

**3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS**

**3/4.0 APPLICABILITY**

**LIMITING CONDITION FOR OPERATION**

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3.0.1 Compliance with the Limiting Conditions for Operation (LCO) contained in the succeeding specifications is required during the OPERATIONAL MODES or other conditions specified therein; except that upon failure to meet the Limiting Conditions for Operation, the associated ACTION requirements shall be met.

INSERT LCO 3.0.2  
(see next page)

3.0.2 ~~Noncompliance with a specification shall exist when the requirements of the Limiting Condition for Operation (LCO) and associated ACTION requirements are not met within the specified time intervals. If the Limiting Condition for Operation is restored prior to expiration of the specified time intervals, completion of the ACTION requirements is not required.~~

3.0.3 When a Limiting Condition for Operation (LCO) is not met, except as provided in the associated ACTION requirements, within 1 hour action shall be initiated to place the unit in a MODE in which specification does not apply by placing it, as applicable in:

1. At least HOT STANDBY within the next 6 hours,
2. At least HOT SHUTDOWN within the following 6 hours, and
3. At least COLD SHUTDOWN within the subsequent 24 hours.

Where corrective measures are completed that permit operation under the ACTION requirements, the ACTION may be taken in accordance with the specified time limits as measured from the time of failure to meet the LCO. Exceptions to these requirements are stated in the individual specifications.

This specification is not applicable in MODES 5 or 6.

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;
- 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.

INSERT LCO 3.0.5  
(see next page)

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.

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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. 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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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

**3/4.3 INSTRUMENTATION****3/4.3.1 REACTOR PROTECTIVE INSTRUMENTATION****LIMITING CONDITION FOR OPERATION**

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3.3.1.1 As a minimum, the reactor protective instrumentation channels and bypasses of Table 3.3-1 shall be OPERABLE.

**APPLICABILITY:** As shown in Table 3.3-1.

**ACTION:**

As shown in Table 3.3-1.

**SURVEILLANCE REQUIREMENTS**

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- 4.3.1.1.1 Each reactor protective instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations during the modes and at the frequencies shown in Table 4.3-1.
- 4.3.1.1.2 The logic for the bypasses shall be demonstrated OPERABLE during the at power CHANNEL FUNCTIONAL TEST of channels affected by bypass operation. The total bypass function shall be demonstrated OPERABLE in accordance with the Surveillance Frequency Control Program during CHANNEL CALIBRATION testing of each channel affected by bypass operation.
- 4.3.1.1.3 The REACTOR TRIP SYSTEM RESPONSE TIME of each reactor trip function shall be demonstrated to be within its limit in accordance with the Surveillance Frequency Control Program. Neutron detectors are exempt from response time testing. Each test shall include at least one channel per function.

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This page is for information only.  
There are no changes to this page.

**TABLE 3.3-1**  
**REACTOR PROTECTIVE INSTRUMENTATION**

<b><u>FUNCTIONAL UNIT</u></b>	<b><u>TOTAL NO. OF CHANNELS</u></b>	<b><u>CHANNELS TO TRIP</u></b>	<b><u>MINIMUM CHANNELS OPERABLE</u></b>	<b><u>APPLICABLE MODES</u></b>	<b><u>ACTION</u></b>
1. Manual Reactor Trip	2	1	2	1, 2 and *	1
2. Power Level – High	4	2(a)	3(f)	1, 2	2
3. Reactor Coolant Flow – Low	4/SG	2(a)/SG	3/SG	1, 2 (e)	2
4. Pressurizer Pressure – High	4	2	3	1, 2	2
5. Containment Pressure – High	4	2	3	1, 2	2
6. Steam Generator Pressure – Low	4/SG	2(b)/SG	3/SG	1, 2	2
7. Steam Generator Water Level – Low	4/SG	2/SG	3/SG	1, 2	2
8. Local Power Density – High	4	2(c)	3	1	2
9. Thermal Margin/Low Pressure	4	2(a)	3	1, 2 (e)	2
9a. Steam Generator Pressure Difference – High	4	2(a)	3	1, 2 (e)	2
10. Loss of Turbine – Hydraulic Fluid Pressure - Low	4	2(c)	3	1	2

**TABLE 3.3-1 (Continued)**  
**REACTOR PROTECTIVE INSTRUMENTATION**

<b><u>FUNCTIONAL UNIT</u></b>	<b><u>TOTAL NO. OF CHANNELS</u></b>	<b><u>CHANNELS TO TRIP</u></b>	<b><u>MINIMUM CHANNELS OPERABLE</u></b>	<b><u>APPLICABLE MODES</u></b>	<b><u>ACTION</u></b>
11. Wide Range Logarithmic Neutron Flux Monitor				<div style="border: 1px solid red; padding: 2px; display: inline-block;">Add double asterik (**)</div> ↓ ↓	
a. Startup and Operating -- Rate of Change of Power – High	4	2(d)	3	1, 2 and *	2
b. Shutdown	4	0	2	3, 4, 5	3
12. Reactor Protection System Logic	4	2	4	1, 2*	4
13. Reactor Trip Breakers	4	2	4	1, 2*	4

**TABLE 3.3-1 (Continued)**

**TABLE NOTATION**

\* With the protective system trip breakers in the closed position and the CEA drive system capable of CEA withdrawal.

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\*\* Mode 1 and Mode 2 applicable when Wide Range Logarithmic Neutron Flux power is  $\geq 10^{-4}\%$  and Power Range Neutron Flux power  $\leq 15\%$  of RATED THERMAL POWER.

- (a) Trip may be bypassed below 1% of RATED THERMAL POWER; bypass shall be automatically removed when Wide Range Logarithmic Neutron Flux power is  $\geq 1\%$  of RATED THERMAL POWER.
- (b) Trip may be manually bypassed below 685 psig; bypass shall be automatically removed at or above 685 psig.
- (c) Trip may be bypassed below 15% of RATED THERMAL POWER; bypass shall be automatically removed when Power Range Neutron Flux power is  $\geq 15\%$  of RATED THERMAL POWER.
- (d) Trip may be bypassed below  $10^{-4}\%$  and above 15% of RATED THERMAL POWER; bypass shall be automatically removed when Wide Range Logarithmic Neutron Flux power is  $\geq 10^{-4}\%$  and Power Range Neutron Flux power  $\leq 15\%$  of RATED THERMAL POWER.
- (e) Deleted.
- (f) There shall be at least two decades of overlap between the Wide Range Logarithmic Neutron Flux Monitoring Channels and the Power Range Neutron Flux Monitoring Channels.

**ACTION STATEMENTS**

- ACTION 1 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in HOT STANDBY within the next 6 hours and/or open the protective system trip breakers.
- ACTION 2 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:
  - a. The inoperable channel is placed in either the bypassed or tripped condition within 1 hour. For the purposes of testing and maintenance, the inoperable channel may be bypassed for up to 48 hours from time of initial loss of OPERABILITY; however, the inoperable channel shall then be either restored to OPERABLE status or placed in the tripped condition.