

REFUELING OPERATIONS

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS

LIMITING CONDITION FOR OPERATION

3.9.4 The containment building penetrations shall be in the following status:

- a. The equipment door closed and held in place by a minimum of four bolts,
- b. A minimum of one door in each airlock is closed, and*
- c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere shall be either:
 1. Closed by an isolation valve, blind flange, or manual valve, or
 2. Be capable of being closed by an OPERABLE automatic containment purge valve.

APPLICABILITY: During CORE ALTERATIONS or movement of irradiated fuel within the containment.

ACTION:

With the requirements of the above specification not satisfied, immediately suspend all operations involving CORE ALTERATIONS or movement of irradiated fuel in the containment building.

SURVEILLANCE REQUIREMENTS

4.9.4 Each of the above required containment building penetrations shall be determined to be either in its closed/isolated condition or capable of being closed by an OPERABLE automatic containment purge valve within 72 hours prior to the start of and at least once per 7 days during CORE ALTERATIONS or movement of irradiated fuel in the containment building by:

*Both doors of the containment personnel airlock may be open provided:

- a. one personnel airlock door is OPERABLE, and
- b1. the plant is in MODE 6 with 23 feet of water above the fuel in the reactor vessel. or
- b2. defueled configuration with fuel in containment (ie., fuel in refueling machine or upender).

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- a. Verifying the penetrations are in their closed/isolated condition,
or
- b. Testing the containment purge valves per the applicable portions
of Specification 4.6.3.2.

Containment Penetrations Bases (addition; from PCN 299)

Operability of the containment airlock door requires that the door is capable of being closed; that the door is unblocked and no cables or hoses are being run through the airlock; and that a designated individual is continuously available to close the airlock door. This individual must be stationed at the outer airlock door.

TABLE 3.3-1
REACTOR PROTECTIVE INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
1. Manual Reactor Trip	2 sets of 2 2 sets of 2	1 set of 2 1 set of 2	2 sets of 2 2 sets of 2	1, 2 3*, 4*, 5*	1 7A
2. Linear Power Level - High	4	2	3	1, 2	2#,3#
3. Logarithmic Power Level - High					
a. Startup and Operating	4	2(a)(d)	3	1, 2	2#,3#
	4	2	3	3*, 4*, 5*	7A
b. Shutdown	4	0	2**	3, 4, 5	4
4. Pressurizer Pressure - High	4	2	3	1, 2	2#,3#
5. Pressurizer Pressure - Low	4	2(b)	3	1, 2	2#,3#
6. Containment Pressure - High	4	2	3	1, 2	2#,3#
7. Steam Generator Pressure - Low	4/SG	2/SG	3/SG	1, 2	2#,3#
8. Steam Generator Level - Low	4/SG	2/SG	3/SG	1, 2	2#,3#
9. Local Power Density - High	4	2(c)(d)(e)	3	1, 2	2#,3#
10. DNBR - Low	4	2(c)(d)(e)	3	1, 2	2#,3#
11. Steam Generator Level - High	4/SG	2/SG	3/SG	1, 2	2#,3#
12. Reactor Protection System Logic	4	2	3	1, 2 3*, 4*, 5*	2#,3# 7A
13. Reactor Trip Breakers	4	2(f)	4	1, 2 3*, 4*, 5*	5 7A
14. Core Protection Calculators	4	2(c)(d)(e)	3	1, 2	2#,3#,7
15. CEA Calculators	2	1	2(e)	1, 2	6, 7
16. Reactor Coolant Flow - Low	4/SG	2/SG	3/SG	1, 2	2#,3#
17. Seismic - High	4	2	3	1, 2	2#,3#
18. Loss of Load	4	2	3	1(g)	2#,3#

TABLE 3.3-1 (Continued)

TABLE NOTATION

*With the protective system trip breakers in the closed position, the CEA drive system capable of CEA withdrawal, and fuel in the reactor vessel.

**The source range neutron flux monitors may be used in Modes 3, 4, and 5 with the reactor trip circuit breakers open or the Control Element Assembly (CEA) Drive System not capable of CEA withdrawal.

#The provisions of Specification 3.0.4 are not applicable.

- (a) Trip may be manually bypassed above $10^{-4}\%$ of RATED THERMAL POWER; bypass shall be automatically removed when THERMAL POWER is less than or equal to $10^{-4}\%$ of RATED THERMAL POWER.
- (b) Trip may be manually bypassed below 400 psia; bypass shall be automatically removed whenever pressurizer pressure is greater than or equal to 400 psia.
- (c) Trip may be manually bypassed below $10^{-4}\%$ of RATED THERMAL POWER; bypass shall be automatically removed when THERMAL POWER is greater than or equal to $10^{-4}\%$ of RATED THERMAL POWER. During testing pursuant to Special Test Exception 3.10.2 or 3.10.3, trip may be manually bypassed below 5% of RATED THERMAL POWER; bypass shall be automatically removed when THERMAL POWER is greater than or equal to 5% of RATED THERMAL POWER.
- (d) Trip may be bypassed during testing pursuant to Special Test Exception 3.10.3.
- (e) See Special Test Exception 3.10.2.
- (f) Each channel shall be comprised of two trip breakers; actual trip logic shall be one-out-of-two taken twice.
- (g) Trip may be bypassed below 55% RATED THERMAL POWER.

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 at least HOT STANDBY within the next 6 hours and/or open the protective system trip breakers.

ACTION 2 - With the number of channels OPERABLE one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may continue provided the inoperable channel is placed in the bypassed or tripped condition within 1 hour. If the inoperable channel is bypassed, the desirability of maintaining this channel in the bypassed condition shall be reviewed in accordance with Specification 6.5.1.6e. The channel shall be returned to OPERABLE status no later than during the next COLD SHUTDOWN.

TABLE 3.3-1 (Continued)
TABLE NOTATION

2. Pressurizer Pressure - High	Pressurizer Pressure - High Local Power Density - High DNBR - Low
3. Containment Pressure - High	Containment Pressure - High (RPS) Containment Pressure - High (ESF)
4. Steam Generator Pressure - Low	Steam Generator Pressure - Low Steam Generator ΔP 1 and 2 (EFAS 1 and 2)
5. Steam Generator Level	Steam Generator Level - Low Steam Generator Level - High Steam Generator ΔP (EFAS)
6. Core Protection Calculator	Local Power Density - High DNBR - Low

STARTUP and/or POWER OPERATION may continue until the performance of the next required CHANNEL FUNCTIONAL TEST. Subsequent STARTUP and/or POWER OPERATION may continue if one channel is restored to OPERABLE status and the provisions of ACTION 2 are satisfied.

ACTION 4 - With the number of channels OPERABLE one or more less than required by the Minimum Channels OPERABLE requirement, immediately suspend all operations involving positive reactivity changes and within 4 hours and once per 12 hours thereafter perform shutdown margin verification in accordance with Specification 4.1.1.1.1 if T_{avg} is greater than 200°F or Specification 4.1.1.2 if T_{avg} is less than or equal to 200°F.

ACTION 5 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours.

ACTION 6 - a. With one CEAC inoperable, operation may continue for up to 7 days provided that at least once per 4 hours, each CEA is verified to be within 7 inches (indicated position) of all other CEA's in its group. After 7 days, operation may continue provided that Action 6.b is met.* If the exemption to Specification 3.0.4 is used, Action 6.b must be met.

b. With both CEACs inoperable, operation may continue provided that:*

1. Within 1 hour the DNBR margin required by Specification 3.2.4.b (COLSS in service) or Specification 3.2.4.d (COLSS out of service) is satisfied.

*Note: Requirements for CEA position indication given in Technical Specification 3.1.3.2.