature is $\leq 214^\circ\text{F}$ during cooldown.
MODE 4 when any RCS cold leg temperature is $\leq 291^\circ\text{F}$ during heatup.
MODE 5.
MODE 6 when the reactor vessel head is on.

- NOTES-----
- 1. When one or more cold legs reach 214°F , this LCO remains applicable during periods of steady state temperature conditions until all RCS cold leg temperature reach 291°F . If a cooldown is terminated prior to reaching 214°F and a heatup is commenced, this LCO is applicable until all RCS cold leg temperatures reach 291°F .
 - 2. LCO 3.0.4.b is not applicable when entering MODE 4.
-

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required Shutdown Cooling System suction line relief valve inoperable in MODE 4.	A.1 Restore required Shutdown Cooling System suction line relief valve to OPERABLE status.	7 days

(continued)

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.16 RCS Leakage Detection Instrumentation

LCO 3.4.16 Both of the following RCS leakage detection instrumentation shall be OPERABLE:

- a. One containment sump monitor; and
- b. One containment atmosphere radioactivity monitor (gaseous and particulate).

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Required containment sump monitor inoperable.	A.1 Perform SR 3.4.14.1. <u>AND</u> A.2 Restore containment sump monitor to OPERABLE status.	Once per 24 hours 30 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required containment atmosphere radioactivity monitor inoperable.	B.1.1 Analyze grab samples of the containment atmosphere.	Once per 24 hours
	<u>OR</u>	
	B.1.2 Perform SR 3.4.14.1.	Once per 24 hours
	<u>AND</u>	
	B.2 Restore required containment atmosphere radioactivity monitor to OPERABLE status.	30 days
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 5.	36 hours
D. All required monitors inoperable.	D.1 Enter LCO 3.0.3	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.16.1 Perform CHANNEL CHECK of the required containment atmosphere radioactivity monitor.	12 hours
SR 3.4.16.2 Perform CHANNEL FUNCTIONAL TEST of the required containment atmosphere radioactivity monitor.	92 days

(continued)

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

3.5.4 ECCS - Shutdown

LCO 3.5.4 One High Pressure Safety Injection (HPSI) train shall be OPERABLE.

APPLICABILITY: MODE 3 with pressurizer pressure < 1837 psia and with
RCS T_c < 485°F.
MODE 4.

ACTIONS

-----NOTE-----
LCO 3.0.4.b is not applicable to ECCS High Pressure Safety Injection subsystem when entering MODE 4.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Required HPSI train inoperable.	A.1 Restore required HPSI train to OPERABLE status.	1 hour
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 5.	24 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.5.4.1 The following SRs are applicable: SR 3.5.3.1 SR 3.5.3.2 SR 3.5.3.3 SR 3.5.3.4 SR 3.5.3.5 SR 3.5.3.7 SR 3.5.3.8	In accordance with applicable SRs

3.6 CONTAINMENT SYSTEMS

3.6.7 Hydrogen Recombiners

LCO 3.6.7 Two hydrogen recombiners shared among the three units shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

-----NOTE-----

All three PVNGS Units (Units 1, 2, and 3) shall simultaneously comply with the REQUIRED ACTION(s) when the shared portion of the hydrogen recombiner(s) is the cause of a CONDITION.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One hydrogen recombiner inoperable.	A.1 Restore hydrogen recombiner to OPERABLE status.	30 days
B. Two hydrogen recombiners inoperable.	B.1 Verify by administrative means that the hydrogen control function is maintained.	1 hour <u>AND</u> Every 12 hours thereafter
	<u>AND</u> B.2 Restore one hydrogen recombiner to OPERABLE status.	7 days
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	6 hours

3.7 PLANT SYSTEMS

3.7.4. Atmospheric Dump Valves (ADVs)

LCO 3.7.4 One ADV line per steam generator shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required ADV line inoperable.	A.1 Restore ADV line to OPERABLE status.	72 hours
B. Two required ADV lines inoperable.	B.1 Restore one ADV line 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 without reliance on steam generator for heat removal.	24 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. One steam supply to turbine driven AFW pump inoperable.</p> <p><u>OR</u></p> <p>-----NOTE----- Only applicable if MODE 2 has not been entered following refueling.</p> <p>-----</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>AND</u></p> <p>10 days from discovery of failure to meet the LCO</p>
<p>B. One AFW train inoperable for reasons other than Condition A in MODE 1, 2, or 3.</p>	<p>B.1 Restore AFW train to OPERABLE status.</p>	<p>72 hours</p> <p><u>AND</u></p> <p>10 days from discovery of failure to meet the LCO</p>

(continued)

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 circuits between the offsite transmission network and the onsite Class 1E AC Electrical Power Distribution System;
 - b. Two diesel generators (DGs) each capable of supplying one train of the onsite Class 1E AC Electrical Power Distribution System; and
 - c. Automatic load sequencers for Train A and Train B.

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

ACTIONS

-----NOTE-----
LCO 3.0.4.b 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.	1 hour <u>AND</u> Once per 8 hours thereafter
	<u>AND</u> A.2 Declare required feature(s) with no offsite power available inoperable when its redundant required feature(s) is inoperable.	24 hours from discovery of no offsite power to one train concurrent with inoperability of redundant required feature(s)
	<u>AND</u>	(continued)