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3/4.1.2 BORATION SYSTEMS

3/4.1.2.1 - 3/4.1.2.7 (These Specification numbers are not used.)

REFUELING WATER STORAGE TANK (RWST)

LIMITING CONDITION FOR OPERATION

3.1.2.8 The RWST shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 & 4.

ACTION:

With the refueling water storage tank inoperable, restore the tank to OPERABLE status within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.1.2.8 The RWST shall be verified OPERABLE:

a. At least once per 7 days by:

1. Verifying the boron concentration is between 2,400 and 2,600 ppm, and

2. Verifying a contained volume between 439,050 gallons and 441,100 gallons of borated water.

b. At least once per 24 hours by verifying the RWST solution temperature is $\geq$ 45°F and $\leq$ 55°F when the RWST ambient air temperature is < 45°F or > 55°F.

SURVEILLANCE REQUIREMENTS (Continued)

4.1.3.2.2 Each of the analog rod position indicators shall be determined to be OPERABLE by:

a. Performing a CHANNEL CHECK by intercomparison** between each analog rod position indicator and its corresponding group demand counter at least once per 12 hours.

b. Verifying that the analog rod position indicators agree with the demand position indicators within 12 steps(1) over the full-range of indicated rod travel at least once per 18 months.

For Core PHYSICS TESTING in Mode 2, primary detector voltage measurements may be used to determine the position of rods in shutdown banks A and B and control banks A and B for the purpose of satisfying Specification 3.1.3.2. During Mode 2 operation, rod position indicators for shutdown banks A and B and control banks A and B may deviate from the group demand indicators by greater than ± 12 steps during reactor startup and shutdown operations, while rods are being withdrawn or inserted. If the rod position indicators for shutdown banks A and B and control banks A and B deviate by greater than ± 12 steps from the group demand indicator, rod withdrawal or insertion may continue until the desired group height is achieved. When the desired group height is achieved, a one hour soak time is allowed below 50% reactor power to permit stabilization of the rod position analog indicators. To attain thermal equilibrium during the one hour soak time, the absolute value of rod motion shall not exceed 6 steps.

** For power levels below 50% one hour thermal "soak time" is permitted. During this soak time, the absolute value of rod motion is limited to six steps.

3/4.1.3.3 (This Specification number is not used.)

TABLE 3.3-6

RADIATION MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	SETPOINT[3]	MEASUREMENT RANGE	ACTION
1. AREA MONITORS					
a. Deleted					
b. Containment					
i. Purge & Exhaust Isolation (RMVS 104 A & B)	2	(2)	$\leq 1.6 \times 10^3$ cpm	$10 - 10^6$ cpm	22
ii. Area (RM-RM-219 A & B)	2	1,2,3 & 4	$\leq 1.5 \times 10^4$ R/hr	$1 - 10^7$ R/hr	35
c. Control Room Isolation (RM-RM-218 A & B)	2	1,2,3,4 and (4)	$\leq$ .47 mR/hr	$10^{-2} - 10^3$ mR/hr	41
2. PROCESS MONITORS					
a. Containment					
i. Gaseous Activity RCS Leakage Detection (RM 215B)	1	1,2,3 & 4	N/A	$10 - 10^6$ cpm	20
ii. Particulate Activity RCS Leakage Detection (RM 215A)	1	1,2,3 & 4	N/A	$10 - 10^6$ cpm	20
b. Deleted					

TABLE 3.3-6 (Continued)

TABLE NOTATIONS

(1) (Not used)
(2) During movement of recently irradiated fuel assemblies within the containment and during movement of fuel assemblies over recently irradiated fuel assemblies within the containment.
(3) Above background.
(4) During movement of irradiated fuel assemblies and during movement of fuel assemblies over irradiated fuel assemblies.

ACTION STATEMENTS

ACTION 20 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.4.6.1.

ACTION 21 - This Action is not used.

ACTION 22 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.9.9.

ACTION 35 - With the number of OPERABLE channels less than required by the Minimum Channels OPERABLE requirement, either restore the inoperable Channel(s) to OPERABLE status within 72 hours, or:

a) Initiate the preplanned alternate method of monitoring the appropriate parameter(s), and

b) Return the channel to OPERABLE status within 30 days, or, explain in the next Annual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner.

ACTION 41 - a) With the number of Unit 1 OPERABLE channels one less than the Minimum Channels OPERABLE requirement:

1. Verify the respective Unit 2 control room radiation monitor train is OPERABLE within 1 hour and at least once per 31 days.

TABLE 4.3-3

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

	INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
1.	AREA MONITORS				
	a. Deleted				
	b. Containment				
	i. Purge & Exhaust Isolation (RMVS 104 A & B)	S	R	M	**
	ii. Area (RM-RM-219 A & B)	S	R	M	1,2,3,& 4
	c. Control Room Isolation (RM-RM-218 A & B)	S	R	M###	1,2,3,4, and ##
2.	PROCESS MONITORS				
	a. Containment				
	i. Gaseous Activity RCS Leakage Detection (RM 215B)	S	R#	M	1,2,3 & 4
	ii. Particulate Activity RCS Leakage Detection (RM 215A)	S	R#	M	1,2,3 & 4
	b. Deleted				

** During movement of recently irradiated fuel assemblies within the containment and during movement of fuel assemblies over recently irradiated fuel assemblies within the containment.

Surveillance interval may be extended to the upcoming refueling outage if the interval between refueling outages is greater than 18 months.

During movement of irradiated fuel assemblies and during movement of fuel assemblies over irradiated fuel assemblies.

Control Room intake and exhaust isolation dampers and CREBAPS solenoid valves are not actuated.

3/4.4.2 (This Specification number is not used.)

3/4.4.3 SAFETY VALVES

LIMITING CONDITION FOR OPERATION

3.4.3 All pressurizer code safety valves shall be OPERABLE with a lift setting* of 2485 PSIG +1% -3%.**

APPLICABILITY: MODES 1, 2 and 3,
MODE 4 with all RCS cold leg temperatures > the enable temperature specified in 3.4.9.3.

ACTION:

a. With one pressurizer code safety valve inoperable, either restore the inoperable valve to OPERABLE status within 15 minutes or be in HOT SHUTDOWN with any RCS cold leg temperature ≤ the enable temperature specified in 3.4.9.3 and apply RCS overpressure protection requirements in accordance with Specification 3.4.9.3 within 12 hours.

b. With a pressurizer code safety valve having discharged liquid water from a water solid pressurizer to mitigate an overpressure event, be in at least HOT STANDBY within the next 6 hours, and in HOT SHUTDOWN with any RCS cold leg temperature ≤ the enable temperature specified in 3.4.9.3 and apply RCS overpressure protection requirements in accordance with Specification 3.4.9.3 within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.4.3 No additional requirements other than those required by Specification 4.0.5.

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* The Lift Setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure.

** Within ± 1% following pressurizer code safety valve testing.

3/4.4.7 (This Specification number is not used.)

3/4.4.9.2 (This Specification number is not used.)

3/4.4.10 (This Specification number is not used.)

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

SHUTDOWN within the following 6 hours. With one block valve inoperable, restore the block valve to OPERABLE status within 1 hour or close it, power operation may continue until the next refueling outage.

e. With more than one block valve inoperable, within 1 hour either restore the block valves to OPERABLE status or place the associated PORVs in manual control. Restore at least one block valve to OPERABLE status within the next hour if three block valves are inoperable; restore a minimum of two block valves to OPERABLE status within 72 hours; otherwise, be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.4.11.1 Each PORV shall be demonstrated OPERABLE at least once per 18 months by operating the PORV through one complete cycle of full travel using:

a) The normal air supply system, and

b) The backup nitrogen supply system.

4.4.11.2 Each block valve shall be demonstrated OPERABLE at least once per 92 days by operating the valve through one complete cycle of full travel unless the block valve is closed to meet required ACTIONS b or c.

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT QUENCH SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.1 Two separate and independent containment quench spray subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one containment quench spray subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each containment quench spray subsystem shall be demonstrated OPERABLE;

a. By verifying, at least once per 31 days, that each valve (manual, power-operated, or automatic) in the flow path not locked, sealed, or otherwise secured in position, is in its correct position; and

b. By verifying, at the frequency specified in the Inservice Testing Program, that each quench spray pump's developed head at the flow test point is greater than or equal to the required developed head as specified in the Inservice Testing Program and the Containment Integrity Safety Analysis.

3/4.7.2 (This Specification number is not used.)

3/4.7.6 (This Specification number is not used.)

3/4.9.5 - 3/4.9.7 (These Specification numbers are not used.)

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ADMINISTRATIVE CONTROLS

3/4.1.2 BORATION SYSTEMS

3/4.1.2.1 - 3/4.1.2.7 (These Specification numbers are not used.)

Refueling Water Storage Tank (RWST)

LIMITING CONDITION FOR OPERATION

3.1.2.8 The RWST shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 & 4.

ACTION:

With the refueling water storage tank inoperable, restore the tank to OPERABLE status within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.1.2.8 The RWST shall be verified OPERABLE:

a. At least once per 7 days by:

1. Verifying the boron concentration is between 2,000 and 2100 ppm, and

2. Verifying a minimum usable volume of 859,248 gallons.

b. At least once per 24 hours by verifying the RWST solution temperature is $\geq$ 45°F and $\leq$ 50°F when the RWST ambient air temperature is > 50°F or < 45°F.

POSITION INDICATION SYSTEMS - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.3.2 The Digital Rod Position Indication System and the Demand Position Indication System shall be OPERABLE and capable of determining the control rod positions within ± 12 steps.

APPLICABILITY: MODES 1 and 2.

ACTION:

a. With a maximum of one digital rod position indicator per bank inoperable either:

   1. Determine the position of the nonindicating rod(s) indirectly by the movable incore detectors at least once per 8 hours and immediately after any motion of the nonindicating rod which exceeds 24 steps in one direction since the last determination of the rod's position, or

   2. Reduce THERMAL POWER to less than 50% of RATED THERMAL POWER within 8 hours.

b. With a maximum of one demand position indicator per bank inoperable either:

   1. Verify that all digital rod position indicators for the affected bank are OPERABLE and that the most withdrawn rod and the least withdrawn rod of the bank are within a maximum 12 steps of each other at least once per 8 hours, or

   2. Reduce THERMAL POWER to less than 50% of RATED THERMAL POWER within 8 hours.

SURVEILLANCE REQUIREMENTS

4.1.3.2.1 Each digital rod position indicator shall be determined to be OPERABLE by verifying that the Demand Position Indication System and the Digital Rod Position Indication System agree within 12 steps at least once per 12 hours.

4.1.3.2.2 Each digital rod position indicator shall be determined to be OPERABLE by verifying that the digital rod position indicators agree with the demand position indicators within 12 steps over the full-range of indicated rod travel at least once per 18 months.

3/4.1.3.3 (This Specification number is not used.)

TABLE 3.3-6

RADIATION MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	SETPOINT(3)	MEASUREMENT RANGE	ACTION
1. AREA MONITORS					
a. Deleted					
b. Containment Area (2RMR-RQ206 & 207)	2	1,2,3 & 4	$\leq 2.0 \times 10^4$ R/hr	1 to 10^7 R/hr	35
c. Control Room Area (2RMC-RQ201 & 202)	2	1,2,3,4, and (4)	$\leq$ 0.476 mR/hr	10^{-2} to 10^3 mR/hr	46,47
2. PROCESS MONITORS					
a. Containment					
i. Gaseous Activity (Xe-133) RCS Leakage Detection (2RMR-RQ303B)	1	1,2,3 & 4	N/A	10^{-6} to 10^{-1} µCi/cc	20
ii. Particulate Activity (I-131) RCS Leakage Detection (2RMR-RQ303A)	1	1,2,3 & 4	N/A	10^{-10} to 10^{-5} µCi/cc	20
b. Deleted					

TABLE 3.3-6 (Continued)

RADIATION MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	SETPOINT[3]	MEASUREMENT RANGE	ACTION
2. PROCESS MONITORS (Continued)					
c. Noble Gas and Effluent Monitors					
i. Deleted					
ii. Containment Purge Exhaust (Xe-133) (2HVR-RQ104A & B)	2	(5)	$\leq 1.01 \times 10^{-3}$ µCi/cc	10^{-6} to 10^{-1} µCi/cc	22
iii. Main Steam Discharge (Kr-88) (2MSS-RQ101A,B & C)	1/SG	1,2,3&4	$\leq 3.9 \times 10^{-2}$ µCi/cc	10^{-2} to 10^{3} µCi/cc	35

TABLE 3.3-6 (Continued)

TABLE NOTATIONS

(1) Not used.

(2) Not used.

(3) Above background.

(4) During movement of recently irradiated fuel assemblies and during movement of fuel assemblies over recently irradiated fuel assemblies.

(5) During movement of recently irradiated fuel assemblies within the containment and during movement of fuel assemblies over recently irradiated fuel assemblies within the containment.

ACTION STATEMENTS

ACTION 20 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.4.6.1.

ACTION 21 - This Action is not used.

ACTION 22 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.9.9.

ACTION 35 - With the number of OPERABLE channels less than required by the Minimum Channels OPERABLE requirement, either restore the inoperable channel(s) to OPERABLE status within 72 hours, or:

1) Initiate the preplanned alternate method of monitoring the appropriate parameter(s), and

2) Return the channel to OPERABLE status within 30 days, or, explain in the next Annual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner.

TABLE 4.3-3

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
1. AREA MONITORS				
a. Deleted				
b. Containment Area (2RMR-RQ206 & 207)	S	R	M	1, 2, 3, 4
c. Control Room Area (2RMC-RQ201 & 202)	S	R	M	1, 2, 3, 4, and ##
2. PROCESS MONITORS				
a. Containment				
i. Gaseous Activity RCS Leakage Detection (2RMR-RQ303B)	S	R#	M	1, 2, 3 & 4
ii. Particulate Activity RCS Leakage Detection (2RMR-RQ303A)	S	R#	M	1, 2, 3 & 4
b. Deleted				

Surveillance interval may be extended to the upcoming refueling outage if the interval between refueling outages is greater than 18 months.

During movement of recently irradiated fuel assemblies and during movement of fuel assemblies over recently irradiated fuel assemblies.

TABLE 4.3-3 (Continued)

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
2. PROCESS MONITORS (Continued)				
c. Noble Gas Effluent Monitors				
i. Deleted				
ii. Containment Purge Exhaust (2HVR-RQ104A & B)	S	R	M	###
iii. Main Steam Discharge (2MSS-RQ101A, B & C)	S	R	M	1, 2, 3 & 4

During movement of recently irradiated fuel assemblies within the containment and during movement of fuel assemblies over recently irradiated fuel assemblies within the containment.

3/4.4.2 (This Specification number is not used.)

3/4.4.3 SAFETY VALVES

LIMITING CONDITION FOR OPERATION

3.4.3 All pressurizer code safety valves shall be OPERABLE with a lift setting* of 2485 psig + 1% - 3%.**

APPLICABILITY: MODES 1, 2, and 3,
With all RCS cold leg temperatures > the enable temperature specified in 3.4.9.3.

ACTION:

a. With one pressurizer code safety valve inoperable, either restore the inoperable valve to OPERABLE status within 15 minutes or be in HOT SHUTDOWN with any RCS cold leg temperature ≤ the enable temperature specified in 3.4.9.3 and apply RCS overpressure protection requirements in accordance with Specification 3.4.9.3 within 12 hours.

b. After any pressurizer code safety valve lift, as indicated by the safety valve position indicator, involving loop seal or water discharge; be in at least HOT STANDBY within the next 6 hours, and in HOT SHUTDOWN with any RCS cold leg temperature ≤ the enable temperature specified in 3.4.9.3 and apply RCS overpressure protection requirements in accordance with Specification 3.4.9.3 within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.4.3 No additional requirements other than those required by Specification 4.0.5.

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* The lift setting shall correspond to ambient conditions of the valve at nominal operating temperature and pressure.

** Within ± 1% following pressurizer code safety valve testing.

3/4.4.7 (This Specification number is not used.)

3/4.4.9.2 (This Specification number is not used.)

3/4.4.10 (This Specification number is not used.)

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT QUENCH SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.1 Two separate and independent containment quench spray subsystems shall be OPERABLE.

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

ACTION:

With one containment quench spray subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each containment quench spray subsystem shall be demonstrated OPERABLE:

a. By verifying, at least once per 31 days, that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

b. By verifying, at the frequency specified in the Inservice Testing Program, that each quench spray pump's developed head at the flow test point is greater than or equal to the required developed head as specified in the Inservice Testing Program and the Containment Integrity Safety Analysis.

c. At least once per 18 months by:

   1. Cycling each power operated (excluding automatic) valve in the flow path through at least one complete cycle of full travel.

3/4.7.2 (This Specification number is not used.)

3/4.7.6 (This Specification number is not used.)

3/4.9.5 - 3/4.9.7 (These Specification numbers are not used.)