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ILLINOIS POWER COMPANY

CLINTON POWER STATION, P.O. BOX 678, CLINTON, ILLINOIS 61727

Docket No. 50-461

May 23, 1985

Director of Nuclear Reactor Regulation
Attn: Mr. W. R. Butler, Chief
Licensing Branch No. 2
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Clinton Power Station Unit #1
DRAFT Technical Specifications

Dear Mr. Butler:

Illinois Power is enclosing various updated pages of the Clinton Power Station "DRAFT" Technical Specifications for your review. These changes constitute plant specific changes to setpoints as a result of our review of design documents and as-built information, or simply to provide data which was not included in our submittal dated September 28, 1984 (U-0739). In all cases, these changes have been discussed with your Mr. Schulten of the Technical Specification Review Group in a meeting held the week of March 25, 1985 in Bethesda, Maryland.

Should you have any questions or require additional information, please contact us.

Sincerely yours,

F. A. Spangenberg

F. A. Spangenberg
Director - Nuclear Licensing
and Configuration
Nuclear Station Engineering

TLR/lab

Enclosure

cc: B. L. Siegel, Clinton Licensing Project Manager (w/o enclosure)
NRC Resident Office (w/o enclosure)
Regional Administrator, Region III, USNRC (w/o enclosure)
Illinois Department of Nuclear Safety (w/o enclosure)

C. S. Schulten, NRC Technical Specification Review Group
USNRC (with enclosure)
Mail Stop 509
Washington, DC 20555

B001
1/8

NOTE: ENCL TO ALL REVIEW BRANCHES

ADD: C. SCHULTEN

CORE ALTERATION

1.7 CORE ALTERATION shall be the addition, removal, relocation or movement of fuel, sources, incore instruments or reactivity controls within the reactor pressure vessel with the vessel head removed and fuel in the vessel. Suspension of CORE ALTERATIONS shall not preclude completion of the movement of a component to a safe conservative position.

CRITICAL POWER RATIO

1.8 The CRITICAL POWER RATIO (CPR) shall be the ratio of that power in the assembly which is calculated by application of the (GEXL) correlation to cause some point in the assembly to experience boiling transition, divided by the actual assembly operating power.

DOSE EQUIVALENT I-131

1.9 DOSE EQUIVALENT I-131 shall be that concentration of I-131, microcuries per gram, which alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The thyroid dose conversion factors used for this calculation shall be those listed in Table III of TID-14844, "Calculation of Distance Factors for Power and Test Reactor Sites."

DRYWELL INTEGRITY

1.10 DRYWELL INTEGRITY shall exist when:

a. All drywell penetrations required to be closed during accident conditions are either:

1. Capable of being closed by an OPERABLE drywell automatic isolation system, or

2. Closed by at least one manual valve, blind flange, or deactivated automatic valve secured in its closed position, except as provided in Table 3.6.4-1 of Specification 3.6.4.

b. The ~~All~~ drywell equipment hatches is ~~are~~ closed and sealed. TE-35-01 CPS

c. The drywell airlock door(s) are closed and sealed ~~is OPERABLE~~ pursuant to Specification 3.6.2.1 ~~3~~. CPS

d. The drywell leakage rates are within the limits of Specification 3.6.2.2.

e. The suppression pool is OPERABLE pursuant to Specification 3.6.3.1.

f. The sealing mechanism associated with each drywell penetration; e.g., airlock welds, bellows or O-rings, is OPERABLE. CPS

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TABLE 2.2.1-1

REACTOR PROTECTION SYSTEM INSTRUMENTATION SETPOINTS

FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES
1. Intermediate Range Monitor, a. Neutron Flux-High b. Inoperative	≤ 120/125 divisions of full scale N/A	≤ 122/125 divisions of full scale N/A
2. Average Power Range Monitor:		
a. Neutron Flux-High, Setdown	≤ 15% of RATED THERMAL POWER	≤ 20% of RATED THERMAL POWER
b. Flow Biased Simulated Thermal Power-High		
1) Flow Biased	≤ 0.66 W+48%, with a maximum of	≤ 0.66 W+51%, with a maximum of
2) High Flow Clamped	≤ 111.0% of RATED THERMAL POWER	≤ 113.0% of RATED THERMAL POWER
c. Neutron Flux-High	≤ 118% of RATED THERMAL POWER	≤ 120% of RATED THERMAL POWER
d. Inoperative	NA	NA
3. Reactor Vessel Steam Dome Pressure - High	≤ ~~1074~~ 1064.7 psig	≤ ~~1089~~ 1079.7 psig
4. Reactor Vessel Water Level - Low, Level 3	≥ ~~10.0~~ 8.91 inches above instrument zero*	≥ ~~9.4~~ 8.31 inches above instrument zero
5. Reactor Vessel Water Level-High, Level 8	≤ 52.0 inches above instrument zero*	≤ 52.6 inches above instrument zero
6. Main Steam Line Isolation Valve - Closure	≤ ~~6~~ 6.2% closed	≤ ~~7~~ 7.2% closed
7. Main Steam Line Radiation - High	≤ ~~(2.5)~~ 3.0 x full power background	≤ ~~(3.0)~~ 3.6 x full power background
8. Drywell Pressure - High	≤ ~~1.73~~ 1.68 psig	≤ ~~1.93~~ 1.88 psig
9. Scram Discharge Volume Water Level - High	≤ (36)% of full scale LATER 761'5"	≤ (37)% of full scale LATER 762'
10. Turbine Stop Valve - Closure	≤ 5% closed	≤ 7% closed
11. Turbine Control Valve Fast Closure, Trip Oil Pressure - Low	≥ ~~44.3~~ 530 psig	≥ ~~41~~ 465 psig
12. Reactor Mode Switch Shutdown Position	NA	NA
13. Manual Scram	NA	NA

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LIMITING SAFETY SYSTEM SETTINGS

BASES

REACTOR PROTECTION SYSTEM INSTRUMENTATION SETPOINTS (Continued)

8. Drywell Pressure-High

and the primary containment

High pressure in the drywell could indicate a break in the primary pressure boundary systems. The reactor is tripped in order to minimize the possibility of fuel damage and reduce the amount of energy being added to the coolant. The trip setting was selected as low as possible without causing spurious trips. CPS

to minimize heat loads of equipment located within the primary containment.

9. Scram Discharge Volume Water Level-High

The scram discharge volume receives the water displaced by the motion of the control rod drive pistons during a reactor scram. Should this volume fill up to a point where there is insufficient volume to accept the displaced water at pressures below 65 psig, control rod insertion would be hindered. The reactor is therefore tripped when the water level has reached a point high enough to indicate that it is indeed filling up, but the volume is still great enough to accommodate the water from the movement of the rods at pressures below 65 psig when they are tripped. The trip setpoint for each scram discharge volume is equivalent to a contained volume of (25) gallons of water. CPS

~~LATER~~ ~~19.75~~ 19.6

10. Turbine Stop Valve-Closure

The turbine stop valve closure trip anticipates the pressure, neutron flux, and heat flux increases that would result from closure of the stop valves. With a trip setting of 5% of valve closure from full open, the resultant increase in heat flux is such that adequate thermal margins are maintained during the worst case transient. ~~(assuming the turbine bypass valves (fail to) operate).~~

11. Turbine Control Valve Fast Closure, Trip Oil Pressure-Low

The turbine control valve fast closure trip anticipates the pressure, neutron flux, and heat flux increase that could result from fast closure of the turbine control valves due to load rejection with or without coincident ~~with~~ failure of the turbine bypass valves. The Reactor Protection System initiates a trip when fast closure of the control valves is initiated by the fast acting solenoid valves and in less than 20 milliseconds after the start of control valve fast closure. This is achieved by the action of the fast acting solenoid valves in rapidly reducing hydraulic trip oil pressure at the main turbine control valve actuator disc dump valves. This loss of pressure is sensed by pressure switches whose contacts form the two-out-of-four logic input to the Reactor Protection System. This trip setting, a ~~faster~~ slower closure time, and a different valve characteristic from that of the turbine stop valve, combine to produce transients which are very similar to that for the stop valve. Relevant transient analyses are discussed in Section 15.2 of the Final Safety Analysis Report. CPS

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SURVEILLANCE REQUIREMENTS (Continued)

b. At least once per 31 days by;

1. Verifying the continuity of the explosive charge.

2. Determining that 4246 the available net weight of sodium pentaborate is greater than or equal to ~~4600~~ lbs and the concentration of ~~boron~~ sodium pentaborate in solution is within the limits of Figure 3.1.5-1 by chemical analysis.* CPS

3. Verifying 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.

c. Demonstrating that, when tested (pursuant to Specification 4.0.5) ~~(at least once per 92 days),~~ the minimum flow requirement of (41.2) gpm per pump at a pressure of greater than or equal to (1220) psig is met. CPS

d. At least once per 18 months during shutdown by;

1. Initiating one of the standby liquid control system loops, including an explosive valve, and verifying that a flow path from the pumps to the reactor pressure vessel is available by pumping demineralized water into the reactor vessel. The replacement charge for the explosive valve shall be from the same manufactured batch as the one fired or from another batch which has been certified by having one of that batch successfully fired. Both injection loops shall be tested in 36 months.

2. Demonstrating 1400 that the pump relief valve setpoint is less than or equal to ~~(1500)~~ psig and verifying that the relief valve does not actuate during recirculation to the test tank. CPS

3. **Demonstrating that all ~~heat traced~~ piping between the storage tank and the reactor vessel is unblocked by (pumping from the storage tank to the test tank) and then draining and flushing the piping with demineralized water. 7E-35-01 CPS

4. Demonstrating that the storage tank heaters are OPERABLE by verifying the expected ~~a~~ temperature rise of the sodium pentaborate solution in the storage tank ~~by at least ___ °F within ___ minutes~~ after the heaters are energized. CPS

*This test shall also be performed anytime water or boron is added to the solution or when the solution temperature drops below ~~the limit of Figure 3.1.5-1.~~ 70°F CPS

**This test shall also be performed whenever both heat tracing circuits have been found to be inoperable and may be performed by any series of sequential, overlapping or total flow path steps such that the entire flow path is included. 7E-35-01 CPS

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3/4.1.5 STANDBY LIQUID CONTROL SYSTEM

LIMITING CONDITION FOR OPERATION

3.1.5 The standby liquid control system shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 5*.

ACTION:

a. In OPERATIONAL CONDITION 1 or 2:

1. With one pump and/or one explosive valve inoperable, restore the inoperable pump and/or explosive valve to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours.

2. With the standby liquid control system otherwise inoperable, restore the system to OPERABLE status within 8 hours or be in at least HOT SHUTDOWN within the next 12 hours.

b. In OPERATIONAL CONDITION 5*:

1. With one pump and/or one explosive valve inoperable, restore the inoperable pump and/or explosive valve to OPERABLE status within 30 days or insert all insertable control rods within the next hour.

2. With the standby liquid control system otherwise inoperable, insert all insertable control rods within one hour.

SURVEILLANCE REQUIREMENTS

4.1.5 The standby liquid control system shall be demonstrated OPERABLE:

a. At least once per 24 hours by verifying that;

1. The temperature of the sodium pentaborate solution in the storage tank is ~~within the limits of Figure 3.1.5-1.~~ greater than or equal to 70°F. CPS

2. The available volume of sodium pentaborate solution is ~~greater than or equal to 3542 gallons.~~ within the limits of Figure 3.1.5-1. CPS

3. ~~The heat tracing circuit is OPERABLE by determining~~ The temperature of the pump suction piping to be greater than or equal to 70°F. TE 85-01 CPS

*With any control rod withdrawn. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.

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TABLE 4.3.1.1-1 (Continued)

REACTOR PROTECTION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION(a)	OPERATIONAL CONDITIONS IN WHICH SURVEILLANCE REQUIRED	
9. Scram Discharge Volume Water Level - High ~~Level - High~~					
a. Transmitter/Trip Units	S	M	R(g)	1, 2, 5(k)	CPS
b. Floats Switches	NA	Q	R	1, 2, 5(k)	
10. Turbine Stop Valve - Closure	NA	M	R~~(g)~~	1	
11. Turbine Control Valve Fast Closure Valve Trip System Oil Pressure - Low	NA	M	R~~(g)~~	1	CPS
12. Reactor Mode Switch Shutdown Position	NA	R	NA	1, 2, 3, 4, 5	
13. Manual Scram	NA	M	NA	1, 2, 3, 4, 5	

(a) Neutron detectors may be excluded from CHANNEL CALIBRATION.

(b) The IRM and SRM channels shall be determined to overlap for at least ~~one~~ 1/2 decade during each startup after entering OPERATIONAL CONDITION 2 and the IRM and APRM channels shall be determined to overlap for at least ~~one~~ 1/2 decade during each controlled shutdown, if not performed within the previous 7 days. CPS

(c) Within 24 hours prior to startup, if not performed within the previous 7 days.

(d) This calibration shall consist of the adjustment of the APRM channel to conform to the power values calculated by a heat balance during OPERATIONAL CONDITION 1 when THERMAL POWER ≥ 25% of RATED THERMAL POWER. Adjust the APRM channel if the absolute difference is greater than 2% of RATED THERMAL POWER. Any APRM channel gain adjustment made in compliance with Specification 3.2.2 shall not be included in determining the absolute difference.

(e) This calibration shall consist of the adjustment of the APRM flow biased channel to conform to a calibrated flow signal.

(f) The LPRMs shall be calibrated at least once per 1000 effective full power hours (EFPH) using the TIP system.

(g) Calibrate trip unit at least once per 31 days. ~~(BWR/6 relay only)~~ CPS

~~(h) Verify measured core flow to be greater than or equal to established core flow at the existing flow control valve position.~~

(i) This calibration shall consist of verifying ~~(adjustment, as required of)~~ the ~~6±1~~ 0.6 second simulated thermal power time constant.

(j) This function is not required to be OPERABLE when the reactor pressure vessel head is removed per Specification 3.10.1.

(k) With any control rod with drawn. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.

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TABLE 3.3.2-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

TRIP FUNCTION	~~VALVE GROUPS OPERATED BY SIGNAL~~	MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM(a)	APPLICABLE OPERATIONAL CONDITION	ACTION	CPS
5. REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION					
a. RCIC Steam Line Flow - High	~~6~~	2	1, 2, 3	27	
b. RCIC Steam Line Flow - High Timer		1	1, 2, 3	27	CPS
c. ~~b.~~ RCIC Steam Supply Pressure - Low	~~6((h))~~	1	1, 2, 3	27	
d. ~~c.~~ RCIC Turbine Exhaust Diaphragm Pressure - High	~~6~~	2	1, 2, 3	27	CPS
e. ~~d.~~ RCIC Equipment Room Ambient Temperature - High	~~6~~	1	1, 2, 3	27	CPS
f. ~~e.~~ RCIC Equipment Room Δ Temp. - High	~~6~~	1	1, 2, 3	27	CPS
g. ~~f.~~ Main Steam Line Tunnel Ambient Temperature - High	~~6~~	1	1, 2, 3	27	CPS
h. ~~g.~~ Main Steam Line Tunnel Δ Temp. - High	~~6~~	1	1, 2, 3	27	CPS
i. ~~h.~~ Main Steam Line Tunnel Temperature Timer	~~6~~	1	1, 2, 3	27	CPS
j ~~i.~~ STET ~~RHR Equipment Room Ambient Temperature - High~~	~~6~~	~~1~~ STET	STET ~~1, 2, 3~~	STET ~~27~~	CPS
k ~~j.~~ STET ~~RHR Equipment Room Δ Temp. - High~~	~~6~~	~~1~~ STET	~~1, 2, 3~~ STET	STET ~~27~~	CPS
l ~~j. k.~~ Drywell Pressure - High(h)	~~6~~	1	1, 2, 3	27	CPS
m ~~k. l.~~ Manual Initiation	~~6((i))~~	1~~/system~~	1, 2, 3	26	CPS

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TABLE 3.3.2-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

ACTION

ACTION 20 - Be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.

ACTION 21 - Close the affected system isolation valve(s) within one hour or: | CPS

a. In OPERATIONAL CONDITION 1, 2 or 3, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

b. In Operational Condition *, suspend CORE ALTERATIONS, handling of irradiated fuel in the containment and operations with a potential for draining the reactor vessel. | CPS

ACTION 22 - Restore the manual initiation function to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

ACTION 23 - Be in at least STARTUP with the associated isolation valves closed within 6 hours or be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.

ACTION 24 - Be in at least STARTUP within 6 hours.

ACTION 25 - Establish secondary CONTAINMENT INTEGRITY with the standby gas treatment system operating within one hour. TE-BS-01 | CPS

ACTION 26 - Restore the manual initiation function to OPERABLE status within 8 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

ACTION 27 - Close the affected system isolation valves within one hour and declare the affected system inoperable.

ACTION 28 - Lock the affected system isolation valves closed within one hour and declare the affected system inoperable.

NOTES

* When handling irradiated fuel in the primary and/or secondary containment and during CORE ALTERATIONS and operations with a potential for draining the reactor vessel. | CPS

** May be bypassed ~~with reactor steam pressure ≤ (1043) psig and all turbine stop valves closed.~~ by use of keylock bypass switches. ~~(52+3)~~. | CPS

SEE INSERT #1

\# During CORE ALTERATIONS and operations with a potential for draining the reactor vessel.

(a) A channel may be placed in an inoperable status for up to 2 hours for required surveillance without placing the trip system in the tripped condition provided at least one other OPERABLE channel in the same trip system is monitoring that parameter.

(b) Also actuates the standby gas treatment system.

(c) Also actuates the control room emergency filtration system in the isolation mode of operation.

(e) Also trips and isolates the mechanical vacuum pumps.

~~(e) A channel is OPERABLE if 2 of 4 detectors in that channel are OPERABLE.~~ Delete | CPS

(f) Also actuates secondary containment ventilation isolation dampers and valves per Table 3.6.6.2-1.

SEE INSERT #2 | CPS

~~(g) Closes only RWCU system isolation valve(s).~~

~~(h) Requires RCIC system steam supply pressure-low coincident with drywell pressure-high.~~

~~(i) Manual initiation isolates ... only and only with a coincident reactor vessel water level low, level 2.~~

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TABLE 3.3.2-2

ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE	
1. PRIMARY CONTAINMENT ISOLATION			
a. Reactor Vessel Water Level - Low Low, Level 2	≥ ~~(61)~~ 45.5 inches*	≥ ~~(63)~~ 47.7 inches	CPS
b. Drywell Pressure - High	≤ ~~1.73~~ 1.68 psig	≤ ~~1.93~~ 1.88 psig	CPS
SEE INSERT (NEXT PAGE) ~~c. Plant Exhaust Plenum Radiation - High~~	~~≤ ( ) mR/hr**~~	~~≤ ( ) mR/hr**~~	CPS
~~d.~~ Manual Initiation	NA	NA	CPS
2. MAIN STEAM LINE ISOLATION			
a. Reactor Vessel Water Level - Low Low Low, Level 1	≥ ~~(160)~~ 145.5 inches*	≥ ~~(162)~~ 147.7 inches	CPS
b. Main Steam Line Radiation - High	≤ ~~(2.5)~~ 3.0 x full power background	≤ ~~(3.0)~~ 3.6 x full power background	CPS
c. Main Steam Line Pressure - Low	≥ ~~(850)~~ 849 psig	≥ ~~(838)~~ 837 psig	CPS
d. Main Steam Line Flow - High	≤ ~~(203)~~ 170 psid	≤ ~~(216)~~ 178 psid	CPS
e. Condenser Vacuum - Low	≥ ~~(9.0)~~ 8.5 inches Hg. ~~(absolute pressure)~~ (Vacuum)	≥ ~~(8.7)~~ 7.6 inches Hg. ~~(absolute pressure)~~ (Vacuum)	CPS
f. Main Steam Line Tunnel Temperature - High	≤ (165)°F LATER	≤ (176)°F.	7-8-83 CPS
g. Main Steam Line Tunnel Δ Temp. - High	≤ ~~( )~~ 54.5°F	≤ ~~( )~~ 60°F	CPS
h. Main Steam Line Turbine Bldg. Temperature - High	≤ ~~( )~~ 131.2°F	≤ ~~( )~~ 138°F	CPS
i. Manual Initiation	NA	NA	

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(p. 3/4 3-17)

INSERT FOR TABLE 3.3.2-2

Trip Function	Trip Setpoint	Allowable Value
c. Containment Bldg. Fuel Transfer Ventilation Plenum Radiation - High	≤ 100 $\frac{mR}{hr}$	≤ 500 $\frac{mR}{hr}$
d. Containment Bldg. Exhaust Radiation - High	≤ 100 $\frac{mR}{hr}$	≤ 500 $\frac{mR}{hr}$
e. Containment Bldg. Continuous Containment Purge (CCP) Exhaust Radiation - High	~~(LATER)~~ ≤ 100 $\frac{mR}{Hr}$	≤ 400 $\frac{mR}{Hr}$

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TABLE 3.3.2-2 (Continued)

ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE	
3. SECONDARY CONTAINMENT ISOLATION			
a. Reactor Vessel Water Level - Low Low, Level 2	≥ - ~~(51)~~ 45.5 inches*	≥ - ~~(53)~~ 47.7 inches	CPS
b. Drywell Pressure - High	≤ ~~1.73~~ 1.68 psig	≤ ~~1.93~~ 1.88 psig	CPS
SEE INSERT NEXT PAGE ~~c. Fuel Handling Area Ventilation Exhaust Radiation - High High~~	~~≤ (4.5) mR/hr$^{\Delta\Delta}$~~	~~≤ (6.5) mR/hr$^{\Delta\Delta}$~~	CPS
~~d. Fuel Handling Area Pool Sweep Exhaust Radiation - High High~~	~~≤ (35) mR/hr$^{\Delta\Delta}$~~	~~≤ (35) mR/hr$^{\Delta\Delta}$~~	
~~e.~~ d. Manual Initiation	NA	NA	CPS
~~f.~~	NA	NA	CPS
4. REACTOR WATER CLEANUP SYSTEM ISOLATION			
a. Δ Flow - High	≤ ~~(68)~~ 55 gpm	≤ ~~(77)~~ 62.1 gpm	CPS
b. Δ Flow Timer	≥ 45 ~~( ) ± ( )~~ seconds	≤ 47 ~~( ) ± ( )~~ seconds	CPS
c. Equipment Area Temperature - High	≤ ( )°F LATER	≤ ( )°F	CPS
d. Equipment Area Δ Temp. - High	≤ ( )°F	≤ ( )°F	
SEE INSERT p 3/4 3-18B e. Reactor Vessel Water Level - Low Low, Level 2	≥ - ~~(51)~~ 45.5 inches*	≥ - ~~(53)~~ 47.7 inches	CPS
f. Main Steam Line Tunnel Ambient Temperature - High	≤ (165)°F LATER	≤ (176)°F	CPS
g. Main Steam Line Tunnel Δ Temp. - High	≤ ~~( )~~ 54.5 °F	≤ ~~( )~~ 60 °F	CPS
h. SLCS Initiation	NA	NA	
i. Manual Initiation	NA.	NA	

<u>INSERT</u> FOR TABLE 3.3.2-2, p. 3/4 3-18

		Trip Setpoint	Allowable Value
c.	Containment Bldg. Fuel Transfer Ventilation Plenum Radiation - High	100 $\frac{mR}{hr}$	500 $\frac{mR}{hr}$
d.	Containment Bldg. Exhaust Radiation - High	100 $\frac{mR}{hr}$	500 $\frac{mR}{hr}$
e.	Containment Bldg. Continuous Containment Purge (CCP) Exhaust Radiation - High	~~(LATER)~~ $\leq$ 100 $\frac{mR}{hr}$	$\leq$ 400 $\frac{mR}{hr}$ TE 3-5-81 rdx
f.	Fuel Bldg. Ventilation Exhaust Radiation - High	10 $\frac{mR}{hr}$	17 $\frac{mR}{hr}$

c. Equipment Area Temperature - High	Trip Setpoint	Allowable Value
1) Pump Rooms	≤ 186.5 °F	≤ 197.1 °F
2) Heat Exchanger Rooms	≤ 201 °F	≤ 212 °F

TE-85-01 CPS

d. Equipment Area Δ Temp. High		
1) Pump Rooms	≤ 54.5 °F	≤ 60 °F
2) Heat Exchanger Rooms	≤ 54.5 °F	≤ 60 °F

TE-85-01 CPS

TABLE 3.3.2-2 (Continued)

ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE	
5. REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION			
a. RCIC Steam Line Flow - High	≤ 257.5 ~~(310)~~" H_2O	≤ 266 ~~(324)~~" H_2O	CPS
b. RCIC Steam Line Flow - High Timer	≥ 3 seconds	≤ 13 seconds	CPS
c. ~~b.~~ RCIC Steam Supply Pressure - Low	≥ ~~(60)~~ psig	≥ ~~(63)~~ 52 psig	CPS
d. ~~c.~~ RCIC Turbine Exhaust Diaphragm Pressure - High	≤ ~~(10)~~ psig	≤ ~~(20)~~ psig	CPS
e. ~~d.~~ RCIC Equipment Room Ambient Temperature - High	≤ 222.5°F ~~≥ ( )°F ≤ ( )°F~~ LATER	≤ 233.1 ~~≥ ( )°F ≤ ( )°F~~	TE65-A CPS
f. ~~e.~~ RCIC Equipment Room Δ Temp. - High	≤ 21 ~~( )~~°F	≤ 26.5 ~~( )~~°F	CPS
g. ~~f.~~ Main Steam Line Tunnel Ambient Temperature - High	≤ 165 ( )°F LATER	≤ 176 ( )°F	CPS TE-15-1 CPS
h. ~~g.~~ Main Steam Line Tunnel Δ Temp. - High	≤ 54.5 ~~( )~~°F	≤ 60 ~~( )~~°F	CPS
i ~~h.~~ Main Steam Line Tunnel Temperature Timer	30 minutes ~~( ) ± ( ) seconds~~	~~( ) ± ( ) seconds~~	CPS
j ~~i.~~ RHR Equipment Room Ambient Temperature - High	≤ 25 ( )°F ~~LATER~~	≤ 28 ( )°F	CPS
~~j.~~ RHR Equipment Room Δ Temperature - High	≤ 74.2 ~~( )~~°F	≤ 79.6 ~~( )~~°F	CPS
~~k.~~ Drywell Pressure - High	≤ 1.68 ~~1.73~~ psig	≤ 1.88 ~~1.93~~ psig	CPS
~~l.~~ Manual Initiation	NA	NA	CPS

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TABLE 3.3.2-2 (Continued)

ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE	
6. RHR SYSTEM ISOLATION			
a. RHR Equipment Area Ambient Temperature - High	≤ ~~( )~~ 138.5°F ~~LATER~~	≤ ~~( )~~ 149.6°F	CPS
b. RHR Equipment Area Δ Temperature - High	≤ ~~( )~~ 74.2°F	≤ ~~( )~~ 79.6°F	CPS
c. RHR/RCIC Steam Line Flow - High	≤ ~~(140)~~ 179.5" H_2O	≤ ~~(151)~~ 188" H_2O	CPS
d. Reactor Vessel Water Level - Low, Level 3	≥ ~~10~~ 8.9 inches*	≥ ~~9.4~~ 8.3 inches*	CPS
e. Reactor Vessel Water Level - Low Low Low, Level 1	≥ - ~~(160)~~ 145.5 inches*	≥ - ~~(152)~~ 147.7 inches*	CPS
f. Reactor Vessel (RHR Cut-in Permissive) Pressure - High	≤ 135 psig**	≤ 150 psig**	CPS
g. Drywell Pressure - High	≤ ~~1.73~~ 1.68 psig	≤ ~~1.93~~ 1.88 psig	CPS
h. Manual Initiation	NA	NA	

*See Bases Figure B 3/4 3-1.

**Initial setpoint. Final setpoint to be determined during startup test program. Any required change to this setpoint shall be submitted to the Commission within 90 days of test completion.

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TABLE 4.3.2.1-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP FUNCTION	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS IN WHICH SURVEILLANCE REQUIRED
6. RHR SYSTEM ISOLATION				
a. RHR Equipment Area Ambient Temperature - High	NA	M	Q	1, 2, 3
b. RHR Equipment Area Δ Temp. - High	NA	M	Q	1, 2, 3
~~c.~~ RHR/RCIC Steam Line Flow - High	S	M	R	1, 2, 3
d. Reactor Vessel Water Level - Low, Level 3	S	M	R	1, 2, 3
~~e.~~ Reactor Vessel Water Level - Low Low Low, Level 1	S	M	R	1, 2, 3
f. Reactor Vessel (RHR Cut-in Permissive) Pressure - High	S	M	R	1, 2, 3
~~g.~~ Drywell Pressure - High	S	M	R	1, 2, 3
h. Manual Initiation	NA	~~(M(a))(R)~~	NA	1, 2, 3

CPS

*When handling irradiated fuel in the secondary and/or primary containment and during CORE ALTERATIONS and operations with a potential for draining the reactor vessel. CPS

SEE INSERT (NEXT PAGE) ~~**When reactor steam pressure ≥ (1043) psig and/or any turbine stop valve is open.~~ CPS

#During CORE ALTERATION and operations with a potential for draining the reactor vessel.

~~(a)Manual initiation switches shall be tested at least once per 18 months during shutdown. All other circuitry associated with manual initiation shall receive a CHANNEL FUNCTIONAL TEST at least once per 31 days as part of circuitry required to be tested for automatic system isolation.~~ CPS CPS

(b) Each train or logic channel shall be tested at least every other 31 days.

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TABLE 3.3.3-1

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

TRIP FUNCTION	MINIMUM OPERABLE CHANNELS PER TRIP (SYSTEM) (FUNCTION)[(a)]	APPLICABLE OPERATIONAL CONDITIONS	ACTION
A. DIVISION 1 TRIP SYSTEM			
1. RHR-A (LPCI MODE) & LPCS SYSTEM			
a. Reactor Vessel Water Level - Low Low Low, Level 1	2[(b)]	1, 2, 3, 4*, 5*	30
b. Drywell Pressure - High	2[(b)]	1, 2, 3	30
~~c. LPCS Pump Discharge Flow-Low (Minimum Flow)~~	~~(1)~~	~~1, 2, 3, 4*, 5*~~	~~31~~ CPS
c ~~d.~~ Reactor Vessel Pressure-Low (LPCS Permissive)	~~(1)~~ 4	1, 2, 3 4*, 5*	~~32~~ 33 CPS 33
d ~~e.~~ Reactor Vessel Pressure-Low (LPCI Permissive)	~~(1)~~ 4	1, 2, 3 4*, 5*	~~32~~ 33 CPS 33
e ~~f.~~ LPCI Pump A Start Time Delay ~~Relay~~ Logic Card	~~(1)~~	1, 2, 3, 4*, 5*	32 CPS
~~g. LPCI Pump A Discharge Flow-Low (Minimum Flow)~~	~~(1)~~	~~1, 2, 3, 4*, 5*~~	~~31~~
f ~~h.~~ Division 1 Bus Power Monitor	(2)	1, 2, 3, 4*, 5*	34
g ~~i.~~ Manual Initiation	2 ~~(1)/(system)~~	1, 2, 3, 4*, 5*	35
2. AUTOMATIC DEPRESSURIZATION SYSTEM TRIP SYSTEM "~~A~~ 1"# ADS LOGIC 'A' AND 'E'			CPS
a. Reactor Vessel Water Level - Low Low Low, Level 1	2~~(b)~~	1, 2, 3	30
b. Drywell Pressure - High	2~~(b)~~	1, 2, 3	30
c. ADS Timer	1	1, 2, 3	32
d. Reactor Vessel Water Level - Low, Level 3 (Permissive)	1	1, 2, 3	32
e. LPCS Pump Discharge Pressure-High (Permissive)	2 ~~1~~	1, 2, 3	32 CPS
f. LPCI Pump A Discharge Pressure-High (Permissive)	2 ~~1~~	1, 2, 3	32 CPS
i ~~g.~~ Manual Initiation	2 ~~1/valve~~	1, 2, 3	35
g. ADS Drywell Pressure Bypass Timer	2	1, 2, 3	30
h. Manual Inhibit ADS Switch	1	1, 2, 3	35

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TABLE 3.3.3-1 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

TRIP FUNCTION	MINIMUM OPERABLE CHANNELS PER TRIP (SYSTEM) (FUNCTION)(a)	APPLICABLE OPERATIONAL CONDITIONS	ACTION
B. DIVISION 2 TRIP SYSTEM			
1. RHR B & C (LPCI MODE)			
a. Reactor Vessel Water Level - Low, Low Low, Level 1	2(b)	1, 2, 3, 4*, 5*	30
b. Drywell Pressure - High	2(b)	1, 2, 3	30
c. Reactor Vessel Pressure-Low (LPCI Permissive)	4 ~~(1)/valve~~	1, 2, 3	33 ~~32~~ CPS
		4*, 5*	33
d. LPCI Pump (B) Start Time Delay ~~Relay~~ Logic Card	~~(1)~~ 1	1, 2, 3, 4*, 5*	32 CPS
~~e. LPCI Pump Discharge Flow - Low (Minimum Flow)~~	~~(1)/pump~~	~~1, 2, 3, 4*, 5*~~	~~31~~
e ~~f.~~ Division 2 Bus Power Monitor	2	1, 2, 3, 4*, 5*	34
f ~~g.~~ Manual Initiation	2 ~~1/system~~	1, 2, 3, 4*, 5*	35
2. AUTOMATIC DEPRESSURIZATION SYSTEM TRIP SYSTEM ~~"B"~~ "2" ADS LOGIC 'B' AND 'F'			CPS
a. Reactor Vessel Water Level - Low Low Low, Level 1	2~~(b)~~	1, 2, 3	30
b. Drywell Pressure - High	2~~(b)~~	1, 2, 3	30
c. ADS Timer	1	1, 2, 3	32
d. Reactor Vessel Water Level - Low, Level 3 (Permissive)	1	1, 2, 3	32
e. LPCI Pump (B and C) Discharge Pressure - High (Permissive)	2 ~~1/pump~~	1, 2, 3	32 CPS
i ~~f.~~ Manual Initiation	2 ~~1/valve~~	1, 2, 3	35
g. ADS Drywell Pressure Bypass Timer	2	1, 2, 3	30
h. Manual Inhibit ADS Switch	1	1, 2, 3	35 TESS CPS

CLINTON - UNIT 1

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TABLE 3.3.3-1 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

TRIP FUNCTION	MINIMUM OPERABLE CHANNELS PER TRIP ~~(SYSTEM)~~ (FUNCTION)(a)	APPLICABLE OPERATIONAL CONDITIONS	ACTION
C. DIVISION 3 TRIP SYSTEM			CPS
1. HPCS SYSTEM			CPS
a. Reactor Vessel Water Level - ~~Low~~ Low, Level 2	~~(2)~~ 4(b)	1, 2, 3, 4*, 5*	~~(30)~~ 36
b. Drywell Pressure - High	~~(2)~~ 4(b)	1, 2, 3	~~(30)~~ 36
c. Reactor Vessel Water Level-High, Level ~~(h)~~ 8	2(c)	1, 2, 3, 4*, 5*	32
d. RCIC Storage Tank Level-Low	2(d)	1, 2, 3, 4*, 5*	~~(37)~~ 37
e. Suppression Pool Water Level-High	2(d)	1, 2, 3, 4*, 5*	~~(37)~~ 37
~~f. Pump Discharge Pressure-High (Minimum Flow)~~	~~(1)~~	~~1, 2, 3, 4*, 5*~~	~~##~~
~~g. HPCS System Flow Rate-Low (Minimum Flow)~~	~~(1)~~	~~1, 2, 3, 4*, 5*~~	~~##~~
f ~~h.~~ HPCS Bus Power Monitor	~~(1)~~ 2	1, 2, 3, 4*, 5*	34
g ~~i.~~ Manual Initiation	~~1~~ 2	1, 2, 3, 4*, 5*	35

7E-850I CPS

TRIP FUNCTION	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM OPERABLE CHANNELS	APPLICABLE OPERATIONAL CONDITIONS	ACTION
D. LOSS OF POWER					
1. 4.16 kv Emergency Bus Undervoltage (Loss of Voltage)	1/bus	1/bus	1/bus	1, 2, 3, 4**, 5**	~~(38)~~
2. 4.16 kv Emergency Bus Undervoltage (Degraded Voltage)	3/bus	2/bus	2/bus	1, 2, 3, 4**, 5**	~~(39)~~

7E-85-01 CPS

(a) A channel may be placed in an inoperable status for up to 2 hours during periods of required surveillance without placing the trip system in the tripped condition provided at least one other OPERABLE channel in the same trip system is monitoring that parameter.
(b) Also actuates the associated division diesel generator ~~(and the suppression pool makeup system)~~.
(c) Provides signal to close HPCS pump ~~discharge~~ valve only.
(d) Provides signal to HPCS pump suction valves only.
* When the system is required to be OPERABLE per Specification 3.5.2 or 3.5.3.
** Required when ESF equipment is required to be OPERABLE.
\# Not required to be OPERABLE when reactor steam dome pressure is less than or equal to ~~(100)~~ psig.
\#\# Alarm only.

7E-850I CPS

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TABLE 3.3.3-2

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE	
A. DIVISION 1 TRIP SYSTEM			
1. RHR-A (LPCI MODE) AND LPCS SYSTEM			
a. Reactor Vessel Water Level - Low Low Low, Level 1	≥ ~~(150)~~ 145.5 inches*	≥ ~~(162)~~ 147.7 inches	CPS
b. Drywell Pressure - High	≤ ~~(1.09)~~ 1.68 psig	≤ ~~(1.94)~~ 1.88 psig	CPS
~~e. LPCS Pump Discharge Flow-Low~~	~~≥ ( ) gpm~~	~~≥ ( ) gpm~~	
c ~~d.~~ Reactor Vessel Pressure-Low (LPCS Permissive)	≥ (481) psig, decreasing	≥ (469) psig, decreasing	
d ~~e.~~ Reactor Vessel Pressure-Low (LPCI Permissive)	≥ (484) psig, decreasing	≥ (469) psig, decreasing	
e ~~f.~~ LPCI Pump A Start Time Delay Relay	≤ (5) seconds	≤ ( ) seconds	CPS 12-85-01
~~g. LPCI Pump A Discharge Flow-Low~~	~~≥ ( ) gpm~~	~~≥ ( ) gpm~~	CPS
f ~~h.~~ Division 1 Bus Power Monitor	≥ ( ) (volts)	≥ ( ) (volts)	
g ~~i.~~ Manual Initiation	NA	NA	
	LATER		
2. AUTOMATIC DEPRESSURIZATION SYSTEM TRIP SYSTEM "A" 1 ADS LOGIC 'A' AND 'E'			CPS
a. Reactor Vessel Water Level - Low Low Low, Level 1	≥ ~~(150)~~ 145.5 inches*	≥ ~~(162)~~ 147.7 inches	
b. Drywell Pressure - High	≤ ~~(1.09)~~ 1.68 psig	≤ ~~(1.94)~~ 1.88 psig	CPS
c. ADS Timer	~~(≥ 90,)~~ ≤ (105) seconds	~~(≥ 90,)~~ ≤ (117) seconds	
d. Reactor Vessel Water Level-Low, Level 3	≥ ~~(11.4)~~ 8.9 inches*	≥ ~~(10.0)~~ 8.3 inches	
e. LPCS Pump Discharge Pressure-High	≥ (145) psig, increasing	≥ ~~(140)~~ 125 psig, increasing	
f. LPCI Pump A Discharge Pressure-High	≥ (125) psig, increasing	≥ ~~(122)~~ 115 psig, increasing	
g. Manual Initiation	NA	NA	
h. ADS Drywell Pressure Bypass Timer	≤ 6.0 min.	≤ 6.5 min.	12-85-01 CPS
i. Manual Inhibit ADS Switch	NA	NA	

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TABLE 3.3.3-2 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE	
B. DIVISION 2 TRIP SYSTEM			
1. RHR B AND C (LPCI MODE)			
a. Reactor Vessel Water Level - Low Low Low, Level 1	≥ ~~(150)~~ 145.5 inches*	≥ ~~(162)~~ 147.7 inches	CPS
b. Drywell Pressure - High	≤ ~~(1.89)~~ 1.68 psig	≤ ~~(1.94)~~ 1.88 psig	CPS
c. Reactor Vessel Pressure-Low (LPCI Permissive)	≥ ~~( )~~ 484 psig, decreasing	≥ ~~( )~~ 469 psig, decreasing	TE-58-P
d. LPCI Pump ~~(B)~~ Start Time Delay ~~Relay~~ Logic Card	≤ (5) seconds	≤ ( ) seconds	
~~e. LPCI Pump Discharge Flow-Low~~	~~≥ ( ) gpm~~	~~≥ ( ) gpm~~	CPS
e ~~f.~~ Division 2 Bus Power Monitor	≥ ( ) (volts)	≥ ( ) (volts)	
f ~~g.~~ Manual Initiation	NA	NA	
	LATER	LATER	
2. AUTOMATIC DEPRESSURIZATION SYSTEM TRIP SYSTEM ~~"B"~~ 2 ADS LOGIC 'B' AND 'F'			CPS
a. Reactor Vessel Water Level - Low Low Low, Level 1	≥ ~~(150)~~ 145.5 inches*	≥ ~~(162)~~ 147.7 inches	
b. Drywell Pressure - High	≤ ~~(1.89)~~ 1.68 psig	≤ ~~(1.94)~~ 1.88 psig	CPS
c. ADS Timer	~~( ) 90,)~~ ≤ (105) seconds	~~( ) 90,)~~ ≤ (117) seconds	
d. Reactor Vessel Water Level-Low, Level 3	≥ ~~(11.4)~~ 8.9 inches*	≥ ~~(10.8)~~ 8.3 inches	
e. LPCI Pump (B and C) Discharge Pressure-High	≥ (125) psig, increasing	≥ ~~(125)~~ 115 psig, increasing	
f. Manual Initiation	NA	NA	
g. ADS Drywell Pressure Bypass Timer	≤ 6.0 min	≤ 6.0 min	
h. Manual Inhibit ADS Switch	NA	NA	TE-55-01 CPS

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TABLE 3.3.3-2 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE
C. DIVISION 3 TRIP SYSTEM		
1. HPCS SYSTEM		
a. Reactor Vessel Water Level - ~~Low~~ Low, Level 2	≥ ~~(61)~~ 45.5 inches*	≥ ~~(63)~~ 47.7 inches
b. Drywell Pressure - High	≤ ~~(1.69)~~ 1.68 psig	≤ ~~(1.94)~~ 1.88 psig
c. Reactor Vessel Water Level - High, Level ~~8~~	≤ ~~(52)~~ 52.0 inches*	≤ ~~(52.6)~~ 54.2 inches
d. RCIC Storage Tank Level - Low	≥ ~~(X+3)~~ Y-1.1 ~~inches~~ ** el 740'-2¼"	≥ ~~(X)~~ ~~inches~~ ** el 739'-10¾"
e. Suppression Pool Water Level - High	≤ ~~(Y-3)~~ ~~inches~~ # el 731'-11½"	≤ ~~(Y)~~ ~~inches~~ # el 732'-5"
~~f. Pump Discharge Pressure - High~~	~~≥ ( ) psig~~	~~≥ ( ) psig~~
~~g. HPCS System Flow Rate - Low~~	~~≥ ( ) gpm~~	~~≥ ( ) gpm~~
f. ~~h.~~ HPCS Bus Power Monitor	≥ ( ) (volts)	≥ ( ) (volts)
g. ~~i.~~ Manual Initiation	NA	NA
	LATER	LATER
D. LOSS OF POWER		
1. 4.16 kv Emergency Bus Undervoltage (Loss of Voltage) (##))	a. 4.16 kv Basis - (2940)±(161) volts	(2940)±(315) volts
	b. 120 v Basis - (84)±(4.6) volts	(84)±(9) volts
	c. ≤ (10) sec. time delay	≤ (10) sec. time delay
2. 4.16 kv Emergency Bus Undervoltage (Degraded Voltage)	a. 4.16 kv Basis - (3727)±(9) volts	(3727)±(21) volts
	b. 120 v Basis - (106.5)±(0.25) volts	(106.5)±(0.60) volts
	c. (10)±(0.5) sec. time delay	(10)±(1) sec. time delay

CPS

*See Bases Figure B 3/4 3-1.

** ~~X is the value that ensures adequate NPSH and precludes air entry due to vortexing.)~~ ~~SEE INSERT (NEXT PAGE)~~

~~#Y is (5) inches above normal water level.)~~ ~~SEE INSERT (NEXT PAGE)~~.

###These are inverse time delay voltage relays or instantaneous voltage relays with a time delay. The voltages shown are the maximum that will not result in a trip. Lower voltage conditions will result in decreased trip times.

CPS

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**X is the minimum level to allow time to switch to suppression pool suction.

Y is suppression pool high water level.

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3/4 3-34A

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TABLE 4.3.3.1-1

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP FUNCTION	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
A. DIVISION 1 TRIP SYSTEM				
1. RHR-A (LPCI MODE) AND LPCS SYSTEM				
a. Reactor Vessel Water Level - Low Low Low, Level 1	S	M	R(a)	1, 2, 3, 4*, 5*
b. Drywell Pressure - High	S	M	R(a)	1, 2, 3
~~c. LPCS Pump Discharge Flow-Low~~	~~NA~~	~~M~~	~~Q~~	~~1, 2, 3, 4*, 5*~~
c ~~d.~~ Reactor Vessel Pressure-Low (LPCS)	S	M	R(a)	1, 2, 3, 4*, 5*
d ~~e.~~ Reactor Vessel Pressure-Low (LPCI)	S	M	R(a)	1, 2, 3, 4*, 5*
e ~~f.~~ LPCI Pump A Start Time Delay ~~Relay~~ Logic Card	NA	M	Q	1, 2, 3, 4*, 5*
~~g. LPCI Pump A Flow-Low~~	~~NA~~	~~M~~	~~Q~~	~~1, 2, 3, 4*, 5*~~
f. ~~h.~~ Division I Bus Power Monitor	NA	M	(NA)	1, 2, 3, 4*, 5*
g. ~~i.~~ Manual Initiation	NA	~~(M(b))~~ (R)	NA	1, 2, 3, 4*, 5*
2. AUTOMATIC DEPRESSURIZATION SYSTEM TRIP SYSTEM ~~"A"~~ # 1				
a. Reactor Vessel Water Level - Low Low Low, Level 1	S	M	R(a)	1, 2, 3
b. Drywell Pressure-High	S	M	R(a)	1, 2, 3
c. ADS Timer	NA	M	Q	1, 2, 3
d. Reactor Vessel Water Level - Low, Level 3	S	M	R(a)	1, 2, 3
e. LPCS Pump Discharge Pressure-High	~~NA~~ S	M	~~Q~~ R(a)	1, 2, 3
f. LPCI Pump A Discharge Pressure-High	~~NA~~ S	M	R ~~Q~~(a)	1, 2, 3
g. Manual Initiation	NA	~~(M(b))~~ (R)	NA	1, 2, 3
ADS LOGIC 'A' AND 'E'				
h. ADS Drywell Pressure Bypass Timer	N/A	M	R	1,2,3
i. Manual Inhibit ADS Switch	N/A	M	NA	1,2,3

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TABLE 4.3.3.1-1 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP FUNCTION	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED	
B. DIVISION 2 TRIP SYSTEM					
1. RHR B AND C (LPCI MODE)					
a. Reactor Vessel Water Level - Low Low Low, Level 1	S	M	R(a)	1, 2, 3, 4*, 5*	
b. Drywell Pressure - High	S	M	R(a)	1, 2, 3	
c. Reactor Vessel Pressure-Low	S	M	R(a)	1, 2, 3, 4*, 5*	TEPS01 CPS
d. LPCI Pump ~~(B)~~ Start Time Delay ~~Relay~~ e Logic Card	NA	M	Q	1, 2, 3, 4*, 5*	
~~e. LPCI Pump Discharge Flow Low~~	~~NA~~	~~M~~	~~Q~~	~~1, 2, 3, 4*, 5*~~	CPS
e ~~f.~~ Division 2 Bus Power Monitor	NA	M	(NA)	1, 2, 3, 4*, 5*	
f ~~g.~~ Manual Initiation	NA	~~(M(b))~~ ~~(R)~~ e	NA	1, 2, 3, 4*, 5*	
2. AUTOMATIC DEPRESSURIZATION SYSTEM TRIP SYSTEM "B"# ADS LOGIC 'B' AND 'F'					CPS
a. Reactor Vessel Water Level - Low Low Low, Level 1	S	M	R(a)	1, 2, 3	
b. Drywell Pressure-High	S	M	R(a)	1, 2, 3	
c. ADS Timer	NA	M	Q	1, 2, 3	
d. Reactor Vessel Water Level - Low, Level 3	S	M	R(a)	1, 2, 3	
e. LPCI Pump (B and C) Discharge Pressure-High	~~NA~~ S	M	R ~~Q~~(a)	1, 2, 3	CPS
f. Manual Initiation	NA	~~(M(b))~~ ~~(R)~~ e	NA	1, 2, 3	
g. ADS Drywell Pressure Bypass Timer	NA	M	R	1 2 3	CPS
h. Manual Inhibit ADS Switch	NA	M	M	1 2 3	

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TABLE 4.3.3.1-1 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP FUNCTION	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED	
C. DIVISION 3 TRIP SYSTEM					
1. HPCS SYSTEM					
a. Reactor Vessel Water Level - ~~(~~Low Low, Level 2~~)~~	S	M	R(a)	1, 2, 3, 4*, 5*	CPS
b. Drywell Pressure-High	NA	M	R ~~Q~~(a)	1, 2, 3	
c. Reactor Vessel Water Level-High, Level ~~(~~8~~)~~	NA	M	R ~~Q~~(a)	1, 2, 3, 4*, 5*	CPS
d. ~~Condensate~~ RCIC Storage Tank Level - Low	NA	M	R ~~Q~~(a)	1, 2, 3, 4*, 5*	
e. Suppression Pool Water Level - High	NA	M	R ~~Q~~(a)	1, 2, 3, 4*, 5*	CPS
~~f. Pump Discharge Pressure-High~~	~~NA~~	~~M~~	~~Q~~	~~1, 2, 3, 4*, 5*~~	
~~g. HPCS System Flow Rate Low~~	~~NA~~	~~M~~	~~Q~~	~~1, 2, 3, 4*, 5*~~	
f. ~~h.~~ HPCS Bus Power Monitor	NA	M	(NA)	1, 2, 3, 4*, 5*	
g. ~~i.~~ Manual Initiation	NA	~~(M(b))~~ (R)	NA	1, 2, 3, 4*, 5*	
D. LOSS OF POWER					
1. 4.16 kv Emergency Bus Under-voltage (Loss of Voltage)	NA	NA	R	1, 2, 3, 4**, 5**	
2. 4.16 kv Emergency Bus Under-voltage (Degraded Voltage)	S	M	R	1, 2, 3, 4**, 5**	

Not required to be OPERABLE when reactor steam dome pressure is less than or equal to ~~(~~100~~)~~ psig. CPS

* When the system is required to be OPERABLE per Specification 3.5.2.

** Required when ESF equipment is required to be OPERABLE.

(a) Calibrate trip unit at least once per 31 days. CPS

~~(~~(b) ~~Manual initiation switches shall be tested at least once per 18 months during shutdown. All other circuitry associated with manual initiation shall receive a CHANNEL FUNCTIONAL TEST at least once per 31 days as a part of circuitry required to be tested for automatic system actuation.~~~~)~~ CPS

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CLINTON - UNIT 1

TABLE 3.3.5-2

REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

FUNCTIONAL UNITS	TRIP SETPOINT	ALLOWABLE VALUE	
a. Reactor Vessel Water Level - ~~(~~Low Low, Level 2~~)~~	≥ 45.5 ~~(61)~~ inches*	≥ 47.7 ~~(63)~~ inches	CPS
b. Reactor Vessel Water Level - High, Level ~~(~~8~~)~~	≤ 52.0 ~~(52)~~ inches*	≤ 54.2 ~~(62.6)~~ inches	CPS
c. RCIC Storage Tank Level - Low	≥ ~~X+3~~ ~~(14)~~ ~~inches~~ ~~**~~ el 740'2¼"	≥ ~~X~~ ~~(9)~~ ~~inches~~ 739'-10 ¼"	CPS
d. Suppression Pool Water Level - High	≤ ~~Y-1.1~~ ~~(5)~~ ~~inches~~ ~~Y~~ ~~***~~ el 731'-11½"	≤ ~~Y~~ ~~(21)~~ ~~inches~~ 732'5"	CPS
e. Manual Initiation	NA	NA	

*See Bases Figure B 3/4 3-1.

~~**X = Value that ensures NPSH and no vortexing.~~ CPS

~~***Y = High water level based on pool load analysis.~~ CPS

10-22-82

TABLE 3.3.6-1

CONTROL ROD BLOCK INSTRUMENTATION

TRIP FUNCTION	MINIMUM OPERABLE CHANNELS PER TRIP FUNCTION	APPLICABLE OPERATIONAL CONDITIONS	ACTION	
1. ROD PATTERN CONTROL SYSTEM				
a. Low Power Setpoint	2	1, 2	60	
b. ~~Intermediate Rod Withdrawal Limiter Setpoint~~ RWL - High Power Setpoint	2	1, ~~2~~	60	CPS
2. APRM				
a. Flow Biased Neutron Flux - Upscale	~~6~~ 3	1	61	CPS
b. Inoperative	~~6~~ 3	1, 2, 5	61	
c. Downscale	~~6~~ 3	1	61	
d. Neutron Flux - Upscale, Startup	~~6~~ 3	2, 5	61	
3. SOURCE RANGE MONITORS				
a. Detector not full in(a)	~~4~~	~~2, 5~~	~~61~~	SEE INSERT (NEXT PAGE) CPS
b. Upscale(b)	~~4~~	~~2, 5~~	~~61~~	
c. Inoperative(b)	~~4~~	~~2, 5~~	~~61~~	
d. Downscale(c)	~~4~~	~~2, 5~~	~~61~~	
4. INTERMEDIATE RANGE MONITORS				
a. Detector not full in(d)	6	2, 5	61	
b. Upscale	6	2, 5	61	
c. Inoperative	6	2, 5	61	
d. Downscale(d)	6	2, 5	61	
5. SCRAM DISCHARGE VOLUME				
a. Water Level-High	~~(2)~~ 2	1, 2, 5*	62	CPS
~~b. Scram Trip Bypass~~	~~(2)~~	~~(1, 2,) 5*~~ 3, 4, 2	~~62~~	
6. REACTOR COOLANT SYSTEM RECIRCULATION FLOW				
a. Upscale	2	1	62	
~~b. Inoperative~~	~~2~~	~~1~~	~~62~~	CPS
~~c. (Comparator) (Downscale)~~	~~2~~	~~1~~	~~62~~	
7. REACTOR MODE SWITCH				CPS
a. Shutdown Mode	2	3, 4	62	
b. Refuel Mode	2	5	62	

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TABLE 3.3.6-2

CONTROL ROD BLOCK INSTRUMENTATION SETPOINTS

TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE	
1. ROD PATTERN CONTROL SYSTEM			CPS
a. Low Power Setpoint	(**) psig turbine first stage pressure ~~(20)% of RATED THERMAL POWER~~	(**) psig turbine first stage pressure ~~(20 + 15, - 0)% of RATED THERMAL POWER~~	
b. ~~Intermediate Rod Withdrawal Limiter Setpoint~~ RWL - High Power Setpoint	~~≤ 70% of RATED THERMAL POWER~~ (**) psig turbine first stage pressure	~~≤ 70% of RATED THERMAL POWER~~ (**) psig turbine first stage pressure	
2. APRM			
a. Flow Biased Neutron Flux - Upscale	≤ 0.66 W + 42%*	≤ 0.66 W + 45%*	
b. Inoperative	NA	NA	
c. Downscale	≥ 5% of RATED THERMAL POWER	≥ 3% of RATED THERMAL POWER	
d. Neutron Flux - Upscale Startup	≤ 12% of RATED THERMAL POWER	≤ 14% of RATED THERMAL POWER	
3. SOURCE RANGE MONITORS			CPS
a. Detector not full in	NA	NA	
b. Upscale	≤ 1 x 10^5 cps	≤ ~~1.5~~ 1.6 x 10^5 cps	
c. Inoperative	NA	NA	CPS
d. Downscale	≥ 3 cps	≥ ~~2~~ 1.8 cps	
4. INTERMEDIATE RANGE MONITORS			
a. Detector not full in	NA	NA	
b. Upscale	≤ 108/125 division of full scale	≤ (110/125) division of full scale	CPS
c. Inoperative	NA	NA	
d. Downscale	≥ 5/125 division of full scale	≥ (3/125) division of full scale	
5. SCRAM DISCHARGE VOLUME			
a. Water Level-High	≤ (~~32.5~~) inches LATER el 759'5"	≤ (~~34~~) inches LATER el 760'0"	CPS
~~b. Scram Trip Bypass~~	~~NA~~	~~NA~~	
6. REACTOR COOLANT SYSTEM RECIRCULATION FLOW			CPS
a. Upscale	≤ (108)% of rated flow	≤ (111)% of rated flow	
~~b. Inoperative~~	~~NA~~	~~NA~~	
~~c. (Comparator) (Downscale)~~	~~≤ (10)% flow deviation~~	~~≤ (11)% flow deviation~~	SEE INSERT/ADDITION (NEXT PAGE)

~~*The Average Power Range Monitor rod block function is varied as a function of recirculation loop flow (W). The trip setting of this function must be maintained in accordance with Specification 3.2.2.~~

7. REACTOR MODE SWITCH			
a. Shutdown Mode	NA	NA	
b. Refuel Mode	NA	NA	CPS

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TABLE 4.3.6-1

CONTROL ROD BLOCK INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP FUNCTION	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION(a)	OPERATIONAL CONDITIONS IN WHICH SURVEILLANCE REQUIRED	
1. ROD PATTERN CONTROL SYSTEM					
a. Low Power Setpoint	NA	S/U(b)(e) D(c), M(d)(e)	Q	1, 2	CPS
b. ~~Intermediate Rod Withdrawal Limiter Setpoint~~ RWL - High Power Setpoint	NA	S/U(b)(e) D(c), M(d)(e)	Q	1, ~~2~~	
2. APRM					
a. Flow Biased Neutron Flux - Upscale	~~(NA)~~	S/U(b), M	~~(Q)~~	1	CPS
b. Inoperative	NA	S/U(b), M	NA	1, 2, 5	
c. Downscale	~~(NA)~~	S/U(b), M	~~(Q)~~	1	CPS
d. Neutron Flux - Upscale, Startup	~~(NA)~~	S/U(b), M	~~(Q)~~	2, 5	
3. SOURCE RANGE MONITORS					
a. Detector not full in	NA	S/U(b), W	NA	2, 5	
b. Upscale	NA	S/U(b), W	Q	2, 5	
c. Inoperative	NA	S/U(b), W	NA	2, 5	
d. Downscale	NA	S/U(b), W	Q	2, 5	
4. INTERMEDIATE RANGE MONITORS					
a. Detector not full in	NA	S/U(b), W	NA	2, 5	
b. Upscale	NA	S/U(b), W	Q	2, 5	
c. Inoperative	NA	S/U(b), W	NA	2, 5	
d. Downscale	NA	S/U(b), W	Q	2, 5	
5. SCRAM DISCHARGE VOLUME					
a. Water Level-High	NA	~~(M)~~ ~~(Q)~~	R	1, 2, 5*	CPS
~~b. Scram Trip Bypass~~	~~NA~~	~~M~~	~~NA~~	~~(1, 2, 5)*~~ 3,4,5	
6. REACTOR COOLANT SYSTEM RECIRCULATION FLOW					
a. Upscale	NA	S/U(b), M	Q	1	
~~b. Inoperative~~	~~NA~~	~~S/U(b), M~~	~~NA~~	~~1~~	CPS
~~c. (Comparator) (Downscale)~~	~~NA~~	~~S/U(b), M~~	~~Q~~	~~1~~	
7. REACTOR MODE SWITCH					CPS
a. Shutdown Mode	NA	R	NA	3,4	
b. Refuel Mode	NA	R	NA	5	

TABLE 3.3.7.2-1

SEISMIC MONITORING INSTRUMENTATION

INSTRUMENTS AND SENSOR LOCATIONS	MEASUREMENT RANGE FREQUENCY RANGE (Hz)	MEASUREMENT RANGE DYNAMIC RANGE (g)	MINIMUM INSTRUMENTS OPERABLE
1. Triaxial Time-History Accelerographs			
a. Concrete pad (outside) El. 712'	1 to 30	-2 to +2	1[(a)]
b. Fuel Bldg., El. 712'	1 to 30	-2 to +2	1[(a)]
c. Containment Bldg., El. 851'	1 to 30	-2 to +2	1[(a)]
d. Containment Bldg., El. 778'	1 to 30	-2 to +2	1[(a)]
e. Control Bldg., El. 737'	1 to 30	-2 to +2	1[(a)]
2. Triaxial Peak Accelerographs (Passive)			
a. Fuel Bldg., El. 707' 6"	0 to 20	0.02 to 3	1
b. DG Bldg., El. 712'	0 to 20	0.02 to 3	1
c. Containment Bldg., El. 778'	0 to 20	0.02 to 3	1
3. Triaxial Seismic Switches			
a. Fuel Bldg., El. 712'	0.1 to 30	0.005 to 0.2	1[(a)(b)]
4. Triaxial Response-Spectrum Recorders			
a. Circulating Water House (Passive)	1 to 30	NA	1
b. Digital Cassette with Playback Feature (Active)	1 to 30	NA	1

(a) With main control room annunciation
(b) Adjustable setpoint

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TABLE 4.3.7.2-1

SEISMIC MONITORING INSTRUMENTATION - SURVEILLANCE REQUIREMENTS

INSTRUMENTS AND SENSOR LOCATIONS	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION
1. Triaxial Time-History Accelerographs		
a. Concrete pad (outside) El. 712'	SA	R
b. Fuel Bldg., El. 712'	SA	R
c. Containment Bldg., El. 851'	SA	R
d. Containment Bldg., El. 778'	SA	R
e. Control Bldg., El. 737'	SA	R
2. Triaxial Peak Accelerographs (Passive)		
a. Fuel Bldg., El. 707' 6"	NA	NA
b. DG Bldg., El. 712'	NA	NA
c. Containment Bldg., El. 778'	NA	NA
3. Triaxial Seismic Switches		
a. Fuel Bldg., El. 712'	SA	R
4. Triaxial Response-Spectrum Recorders		
a. Circulating Water House (Passive)	NA	R[a]
b. Digital Cassette with Playback Feature (Active)	SA	R

reads

(a) Four different frequency ~~recorders~~ calibrated each surveillance.

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TABLE 4.3.7.5-1

ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	APPLICABLE OPERATIONAL CONDITIONS
1. Reactor Vessel Pressure	M	R	1, 2
2. Reactor Vessel Water Level	M	R	1, 2
3. Suppression Pool Water Level	M	R	1, 2,3,4,5,**
4. Suppression Pool Water Temperature	M	R	1, 2,3
~~5. Drywell Radiation~~	~~M~~	~~R~~	~~1, 2~~
5 ~~6.~~ Drywell Pressure	M	R	1, 2
6 ~~7.~~ Drywell Air Temperature	M	R	1, 2
7 ~~8.~~ Drywell Hydrogen Concentration Analyzer and Monitor	D* ~~(M)(NA)~~	~~Q*~~ N/A	1, 2
8 ~~9.~~ Containment Pressure	M	R	1, 2
9 ~~10.~~ Containment Temperature	M ~~(M)(NA)~~	R	1, 2
10 ~~11.~~ Containment Hydrogen Concentration Analyzer and Monitor	D* ~~M~~	~~Q*~~ N/A	1, 2
11 ~~12.~~ Safety/Relief Valve Acoustic Monitor	NA	R	1, 2
~~13. In Core Thermocouples~~	~~M~~	~~R~~	~~1, 2~~
12 ~~14.~~ Containment/Drywell High Range ~~Area Gross Gamma~~ Radiation Monitors	M	R	1, 2, 3
13 ~~15.~~ HVAC Stack High Radioactivity Monitor #	M	R	1, 2, 3
14 ~~16.~~ SGTS Exhaust High Radioactivity Monitor #	M	~~M~~ R	1, 2, 3
~~15 17.~~ ~~#~~	~~M~~	~~M~~	~~1, 2, 3~~

~~*Using sample gas containing:~~

~~a. One volume percent hydrogen, balance nitrogen.~~

~~b. Four volume percent hydrogen, balance nitrogen.~~

#High range noble gas monitors.

*Accomplished automatically using sample gas supply integral to analyzer equipment.

** Add Attached NOTE SEE INSERT ? 3/4 3-70A

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**

The suppression pool is not required to be OPERABLE provided that the reactor vessel head is removed, the cavity is flooded or being flooded, the reactor vessel to steam dryer pool gate is removed, the fuel transfer pool gate is removed when the cavity is flooded, and the water level is maintained within the limits of Specification 3.9.8 and 3.9.9

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CHLORINE DETECTION SYSTEM

LIMITING CONDITION FOR OPERATION

3.3.7.8 Two independent chlorine detection system subsystems shall be OPERABLE with their ~~(alarm)~~ (trip) setpoints adjusted to actuate at a chlorine concentration of less than or equal to ~~1~~ 5 ppm. C.S

APPLICABILITY: All OPERATIONAL CONDITIONS.

ACTION:

a. With one chlorine detection system subsystem inoperable, restore the inoperable detection subsystem to OPERABLE status within 7 days, or within the next 6 hours, initiate and maintain operation of at least one control room emergency filtration system subsystem in the chlorine mode of operation.

b. With both chlorine detection system subsystems inoperable, within one hour initiate and maintain operation of at least one control room emergency filtration system subsystem in the chlorine mode of operation.

c. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.7.8 Each of the above required chlorine detection system subsystems shall be demonstrated OPERABLE by performance of:

a. CHANNEL CHECK at least once per 12 hours,

b. CHANNEL FUNCTIONAL TEST at least once per 31 days, and

c. CHANNEL CALIBRATION at least once per ~~18~~ 6 months. CPS

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TABLE 3.3.7.11-1

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	ACTION
1. GROSS RADIOACTIVITY MONITORS PROVIDING ALARM AND AUTOMATIC TERMINATION OF RELEASE		
a. Liquid Radwaste ~~Effluent Line~~ Discharge Process Radiation Monitor	(1)	110
2. GROSS ~~BETA OR GAMMA~~ RADIOACTIVITY MONITORS PROVIDING ALARM BUT NOT PROVIDING AUTOMATIC TERMINATION OF RELEASE		
a. Plant Service Water ~~System~~ Effluent ~~Line~~ Process Radiation Monitor	(1)	~~112~~ 111
b. Shutdown Service Water Effluent Process Radiation Monitor ~~Component Cooling Water System Effluent Line~~	(1) / D	~~112~~ 111
c. Fuel Pool Heat Exchanger Service Water Radiation Monitor	1	111
3. FLOW RATE MEASUREMENT DEVICES		
a. Liquid Radwaste Effluent Line	(1)	~~113~~ 112
b. Plant Service Water Effluent Line ~~Discharge Canal~~	(1)	~~113~~ 112
c. Plant Circulating Water Effluent Line	(1)	112
4. ~~RADIOACTIVITY RECORDERS~~		
~~a. Liquid Radwaste Effluent Line~~	~~(1)~~	~~115~~

~~*Required only if alarm/trip set point is based on recorder/controller~~

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TABLE 3.3.7.12-1

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	APPLICABILITY	ACTION
1. POST-TREATMENT AIR EJECTOR OFFGAS PRM			
a. High Range Noble Gas Activity Monitor Providing Alarm and Automatic Termination of Release	1	**	121
b. Effluent System Flow Rate Monitor	1	**	123
c. PRM Flow Rate Monitor	1	**	123
2. STATION HVAC EXHAUST PRM			
a. High Range Noble Gas Activity Monitor	1	*	121
b. Low Range Noble Gas Activity Monitor	1	*	121
c. Iodine ~~Activity Monitor~~ Sampler	1	*	122
d. Particulate ~~Activity Monitor~~ Sampler	1	*	122

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TABLE 3.3.7.12-1

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	APPLICABILITY	ACTION
2. STATION HVAC EXHAUST PRM (Cont'd)			
e. PRM Flow Rate Monitor	1	X	123
f. Effluent System Flow Rate Monitor	1	X	123
3. STANDBY GAS TREATMENT SYSTEM EXHAUST PRM			
a. High-High Range Noble Gas Activity Monitor	1	XXX	121 #
b. High Range Noble Gas Activity Monitor	1	XXX	121 #
c. Low Range Noble Gas Activity Monitor	1	XXX	121
d. High Range Iodine Sampler ~~Activity Monitor~~	1	XXX	122
~~e. Low Range Iodine Activity Monitor~~	~~1~~	~~XXX~~	~~122~~
e ~~f.~~ Particulate Activity Monitor	1	XXX	122
f ~~g.~~ PRM Flow Rate Monitor	1	XXX	123
g ~~h.~~ Effluent System Flow Rate Monitor	1	XXX	123

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TABLE 3.3.7.12-1

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	APPLICABILITY	ACTION
4. MAIN CONDENSER OFFGAS TREATMENT SYSTEM EXPLOSIVE GAS MONITORING SYSTEM			
a. Hydrogen Monitor	~~2~~ 1	**	124
5. PRE-TREATMENT AIR EJECTOR OFFGAS PRM			
a. Noble Gas Activity Monitor	1	**	125

TABLE 3.3.7.12-1 (Continued)

TABLE NOTATION

* At all times.

** During main condenser offgas treatment system operation.

*** During standby gas treatment system operation.

\# This action is not required if a lower range noble gas activity monitor for this release point is operating and is reading on scale. IE&S 01 CPS

ACTION 121 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue provided grab samples are taken at least once per 12 hours and analyzed for gross noble gas activity within 24 hours.

ACTION 122 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue provided that, within 4 hours after the channel has been declared inoperable, samples are continuously collected with auxiliary sampling equipment as required in Table 4.11-2.

ACTION 123 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue provided the flow rate is estimated at least once per 4 hours.

TABLE 3.3.9.12-1 (Continued)

TABLE NOTATION

ACTION 124 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, operation of the main condenser offgas treatment system may continue provided grab samples are collected at least once per 4 hours and analyzed within the following 4 hours. If the recombiner temperature remains constant and THERMAL POWER has not changed, the sampling frequency may be changed to 8 hours.

ACTION 125 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, gases from the main condenser offgas treatment system may be released to the environment for up to 72 hours provided:

a. The offgas treatment system is not bypassed, and

b. The post-treatment air ejector offgas PRM high range noble gas activity monitor is OPERABLE.

~~ACTION 126 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway shall be terminated.~~

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TABLE 4.3.7.12-1

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	SOURCE CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODE IN WHICH SURVEILLANCE REQUIRED
1. POST-TREATMENT AIR EJECTOR OFFGAS PRM					
a. High Range Noble Gas Activity Monitor Providing Alarm and Automatic Termination of Release	D#	D#	R(2)	Q(1)	X
b. Effluent System Flow Rate Monitor	D	N.A.	N.A.	N.A.	X
c. PRM Flow Rate Monitor	D#	N.A.	N.A.	N.A.	X
2. STATION HVAC EXHAUST PRM					
a. High Range Noble Gas Activity Monitor	D#	M	R(2)	Q(1)	X
b. Low Range Noble Gas Activity Monitor	D#	M	R(2)	Q(1)	X
c. Iodine Activity Monitor	W#	N.A.	N.A.	N.A.	X
d. Particulate Activity Monitor	W#	N.A.	N.A.	N.A.	X

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TABLE 4.3.7.12-1

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	SOURCE CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODE IN WHICH SURVEILLANCE REQUIRED
e. PRM Flow Rate Monitor	D#	N.A.	R	Q	*
f. Effluent System Flow Rate Monitor	D	N.A.	R	Q	*
3. STANDBY GAS TREATMENT SYSTEM EXHAUST PRM					
a. High-High Range Noble Gas Activity Monitor	D#	M	R(2)	Q(1)	*
b. High Range Noble Gas Activity Monitor	D#	M	R(2)	Q(1)	*
c. Low Range Noble Gas Activity Monitor	D#	M	R(2)	Q(1)	*
d. High Range Iodine Sampler ~~Activity Monitor~~	W#	N.A.	N.A.	N.A.	*
~~e. Low Range Iodine Activity Monitor~~	W	N.A.	N.A.	N.A.	*
e ~~f.~~ Particulate Activity Monitor	W#	N.A.	N.A.	N.A.	*
f ~~g.~~ PRM Flow Rate Monitor	D#	N.A.	R	Q	*
g ~~h.~~ Effluent System Flow Rate Monitor	D	N.A.	R	Q	*

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TABLE 4.3.7.12-1

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	SOURCE CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODE IN WHICH SURVEILLANCE REQUIRED	
4. MAIN CONDENSER OFFGAS TREATMENT SYSTEM EXPLOSIVE GAS MONITORING SYSTEM						
a. Hydrogen Monitor	D#	NA	Q(3)	M	**	TE-85-[illegible] CPS
5. PRE-TREATMENT AIR EJECTOR OFFGAS PRM						
a. Noble Gas Activity Monitor	D#	M	R(2)	Q(1)	**	TE-85-[illegible] CPS
6. STATION HVAC EXHAUST (ACCIDENT RANGE) PRM			(LATER)			TE-85-01 CPS
7. STANDBY GAS TREATMENT SYSTEM EXHAUST (ACCIDENT RANGE) PRM			(LATER)			

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TABLE 3.3.~~X~~8-2

PLANT SYSTEMS ACTUATION INSTRUMENTATION SETPOINTS

TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE	
1. CONTAINMENT SPRAY SYSTEM			
a. Drywell Pressure-High	≤ ~~(1.09)~~ 1.68 psig	≤ ~~(1.94)~~ 1.88 psig	CPS
b. Containment Pressure-High	≤ ~~(9)~~ 8.0 psig	≤ ~~(9)~~ 8.5 psig	CPS
c. Reactor Vessel Water Level-Low Low Low, Level 1	≥ -~~(150)~~ 145.5 inches*	≥ -~~(140)~~ 147.7 inches	CPS
d. Timers			
~~(1)~~ 1. ~~System A~~ Loop A	≤ ~~(10)~~ 10 minutes	≤ ~~(10)~~ 10 minutes	CPS
~~(2)~~ 2. ~~System B~~ Loop B	≤ ~~(11)~~ 10 minutes	≤ ~~(11)~~ 10 minutes	CPS
2. FEEDWATER SYSTEM/MAIN TURBINE TRIP SYSTEM			
a. Reactor Vessel Water Level-High, Level ~~(8)~~ 8	≤ ~~(54.5)~~ 52.0 inches*	≤ ~~(56.0)~~ ~~53.5~~ 52.6 inches	CPS

*See Bases Figure B 3/4 3-1.

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TABLE 4.3.~~X~~ 8 1-1 (Continued)

PLANT SYSTEMS ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP FUNCTION	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	OPERATIONAL CHANNEL CALIBRATION	CONDITIONS IN WHICH SURVEILLANCE REQUIRED	
1. CONTAINMENT SPRAY SYSTEM					
a. Drywell Pressure-High	~~(NA)~~ S	~~(M)~~	~~(R)~~	1, 2, 3	CPS
b. Containment Pressure-High	~~(NA)~~ S	~~(M)~~	~~(R)~~	1, 2, 3	
c. Reactor Vessel Water Level-Low Low Low, Level 1	~~(NA)~~ S	~~(M)~~	~~(R)~~	1, 2, 3	CPS
d. Timers	~~(NA)~~	~~(M)~~	~~(R)~~	1, 2, 3	
e. Manual Initiation	NA	M	NA	1, 2, 3	
2. FEEDWATER SYSTEM/MAIN TURBINE TRIP SYSTEM					
a. Reactor Vessel Water Level-High, Level ~~(8)~~	~~(NA)~~ S	~~(M)~~	~~(R)~~	1	CPS

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3/4.4.2 SAFETY VALVES

SAFETY/RELIEF VALVES

LIMITING CONDITION FOR OPERATION

3.4.2.1 Of the following safety/relief valves, the safety valve function of at least 6 valves and the relief valve function of at least 5 valves other than those satisfying the safety valve function requirement shall be OPERABLE with the specified lift settings:

±15 psi Relief

Number of Valves	Function	Setpoint* (psig) ± 1% Safety
7	Safety	1165
5	Safety	1180
4	Safety	1190
1	Relief	1103
8	Relief	1113
7	Relief	1123

CPS

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

ACTION:

a. With the safety and/or relief valve function of one or more of the above required safety/relief valves inoperable, be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.

b. With one or more safety/relief valves stuck open, provided that suppression pool average water temperature is less than ~~(105)°F~~ 110°F, close the stuck open safety/relief valve(s); if unable to close the open valve(s) within 2 minutes or if suppression pool average water temperature is ~~(105)°F~~ 110°F or greater, place the reactor mode switch in the Shutdown position. CPS CPS

c. With one or more safety/relief valve acoustic monitors inoperable, restore the inoperable monitor(s) to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.4.2.1.1 The acoustic monitor~~(s)~~ for each safety/relief valve shall be demonstrated OPERABLE with the setpoint verified to be ~~((20) ± (5) psig)~~ e (LATER) by performance of a: CPS

a. CHANNEL ~~(FUNCTIONAL TEST)~~ ~~(CHECK)~~ initially, then at least once ~~per~~ 31 days, and a ~~(per)~~

b. CHANNEL CALIBRATION at least once per 18 months. CPS

4.4.2.1.2 The relief valve function pressure actuation instrumentation shall be demonstrated OPERABLE by performance of a:

a. CHANNEL FUNCTIONAL TEST, including calibration of the trip unit, at least once per 31 days.

b. CHANNEL CALIBRATION, LOGIC SYSTEM FUNCTIONAL TEST and simulated automatic operation of the entire system at least once per 18 months.

*The lift setting pressure shall correspond to ambient conditions of the valves at nominal operating temperatures and pressures.

~~(**The provisions of Specification 4.0.4 are not applicable provided the surveillance is performed within 12 hours after reactor steam pressure is adequate to perform the test.)~~ CPS

~~[illegible]~~

TABLE 3.4.3.2-1

REACTOR COOLANT SYSTEM PRESSURE ISOLATION VALVES

VALVE NUMBER	SYSTEM	
1E12F041A	LPCI from RHRA Testable Chk	TE-85-01 CPS
1E12F041B	LPCI from RHRB Testable Chk	
1E12F041C	LPCI from RHRC Testable Chk	
1E12F042A	LPCI from RHRA Shutoff	
1E12F042B	LPCI from RHRB Shutoff	
1E12F042C	LPCI from RHRC Shutoff	
1E12F023	RHR B Supp to Rx Head Spray	
1E21F005	LPCS Inj Isol	
1E21F006	LPCS Inj Testable Chk	
1E22F004	HPCS Inj Isol	
1E22F005	HPCS Testable Chk Disc	
1E51F066	RCIC Pmp Disch to Rx Testable Check	
1E51F013	RCIC Pmp Disch to Rx Otbd Isol	
1E51F064	RHR & RCIC St Supp Otbd Isol	
~~1C41F004A~~	~~SBLC Pump 1A Disch Explosive V/O~~	TE-85-01 CPS
~~1C41F004B~~	~~SBLC Pump 1B Disch Explosive V/O~~	

TABLE 3.4.3.2-2

REACTOR COOLANT SYSTEM INTERFACE VALVES

LEAKAGE PRESSURE MONITORS

VALVE NUMBER	SYSTEM	ALARM SETPOINT (psig)

LATER

CPS

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SURVEILLANCE REQUIREMENTS (Continued)

2. At least once per 18 months:

a) Performing a system functional test which includes simulated automatic actuation of the system throughout its emergency operating sequence, but excluding actual valve actuation.

b) Manually opening each ADS valve when the reactor steam dome pressure is greater than or equal to 100 psig(*) and observing the expected change in the indicated control valve or bypass valve position and that the acoustic tail-pipe monitor alarms. CPS

c) Performing a CHANNEL CALIBRATION of the accumulator backup compressed gas system low pressure alarm system and verifying an alarm setpoint of ≥ 140 ~~( ) + ( ), -( )~~ psig on decreasing pressure. TE-35-01 CPS

(*The provisions of Specification 4.0.4 are not applicable provided the surveillance is performed within 12 hours after reactor steam pressure is adequate to perform the test.)

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3/4.5.3 ECCS - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.5.3 At least two of the following shall be OPERABLE:

a. The low pressure core spray (LPCS) system with a flow path capable of taking suction from the suppression pool and transferring the water through the spray sparger to the reactor vessel.

b. Low pressure coolant injection (LPCI) subsystem "A" of the RHR system with a flow path capable of taking suction from the suppression pool and transferring the water to the reactor vessel.

upon being manually realigned

c. Low pressure coolant injection (LPCI) subsystem "B" of the RHR system with a flow path capable of taking suction from the suppression pool and transferring the water to the reactor vessel.

d. Low pressure coolant injection (LPCI) subsystem "C" of the RHR system with a flow path capable of taking suction from the suppression pool and transferring the water to the reactor vessel.

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e. The high pressure core spray (HPCS) system with a flow path capable of taking suction from one of the following water sources and transferring the water through the spray sparger to the reactor vessel:

1. From the suppression pool, or

2. When the suppression pool level is less than the limit or is drained, from the RCIC storage tank containing at least 125,000 available gallons of water, equivalent to a level of ~~( )~~% 95%.

CI

APPLICABILITY: OPERATIONAL CONDITION 4 and 5*.

ACTION:

a. With one of the above required subsystems/systems inoperable, restore at least two subsystems/systems to OPERABLE status within 4 hours or suspend all operations that have a potential for draining the reactor vessel.

b. With both of the above required subsystems/systems inoperable, suspend CORE ALTERATIONS and all operations that have a potential for draining the reactor vessel. Restore at least one subsystem/system to OPERABLE status within 4 hours or establish SECONDARY CONTAINMENT INTEGRITY within the next 8 hours.

*The ECCS is not required to be OPERABLE provided that the reactor vessel head is removed, the cavity is flooded, the reactor vessel to steam dryer pool gates are removed, ~~the spent fuel pool gates are removed,~~ and water level is maintained within the limits of Specification 3.9.8 and 3.9.9.

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DRAFT

SURVEILLANCE REQUIREMENTS

4.5.2.1 At least the above required ECCS shall be demonstrated OPERABLE per Surveillance Requirement 4.5.1.

4.5.2.2 The HPCS system shall be determined OPERABLE at least once per 12 hours by verifying the RCIC storage tank required volume when the ~~condensate~~ RCIC storage tank is required to be OPERABLE per Specification 3.5.2.e. CPS

DRAFT

3/4.5.3 SUPPRESSION POOL

LIMITING CONDITION FOR OPERATION

3.5.3 The suppression pool shall be OPERABLE:

a. In OPERATIONAL CONDITION 1, 2 and 3 with a contained water volume of at least 146,400 ft^3, equivalent to a level of 18'11".

b. In OPERATIONAL CONDITION 4 and 5* with a contained water volume of at least ~~93,600~~ 98,700 ft^3, equivalent to a level of ~~12'8"~~, except that the suppression pool level may be less than the limit or may be drained provided that: CPS

1. No operations are performed that have a potential for draining the reactor vessel,

2. The reactor mode switch is locked in the Shutdown or Refuel position,

3. The RCIC storage tank contains at least 125,000 available gallons of water, equivalent to a level of ~~( )%~~ 95%, and CPS

4. The HPCS system is OPERABLE per Specification 3.5.2 with an OPERABLE flow path capable of taking suction from the RCIC storage tank and transferring the water through the spray sparger to the reactor vessel.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3, 4 and 5*.

ACTION:

a. In OPERATIONAL CONDITION 1, 2 or 3 with the suppression pool water level less than the above limit, restore the water level to within the limit within 1 hour or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

b. In OPERATIONAL CONDITION 4 or 5* with the suppression pool water level less than the above limit or drained and the above required conditions not satisfied, suspend CORE ALTERATIONS and all operations that have a potential for draining the reactor vessel and lock the reactor mode switch in the Shutdown position. Establish SECONDARY CONTAINMENT INTEGRITY within 8 hours.

*The suppression pool is not required to be OPERABLE provided that the reactor vessel head is removed, the cavity is flooded (or being flooded ~~from the suppression pool~~), the reactor vessel to steam dryer pool gates ~~are~~ removed, the ~~spent~~ fuel pool gates are removed (when the cavity is flooded), and the water level is maintained within the limits of Specification 3.9.8 and 3.9.9. TE-PS-01 CPS

SURVEILLANCE REQUIREMENTS

4.5.3.1 The suppression pool shall be determined OPERABLE by verifying the water level to be greater than or equal to, as applicable:

a. 18'11" at least once per 24 hours. for operational conditions 1, 2 and 3 | CPS

b. 12'8" at least once per ~~(12)~~ 12 hours. for operational conditions 4, 5 | CPS

4.5.3.2 With the suppression pool level less than the above limit or drained in OPERATIONAL CONDITION 4 or 5*, at least once per 12 hours:

a. Verify the required conditions of Specification 3.5.3.b to be satisfied, or

b. Verify footnote conditions * to be satisfied.

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3/4.6.2 DRYWELL

DRYWELL INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.2.1 DRYWELL INTEGRITY shall be maintained.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2* and 3.

ACTION:

Without DRYWELL INTEGRITY, restore DRYWELL INTEGRITY within 1 hour or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 DRYWELL INTEGRITY shall be demonstrated:

a. After each opening ~~closing~~ of the drywell equipment hatch by visual inspections of the seals during closing. CP

b. At least once per 31 days by verifying that all drywell penetrations** not capable of being closed by OPERABLE design bases drywell automatic ~~isolation~~ valves and required to be closed during ~~accident~~ conditions are closed by valves, blind flanges, or deactivated automatic valves secured in position, except as provided in Table 3.6.4-1 of Specification 3.6.4. CP

c. By verifying at least one of the drywell airlock doors is closed and sealed. ~~each drywell air lock OPERABLE per Specification 3.6.2.3.~~ (A visual inspection will be performed at least once per 31 days.) CP

d. By verifying the suppression pool OPERABLE per Specification 3.6.3.1.

e. By verifying at least once per 6 months that only one door in the air lock can be opened at a time. CP

*See Special Test Exception 3.10.1.

**Except valves, blind flanges, and deactivated automatic valves which are located inside the drywell or containment, and are locked, sealed or otherwise secured in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except such verification need not be performed ~~(when the drywell has not been de-inerted since the last verification or)~~ more often than once per 92 days. TE-85-01 CPS

CONTAINMENT SYSTEMS

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DRYWELL BYPASS LEAKAGE

LIMITING CONDITION FOR OPERATION

3.6.2.2 Drywell ~~bypass~~ capability ~~leakage~~ shall be less than or equal to ~~10% of the minimum acceptable A/√k design value of 1.00 ft².~~ the maximum allowable leakage considering an $A/\sqrt{k}$ value of ~~1.0~~ 1.18 ft² and a differential pressure of 3 psi.

APPLICABILITY: When DRYWELL INTEGRITY is required per Specification 3.6.2.1.

CPS

ACTION:

With the drywell bypass leakage greater than 10% of the maximum allowable ~~minimum acceptable A/√k design value of 1.00 ft²~~, restore the drywell bypass leakage to within the limit prior to increasing reactor coolant system temperature above 200°F.

on the same schedule as the containment integrated leakage rate test specified in surveillance requirement 4.6.1.2.a

SURVEILLANCE REQUIREMENTS

STET

4.6.2.2 ~~The~~ A drywell bypass leakage rate test shall be conducted ~~at least once per 18 months~~ at an ~~initial~~ differential pressure of 3.0 psi. ~~and the A/√k shall be calculated from the measured leakage.~~ One drywell airlock door shall remain open during the drywell leakage test such that each drywell door is leak tested during at least every other leakage rate test.

STET

CPS

X a. If any drywell bypass leakage test fails to meet the specified limit, the schedule for subsequent tests shall be reviewed and approved by the Commission. If two consecutive tests fail to meet the limit, a test shall be performed at least every 9 months until two consecutive tests meet the limit, at which time the ~~18 month~~ 18 test schedule in 4.6.1.2.a may be resumed. X

CPS

b. The provisions of Specification 4.0.2 are not applicable.

The acceptable leak rate at 3 psi differential pressure is 3600 scfm which corresponds to 10% of the maximum allowable leakage rate using a value of $A/\sqrt{k} = 1.0$ ft².

DRAFT

(CONTAINMENT) ~~(AND) (DRYWELL)~~ SPRAY |CP

LIMITING CONDITION FOR OPERATION

3.6.3.2 The (containment) ~~(and) (drywell)~~ spray mode of the residual heat removal (RHR) system shall be OPERABLE with two independent loops, each loop consisting of: |CP

a. One OPERABLE RHR pump, and

b. An OPERABLE flow path capable of recirculating water from the suppression pool through a ~~shutdown service water~~ RHR heat exchanger, and the (containment) (and) (drywell) spray sparger. |CP

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

ACTION:

a. With one (containment) ~~(and/or) (drywell)~~ spray loop inoperable, restore the inoperable loop to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours. |CP

b. With both (containment) ~~(and/or) (drywell)~~ spray loops inoperable, be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN* within the next 24 hours. |CP

SURVEILLANCE REQUIREMENTS

4.6.3.2 The (containment) ~~(and) (drywell)~~ spray mode of the RHR system shall be demonstrated OPERABLE: |CP

a. At least once per 31 days by verifying 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 that each of the required RHR pumps develops a flow of at least 300 gpm on recirculation flow through the RHR heat exchanger(s) ~~and~~ STET to ~~the suppression pool~~ STET ~~spray sparger~~ test line when tested pursuant to Specification 4.0.5. |CP

c. At least once per 18 months by performance of a system functional test which includes simulated automatic actuation of the system throughout its emergency operating sequence and verifying that each automatic valve in the flow path actuates to its correct position. Actual spraying of coolant into the (containment) ~~(drywell)~~ may be excluded from this test. |CP

(d. By performance of an air or smoke flow test of the (containment) ~~(and) (drywell)~~ spray nozzles at least once per 5 years and verifying that each spray nozzle is unobstructed.) |CP

*Whenever both RHR subsystems are inoperable, if unable to attain COLD SHUTDOWN are required by this ACTION, maintain reactor coolant temperature as low as practical by use of alternate heat removal methods.

DRAFT

SUPPRESSION POOL MAKEUP SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.3.4 The suppression pool makeup system shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

ACTION:

a. With one suppression pool makeup line inoperable, restore the inoperable makeup line to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

b. With the upper containment pool water level less than the limit, restore the water level to within the limit within 4 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

c. With upper containment pool water temperature greater than the limit, restore the upper containment pool water temperature to within the limit within 24 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.6.3.4 The suppression pool makeup system shall be demonstrated OPERABLE:

a. At least once per 24 hours by verifying the upper containment pool water:

1. Level to be greater than or equal to ~~17'6"~~ 827'-3", and CF

2. Temperature to be less than or equal to 120°F.

b. At least once per 31 days by verifying that:

1. The upper containment steam dryer storage pool/reactor pool gate is in position (closed). CI

~~(1. The drywell storage/fuel transfer pool gate is removed.)~~

2. Each valve, manual, power operated or automatic, in the flow path that is not locked, sealed, or otherwise secure in position, is in its correct position.

c. At least once per 18 months by performing a system functional test which includes simulated automatic actuation of the system throughout its emergency operating sequence and verifying that each automatic valve in the flow path actuates to its correct position. Actual makeup of water to the suppression pool may be excluded from this test.

DRAFT

3/4.6.4 CONTAINMENT AND DRYWELL ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

STET 3.6.4 The containment and drywell isolation valves STET ~~and the reactor instrumentation line excess flow check valves~~ shown in Table 3.6.4-1 shall be OPERABLE with isolation times less than or equal to those shown in Table 3.6.4-1. CPS 7E-85-01

APPLICABILITY: As shown in Table 3.6.4-1. ~~(OPERATIONAL CONDITIONS 1, 2 and 3 and **).~~

ACTION:

a. With one or more of the containment or drywell isolation valves shown in Table 3.6.4-1 inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and within 4 hours either:

1. Restore the inoperable valve(s) to OPERABLE status, or

2. Isolate each affected penetration by use of at least one deactivated automatic valve secured in the isolated position,* or

3. Isolate each affected penetration by use of at least one closed manual valve or blind flange.*

Otherwise, in OPERATIONAL CONDITION 1, 2 or 3, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

Otherwise, in Operational Condition **, suspend all operations involving CORE ALTERATIONS, handling of irradiated fuel in the secondary containment and with a potential for draining the reactor vessel. The provisions of Specification 3.0.3 are not applicable.

~~b. With one or more of the reactor instrumentation line excess flow check valves shown in Table 3.6.4-1 inoperable, operation may continue and the provisions of Specifications 3.0.3 and 3.0.4 are not applicable provided that within 4 hours either:~~ CP

STET

~~1. The inoperable valve is returned to OPERABLE status, or~~

~~2. The instrument line is isolated and the associated instrument is declared inoperable.~~ 7E-85-01

~~Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.~~

STET

*Isolation valves closed to satisfy these requirements may be reopened on an intermittent basis under administrative controls.

**When handling irradiated fuel in the secondary containment and during CORE ALTERATIONS and operations with a potential for draining the reactor vessel.

TABLE 3.6.4-1

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	APPLICABLE OPERATIONAL CONDITIONS	MAXIMUM ISOLATION TIME (Seconds)	SECONDARY CONTAINMENT BYPASS PATH (Yes/No)	TEST PRESSURE (psig)
1. Automatic Isolation Valves					
a. Primary Containment					
1) Main Steam Line C	5	1, 2, 3		No	9.0
1B21-F022C			3-5		
1B21-F028C			3-5		
1B21-F067C			21		
2) Main Steam Line A	6	1, 2, 3		No	9.0
1B21-F022A			3-5		
1B21-F028A			3-5		
1B21-F067A			21		
3) Main Steam Line D	7	1, 2, 3		No	9.0
1B21-F022D			3-5		
1B21-F028D			3-5		
1B21-F067D			21		
4) Main Steam Line B	8	1, 2, 3		No	9.0
1B21-F022B			3-5		
1B21-F028B			3-5		
1B21-F067B			21		
5) Feedwater/RHR Line A	9	1, 2, 3			9.0
1B21-F032A			0.5	Yes	
1E12-F053A			44		
6) Feedwater/RHR Line B	10	1, 2, 3			
1B21-F032B			0.5	Yes	9.0
1E12-F053B			44		
7) RHR Shutdown Cooling	14	1, 2, 3		No	9.0
1E12-F008			39		
1E12-F009			39		
8) RHR A To Fuel Pool Cooling	15	1, 2, 3			9.0
1E12-F037A			135	No	
9) RHR B To Fuel Pool Cooling	16	1, 2, 3			9.0
1E12-F037B			135	No	

TABLE 3.6.4-1

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	APPLICABLE OPERATIONAL CONDITIONS	MAXIMUM ISOLATION TIME (Seconds)	SECONDARY CONTAINMENT BYPASS PATH (Yes/No)	TEST PRESSURE (psig)
Automatic Isolation Valves (Continued)					
Primary Containment (Continued)					
10) RHR A/LPCS Test Line	18	1, 2, 3 & ##		No	9.9
1E12-F024A			90		
1E12-F011A			54		
1E21-F011			24		
1E21-F012			135		
1E12-F064A			8		
11) RHR C Test Line	19	1, 2, 3 & ##		No	9.9
1E12-F021			189		
1E12-F064C			8		
12) RHR B Test Line	20	1, 2, 3 & ##		No	9.9
1E12-F024B			90		
1E12-F011B			54		
1E12-F064B			8		
13) RCIC Suction					
1E51-F031	28	1, 2, 3	34	No	9.9
14) HPCS Test Line	33	1, 2, 3 & ##		No	9.9
1E22-F023			135		
1E22-F012			19		
15) Supp Pool Cleanup Suction	34	1, 2, 3 & ##		Yes	9.9
1SF004			66		
16) HPCS Injection Line					
1E22-F004	35	1, 2, 3	27	No	9.0
17) RCIC					
1E51-F019	40	1, 2, 3	27	No	9.9
18) RCIC					
1E51-F077	41	1, 2, 3	21	No	9.0
19) RCIC/RHR Head Spray	42	1, 2, 3		No	9.0
1E51-F013			15		
1E12-F023			54		
20) RCIC Steam Supply	43	1, 2, 3		No	9.0
1E51-F063			33		
1E51-F064			33		
1E51-F076			14		

TABLE 3.6.4-1

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	APPLICABLE OPERATIONAL CONDITIONS	MAXIMUM ISOLATION TIME (Seconds)	SECONDARY CONTAINMENT BYPASS PATH (Yes/No)	TEST PRESSURE (psig)
Automatic Isolation Valves (Continued)					
Primary Containment (Continued)					
21) RCIC Turb Vac BKR Line	44	1, 2, 3		No	9.0
1E51-F078			19		
22) Main Steam Drain Line	45	1, 2, 3		Yes	9.0
1B21-F016			19		
1B21-F019			19		
23) Comp. Cooling Water Supply	46	1, 2, 3		Yes	9.0
1CC049			56		
1CC050			34		
1CC127			45		
24) Comp. Cooling Water Return	47	1, 2, 3		Yes	9.0
1CC053			34		
1CC054			56		
1CC060			45		
25) Breathing Air	49	1, 2, 3		Yes	9.0
0RA026			30		
0RA027			30		
26) Make-up Condensate	50	1, 2, 3		Yes	9.0
0MC009			24		
0MC010			24		
27) Fuel Pool Cool/Cleanup Supply	52	1, 2, 3		No	9.0
1FC036			45		
1FC037			45		
28) Fuel Pool Cool/Cleanup Return	53	1, 2, 3		No	9.0
1FC007			56		
1FC008			56		
29) Fire Protection	56	1, 2, 3		Yes	9.0
1FP052			56		
1FP051			56		

TABLE 3.6.4-1

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	APPLICABLE OPERATIONAL CONDITIONS	MAXIMUM ISOLATION TIME (Seconds)	SECONDARY CONTAINMENT BYPASS PATH (Yes/No)	TEST PRESSURE (psig)
Automatic Isolation Valves (Continued)					
Primary Containment (Continued)					
30) Instrument Air Supply	57	1, 2, 3		Yes	9.0
1IA005			5		
1IA006			5		
31) Instrument Air Bottles	58	1, 2, 3		Yes	9.0
1IA012B			14		
1IA012A			14		
32) Service Air Supply	59	1, 2, 3		Yes	9.0
1SA030			5		
1SA029			5		
33) RWCU Suction Line	60	1, 2, 3		No	9.0
1G33-F001			15		
1G33-F004			15		
34) RWCU Return to Filter	61	1, 2, 3		No	9.0
1G33-F053			15		
1G33-F054			15		
35) Hydrogen Recombiner Supply	62	1, 2, 3		Yes	9.0
1HG008			30		
36) RWCU To RHR/FW	64	1, 2, 3		No	9.0
1G33-F040			15		
1G33-F039			15		
37) RWCU Transfer To Radwaste	65	1, 2, 3 & ##		Yes	9.0
1WX019			1		
1WX020			1		
38) Process Sampling	68	1, 2, 3 & ##	N/A	Yes	9.0
1PS016					
1PS017					
1PS022					
1PS023					
1PS034					
1PS035					
1PS055					
1PS056					
1PS069					
1PS070					

TABLE 3.6.4-1

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	APPLICABLE OPERATIONAL CONDITIONS	MAXIMUM ISOLATION TIME (Seconds)	SECONDARY CONTAINMENT BYPASS PATH (Yes/No)	TEST PRESSURE (psig)
Automatic Isolation Valves (Continued)					
Primary Containment (Continued)					
39) DW/Cont. Equip. Drain	69	1, 2, 3		No	9.0
1RE021			41		
1RE022			41		
40) DW/Cont. Floor Drain	70	1, 2, 3		No	9.0
1RF021			41		
1RF022			41		
41) Hydrogen Recombiner Supply	71	1, 2, 3		Yes	9.0
1HG001			30		
42) Hydrogen Recombiner Return	72	1, 2, 3		Yes	9.0
1HG004			30		
43) SX to Recir. Pump	78	1, 2, 3		No	9.0
1CC074			24		
1CC073			24		
44) Supp Pool Cleanup Return	79	1, 2, 3		Yes	9.0
1SF001			56		
1SF002			56		
45) Fire Protection	81	1, 2, 3		Yes	9.0
1FP050			34		
1FP092			34		
46) Fire Protection	82	1, 2, 3		Yes	9.0
1FP053			56		
1FP054			56		
47) Cycle Condensate	85	1, 2, 3		Yes	9.0
1CY017			34		
1CY016			34		
48) RWCU Letdown	86	1, 2, 3 & ##			9.0
1G33-F028			15	Yes	
1G33-F034			15		
49) SX From Recir. Pump	88	1, 2, 3		No	9.0
1CC071			24		
1CC072			24		

TABLE 3.6.4-1

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	APPLICABLE OPERATIONAL CONDITIONS	MAXIMUM ISOLATION TIME (Seconds)	SECONDARY CONTAINMENT BYPASS PATH (Yes/No)	TEST PRESSURE (psig)
Automatic Isolation Valves (Continued)					
Primary Containment (Continued)					
50) Containment HVAC Supply	101	1, 2, 3		Yes	9.0
1VR001A			6		
1VR001B			6		
51) Containment HVAC Exhaust	102	1, 2, 3		Yes	9.0
1VQ004A			6		
1VQ004B			6		
52) Plant Chilled Water Supply	103	1, 2, 3		Yes	9.0
1WO001A			56		
1WO001B			56		
53) Plant Chilled Water Return	104	1, 2, 3		Yes	9.0
1WO002A			34		
1WO002B			34		
54) Containment Bldg. HVAC	106	1, 2, 3		Yes	9.0
1VR007B			6		
1VR007A			6		
55) DW Chilled Water Supply	107	1, 2, 3		No	9.0
1VP004B			56		
1VP005B			56		
56) DW Chilled Water Return	108	1, 2, 3		No	9.0
1VP014B			56		
1VP015B			56		
57) DW Chilled Water Supply	109	1, 2, 3		No	9.0
1VP004A			56		
1VP005A			56		
58) DW Chilled Water Return	110	1, 2, 3		No	9.0
1VP014A			56		
1VP015A			56		

TABLE 3.6.4-1

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	APPLICABLE OPERATIONAL CONDITIONS	MAXIMUM ISOLATION TIME (Seconds)	SECONDARY CONTAINMENT BYPASS PATH (Yes/No)	TEST PRESSURE (psig)
Automatic Isolation Valves (Continued)					
Primary Containment (Continued)					
59) Cont. Bldg. HVAC	113	1, 2, 3		Yes	9.0
1VR006A			6		
1VR006B			6		
60) Cont. Monit.	153	1, 2, 3	N/A	No	9.0
1CM022					
1CM023					
1CM025					
1CM026					
61) Hydrogen Recombiner Supply	166	1, 2, 3		Yes	9.0
1HG005			30		
62) Cont. Monit.	173	1, 2, 3	N/A	No	9.0
1CM048					
1CM047					
1CM011					
1CM012					
63) Instrument Air Bottles	206	1, 2, 3		Yes	9.0
1IA013B			14		
1IA013A			14		
64) Process Sampling	210	1, 2, 3	N/A	Yes	9.0
1PS038					
1PS037					
1PS048					
1PS047					
1PS004					
1PS005					
1PS010					
1PS009					
1PS031					
1PS032					
b. Drywell					
1) Plant Chilled Water Supply	53	1, 2, 3	N/A	No	N/A
1WO551A					
1WO551B					

TABLE 3.6.4-1

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	APPLICABLE OPERATIONAL CONDITIONS	MAXIMUM ISOLATION TIME (Seconds)	SECONDARY CONTAINMENT BYPASS PATH (Yes/No)	TEST PRESSURE (psig)
Automatic Isolation Valves (Continued)					
Drywell (Continued)					
2) Plant Chilled Water Return	53	1, 2, 3	N/A	No	N/A
1WO552A					
1WO552B					
3) Drywell HVAC Supply	101	1, 2, 3		No	N/A
1VQ001A			6		
1VQ001B			6		
4) Drywell HVAC Exhaust	102	1, 2, 3		No	N/A
1VQ002			6		
1VQ005			6		
1VQ003			6		

TABLE 3.6.4-1

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	SECONDARY CONTAINMENT BYPASS PATH (Yes/No)	TEST PRESSURE (psig)	APPLICABLE OPERATIONAL CONDITIONS
2. Manual Isolation Valves				
a. Primary Containment				
1) RHR/LPCI A Injection 1E12-F044A	15	No	9.0	At All Times (a)
2) RHR/LPCI B Injection 1E12-F044B	16	No	9.0	At All Times (a)
b. Drywell				
None				
3. Test Connections, Vents, and Drains (b)				
a. Primary Containment				
1) Main Steam Line C 1B21-F025C	5	No	9.0	At All Times (a)
2) Main Steam Line B 1B21-F025A	6	No	9.0	At All Times (a)
3) Main Steam Line D 1B21-F025D	7	No	9.0	At All Times (a)
4) Main Stream Line A 1B21-F025B	8	No	9.0	At All Times (a)
5) Feedwater/RHR Line A 1B21-F063A	9	Yes	9.0	At All Times (a)
1B21-F030A		No		
1E12-F058A		No		
1E12-F349A		No		
6) Feedwater/RHR Line B 1B21-F063B	10	Yes	9.0	At All Times (a)
1B21-F030B		No		
1E12-F058B		No		
1E12-F349B		No		
7) RHR A Suction 1E12-F334A 1E12-F335A	11	No	9.9	At All Times (a)

TABLE 3.6.4-1

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	SECONDARY CONTAINMENT BYPASS PATH (Yes/No)	TEST PRESSURE (psig)	APPLICABLE OPERATIONAL CONDITIONS
Test Connections, Vents and Drains (Continued)				
Primary Containment (Continued)				
8) RHR B Suction 1E12-F334B 1E12-F335B	12	No	9.9	At All Times [(a)]
9) RHR C Suction 1E12-F334C 1E12-F335C	13	No	9.9	At All Times [(a)]
10) RHR Shutdown Cooling 1E12-F001	14	No	9.0	At All Times [(a)]
11) RHR/LPCI A Injection 1E12-F107A 1E12-F331A 1E12-F329A	15	No	9.0	At All Times [(a)]
12) RHR/LPCI B Injection 1E12-F107B 1E12-F331B 1E12-F329B	16	No	9.0	At All Times [(a)]
13) RHR/LPCI C Injection 1E12-F056C 1E12-F057C	17	No	9.0	At All Times [(a)]
14) RHR A Test Line 1E12-F365A 1E12-F366A 1E21-F346 1E21-F347 1E12-F414 1E12-F415 1E12-F418 1E12-F419 1E12-F420 1E12-F421	18	No	9.0	At All Times [(a)]

TABLE 3.6.4-1

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	SECONDARY CONTAINMENT BYPASS PATH (Yes/No)	TEST PRESSURE (psig)	APPLICABLE OPERATIONAL CONDITIONS
Test Connections, Vents and Drains (Continued)				
Primary Containment (Continued)				
15) RHR C Test Line 1E12-F353 1E12-F354 1E12-F428 1E12-F429	19	No	9.0	At All Times [(a)]
16) RHR B Test Line 1E12-F365B 1E12-F366B 1E12-F426 1E12-F427	20	No	9.0	At All Times [(a)]
17) RHR HX 1E12-F432A 1E12-F433A	24	No	9.0	At All Times [(a)]
18) RHR HX 1E12-F432B 1E12-F433B	26	No	9.0	At All Times [(a)]
19) RCIC Pump Suction 1E51-F336 1E51-F337	28	No	9.9	At All Times [(a)]
20) RCIC Suction Release Discharge 1E12-F436 1E12-F437	31	No	9.9	At All Times [(a)]
21) LPCS Pump Suction 1E21-F331 1E21-F344	32	No	9.9	At All Times [(a)]
22) HPCS Test To Supp Pool 1E22-F376	33	No	9.0	At All Times [(a)]
23) Supp Pool Cleanup Pump Suction 1SF034	34	No	9.0	At All Times [(a)]

TABLE 3.6.4-1

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	SECONDARY CONTAINMENT BYPASS PATH (Yes/No)	TEST PRESSURE (psig)	APPLICABLE OPERATIONAL CONDITIONS
Test Connections, Vents and Drains (Continued)				
Primary Containment (Continued)				
24) HPCS Pump Discharge 1E22-F021 1E22-F022	35	No	9.0	At All Times [(a)]
25) LPCS Pump Discharge 1E21-F013 1E21-F014	36	No	9.0	At All Times [(a)]
26) Head Spray 1E51-F034 1E51-F035 1E51-F390 1E51-F391 1E12-F061 1E12-F062	42	No	9.0	At All Times [(a)]
•27) RCIC Turb Steam Supply 1E51-F399 1E51-F072 1E51-F401	43	No	9.0	At All Times [(a)]
28) RCIC Turb Vacuum Breaker 1E51-F080 1E51-F344 1E51-F082 1E51-F345 1E51-F375 1E51-F376 1E51-F083 1E51-F343	44	No	9.0	At All Times [(a)]
29) Main Stream Drain Line 1B21-F017	45	No	9.0	At All Times [(a)]
30) CCW Supply 1CC164 1CC266	46	 No Yes	9.0	At All Times [(a)]
31) CCW Return 1CC165	47	No	9.0	At All Times [(a)]
32) Makeup Condensate 1MC011	50	No	9.0	At All Times [(a)]

TABLE 3.6.4-1

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	SECONDARY CONTAINMENT BYPASS PATH (Yes/No)	TEST PRESSURE (psig)	APPLICABLE OPERATIONAL CONDITIONS
Test Connections, Vents and Drains (Continued)				
Primary Containment (Continued)				
33) Fuel Pool Cool/Cleanup Supply 1FC092	52	No	9.0	At All Times (a)
34) Fuel Pool Cool/Cleanup Return 1FC093	53	No	9.0	At All Times (a)
35) Fire Protection 1FP127	56	No	9.0	At All Times (a)
36) Instrument Air 1IA039	57	No	9.0	At All Times (a)
37) Service Air Line 1SA046	59	No	9.0	At All Times (a)
38) RWCU Pump Suction 1G33-F002	60	No	9.0	At All Times (a)
39) RWCU Return 1G33-F061	61	No	9.0	At All Times (a)
40) Hydrogen Recombiner 1HG019	62	No	9.0	At All Times (a)
41) CRD Pump Discharge 1C11-F128	63	No	9.0	At All Times (a)
42) RWCU Return 1G33-F055	64	No	9.0	At All Times (a)
43) Containment Pressurization (test penet.) 1SA129	67	No	9.0	At All Times (a)
44) Hydrogen Recombiner 1HG016	71	No	9.0	At All Times (a)
45) Hydrogen Recombiner 1HG017	72	No	9.0	At All Times (a)

TABLE 3.6.4-1

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	SECONDARY CONTAINMENT BYPASS PATH (Yes/No)	TEST PRESSURE (psig)	APPLICABLE OPERATIONAL CONDITIONS
Test Connections, Vents and Drains (Continued)				
Primary Containment (Continued)				
46) SX To Recir Pump 1CC170	78	No	9.0	At All Times [(a)]
47) Supp Pool Cleanup Return 1SF023	79	No	9.0	At All Times [(a)]
48) Fire Protection 1FP129	81	No	9.0	At All Times [(a)]
49) Fire Protection 1FP128	82	No	9.0	At All Times [(a)]
50) Cycle Condensate 1CY019	85	No	9.0	At All Times [(a)]
51) RWCU Letdown 1G33-F070	86	No	9.0	At All Times [(a)]
52) SX From Recir Pump 1CC171	88	No	9.0	At All Times [(a)]
53) Containment HVAC Supply 1VR003	101	No	9.0	At All Times [(a)]
54) Containment HVAC Return 1VQ007	102	No	9.0	At All Times [(a)]
55) Containment HVAC 1VR011	106	No	9.0	At All Times [(a)]
56) Drywell Chilled Water 1VP044B 1VP077D	107	No	9.0	At All Times [(a)]
57) Drywell Chilled Water 1VP047B 1VP077B	108	No	9.0	At All Times [(a)]

TABLE 3.6.4-1

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	SECONDARY CONTAINMENT BYPASS PATH (Yes/No)	TEST PRESSURE (psig)	APPLICABLE OPERATIONAL CONDITIONS
Test Connections, Vents and Drains (Continued)				
Primary Containment (Continued)				
58) Drywell Chilled Water 1VP044A 1VP077C	109	No	9.0	At All Times [(a)]
59) Drywell Chilled Water 1VP047A 1VP077A	110	No	N/A	At All Times [(a)]
60) Containment HVAC 1VR012	113	No	9.0	At All Times [(a)]
61) Standby Liquid Control 1C41-F322 1C41-F340A 1C41-F340B	116	No	9.0	At All Times [(a)]
62) Hydrogen Recombiner 1HG018	166	No	9.0	At All Times [(a)]
b. Drywell				
1) Drywell HVAC Supply 1VQ011	101	No	N/A	At All Times [(a)]
2) Drywell HVAC Exhaust 1VQ012	102	No	N/A	At All Times [(a)]
4. Other Isolation Valves				
a. Primary Containment				
1) Main Steam Line C 1E32-F001J 1B21-F098C [(c)]	5	No	9.0	1, 2, 3
2) Main Steam Line A 1E32-F001A 1B21-F098A [(c)]	6	No	9.0	1, 2, 3
3) Main Steam Line D 1E32-F001N 1B21-F098D [(c)]	7	No	9.0	1, 2, 3

TABLE 3.6.4-1

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	SECONDARY CONTAINMENT BYPASS PATH (Yes/No)	TEST PRESSURE (psig)	APPLICABLE OPERATIONAL CONDITIONS
Other Isolation Valves (Continued)				
Primary Containment (Continued)				
4) Main Steam Line B 1E32-F001E 1B21-F098B	8	No	9.0	1, 2,
5) Feedwater/RHR Line A 1B21-F010A 1B21-F065A	9	Yes	9.0	1, 2, 3
6) Feedwater/RHR Line B 1B21-F010B 1B21-F065B	10	Yes	9.0	1, 2, 3
7) RHR A Suction Line 1E12-F004A	11	No	9.9	1, 2, 3
8) RHR B Suction Line 1E12-F004B	12	No	9.9	1, 2, 3
9) RHR C Suction Line 1E12-F105	13	No	9.9	1, 2, 3
10) RHR A Shutdown Cooling 1E12-F475	14	No	9.0	1, 2, 3
11) RHR/LPCI A Injection 1E12-F027A 1E12-F042A 1E12-F028A	15	No	9.0	1, 2, 3
12) RHR/LPCI B Injection 1E12-F027B 1E12-F042B 1E12-F028B	16	No	9.0	1, 2, 3
13) RHR/LPCI C Injection 1E12-F042C	17	No	9.0	1, 2, 3
14) RHR A Suction Relief 1E12-F017A	21	No	9.9	1, 2, 3

TABLE 3.6.4-1

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	SECONDARY CONTAINMENT BYPASS PATH (Yes/No)	TEST PRESSURE (psig)	APPLICABLE OPERATIONAL CONDITIONS
Other Isolation Valves (Continued)				
Primary Containment (Continued)				
15) RHR Shutdown Cool Relief 1E12-F005	23	No	9.9	1, 2, 3
16) RHR A HX Relief Line 1E12-F055A	24	No	9.9	1, 2, 3
17) RHR B Suction Relief 1E12-F017B	25	No	9.9	1, 2, 3
18) RHR B HX Relief Line 1E12-F055B	26	No	9.9	1, 2, 3
19) RHR/LPCI B Inj. Relief 1E12-F025B	27	No	9.0	1, 2, 3
20) RHR B Suction Relief 1E12-F101	29	No	9.9	1, 2, 3
21) RHR/LPCI C Inj. Relief 1E12-F025C	30	No	9.9	1, 2, 3
22) RHR to RCIC Suction Relief 1E12-F036	31	No	9.9	1, 2, 3
23) LPCS Suction Line 1E21-F001	32	No	9.9	1, 2, 3
24) HPCS Test Line Relief 1E22-F014 1E22-F035 1E22-F039	33	No	9.9	1, 2, 3
25) LPCS Injection Line 1E21-F005	36	No	9.0	1, 2, 3
26) HPCS Injection Line 1E22-F015	37	No	9.9	1, 2, 3

TABLE 3.6.4-1

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	SECONDARY CONTAINMENT BYPASS PATH (Yes/No)	TEST PRESSURE (psig)	APPLICABLE OPERATIONAL CONDITIONS
Other Isolation Valves (Continued)				
Primary Containment (Continued)				
27) LPCS Pump Relief Line 1E21-F018 1E21-F031	38	No	9.9	1, 2, 3
28) RCIC Min. Flow Line 1E51-F019	40	No	9.9	1, 2, 3
29) RCIC Min. Flow Relief 1E51-F090	40	No	9.9	1, 2, 3
30) RCIC Turbine Exhaust 1E51-F068	41	No	9.9	1, 2, 3
31) SX To Containment Cooler 1SX089A 1SX088A	48	No	9.0	1, 2, 3
32) Instrument Air Bottles 1IA042B	58	Yes	9.0	1, 2, 3
33) CRD 1C11-F122 1C11-F083	63	Yes	9.0	1, 2, 3
34) RHR Flush Line 1E12-F030	76	No	9.9	1, 2, 3
35) RHR/LPCI A Injec. Relief 1E12-F025A	87	No	9.0	1, 2, 3
36) RHR HX A Vent 1E12-F074A	89	No	9.9	1, 2, 3
37) Containment HVAC Supply 1VR002A 1VR002B	10	 No Yes	9.0	1, 2, 3
38) Containment HVAC Exhaust 1VQ006A 1VQ006B	102	Yes	9.0	1, 2, 3

TABLE 3.6.4-1

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	SECONDARY CONTAINMENT BYPASS PATH (Yes/No)	TEST PRESSURE (psig)	APPLICABLE OPERATIONAL CONDITIONS
Other Isolation Valves (Continued)				
Primary Containment (Continued)				
39) DW Chilled Water Relief 1VP023B	107	No	9.0	1, 2, 3
40) DW Chilled Water Relief 1VP027B	108	No	9.0	1, 2, 3
41) DW Chilled Water Relief 1VP023A	109	No	9.0	1, 2, 3
42) DW Chilled Water 1VP027A	110	No	9.0	1, 2, 3
43) Containment Press 1CM003A(c)(d)	150	No	N/A	1, 2, 3
44) Drywell Pressure 1CM051(c)(d)	151	No	N/A	1, 2, 3
45) Reactor Pressure 1CM066(c)(d)	151	No	N/A	( )
46) Reactor Pressure 1CM067(c)(d)	160	No	N/A	( )
47) Suppression Pool Level 1CM002A(c)(d) 1CM003B(c)(d)	157	No	N/A	1, 2, 3
48) Suppression Pool Level 1SM010(c)(d)	158	No	N/A	1, 2, 3

TABLE 3.6.4-1

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	SECONDARY CONTAINMENT BYPASS PATH (Yes/No)	TEST PRESSURE (psig)	APPLICABLE OPERATIONAL CONDITIONS
Other Isolation Valves (Continued)				
Primary Containment (Continued)				
49) Suppression Pool 1SM009(c)(d)	171	No	N/A	1, 2, 3
50) RHR HX Vent B 1E12-F074B	172	No	9.9	1, 2, 3
51) Suppression Pool Level 1E51-F377B(c)(d)	177	No	N/A	1, 2, 3
52) Suppression Pool Level 1E22-F332(c)(d) 1SM011(c)(d)	179	No	N/A	1, 2, 3
53) HPCS 1E22-F330(c)(d)	180	No	N/A	1, 2, 3
54) Suppression Pool Level 1SM008(c)(d)	181	No	N/A	1, 2, 3
55) Suppression Pool Level 1CM002B(c)(d)	183	No	N/A	1, 2, 3
56) RCIC 1E51-F377A(c)(d)	200	No	N/A	1, 2, 3
57) Drywell Pressure 1CM053(d)	203	No	N/A	1, 2, 3
58) SX Return 1SX096B 1SX097B	204	No	9.0	1, 2, 3

TABLE 3.6.4-1

CONTAINMENT AND DRYWELL ISOLATION VALVES

VALVE NUMBER	PENETRATION NUMBER	SECONDARY CONTAINMENT BYPASS PATH (Yes/No)	TEST PRESSURE (psig)	APPLICABLE OPERATIONAL CONDITIONS
Other Isolation Valves (Continued)				
Primary Containment (Continued)				
59) SX Supply 1SX088B 1SX089B	205	No	9.0	1, 2, 3
60) Instrument Air Bottles 1IA042A	206	Yes	9.0	1, 2, 3
61) SX From Cont. Cir. 1SX096A 1SX097A	208	No	9.0	1, 2, 3

b. Drywell

None

(a) May be opened on an intermittent basis under administrative control.

(b) Not subject to Type C leakage tests - sealed with fluid from a seal system.

(c) Not subject to Type C leakage tests.

(d) Excess flow check valve.

(e) Opens on an isolation signal. Valve(s) may be open during Type A test. Type C test not required if open during a Type A test.

During CORE ALTERATIONS and operations with a potential for draining the reactor vessel.

DRAFT

3/4.6.5 DRYWELL ~~TO CONTAINMENT~~ POST-LOCA VACUUM ~~BREAKERS~~ Relief Valves

TE-55-01 | CF

LIMITING CONDITION FOR OPERATION

3.6.5 All drywell ~~to containment~~ post-LOCA vacuum ~~breakers~~ relief valves shall be OPERABLE and closed. | CF

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

ACTION:

a. With one drywell ~~to containment~~ post-LOCA vacuum ~~breaker~~ relief valves inoperable for opening but known to be closed, restore the inoperable vacuum ~~breaker~~ relief valve to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours. | CPS

b. With one drywell ~~to containment~~ post-LOCA vacuum ~~breaker~~ relief valves open, restore the open vacuum ~~breaker~~ relief valve to the closed position within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours. | CPS

c. With the position indicator of an OPERABLE drywell ~~to containment~~ post-LOCA vacuum ~~breaker~~ relief valve inoperable, verify the vacuum ~~breaker~~ relief valve to be closed at least once per 24 hours by visual inspection. Otherwise, declare the vacuum breaker inoperable. | CPS

SURVEILLANCE REQUIREMENTS

4.6.5 Each drywell ~~to containment~~ post-LOCA vacuum ~~breaker~~ relief valve shall be: | CPS

a. Verified closed at least once per 7 days.

b. Demonstrated OPERABLE:

1. At least once per 31 days by

   a) Cycling the vacuum ~~breaker~~ relief valve through at least one complete cycle of full travel.

   b) Verifying both position indicators OPERABLE by observing expected valve movement during the cycling test.

2. At least once per 18 months by:

   a) Verifying the pressure differential required to open the vacuum relief valve ~~breaker~~, from the closed position, to be less than or equal to 0.2 psid, and

   b) Verifying both position indicators OPERABLE by performance of a CHANNEL CALIBRATION.

THIS PAGE OPEN PENDING RECEIPT OF
CONTAINMENT SYSTEMS
INFORMATION FROM THE APPLICANT

DRAFT

TABLE 3.6.6.2-1

SECONDARY CONTAINMENT VENTILATION SYSTEM AUTOMATIC ISOLATION (DAMPERS) ~~(VALVES)~~

(DAMPER)(VALVE) FUNCTION	MAXIMUM ISOLATION TIME * (Seconds)
1. Fuel Building Supply (Damper) ~~(Valve)~~, Outboard, 1VF004Y	~~(5)~~ 4
2. Fuel Building Supply (Damper) ~~(Valve)~~, Inboard, 1VF006Y	~~(5)~~ 4
3. Fuel Building Exhaust (Damper) ~~(Valve)~~, Outboard, 1VF09Y	~~(5)~~ 4
4. Fuel Building Exhaust (Damper) ~~(Valve)~~, Inboard, 1VF07Y	~~(5)~~ 4

* A margin of 2 seconds is included in the specified value

(#The provisions of Specification 3.0.4 are not applicable.)

SURVEILLANCE REQUIREMENTS (Continued)

b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the subsystem by:

1. Verifying that the subsystem satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than ~~(*)~~ 0.05% and uses the test procedure guidance in Regulatory Positions C.5.a, C.5.c and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, and the system flow rate is 4000 cfm ± 10%. |CPS

2. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than ~~(**)~~ 0.175%; and |CPS

3. Verifying a subsystem flow rate of 4000 cfm ± 10% during system operation when tested in accordance with ANSI N510-1975.

c. After every 720 hours of charcoal adsorber operation by verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than ~~(**)~~ 0.175%. |CPS

d. At least once per 18 months by:

1. Performing a system functional test which includes simulated automatic actuation of the system throughout its emergency operating sequence for the:

   a) LOCA, and

   b) Fuel handling accident. TE-850' |CPS

2. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than ~~7.5~~ ~~(*)~~ 6.0 inches Water Gauge while operating the filter train at a flow rate of 4000 cfm ± 10%. |CPS

3. Verifying that the filter train starts and isolation dampers open on each of the following test signals:

   INSERT Attached → a. Manual initiation from the control room, and

   ~~(b. Simulated automatic initiation signal.)~~ |CPS

4. Verifying that the filter cooling bypass dampers can be manually opened and the fan can be manually started.

5. Verifying that the heaters dissipate 20.0 ± 2.0 kw when tested in accordance with ANSI N510-~~1975~~ 1980.

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3/4.6.7 ATMOSPHERE CONTROL

CONTAINMENT ~~AND DRYWELL~~ HYDROGEN RECOMBINER SYSTEMS |CPS

LIMITING CONDITION FOR OPERATION

3.6.7.1 Two independent containment ~~and drywell~~ hydrogen recombiner systems shall be OPERABLE. |CPS

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2.

ACTION:

With one containment ~~and/or drywell~~ hydrogen recombiner system inoperable, restore the inoperable system to OPERABLE status within 30 days or be in at least HOT SHUTDOWN within the next 12 hours. |CPS

SURVEILLANCE REQUIREMENTS

4.6.7.1 Each containment ~~and drywell~~ hydrogen recombiner system shall be demonstrated OPERABLE: |CPS

a. At least once per 6 months by verifying during a recombiner system functional test that the minimum reaction chamber temperature increases to greater than or equal to ~~(700)~~ 600 °F within ~~(90)~~ LATER 60 minutes.

b. At least once per 18 months by:

1. Performing a CHANNEL CALIBRATION of all ~~(control room)~~ recombiner ~~(operating)~~ instrumentation and control circuits. 75-85-01 CA

2. Verifying the integrity of all heater electrical circuits by performing a resistance to ground test within 30 minutes following the above required functional test. The resistance to ground for any heater phase shall be greater than or equal to (~~10,000~~ LATER) ohms. |CPS

3. Verifying during a recombiner system functional test that the reaction chamber temperature increases to greater than or equal to 1150°F within 2 hours and is maintained between 1177°F and 1223°F for at least 2 hours.

4. Verifying through a visual examination that there is no evidence of abnormal conditions within the recombiner enclosure; i.e, loose wiring or structural connections, deposits of foreign materials, etc.

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c. By measuring the leakage rate:

1. As a part of the average integrated leakage rate test required by Specification 3.6.1.2, or

2. By measuring the a leakage rate ~~of~~ the system outside of the containment isolation valve~~s~~ at P_a, 9.0 ~~(15.0)~~ psig, on the schedule required by Specification 4.6.1.2[a], ~~and~~ including the measured leakage as a part of the leakage determined in accordance with Specification 4.6.1.2.

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CONTAINMENT AND DRYWELL HYDROGEN IGNITION SYSTEM
~~DRYWELL PURGE SYSTEM~~

LIMITING CONDITION FOR OPERATION

3.6.7.3 Two independent and drywell ~~purge system~~ hydrogen ignition system subsystems shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2.

ACTION: (LATER)

~~With one drywell purge subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 30 days or be in at least HOT SHUTDOWN within the next 12 hours.~~

SURVEILLANCE REQUIREMENTS

~~4.6.7.3 Each drywell purge system subsystem shall be demonstrated OPERABLE:~~

~~a. At least once per 92 days by:~~

~~1. Starting the subsystem from the control room, and~~

~~2. Verifying that the system operates for at least 15 minutes.~~

~~b. At least once per 18 months by:~~

~~1. Verifying a subsystem flow rate of at least (500) cfm during subsystem operation for at least 15 minutes.~~

~~2. Verifying the pressure differential required to open the vacuum breakers on the drywell purge compressor discharge lines, from the closed position, to be less than or equal to (1.0) psid.~~

~~c. Verifying the OPERABILITY of the drywell purge compressor discharge line vacuum breaker isolation valve differential pressure actuation instrumentation with the opening setpoint of (1.0) psid by performance of a:~~

~~1. CHANNEL CHECK at least once per 24 hours,~~

~~2. CHANNEL FUNCTIONAL TEST at least once per 31 days, and~~

~~3. CHANNEL CALIBRATION at least once per 18 months.~~

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3/4.7.1.2

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ULTIMATE HEAT SINK

LIMITING CONDITION FOR OPERATION

3.7.1.2 The ULTIMATE HEAT SINK (UHS) shall be operable with:

a. A contained water volume of >(487) acre feet.

b. The total sedimentation <(500) acre feet.

c. A sedimentation level is ≤ elevation (672) feet (msl) in any three consecutive 500 feet x 500 feet sections.

APPLICABILITY: OPERATING CONDITIONS 1, 2, 3, 4, 5, *

ACTION:

a. With the UHS ≤(487) acre feet, restore the UHS to operable status within 90 days or

1) In OPERATIONAL CONDITION 1, 2, or 3, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

2) In OPERATING CONDITIONS 4, 5, *, declare the SX system inoperable and take the ACTION of Specification 3.7.1, 3.8.1.1, and 3.8.1.2.

b. With the UHS total sedimentation ≥(500) acre feet or sedimentation level >elevation (672) feet (msl) in 3 consecutive 500 feet x 500 feet sections, action shall be taken to initiate dredging operations.

c. The provisions of 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.1.2 The UHS shall be demonstrated at least once per 12 months or following a 100 year flood, 100 year drought, or an OBE by:

a. performing a visual inspection to detect erosion of the UHS shoreline and its abutments.

b. by determining that the UHS capacity is ≥(487) acre feet.

* When handling irradiated fuel in the primary or secondary containment.

c. by determining that the total sedimentation of the UHS is < (500) acre feet.

d. by determining that the sedimentation level of the UHS is ≤ (672) feet (msl) in any 3 consecutive 500 feet x 500 feet sections.

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SURVEILLANCE REQUIREMENTS (Continued)

c. At least once per 18 months by:

1. Performing a system functional test which includes simulated automatic actuation ~~(and restart)~~ and verifying that each automatic valve in the flow path actuates to its correct position. Actual injection of coolant into the reactor vessel may be excluded. |CPS

2. Verifying that the system will develop a flow of greater than or equal to 600 gpm in the test flow path when steam is supplied to the turbine at a pressure of ~~150 + 15, - 0~~ 135 + 15 - 0 psig.* TE-95-01|CPS

3. Verifying that the suction for the RCIC system is automatically transferred from the RCIC storage tank to the suppression pool on a RCIC storage tank water level-low signal and on a suppression pool water level - high signal.

*The provisions of Specification 4.0.4 are not applicable provided the surveillance is performed within 12 hours after reactor steam pressure is adequate to perform the tests.

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SURVEILLANCE REQUIREMENTS (Continued)

d. At least once per 18 months by performing a system functional test which includes simulated automatic actuation of the system throughout its operating sequence, and:

1. Verifying that each fire protection pump develops at least 2500 gpm at a system head of ~~110~~ 130 psi,

2. Cycling each valve in the flow path that is not testable during plant operation through at least one complete cycle of full travel, and

3. Verifying that fire protection pumps 1A and 1B start sequentially at ~~to maintain the fire protection water system pressure greater than or equal to ~~75~~ 100 psig and ~~70~~ 90 psig, respectively.~~ ≥ ( ) psig.

e. At least once per 3 years by performing a flow test of the system in accordance with Chapter 5, Section 11 of the Fire Protection Handbook, 14th Edition, published by the National Fire Protection Association.

4.7.6.1.2 Each diesel driven fire protection pump shall be demonstrated OPERABLE:

a. At least once per 31 days by;

1. Verifying the fuel day tank contains at least 250 gallons of fuel.

2. Starting the pump from ambient conditions and operating for greater than or equal to 30 minutes on recirculation flow.

b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank, obtained in accordance with ASTM-~~D270-75~~ 4057-81, is within the acceptable limits specified in Table 1 of ASTM D975-~~77~~ 81 when checked for viscosity, and water and sediment.

c. At least once per 18 months, during shutdown, by subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for the class of service.

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SPRAY AND SPRINKLER SYSTEMS

LIMITING CONDITION FOR OPERATION

3.7.6.2 The following spray and sprinkler systems shall be OPERABLE:

a.	1FP01SA	Div I	Diesel Gen. Fuel Storage Tank Room
b.	1FP01SB	Div II	Diesel Gen. Fuel Storage Tank Room
c.	1FP01SC	Div III	Diesel Gen. Fuel Storage Tank Room
d.	1FP02SA	Div I	Diesel Gen. Day Tank Room
e.	1FP02SB	Div II	Diesel Gen. Day Tank Room
f.	1FP02SC	Div III	Diesel Gen. Day Tank Room
g.	1FP15SA	Div I	Cable Spread Area
h.	1FP15SB	Div II	Cable Spread Area
i.			~~Control Room HVAC Charcoal Deluge~~
j.			~~Standby Gas Treatment System Charcoal Deluge~~

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APPLICABILITY: Whenever equipment protected by the spray and/or sprinkler systems is required to be OPERABLE.

ACTION:

a. With one or more of the above required spray and/or sprinkler systems inoperable, within one hour establish a continuous fire watch with backup fire suppression equipment for those areas in which redundant systems or components could be damaged; for other areas, establish an hourly fire watch patrol.

b. The provisions of Specification 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.6.2 Each of the above required spray and sprinkler systems shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve, manual, power operated or automatic, in the flow path is in its correct position.

b. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.

c. At least once per 18 months:

1. By performing a system functional test which includes simulated automatic actuation of the system, and:

a) Verifying that the automatic valves in the flow path actuate to their correct positions on an ____ test signal, and | CPS

energize

b) Cycling each valve in the flow path that is not testable during plant operation through at least one complete cycle of full travel.

i.	OVC75A	DIV I	Control Room HVAC Supply Air Filter Package Charcoal Deluge
j	OVC75B	DIV II	"
k	OVC95A	DIV I	Control Room HVAC Makeup Air Filter Package Charcoal Deluge
l	OVC95B	DIV II	"
m.	OVG015A	DIV I	Standby Gas Treatment System Charcoal Deluge
n.	OVG015B	DIV II	"

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PLANT SYSTEMS

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CO_2 SYSTEMS

LIMITING CONDITION FOR OPERATION

3.7.6.3 The following low pressure ~~and high pressure~~ CO_2 systems shall be OPERABLE: TE-35-01 | CPS

a. Division I diesel generator room

b. Division II diesel generator room

c. Division III diesel generator room

APPLICABILITY: Whenever equipment protected by the CO_2 systems is required to be OPERABLE.

ACTION:

a. With one or more of the above required CO_2 systems inoperable, within one hour establish a continuous fire watch with backup fire suppression equipment for those areas in which redundant systems or components could be damaged; for other areas, establish an hourly fire watch patrol.

b. The provisions of Specification 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.6.3.1 Each of the above required CO_2 systems shall be demonstrated OPERABLE at least once per 31 days by verifying that each valve, manual, power operated or automatic, in the flow path is in its correct position.

4.7.6.3.2 Each of the above required low pressure CO_2 systems shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying the CO_2 storage tank level to be greater than ~~LATER~~ 86% and pressure to be greater than 275 psig, and TE-35-01 | CPS

b. At least once per 18 months by verifying:

1. The system, including associated ventilation system fire dampers, actuates, manually and automatically, upon receipt of a simulated actuation signal, and

2. Flow from each ~~(accessible*)~~ nozzle during a "Puff Test."

~~(*Accessible nozzles.)~~ | CPS

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HALON SYSTEMS

LIMITING CONDITION FOR OPERATION

3.7.6.4 The ~~following~~ PGCC Halon systems listed below shall be OPERABLE with the storage tanks having at least 95% of full charge weight and 90% of full charge pressure: | CP.

~~a.~~ ~~(Plant dependent - to be listed by name and location.)~~ (*)
~~b.~~ ~~Control cabinets (9.01 through 9.144), PGCC under floor area~~ ~~_______~~ TE-85-01 | CP.
~~c.~~ SEE Attached Insert

APPLICABILITY: Whenever equipment protected by the Halon systems is required to be OPERABLE.

ACTION:

a. With one or more of the above required Halon systems inoperable, within one hour establish a continuous fire watch with backup fire suppression equipment for those areas in which redundant systems or components could be damaged; for other areas, establish an hourly fire watch patrol.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.6.4 Each of the above required Halon systems shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve, manual, power operated or automatic, in the flow path is in its correct position.

b. At least once per 6 months by verifying Halon storage tank weight and pressure.

c. At least once per 18 months by:

1. Verifying the system, ~~including associated ventilation system fire dampers and fire door release mechanisms~~, actuates, ~~manually and automatically~~, upon receipt of a simulated actuation signal, and TE-85-01 CPS.

2. Performance of a flow test through ~~(accessible*)~~ headers and nozzles to assure no blockage. | CPS

~~(*Accessible headers and nozzles.)~~ | CPS

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	Protected PGCC Floor Section	Control Cabinet Location (Panel)	Elevation
a.	U701	U731	PGCC under floor area 800' 0"
b.	U703	U719	"
c.	U704	U704	"
d.	U706	U706	"
e	U707	U707	"
f.	U708	U708	"
g.	U709	U709	"
h	U711	U711	"
i.	U714	U714	"
j.	U715	U715	"
k.	U717	U717	"
l.	U719	U719	"
m.	U720	U720	"
n.	U721	U721	"
o.	U722	U722	"
p.	U723	U723	"
q.	U730	U731	"
r.	U731	U731	"
s.	U740	U740	"
t.	U741	U741	"
u.	U742	U742	"
v.	U743	U743	"
w.	U744	U744	"
x.	U748	U748	"

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TABLE 3.7.6.5-1

FIRE HOSE STATIONS

LOCATION AND ELEVATION	HOSE RACK INDENTIFICATION
> Insert 1	
b ~~a~~. Containment, Elevation 7~~7~~5'	
1. Northeast quadrant outside Main Steam Tunnel	AZ - 30°
2. Norhtwest quadrant near stairs	AZ - 31~~8~~2°
3. South under Fuel Transfer Tube	AZ - 180°
c ~~b~~. Containment, Elevation 778'	
1. Northeast quadrant outside Main Steam Tunnel	AZ - 30°
2. Southeast quadrant near stairs	AZ - 14~~0~~6°
3. Southwest quadrant outside RWCU Backwash Rec. Tank Room	AZ - 246°
4. Northwest quadrant near stairs	AZ - 33~~0~~6°
d ~~c~~. Containment, Elevation 80~~3~~5'	
1. Northeast quadrant near Equipment Hatch	AZ - 35°
2. Southeast quadrant near stairs	AZ - 146°
3. Southwest quadrant near RWCU Precoat Pumps	AZ - 246°
4. Northwest quadrant near stairs	AZ - 318°
e ~~d~~. Containment, Elevation 828'	
1. Northwest quadrant	AZ - 276°
2. Northeast quadrant	AZ - ~~32°~~ 35°
3. Southeast quadrant	AZ - ~~140°~~ 135°
f ~~e~~. Fuel Building, Elevation 712'	
1. Outside HPCS Pump Room	AH - 105
> Insert 2	
j ~~f~~. Auxilary Building, Elevation 707'	
1. LPCS Pump Room	AB - 12~~4~~3
2. Outside of RHR Pump 1A Room	U - 121
3. RHR ~~Pump~~ HX 1A Room	U - 117
4. RCIC Pump Room	X - 110
5. Outside of RHR Pump 1B Room	S - 107
6. RHR Pump 1B Room	V - 105
7. RHR Pump 1C Room	AB - 102

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LOCATION AND ELEVATION	HOSE RACK IDENTIFICATION
— INSERT 1 —	
a. Containment, Elevation 737'	
1. Southwest quadrant - drywell wall	AZ - 263°
2. Northeast quadrant - drywell wall	AZ - 43°
3. Southeast quadrant - drywell wall	AZ - 121°
— INSERT 2 —	
2. Southwest quadrant near DW chillers	AM - 121
3. Southeast quadrant near stairwell	AM - 106.5
4. North side of fuel storage	AH - 112.1
5. East side near drain sumps	AH - 124
g. Fuel Building, Elevation 737'	
1. Southeast quadrant near stairs	AM - 116
2. Southwest quadrant near fuel pool HX	AM - 109.5
3. Northwest quadrant	AH - 102
4. North side of fuel storage	AH - 112.1
5. Near RCIC stge. tnk. inst. panels	AK - 124
h. Fuel Building, Elevation 755'	
1. Southeast quadrant near stairs	AM - 121
2. Southwest quadrant near fuel insp. stand	AM - 109.5
3. Northwest quadrant	AH - 102
4. North side of fuel storage	AH - 112.1
5. East wall	AK - 124
i. Fuel Building, Elevation 781'	
1. Northwest quadrant	AF - 102
2. Northeast quadrant	AF - 124

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TABLE 3.7.6.5-1 (Continued)

FIRE HOSE STATIONS

LOCATION AND ELEVATION	HOSE RACK INDENTIFICATION
k. Auxilary Building, Elevation 737'	
1. Outside RHR HX 1A Room	U - 117
2. Outside RHR HX 1B Room	U - 110
3. Outside of MSIV Rooms	X - 112
> InserT 3	
m. Control/~~Diesel Gen.~~ Building, Elevation 702'	
1. Between ~~H2~~ Hydrogen Recombiners	T - 130
> Insert 4	
n. Control/~~Diesel Gen.~~ Building, Elevation 719'	
> Insert 5	
1. North between 480v Substations O and P	T - 130
2. Outside of Diesel Gen. 1A Fuel Oil Storage Tank Room	AE - ~~128~~ 130
3. Outside of Diesel Gen. 1B Fuel Oil Storage Tank Room	AE - 126
4. Diesel Gen. 1A Fuel Oil Storage Tank Room South Wall	AJ - 128
5. Diesel Gen. 1C Fuel Oil Storage Tank Room South Wall	AJ - 126
o. Control/~~Diesel Gen.~~ Bldg., Elevation 737'	
> Insert 6	
1. Diesel Gen. 1C Room near Entrance	AD - 126
2. Diesel Gen. 1C Room East Wall	AF - 126
3. Diesel Gen. 1A Room near entrance	AC - 129
4. Diesel Gen. 1A Room East Wall	AF - 129
5. Across from Diesel Gen. 1A Room entrance	AA - 128
6. Across from Diesel Gen. 1B Room entrance	AA - 130
7. Diesel Gen. 1B Room near entrance	AC - 129
8. Diesel Gen. 1B Room West Wall	AF - 129
q. Control Building, Elevation 781'	
1. Stairwell - southwest corner	AA - 12~~4~~5
2. Outside Div. 3 Battery Room	AA - 130
3. Div. 1 Cable Spreading Area	Y - 128
4. Passsage outside Div. 1 Inverter Room	Y - 130
5. Outside Div. 4 Inverter Room	V - 124
6. Passage outside Div. 2 Inverter Room	V - 130
7. Div. 2 Cable Spreading Area	T - 129

> Insert 7

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LOCATION AND ELEVATION	HOSE RACK IDENTIFICATION
— INSERT 3 —	
4. West wall near stairwell	E - 102
5. Southeast quadrant	AC - 124
l. Auxiliary Building, Elevation 750'	
1. Southeast quadrant	AC - 123
— INSERT 4 —	
2. Southwest quadrant	AA - 128
3. Northwest quadrant near chill. wtr. pumps	T - 128
4. Northeast quadrant near chill. wtr. pumps	T - 133
5. Between chill. wtr. chillers	AA - 130
6. Southeast quadrant	AA - 133
— INSERT 5 —	
1. Southwest quadrant	AA - 128
2. Northwest quadrant near stairs	T - 128
3. North side, between turbine bldg. vent. exhaust units	T - 130
4. Northeast quadrant near stairs	T - 133
5. Southeast quadrant	AA - 133
6. North of control bldg. MCC A	AA - 130

LOCATION AND ELEVATION	HOSE RACK IDENTIFICATION
— INSERT 6 —	
1. Across from Diesel Gen. 1A Room entrance	AA-128
2. Across from Diesel Gen. 1B Room entrance	AA-130
3. Southeast quadrant near stairs	AA-133
4. Northwest quadrant near restrooms	V-125
5. Northwest quadrant near stairs	T-128
6. Northwest quadrant on corridor wall	T-129
7. Northeast quadrant on corridor wall	T-130
8. Northeast quadrant near stairs	T-133
p. <u>Control Building, Elevation 762'</u>	
1. Southeast quadrant	AA-133
2. Northeast quadrant	T-133
3. North side, near inhibitor chem. feeder	S-130
4. Northwest quadrant	T-128
5. Southwest quadrant	AA-128
6. South side between component clg. wtr. HX	AA-130
— INSERT 7 —	
8. North side of wall	V-130
9. Northeast quadrant	T-133
10. East side of wall	Y-130
11. East from battery charger	AA-130
12. South side	Y-133
13. Southeast corner	AA-135
14. East side near door	V-202

Insert 3/4 7-24 B

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TABLE 3.7.6.5-1 (Continued)

FIRE HOSE STATIONS

LOCATION AND ELEVATION	HOSE RACK INDENTIFICATION
> Insert 8	
s ~~t.~~ Control Building, Elevation 825'	
> Insert 9	
~~1. Next to Auxiliary Building HTG MCC~~	~~AA - 130~~
~~2. Next to 480v Substation A~~	~~AA - 133~~
u ~~m.~~ Screen House	
1. ~~North of Plant Service Water Strainers~~ west side of missile wall	B-2 ~~LATER~~
2. Between plant service water pumps	B-6
3. Diesel fire pump room	B-11

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> Insert 10

Note

(1) Containment identification given by azimuth; all other locations are by column-row.

LOCATION AND ELEVATION	HOSE RACK IDENTIFICATIO
— INSERT 8 —	
r. Control Building, Elevation 800'	
1. Northwest quadrant	T-124
2. Southwest corner	AA-124
3. Southwest quadrant between doors	AC-128
4. Outside shift sup. office	AC-130
5. Outside planning and sched. rm.	AC-130
6. Southeast quadrant	AC-133
7. Southeast corner	AA-135
— INSERT 9 —	
1. West side on wall	AA-130
2. Near 480 volt substation K	Y-125
3. Southwest quadrant near door	AA-124
4. Southeast quadrant	AA-133
5. West side of wall	V-135
6. Southeast corner	AA-135
t. Control Building, Elevation 847'	
1. South side of wall	AA-124
2. South side of wall near door	AA-202

LOCATION AND ELEVATION	HOSE RACK IDENTIFICATION
— INSERT 10 —	
v. Diesel Generator Building, Elevation 712'	
1. Diesel Gen. 1C Fuel Oil Storage Tank Room South Wall	AJ-126
2. Diesel Gen. 1A Fuel Oil Storage Tank Room South Wall	AJ-128
3. Diesel Gen. 1B Fuel Oil Storage Tank Room East Wall	AG-130
4. East side of wall	AF-130
5. South wall	AJ-133
6. Southeast corner	AJ-134
w. Diesel Generator Building, Elevation 719'	
1. Outside of Diesel Gen. 1A Fuel Oil Storage Tank Room	AE-128
2. Outside of Diesel Gen 1B Fuel Oil Storage Tank Room	AE-130
3. South side of wall	AE-130
4. South side of wall	AE-132
5. South side of wall	AE-134
x. Diesel Generator Building, Elevation 737'	
1. Diesel Gen. 1C Rm. near entrance	AD-126
2. Diesel Gen. 1C Rm. east wall	AF-126
3. Diesel Gen. 1A Rm. near entrance	AC-129
4. Diesel Gen. 1A Rm. east wall	AF-129
5. Diesel Gen. 1B Rm. near entrance	AC-129

LOCATION AND ELEVATION	HOSE RACK IDENTIFICATION
— INSERT 10 (Cont'd.) —	
6. Diesel Gen. 1B Rm. west wall	AF-129
7. West side of wall	AE-132
8. West side of wall	AC-132
9. East side of wall	AE-132
10. East side of wall	AC-132
11. North side on column	AE-134
12. East side on column	AD-134
y. Diesel Generator Building, Elevation 762'	
1. Diesel Gen. 1C Rm. east wall	AF-126
2. North side of wall	AF-129
3. West side on column	AE-132
4. South side on column	AE-134

PLANT SYSTEMS

YARD FIRE HYDRANTS AND HYDRANT HOSE HOUSES

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LIMITING CONDITION FOR OPERATION

3.7.6.6 The yard fire hydrants and associated hydrant hose houses shown in Table 3.7.6.6-1 shall be OPERABLE.

APPLICABILITY: Whenever equipment in the areas protected by the yard fire hydrants is required to be OPERABLE.

ACTION:

a. With one or more of the yard fire hydrants or associated hydrant hose houses shown in Table 3.7.6.6-1 inoperable, route sufficient additional lengths of fire hose of equal or greater diameter located in an adjacent OPERABLE hydrant hose house to provide service to the unprotected area(s) within 24 hours.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.6.6 Each of the yard fire hydrants and associated hydrant hose houses shown in Table 3.7.6.6-1 shall be demonstrated OPERABLE:

a. At least once per 31 days by visual inspection of the hydrant hose house to assure all required equipment is at the hose house.

b. At least once per 6 months, during March, April or May and during September, October or November, by visually inspecting each yard fire hydrant and verifying that the hydrant barrel is dry and that the hydrant is not damaged.

c. At least once per 12 months by:

   1. Conducting a hose hydrostatic test at a pressure of 150 psig or at least 50 psig above the maximum fire main operating pressure whichever is greater.

   2. Replacement of all degraded gaskets in couplings.

   3. Performing a flow check of each hydrant.

TABLE 3.7.6.6-1

YARD FIRE HYDRANTS AND ASSOCIATED HYDRANT HOSE HOUSES

HYDRANT NUMBER	HOSE HOUSE NUMBER	LOCATION
0FP112	29	4+23N / 5+38E
0FP113	30	8+40N / 8+85E
0FP128	4	4+20S / 8+95E
0FP131	5	1+24S / 8+95E
0FP132	23	0+79N / 4+73E
0FP133	24	0+48N / 2+77E
0FP134	25	1+56N / 0+05E
0FP135	10	5+05N / 8+94E
0FP136	8	2+28N / 8+81E
0FP168	27	7+46N / 0+05E
0FP169	26	4+66N / 0+05E
0FP171	28	9+25N / 1+74E

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3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES

A.C. SOURCES - OPERATING

LIMITING CONDITION FOR OPERATION

3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. Two physically independent circuits between the offsite transmission network and the onsite Class 1E distribution system, and

b. Three separate and independent diesel generators, each with:

1. A separate day fuel tank containing a minimum of ~~560~~ (~~LATER~~) 330 gallons of fuel for diesel generators 1A and 1B and ~~340~~ (~~LATER~~) 194 gallons of fuel for diesel generator 1C.

2. A separate fuel storage system containing a minimum of ~~47,000~~ (~~LATER~~) 46,520 gallons of fuel for diesel generators 1A and 1B and ~~20,000~~ (~~LATER~~) 19,582 gallons of fuel for diesel generator 1C.

3. A separate fuel transfer pump.

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APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

a. With either one offsite circuit or diesel generator 1A or 1B of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirements 4.8.1.1.1.a within one hour and 4.8.1.1.2.a.4, for one diesel generator at a time, within 8 hours ~~within one hour~~ and at least once per 8 hours thereafter; restore at least two offsite circuits and diesel generators 1A and 1B to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours. TE-85-01 CPS

b. With one offsite circuit and diesel generator 1A or 1B of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirements 4.8.1.1.1.a within one hour and 4.8.1.1.2.a.4, for one diesel generator at a time, within ~~one~~ 8 hours and at least once per 8 hours thereafter; restore at least one of the inoperable A.C. sources to OPERABLE status within 12 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours. Restore at least two offsite circuits and diesel generators 1A and 1B to OPERABLE status within 72 hours from time of initial loss or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours. TE-85-01 CPS

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A.C. SOURCES - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.1.2 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. One circuit between the offsite transmission network and the onsite Class 1E distribution system, and

b. Diesel generator 1A or 1B, and diesel generator 1C when the HPCS system is required to be OPERABLE, with each diesel generator having:

1. A day fuel tank containing a minimum of ~~560~~ ~~(LATER)~~ (330) gallons of fuel for diesel generators 1A and 1B and ~~240~~ ~~(LATER)~~ 194 gallons of fuel for diesel generator 1C.
2. A fuel storage system containing a minimum of ~~??,000~~ ~~(LATER)~~ 50,500 gallons of fuel for diesel generators 1A and 1B and ~~28,000~~ (LATER) 29,800 gallons of fuel for diesel generator 1C.
3. ~~A separate fuel transfer pump.~~

7E-85-10 CPS

APPLICABILITY: OPERATIONAL CONDITIONS 4, 5 and *.

ACTION:

a. With less than the offsite circuits and/or diesel generators 1A or 1B of the above required A.C. electrical power sources OPERABLE, suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment, operations with a potential for draining the reactor vessel and crane operations over the spent fuel storage pool when fuel assemblies are therein. In addition, when in OPERATIONAL CONDITION 5 with the water level less than 23 feet above the reactor pressure vessel flange, immediately initiate corrective action to restore the required power sources to OPERABLE status as soon as practical.

b. With diesel generator 1C of the above required A.C. electrical power sources inoperable, restore the inoperable diesel generator 1C to OPERABLE status within 72 hours or declare the HPCS system inoperable and take the ACTION required by Specification 3.5.2 and 3.5.3.

c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.8.1.2 At least the above required A.C. electrical power sources shall be demonstrated OPERABLE per Surveillance Requirements 4.8.1.1.1, 4.8.1.1.2 and 4.8.1.1.3, except for the requirement of 4.8.1.1.2.a.5.

*When handling irradiated fuel in the secondary containment.

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A.C. SOURCES - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.1.2 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. One circuit between the offsite transmission network and the onsite Class 1E distribution system, and

b. Diesel generator 1A or 1B, and diesel generator 1C when the HPCS system is required to be OPERABLE, with each diesel generator having:

1. A day fuel tank containing a minimum of ~~560~~ (330) gallons of fuel for diesel generators 1A and 1B and ~~240~~ 194 gallons of fuel for diesel generator 1C.
2. A fuel storage system containing a minimum of ~~47,000~~ 50,500 gallons of fuel for diesel generators 1A and 1B and ~~28,000~~ (LATER) 29,800 gallons of fuel for diesel generator 1C.
3. A separate fuel transfer pump.

CPS

APPLICABILITY: OPERATIONAL CONDITIONS 4, 5 and *.

ACTION:

a. With less than the offsite circuits and/or diesel generators 1A or 1B of the above required A.C. electrical power sources OPERABLE, suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment, operations with a potential for draining the reactor vessel and crane operations over the spent fuel storage pool when fuel assemblies are therein. In addition, when in OPERATIONAL CONDITION 5 with the water level less than 23 feet above the reactor pressure vessel flange, immediately initiate corrective action to restore the required power sources to OPERABLE status as soon as practical.

b. With diesel generator 1C of the above required A.C. electrical power sources inoperable, restore the inoperable diesel generator 1C to OPERABLE status within 72 hours or declare the HPCS system inoperable and take the ACTION required by Specification 3.5.2 and 3.5.3.

c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.8.1.2 At least the above required A.C. electrical power sources shall be demonstrated OPERABLE per Surveillance Requirements 4.8.1.1.1, 4.8.1.1.2 and 4.8.1.1.3, except for the requirement of 4.8.1.1.2.a.5.

*When handling irradiated fuel in the secondary containment.

ELECTRICAL POWER SYSTEMS

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3/4.8.2 D.C. SOURCES

D.C. SOURCES - OPERATING

LIMITING CONDITION FOR OPERATION

3.8.2.1 As a minimum, the following D.C. electrical power sources shall be OPERABLE:

a. Division I, consisting of:
   1. 125 volt battery 1A.
   2. 125 volt full capacity charger.

b. Division II, consisting of:
   1. 125 volt battery 1B.
   2. 125 volt full capacity charger.

c. Division III, consisting of:
   1. 125 volt battery 1C.
   2. 125 volt full capacity charger.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

ACTION:

a. With either Division I or Division II battery ~~and/~~or corresponding charger of the above required D.C. electrical power sources inoperable, restore the inoperable division to OPERABLE status within 2 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours. TE-85-01 CB5

b. With Division III battery ~~and/~~or charger of the above required D.C. electrical power sources inoperable, declare the HPCS system inoperable and take the ACTION required by Specification 3.5.1. TE-85-01 CB5

SURVEILLANCE REQUIREMENTS

4.8.2.1 Each of the above required 125-volt batteries and chargers shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that:
   1. The parameters in Table 4.8.2.1-1 meet the Category A limits, and
   2. Total battery terminal voltage is greater than or equal to ~~(129)~~ volts on float charge. TE-85-01 CB5

SURVEILLANCE REQUIREMENTS (Continued)

TE-85-01 CPS

b. At least once per 92 days and within 7 days after a battery discharge with battery terminal voltage below (110) volts, or battery overcharge with battery terminal voltage above (150) volts, by verifying that:

1. The parameters in Table 4.8.2.1-1 meet the Category B limits,

2. There is no visible corrosion at either terminals or connectors, or the connection resistance of these items ~~is less than (150 x 10-6) ohms, and~~ meet the requirements of IEEE 484-1975. | CPS

3. The average electrolyte temperature of (~~a representative number~~) the pilot cells of connected cells is above 6~~0~~5°F. | CPS

c. At least once per 18 months by verifying that:

1. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration,

2. The cell-to-cell and terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material,

3. The resistance of each cell(-to-cell) and terminal connection meets ~~is less than or equal to (150 x 10-6) ohms, and~~ the requirements of IEEE 484-1975 | CPS

4. 450 The battery charger will supply at least ~~(400) amperes~~ 300 amperes for Div. I, II and 100 amperes for Div. III at a minimum of ~~(125)~~ 105 volts for at least (4) hours.

d. At least once per 18 months, during shutdown, by verifying that either:

1. The battery capacity is adequate to supply and maintain in OPERABLE status all of the actual emergency loads for the design duty cycle when the battery is subjected to a battery service test, or

2. The battery capacity is adequate to supply a dummy load of the following profile while maintaining the battery terminal voltage greater than or equal to ~~125~~ 105 volts. | CPS

   a) Battery 1A, greater than or equal to ~~543~~ (Later) amperes; battery 1B, greater than or equal to ~~100~~ (Later) amperes; and battery 1C, greater than or equal to ~~125~~ (Later) amperes during the initial 60 seconds of the test. | CPS

   b) Battery 1A, greater than or equal to ~~243~~ (Later) amperes and battery 1B, greater than or equal to ~~300~~ (Later) amperes during the remainder of the first half hour of the test. | CPS

   c) Battery 1C, greater than or equal to ~~75~~ (Later) amperes during the remainder of the first hour of the test. | CPS

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D.C. SOURCES - SHUTDOWN

LIMITING CONDITION FOR OPERATION

~~NO CHANGE~~

3.8.2.2 As a minimum, Division I or Division II, and, when the HPCS system is required to be OPERABLE, Division III, of the D.C. electrical power sources shall be OPERABLE with:

a. Division I consisting of:
   1. 125 volt battery 1A.
   2. 125 volt full capacity charger.

b. Division II consisting of:
   1. 125 volt battery 1B.
   2. 125 volt full capacity charger.

c. Division III consisting of:
   1. 125 volt battery 1C.
   2. 125 volt full capacity charger.

APPLICABILITY: OPERATIONAL CONDITIONS 4, 5 and *

ACTION:

a. With both ~~less than~~ the Division I and ~~and/or~~ Division II battery ~~and/~~or corresponding charger of the above required D.C. electrical power sources OPERABLE, suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel. TE-85-01 CB

b. With Division III battery ~~and/~~or charger of the above required D.C. electrical power sources inoperable, declare the HPCS system inoperable and take the ACTION required by Specification 3.5.2 and 3.5.3. TE-85-01 CB

c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.8.2.2 At least the above required battery and charger shall be demonstrated OPERABLE per Surveillance Requirement 4.8.2.1.

*When handling irradiated fuel in the secondary containment.

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3/4.8.3 ONSITE POWER DISTRIBUTION SYSTEMS

DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION

3.8.3.1 The following power distribution system divisions shall be energized: ~~with tie breakers open (both) between redundant busses within the unit (and between units at the same station).~~ CPS

a. A.C. power distribution:

1. Division I, consisting of:
   - a) 4160 volt A.C. bus 1A1.
   - b) 480 volt ~~A.C. MCCs A and 1A.~~ Unit ~~Subs~~ Substations A and 1A
   - c
   - d ~~c~~) 120 volt A.C. distribution panels in 480 volt ~~MCCs A and 1A.~~ Auxiliary Building MCC 1A1 and Control Building MCC E2.

   TE 85-01 CPS

2. Division II, consisting of:
   - a) 4160 volt A.C. bus 1B1.
   - b) 480 volt ~~A.C. MCCs B and 1B.~~ Unit ~~Subs~~ Substations B and 1B
   - c)
   - d ~~c~~) 120 volt A.C. distribution panels in 480 volt ~~MCCs B and 1B.~~ Auxiliary Building MCC 1B1 and Control Building MCC F2.

   TE 85-01 CPS

3. Division III, consisting of:
   - a) 4160 volt A.C. bus 1C1.
   - b) 480 volt A.C. AB MCC 1C and AB MCC 1C1 and SSW MCC 1C
   - c) 120 volt A.C. distribution panels in 480 volt ABMCC 1C and ABMCC 1C1.

4. INSERT Attached CPS

b. D.C. power distribution:

1. Division I, consisting of 125 volt DC Battery 1A, 125 volt Battery Charger 1A, 125 volt D.C. MCC 1A, and Distribution Panel.
2. Division II, consisting of 125 volt DC Battery 1B, 125 volt Battery Charger 1B, 125 volt D.C. MCC 1B, and Distribution Panel.
3. Division III, consisting of 125 volt DC Battery 1C, 125 volt Battery Charger 1C, 125 volt D.C. MCC 1C, and Distribution Panel.

CPS

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

c) 480 volt AC MCC's
1) Aux. Bldg. MCC's 1B1 – 1B4
2) SSW MCC 1B
3) DG MCC 1B
4) Containment Bldg. MCC's F1, F2, and H

c) 480 volt AC MCC's
1) Aux. Bldg. MCC's 1A1 – 1A4
2) SSW MCC 1A
3) DG MCC 1A
4) Containment Bldg. MCC's E1, E2, and G

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LIMITING CONDITION FOR OPERATION (Continued)

NO CHANGE

ACTION:

a. For A.C. power distribution:

1. With ~~less than~~ both Division I and~~/or~~ Division II of the above required A.C. distribution system not energized, suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel. TE-85-01 CS

2. With Division III of the above required A.C. distribution system not energized, declare the HPCS system inoperable and take the ACTION required by Specification 3.5.2 and 3.5.3.

b. For D.C. power distribution:

1. With less than Division I and/or Division II of the above required D.C. distribution system energized, suspend CORE ALTERATIONS, handling of irradiated fuel in the Auxiliary Building and Enclosure Building and operations with a potential for draining the reactor vessel.

2. With Division III of the above required D.C. distribution system not energized, declare the HPCS system inoperable and take the ACTION required by Specification 3.5.2 and 3.5.3.

c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.8.3.2 At least the above required power distribution system divisions shall be determined energized at least once per 7 days by verifying correct breaker alignment and voltage on the busses/MCCs/panels.

SURVEILLANCE REQUIREMENTS (Continued)

c) For each circuit breaker found inoperable during these functional tests, an additional representative sample of at least 10% of all the circuit breakers of the inoperable type shall also be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested.

2. By selecting and functionally testing a representative sample of at least 10% of each type of lower voltage circuit breakers. Circuit breakers selected for functional testing shall be selected on a rotating basis. Testing of these circuit breakers shall consist of injecting a current ~~with a value equal to 300% of~~ the pickup of the long time delay trip element and ~~150% of~~ the pickup of the short time delay trip element, and verify~~ing~~ that the circuit breaker operates within the time delay bandwidth for that current specified by the manufacturer. The instantaneous element shall be tested by injecting a current ~~equal to ±20% of the pickup value of the element~~ in accordance with the manufacturers instructions and verifying that the circuit breaker trips instantaneously with no intentional time delay. Molded case circuit breaker testing shall also follow this procedure except that generally no more than two trip elements, time delay and instantaneous, will be involved. Circuit breakers found inoperable during functional testing shall be restored to OPERABLE status prior to resuming operation. For each circuit breaker found inoperable during these functional tests, an additional representative sample of at least 10% of all the circuit breakers of the inoperable type shall also be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested.

in accordance with the manufacturers recommendations that shall test

CPS

CPS

3. By selecting and functionally testing a representative sample of each type of fuse on a rotating basis. Each representative sample of fuses shall include at least 10% of all fuses of that type. The functional test shall consist of a non-destructive resistance measurement test which demonstrates that the fuse meets its manufacturer's design criteria. Fuses found inoperable during these functional testing shall be replaced with OPERABLE fuses prior to resuming operation. For each fuse found inoperable during these functional tests, an additional representative sample of at least 10% of all fuses of that type shall be functionally tested until no more failures are found or all fuses of that type have been functionally tested.

TC-85-01 CPS

b. At least once per 60 months by subjecting each circuit breaker to an inspection and preventive maintenance in accordance with procedures prepared in conjunction with its manufacturer's recommendations.

3/4.8.4.3

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REACTOR PROTECTION SYSTEM ELECTRIC POWER MONITORING

LIMITING CONDITION FOR OPERATION

3.8.4.3 ~~4~~ One ~~Two~~ RPS electric power monitoring channel ~~s~~ for ~~the~~ each inservice RPS ~~MG set~~ special solenoid power supply or alternate power supply shall be OPERABLE. TE-8S-01 | CPS

APPLICABILITY: At all times.

ACTION:

~~a. With one RPS electric power monitoring channel for an inservice RPS MG set or alternate power supply inoperable, restore the inoperable power monitoring channel to OPERABLE status within 72 hours or remove the associated RPS MG set or alternate power supply from service.~~

b. With ~~both~~ the RPS special solenoid electric power monitoring channel ~~s~~ for an inservice RPS ~~MG set~~ special solenoid power supply or alternate power supply inoperable, restore ~~at least one electric~~ the power monitoring channel to OPERABLE status within 30 minutes or remove the associated RPS ~~MG set~~ special solenoid power supply or alternate power supply from service. | CPS

SURVEILLANCE REQUIREMENTS

4.8.4.4 The above specified RPS special solenoid electric power monitoring channels shall be determined OPERABLE: | CPS

a. At least once per six months by performance of a CHANNEL FUNCTIONAL TEST; and

b. At least once per 18 months by demonstrating the OPERABILITY of over-voltage, under-voltage and under-frequency protective instrumentation by performance of a CHANNEL CALIBRATION including simulated automatic actuation of the protective relays, tripping logic and output circuit breakers and verifying the following setpoints.

1. Over-voltage ≤ (~~132~~ *) VAC ~~,~~ (Bus A), ≤ * (Bus B),
2. Under-voltage ≥ (~~108~~ *) VAC ~~, and~~ (Bus A), ≥ * VAC (Bus B), and
3. Under-frequency > (~~57~~) 57 Hz., -0 + 2% | CPS

* To be determined later by on-site measurements | CPS

a. With one or more of the above required ~~containment penetration~~ conductor overcurrent devices shown in Table 3.8.4.1-1 and/or fuses tested pursuant Specification 4.8.4.~~2~~ 5.a.2 inoperable:

1. Restore the protective device(s) to OPERABLE status or deenergize the circuit(s) by tripping, racking out, or removing the alternate device or racking out or removing the inoperable device within 72 hours, and

2. Verify at least once per 7 days thereafter the alternate device is tripped, racked out, or removed, or the device is racked out or removed.

b. The provisions of Specification 3.0.4 are not applicable to overcurrent devices which have the inoperable device racked out or removed or, which have the alternate device tripped, racked out, or removed.

TB-85-01 C15

TE-85-9 / CPS

TABLE 3.8.4.5-1

Redundant Fault Protection for PGCC Fire Protection, Communications, RPS, and MSIV Circuits

1. 120VAC PGCC Fire Protection Cables in Class 1E Ducts

Location	Type	Size	Equipment Supplied (Cable)	Panel
F.P. 120V DIST PNL in MCC 1AP72E El 781' Aux. - Circuit #1	2 Breakers	20A	(1FP84A)	1H13-P704B
- Circuit #2	2 Breakers	20A	(1FP84B)	1H13-P731B
- Circuit #3	2 Breakers	20A	(1FP84C)	1H13-P740B
- Circuit #4	2 Breakers	20A	(1FP84D)	1H13-P709B
- Circuit #5	2 Breakers	20A	(1FP84E)	1H13-P714B
- Circuit #6	2 Breakers	20A	(1FP84F)	1H13-P732B

2. 120VAC PGCC Communications Cables in Class 1E Ducts

Isolating Breakers

Primary	Secondary	Type	Size	Equipment Supplied
1LL61ED	1LL61EB	Breaker	20A	Gaitronics P.A. System

3. 120VAC RPS Scram Solenoid Supply Circuits

Location	Type	Size	Equipment Supplied
1RP09J	2 Fuses	30A	HCU's Group 1 "A" Scram Reactor Side 2
1RP10J	2 Fuses	30A	HCU's Group 2 "A" Scram Side 2 Sol
1RP11J	2 Fuses	30A	HCU's Group 3 Reactor Side 2 Sol A & B
1RP12J	2 Fuses	30A	HCU's Group 4 Reactor Side 2 Sol A & B
1RP13J	2 Fuses	30A	HCU's Group 1 Scram Side 1 Sol A & B
1RP14J	2 Fuses	30A	HCU's Group 2 Scram Side 1 Sol A & B
1RP15J	2 Fuses	30A	HCU's Group 3 Reactor Side 1 Scram Sol A & B
1RP16J	2 Fuses	30A	HCU's Group 4 Side 1 Sol A & B

TE-85-01 | CPS

TABLE 3.8.4.5-1

Redundant Fault Protection for PGCC Fire Protection, Communications, RPS, and MSIV Circuits

4. 120VAC MSIV Solenoid Supply Circuits

Location	Type	Size	Equipment Supplied
1RP09J	2 Fuses	15A	Outboard MSIV's F028A,B,C,D Sol A & Test
1RP10J	2 Fuses	15A	Inboard MSIV's F022A,B,C,D Sol A & Test
1RP13J	2 Fuses	15A	Outboard MSIV's F028A,B,C,D Sol A & Test
1RP14J	2 Fuses	15A	Inboard MSIV's F022A,B,C,D Sol A & Test

5. 120VAC PGCC Utility Power Supply Circuits

Isolating Breaker Secondary	Size	Isolating Fuse Primary	Size	Equipment Supplied
1LL53EB Circuit #AA	20A	1H13-P706B Utility Box	10A	1H13-P669 Lights
		1H13-P706B Utility Box	15A	1H13-P661 Receptacle
		1H13-P709B Utility Box	3A	1H13-P672 Lights
		1H13-P709B Utility Box	15A	1H13-P664 Receptacle
1LL53EB Circuit #BB	20A	1H13-P741B Utility Box	10A	1H13-P861/862 Lights
		1H13-P741B Utility Box	15A	1H13-P861/862 Receptacle
1LL54EB Circuit #DD	20A	1H13-P701B Utility Box	10A	1H13-P877, P601 Lights
		1H13-P701B Utility Box	15A	1H13-P877 Receptacle
1LL55EB Circuit #FF	20A	1H13-P714B Utility Box	10A	1H13-P613, P642, P654, P639, P845 Lights
		1H13-P714B Utility Box	15A	1H13-P613 Receptacle
1LL56EB Circuit #BB	20A	1H13-P742B Utility Box	10A	1H13-P851/852, 855 Lights
		1H13-P742B Utility Box	15A	1H13-P851/852 Receptacles
1LL56EB Circuit #DD	20A	1H13-P707B Utility Box	10A	1H13-P670 Lights
		1H13-P707B Utility Box	15A	1H13-P662A Receptacle
		1H13-P708B Utility Box	3A	1H13-P671 Lights
		1H13-P708B Utility Box	15A	1H13-P663A Receptacle

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3/4.9.2 INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.9.2 At least 2 source range monitor* (SRM) channels shall be OPERABLE and inserted to the normal operating level with:

a. Continuous visual indication in the control room,

b. One of the required SRM detectors located in the quadrant where CORE ALTERATIONS are being performed and the other required SRM detector located in an adjacent quadrant, and

c. Prior to and during the time any control rod is withdrawn~~#~~ and shutdown margin demonstrations are in progress~~, either~~ TC35-01 CPS

~~1.~~ The "shorting links" removed from the RPS circuitry. ~~, or~~ CPS

~~2. The rod pattern control system OPERABLE per Specification 3.1.4.2.~~

APPLICABILITY: OPERATIONAL CONDITION 5.

ACTION:

With the requirements of the above specification not satisfied, immediately suspend all operations involving CORE ALTERATIONS** and insert all insertable control rods.

SURVEILLANCE REQUIREMENTS

4.9.2 Each of the above required SRM channels shall be demonstrated OPERABLE by:

a. At least once per 12 hours:

   1. Performance of a CHANNEL CHECK,

   2. Verifying the detectors are inserted to the normal operating level, and

   3. During CORE ALTERATIONS, verifying that the detector of an OPERABLE SRM channel is located in the core quadrant where CORE ALTERATIONS are being performed and another is located in an adjacent quadrant.

---

*The use of special movable detectors during CORE ALTERATIONS in place of the normal SRM nuclear detectors is permissible as long as these special detectors are connected to the normal SRM circuits.

**Except movement of IRM, SRM or special movable detectors.

~~#Not required for control rods removed per Specification 3.9.10.1 and 3.9.10.2.~~ CPS

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3/4.9.6 FUEL HANDLING EQUIPMENT

FUEL HANDLING PLATFORM

LIMITING CONDITION FOR OPERATION

3.9.6.1 The fuel handling platform shall be OPERABLE and used for handling of fuel assemblies or control rods during operation associated with the IFTS or the spent fuel storage pool with only the main hoist used for moving irradiated fuel. CPS

APPLICABILITY: During handling of fuel assemblies of control rods during operations associated with the IFTS or the spent fuel storage pool.

ACTION:

With the requirements for fuel handling platform OPERABILITY not satisfied, suspend use of any inoperable platform equipment from operations involving the handling of control rods and fuel assemblies during operations associated with the IFTS or the spent fuel storage pool after placing the load in a safe location. The provisions of Specification 3.0.3 or 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.6.1 Each fuel handling platform ~~crane or~~ hoist used for handling of control rods or fuel assemblies during operations associated with the IFTS or the spent fuel storage pool shall be demonstrated OPERABLE within 7 days prior to the start of such operations with that crane or hoist by: TE-8501 CPS

a. Demonstrating operation of the overload cutoff when the load exceeds:

1. 1000 ± 50 pounds for the fuel hoist.

2. 1000 ± 50 pounds for the auxiliary hoist with the Load Selector on 1000 pounds.

3. 500 ± 50 pounds for the auxiliary hoist with the Load Selector on 500 pounds.

b. Demonstrating operation of the fuel hoist loaded interlock when the load exceeds 350 ± 50 pounds.

c. Demonstrating operation of the downtravel stop when downtravel below the platform rails exceeds:

1. _______ feet for the fuel hoist.

2. _______ feet for the auxiliary hoist.

CPS

Insert Attached

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SURVEILLANCE REQUIREMENTS (Continued)

g ~~d.~~ Demonstrating operation of the main ~~fuel~~ hoist and auxiliary hoist uptravel stops when the grapple is less than or equal to 8 feet below the platform rails.

~~e. Demonstrating operation of the fuel hoist slack cable cutoff when the load is less than 50 ± 10 pounds.~~ CPS

h ~~f.~~ Demonstrating operation of the main ~~fuel~~ hoist disengaged interlock that prevents hook disengagement when the fuel hoist is loaded.

i ~~g.~~ Demonstrating operation of the main ~~fuel~~ hoist raise power cutoff when the hoist is loaded and the hook disengaged.

j ~~h.~~ Demonstrating operation of the main ~~fuel~~ hoist raise power cutoff when the fuel handling platform area radiation monitor dose rate exceeds 10 MR/HR.

TE-85-01

4.9.6.1.2

The auxiliary hoist load override switch shall be verified to be in the 500 pound position within 2 hours and at least once per 12 hours during hoist operation, except when engaged in new fuel movement in which case the switch may be in the 1000 pound position.

CPS

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3/4.9.7 CRANE TRAVEL-SPENT FUEL STORAGE AND UPPER CONTAINMENT FUEL POOLS

LIMITING CONDITION FOR OPERATION

LATER 1000

3.9.7 Loads in excess of (~~1100~~) pounds shall be prohibited from travel over fuel assemblies in the spent fuel storage or upper containment fuel pool racks. TE-85-01 CP

APPLICABILITY: With fuel assemblies in the spent fuel storage or upper containment fuel pool racks.

ACTION:

With the requirements of the above specification not satisfied, place the crane load in a safe condition. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.7.1 Crane physical stops which prevent the fuel building overhead crane travel with loads in excess of (~~1100~~ 1000) pounds over fuel assemblies in the spent fuel storage pool racks shall be demonstrated OPERABLE within 7 days prior to and at least once per 7 days during the fuel building overhead crane operation.

4.9.7.2 Crane interlocks (and physical stops) which prevent containment polar crane travel with loads in excess of (1100) pounds over fuel assemblies in the upper containment fuel pool racks shall be demonstrated OPERABLE within 7 days prior to and at least once per 7 days during polar crane operation.

Loads, other than fuel assemblies or control rods, shall be verified to weigh less than or equal to 1000 pounds before travel over fuel assemblies in the upper containment fuel storage pool. TE-85-01 CPS

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3/4.9.12 INCLINED FUEL TRANSFER SYSTEM

LIMITING CONDITION FOR OPERATION

3.9.12 The inclined fuel transfer system (IFTS) may be in operation provided that:

a. The access doors* ~~to~~ all rooms through which the transfer system penetrates are closed and locked.

b. All access door interlocks ~~and palm switches~~ are OPERABLE.

TE-85-9 / CPS

c. The blocking valve, located in the fuel building IFTS hydraulic power unit, is OPERABLE.

d. All IFTS primary and secondary carriage position and liquid level indicators are OPERABLE.**

e. Any keylock switch ~~that~~ provides IFTS access control-transfer system lockout is OPERABLE.

f. All warning lights outside the access doors are OPERABLE.

APPLICABILITY: When the IFTS containment blank flange is removed.

CPS

ACTION:

With the requirements of the above specification not satisfied, suspend IFTS operation with the IFTS at either terminal point. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.12.1 Within 4 hours prior to the operation of IFTS and at least once per 12 hours thereafter, verify that:

a. All access door interlocks ~~and palm switches~~ are OPERABLE.

TE-85-01 / CPS

b. The blocking valve in the Fuel Building IFTS hydraulic power unit is OPERABLE.

c. All IFTS primary and secondary carriage position and level indicators are OPERABLE.

d. Any keylock switch ~~that~~ provides IFTS access control-transfer system lockout is OPERABLE.

e. All warning lights outside the access doors are OPERABLE.

INSERT. Attached

Insert

TABLE 3.12.1-1

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

EXPOSURE PATHWAY AND/OR SAMPLE	NUMBER OF REPRESENTIVE SAMPLES AND SAMPLE LOCATIONS[(a)]	SAMPLING AND COLLECTION FREQUENCY	TYPE AND FREQUENCY OF ANALYSIS
1. DIRECT RADIATION[(b)]	40 routine monitoring stations with two or more dosimeters or with one instrument for measuring and recording dose rate continuously placed as follows: (1) An inner ring of stations, one in each meteorological sector, in the general area of the SITE BOUNDARY {with the exception of the W sector}; (2) An outer ring of stations, one in each meteorological sector {of NE, ENE, E, ESE, SE}, in the ~~3~~ 5 to ~~8~~ 8 mile range from the site; (3) The balance of the stations of the stations placed in special interest areas such as population centers, nearby residences, schools, and in 1 or 2 areas to serve as control stations.	Quarterly.	Gamma dose quarterly.
2. AIRBORNE			
Radioiodine and Particulates	Samples from 5 locations: a. 3 samples from close to the ~~3~~ SITE BOUNDARY locations ~~(in different sectors)~~ in one of the highest calculated annual average groundlevel D/Q. b. 1 sample from the vicinity community having one of the highest calculated annual highest groundlevel D/Q.	Continual sampler operation with sample collection weekly, or more frequently if required by dust loading.[e]	Radioiodine Cannister: I-131 Analysis weekly. Particulate Sampler: Gross Beta radioactivity analysis following filter change;[d] Gamma isotopic analysis[e] of composite (by location) quarterly.

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TABLE 3.12.1-1 (Continued)

Table Notation

(OR time)

[g]A composite sample is one in which the quantity (aliquot) of liquid sampled is proportional to the quantity of flowing liquid and in which the method of sampling employed results in a specimen that is representative of the liquid flow. In this program composite sample aliquots shall be collected at time intervals that are very short (e.g., hourly) relative to the compositing period (e.g., monthly) in order to assure obtaining a representative sample.

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[h]Groundwater samples shall be taken when this source is tapped for drinking or irrigation purposes in areas where the hydraulic gradient or recharge properties are suitable for contamination.

[i]The dose shall be calculated for the maximum organ and age group, using the methodology and parameters in the ODCM.

[j]If harvest occurs more than once a year, sampling shall be performed during each discrete harvest. If harvest occurs continuously, sampling shall be monthly. Attention shall be paid to including samples of tuberous and root food products.

TABLE 4.12.1-1

DETECTION CAPABILITIES FOR ENVIRONMENTAL SAMPLE ANALYSIS[a]

LOWER LIMIT OF DETECTION (LLD)[b][c]

ANALYSIS	WATER (pCi/L)	AIRBORNE PARTICULATE OR GAS (pCi/m^3)	FISH (pCi/kg, wet)	MILK (pCi/L)	FOOD PRODUCTS (pCi/kg, wet)	SEDIMENTS (pCi/kg, dry)
Gross Beta	4	0.01				
H-3	2000					
Mn-54	15		130			
Fe-59	30		260			
Co-58, 60	15		130			
Zn-65	30		260			
Zr-95	30					
Nb-95	15					
I-131	1[d]**	0.07		1	60	
Cs-134	15	0.05	130	15	60	150
Cs-137	18	0.06	150	18	80	180
Ba-140	60			60		
La-140	15			15		

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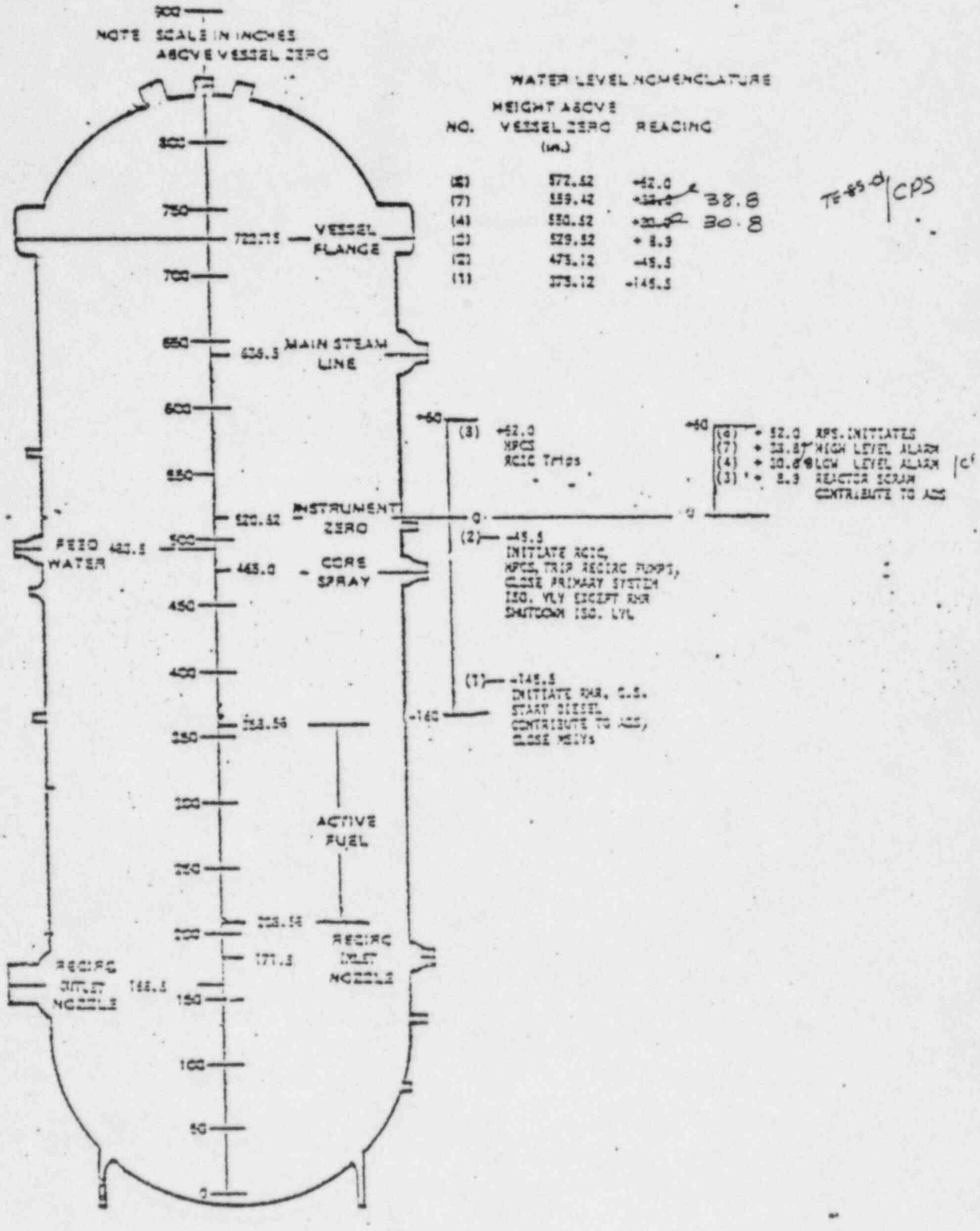
Table 4.12.1-1 (Continued)

TABLE NOTATIONS

It should be recognized that the LLD is defined as an a priori (before the fact) limit representing the capability of a measurement system and not as an a posteriori (after the fact) limit for a particular measurement. Analyses shall be performed in such a manner that the stated LLDs will be achieved under routine conditions. Occasionally background fluctuations, unavoidably small sample sizes, the presence of interfering nuclides, or other uncontrollable circumstances may render these LLDs unachievable. In such cases, the contributing factors shall be identified and described in the Annual Radiological Environmental Operating Report pursuant to Specification 6.9.1.~~7~~ 6. |CPS

[d]LLD for drinking water samples. If no drinking water pathway exists, the LLD of gamma isotopic analysis may be used. |CPS

** If no drinking water pathway exists, a value of 15 pCi/l may be used |CPS



WATER LEVEL NOMENCLATURE

NO.	HEIGHT ABOVE VESSEL ZERO (in.)	READING
(8)	572.52	+52.0
(7)	559.42	~~+33.0~~ 38.8
(4)	550.52	~~+30.0~~ 30.8
(3)	529.52	+ 8.9
(2)	475.12	-45.5
(1)	375.12	-145.5

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Bases Figure B3/4.3-1. Reactor Vessel Water Level

INSERT

3/4.5.1 and 3/4.5.2 ECCS - OPERATING and SHUTDOWN

ECCS division 1 consists of the low pressure core spray system and low pressure coolant injection subsystem "A" of the RHR system and the automatic depressurization system (ADS) as actuated by ADS trip system "A". ECCS division 2 consists of low pressure coolant injection subsystems "B" and "C" of the RHR system and the automatic depressurization system as actuated by ADS trip system "B".

The low pressure core spray (LPCS) system is provided to assure that the core is adequately cooled folowing a loss-of-coolant accident and, together with the LPCI system, provides adequate core cooling capacity for all break sizes up to and including the double-ended reactor recirculation line break, and for smaller breaks following depressurization by the ADS.

The LPCS is a primary source of emergency core cooling after the reactor vessel is depressurized and a source for flooding of the core in case of accidental draining.

The surveillance requirements provide adequate assurance that the LPCS system will be OPERABLE when required. Although all active components are testable and full flow can be demonstrated by recirculation through a test loop during reactor operation, a complete functional test requires reactor shutdown. The pump discharge piping is maintained full to prevent water hammer damage to piping and to start cooling at the earliest moment.

The low pressure coolant injection (LPCI) mode of the RHR system is provided to assure that the core is adequately cooled following a loss-of-coolant accident. The LPCI system, together with the LPCS system, provide adequate core flooding for all break sizes up to and including the double-ended reactor recirculation line break, and for small breaks following depressurization by the ADS.

The surveillance requirements provide adequate assurance that the LPCI system will be OPERABLE when required. Although all active components are testable and full flow can be demonstrated by recirculation through a test loop during reactor operation, a complete functional test requires reactor shutdown. The pump discharge piping is maintained full to prevent water hammer damage to piping and to start cooling at the earliest moment.

ECCS division 3 consists of the high pressure core spray system. The high pressure core spray (HPCS) system is provided to assure that the reactor core is adequately cooled to limit fuel clad temperature in the event of a small break in the reactor coolant system and loss of coolant which does not result in rapid depressurization of the reactor vessel. The HPCS system permits the reactor to be shut down while maintaining sufficient reactor vessel water level inventory until the vessel is depressurized. The HPCS system operates over a range of 1140 psid, differential pressure between reactor vessel and HPCS suction source, to (0) psid. | CPS

The capacity of the system is selected to provide the required core cooling. The HPCS pump is designed to deliver greater than or equal to (467/1400/~~4900~~) gpm at differential pressures of 1177/1147/200 psid. Initially, water from the ~~condensate storage~~ RCIC tank is used instead of injecting water from the suppression pool into the reactor, but no credit is taken in the safety analyses for the ~~condensate storage~~ tank water. | CPS

RCIC

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ECCS-OPERATING and SHUTDOWN (Continued)

With the HPCS system inoperable, adequate core cooling is assured by the OPERABILITY of the redundant and diversified automatic depressurization system and both the LPCS and LPCI systems. In addition, the reactor core isolation cooling (RCIC) system, (a system for which no credit is taken in the safety analysis), will automatically provide makeup at reactor operating pressures on a reactor low water level condition. The HPCS out-of-service period of 14 days is based on the demonstrated OPERABILITY of redundant and diversified low pressure core cooling systems. |CPS

The surveillance requirements provide adequate assurance that the HPCS system will be OPERABLE when required. Although all active components are testable and full flow can be demonstrated by recirculation through a test loop during reactor operation, a complete functional test with reactor vessel injection requires reactor shutdown. The pump discharge piping is maintained full to prevent water hammer damage. ~~and to provide cooling at the earliest moment.~~ |CPS

Upon failure of the HPCS system to function properly after a small break loss-of-coolant accident, the automatic depressurization system (ADS) automatically causes selected safety-relief valves to open, depressurizing the reactor so that flow from the low pressure core cooling systems can enter the core in time to limit fuel cladding temperature to less than 2200°F. ADS is conservatively required to be OPERABLE whenever reactor vessel pressure exceeds ~~113~~ 100 psig. This pressure is substantially below that for which the low pressure core cooling systems can provide adequate core cooling for events requiring ADS. |CPS

ADS automatically controls seven selected safety-relief valves although the safety analysis only takes credit for six valves. It is therefore appropriate to permit one valve to be out-of-service for up to 14 days without materially reducing system reliability.

3/4.5.3 SUPPRESSION POOL

The supression pool is required to be OPERABLE as part of the ECCS to ensure that a sufficient supply of water is available to the HPCS, LPCS and LPCI systems in the event of a LOCA. This limit on suppression pool minimum water volume ensures that sufficient water is available to permit recirculation cooling flow to the core. The OPERABILITY of the suppression pool in OPERATIONAL CONDITIONS 1, 2 or 3 is required by Specification 3.6.3.1.

Repair work might require making the suppression pool inoperable. This specification will permit those repairs to be made and at the same time give assurance that the irradiated fuel has an adequate cooling water supply when the suppression pool must be made inoperable, including draining, in OPERATIONAL CONDITION 4 or 5.

In OPERATIONAL CONDITIONS 4 and 5 the suppression ~~chamber~~ pool minimum required water volume is reduced because the reactor coolant is maintained at or below 200°F. Since pressure suppression is not required below 212°F, the minimum required water volume is based on NPSH, recirculation volume and vortex prevention plus a (2' 4") safety margin for conservatism. |CPS

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BASES

3/4.6.1.4 MSIV LEAKAGE CONTROL SYSTEM

Calculated doses resulting from the maximum leakage allowance for the main streamline isolation valves in the postulated LOCA situations would be a small fraction of the 10 CFR 100 guidelines, provided the main steam line system from the isolation valves up to and including the MSIV-LCS motor operated boundary valve remains intact. Operating experience has indicated that degradation has occasionally occurred in the leak tightness of the MSIV's such that the specified leakage requirements have not always been maintained continuously. The requirement for the leakage control system will reduce the untreated leakage from the MSIV's when isolation of the primary system and containment is required.

3/5.6.1.5 CONTAINMENT STRUCTURAL INTEGRITY

This limitation ensures that the structural integrity of the containment will be maintained comparable to the original design standards for the life of the unit. Structural integrity is required to ensure that the containment will withstand the maximum pressure of 15 psig in the event of a steam line break accident. A visual inspection in conjunction with Type A leakage tests is sufficient to demonstrate this capability.

3/4.6.1.6 CONTAINMENT INTERNAL PRESSURE

The limitations on containment to secondary containment differential pressure ensure that the containment peak design basis pressure ~~of 9.0 psig~~ does not exceed the design pressure of 15.0 psig during ~~steam line break~~ conditions or that the external pressure differential does not exceed the design maximum external pressure of 3 psid ~~differential of -(0.3) psid (or the differential at which water would overflow the wier wall into the drywell of ____ psid). The limit of -0.1 to +1.5 psig for initial positive containment to secondary containment pressure will limit the containment pressure to (12.0) psid which is less than the design pressure and is consistent with the safety analysis.~~

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3/4.6.1.7 CONTAINMENT ~~AVERAGE~~ Exhaust AIR TEMPERATURE

The limitation on containment ~~average~~ exhaust air temperature ensures that the containment peak air temperature does not exceed the design temperature of 185°F during steam line break conditions and is consistent with the safety analysis.

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BASES

3/4.6.3 DEPRESSURIZATION SYSTEMS

The specifications of this section ensure that the drywell and containment pressure will not exceed the design pressure of (30) psig and (15) psig, respectively, during primary system blowdown from full operating pressure. CP

The suppression pool water volume must absorb the associated decay and structural sensible heat released during a reactor blowdown from (1050) psig. 1040 Using conservative parameter inputs, the maximum calculated containment pressure during and following a design basis accident is below the containment design pressure of (15) psig. Similarly the drywell pressure remains below the design pressure of (30) psig. The maximum and minimum water volumes for the suppression pool are ~~([illegible])~~ 150,230 cubic feet and ~~([illegible])~~ 146,400 cubic feet, respectively. These values include the water volume of the containment pool, horizontal vents, and weir annulus. Testing in the Mark III Pressure Suppression Test Facility and analysis have assured that the suppression pool temperature will not rise above 185°F for the full range of break sizes. CP

Should it be necessary to make the suppression pool inoperable, this shall only be done as specified in Specification 3.6.3.

Experimental data indicates that effective steam condensation without excessive load on the containment pool walls will occur with a quencher device and pool temperature below 200°F during relief valve operation. Specifications have been placed on the envelope of reactor operating conditions to assure the bulk pool temperature does not rise above 185°F in compliance with the containment structural design criteria.

In addition to the limits on temperature of the suppression pool water, operating procedures define the action to be taken in the event a safety-relief valve inadvertently opens or sticks open. As a minimum this action shall include: (1) use of all available means to close the valve, (2) initiate suppression pool water cooling, (3) initiate reactor shutdown, and (4) if other safety-relief valves are used to depressurize the reactor, their discharge shall be separated from that of the stuck-open safety relief valve to assure mixing and uniformity of energy insertion to the pool.

The (containment) ~~(and) (drywell)~~ spray system consists of two 100% capacity trains, each with three spray rings located at different elevations about the inside circumference of the (containment) ~~(and) (drywell)~~. RHR A pump supplies one train and RHR pump B supplies the other. RHR pump C cannot supply the spray system. Dispersion of the flow of water is effected by 350 nozzles in each train, enhancing the condensaton of water vapor in the (containment) ~~(and) (drywell)~~ volume and preventing overpressurization. Heat rejection is through the RHR heat exchangers. The turbulence caused by the spray system aids in mixing the containment air volume to maintain a homogeneous mixture for H_2 control. CP

The suppression pool cooling function is a mode of the RHR system and functions as part of the containment heat removal system. The purpose of the system is to ensure containment integrity following a LOCA by preventing excessive containment pressures and temperatures. The suppression pool cooling mode is designed to limit the long term bulk temperature of the pool to 185°F

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BASES

~~No Change~~

DEPRESSURIZATION SYSTEMS (Continued)

considering all of the post-LOCA energy additions. The suppression pool cooling trains, being an integral part of the RHR system, are redundant, safety-related component systems that are initiated following the recovery of the reactor vessel water level by ECCS flows from the RHR system. Heat rejection to the standby service water is accomplished in the RHR heat exchangers.

The suppression pool make-up system provides water from the upper containment pool to the suppression pool by gravity flow through two 100% capacity dump lines following a LOCA. The quantity of water provided is sufficient to account for all conceivable post-accident entrapment volumes, ensuring the long term energy sink capabilities of the suppression pool and maintaining the water coverage over the uppermost drywell vents. The minimum freeboard distance above the suppression pool high water level to the top of the weir wall is adequate to preclude flooding of the drywell in the event of an inadvertent dump. During refueling, neither automatic nor manual action can open the make-up dump valves.

3/4.6.4 CONTAINMENT AND DRYWELL ISOLATION VALVES

The OPERABILITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment ~~(and is consistant with the requirements of GDC 54 through 57 of Appendix A to 10 CFR 50)~~. Containment and drywell isolation within the time limits specified for those isolation valves designed to close automatically ensures that the release of radioactive material to the environment will be consistant with the assumptions used in the analyses for a LOCA. CPS

The operability of the drywell isolation valves ensures that the drywell atmosphere will be directed to the suppression pool for the full spectrum of pipe breaks inside the drywell ~~(and is consistant with the requirements of GDC 54 through 57 of Appendix A to 10 CFR 50)~~. Since the allowable value of drywell leakage is so large, individual drywell penetration leakage is not measured. By checking valve operability on any penetration which could contribute a large fraction of the design leakage, the total leakage is maintained at less than the design value. CPS

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3/4.7.1.1 SHUTDOWN SERVICE WATER SYSTEM TE-85-01 | CPS

The OPERABILITY of the shutdown service water system ensures that sufficient cooling capacity is available for continued operation of safety-related equipment during ~~normal and~~ accident conditions. The redundant cooling capacity of these systems, assuming a single failure, is consistent with the assumptions used in the accident conditions within acceptable limits. | CPS

Insert 3/4.7.1.2 TE-85-01 | CPS

3/4.7.2 CONTROL ROOM VENTILATION SYSTEM

The OPERABILITY of the control room ventilation system ensures that 1) the ambient air temperature does not exceed the allowable temperature for continuous duty rating for the equipment and instrumentation cooled by this system and 2) the control room will remain habitable for operations personnel during and following all design basis accident conditions. Continuous operation of the system with the heaters OPERABLE for 10 hours during each 31 day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters. The OPERABILITY of this system in conjunction with control room design provisions is based on limiting the radiation exposure to personnel occupying the control room to 5 rem or less whole body, or its equivalent. This limitation is consistent with the requirements of General Design Criterion 19 of Appendix "A", 10 CFR 50.

3/4.7.3 REACTOR CORE ISOLATION COOLING SYSTEM

The reactor core isolation cooling (RCIC) system is provided to assure adequate core cooling in the event of reactor isolation from its primary heat sink and the loss of feedwater flow to the reactor vessel without requiring actuation of any of the Emergency Core Cooling System equipment. The RCIC system is conservatively required to be OPERABLE whenever reactor pressure exceeds ~~100~~ 150 psig. | CPS This pressure is substantially below that for which the low pressure core cooling systems can provide adequate core cooling for events requiring the RCIC system.

The RCIC system specifications are applicable during OPERATIONAL CONDITIONS 1, 2 and 3 when reactor vessel pressure exceeds ~~100~~ 150 psig because RCIC is the primary non-ECCS source of emergency core cooling when the reactor is pressurized.

With the RCIC system inoperable, adequate core cooling is assured by the OPERABILITY of the HPCS system and justifies the specified 14 day out-of-service period.

The surveillance requirements provide adequate assurance that RCIC will be OPERABLE when required. Although all active components are testable and full flow can be demonstrated by recirculation during reactor operation, a complete functional test requires reactor shutdown. The pump discharge piping is maintained full to prevent water hammer damage. ~~and to start cooling at the earliest possible moment.~~

3/4.7.1.2 ULTIMATE HEAT SINK (UHS)

The specifications of this section ensure that sufficient cooling capacity is available for continued operation of safety-related equipment for at least 30 days to permit safe shutdown and cooldown of the reactor. The surveillance requirements ensure that quantities maintained are consistent with the assumptions used in the accident analysis as described in the FSAR and the guidance provided in Regulatory Guide 1.27, January-1976.

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BASES

3/4.7.7 FIRE RATED ASSEMBLIES

The OPERABILITY of the fire barriers and barrier penetrations ensure that fire damage will be limited. These design features minimize the possibility of a single fire involving more than one fire area prior to detection and extinguishment. The fire barriers, fire barrier penetrations for conduits, cable trays and piping, fire windows, fire dampers, and fire doors are periodically inspected to verify their OPERABILITY.

3/4.7.8 AREA TEMPERATURE MONITORING

The area temperature limitations ensure that safety-related equipment will not be subjected to temperatures in excess of their environmental qualification temperatures. Exposure to excessive temperatures may degrade equipment and can cause loss of its OPERABILITY. ~~The temperature limits include allowance for an instrument error of ( )°F.~~ TE-85-01 CPS

3/4.7.9 MAIN TURBINE BYPASS SYSTEM

The main turbine bypass system is required to be OPERABLE consistent with the assumptions of the (feedwater controller failure) analysis in FSAR Chapter 15. CPS

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5.0 DESIGN FEATURES

5.1 SITE

EXCLUSION AREA

5.1.1 The exclusion area shall be as shown in Figure 5.1.1-1.

LOW POPULATION ZONE

5.1.2 The low population zone shall be as shown in Figure 5.1.2-1.

INSERT 5.1.3 |CPS

5.2 CONTAINMENT

CONFIGURATION

5.2.1 The containment is a (steel lined, reinforced concrete structure composed of a vertical right cylinder and a hemispherical dome. Inside and at the bottom of the containment is a reinforced concrete drywell composed of a vertical right cylinder and a steel head which contains an (approximately) 20 feet deep water filled suppression pool connected to the drywell through a series of horizontal vents. The containment has a minimum net free air volume of (~~1,400,000~~) 1,550,820 cubic feet. The drywell has a minimum net free air volume of (~~270,000~~) 246,500 cubic feet.) |CPS

DESIGN TEMPERATURE AND PRESSURE

5.2.2 The containment and drywell are designed and shall be maintained for:

a. Maximum internal pressure:
   1. Drywell (30) psig. |CPS
   2. Containment 15 psig.

b. Maximum internal temperature:
   1. Drywell 330°F.
   2. Suppression pool 185°F.

(c. Maximum external to internal differential pressure:
   1. Drywell (21) psid. |CPS
   2. Containment 3.0 psid.) |CPS

SECONDARY CONTAINMENT

5.2.3 The secondary containment consists of the Fuel Building, the ECCS pump rooms and the containment gas control boundary, including extension, and has a minimum free volume of 2,000,000 cubic feet.

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5.5 METEOROLOGICAL TOWER LOCATION

5.5.1 The meteorological tower shall be located as shown on Figure 5.1.1-1.

5.6 FUEL STORAGE

CRITICALITY

5.6.1.1 The spent fuel storage racks are designed and shall be maintained with:

a. A k_{eff} equivalent to less than or equal to 0.95 when flooded with unborated water, ~~(which includes a conservative allowance of (2.6)% delta k/k for uncertainties)~~ (including all calculational uncertainties and biases) as described in Section 9.1.2 of the FSAR.

b. A nominal ~~6.687~~ 6.4375 inch center-to-center distance between fuel assemblies placed in the storage racks in the fuel building storage pool; a nominal

5.6.1.2 The k_{eff} for new fuel for the first core loading stored dry in the spent fuel storage racks shall not exceed 0.9~~5~~8 when flooding is assumed.

DRAINAGE

5.6.2 The spent fuel storage pool is designed and shall be maintained to prevent inadvertent draining of the pool below elevation 754'0".

CAPACITY

5.6.3 The spent fuel storage pool is designed and shall be maintained with a storage capacity limited to no more than 2512 fuel assemblies.

5.7 COMPONENT CYCLIC OR TRANSIENT LIMIT

5.7.1 The components identified in Table 5.7.1-1 are designed and shall be maintained within the cyclic or transient limits of Table 5.7.1-1.

center-to-center spacing between rows of 12.25 inches and within the rows of 7.00 inches for fuel assemblies placed in the storage racks in the upper containment fuel pool.

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6.0 ADMINISTRATIVE CONTROLS

6.1 RESPONSIBILITY

6.1.1 The Power Plant Manager shall be responsible for overall unit operation and shall delegate in writing the succession to this responsibility during his absence.

6.1.2 The Shift Supervisor (or during his absence from the control room, a designated individual) shall be responsible for the control room command function. A management directive to this effect, signed by the Executive Vice President ( ) shall be reissued to all station personnel on an annual basis.

6.2 ORGANIZATION

OFFSITE

6.2.1 The offsite organization for unit management and technical support shall be as shown on Figure 6.2.1-1.

UNIT STAFF

6.2.2 The unit organization shall be as shown on Figure 6.2.2-1 and:

a. Each on duty shift shall be composed of at least the minimum shift crew composition shown in Table 6.2.2-1;

b. At least one licensed Operator shall be in the control room when fuel is in the reactor. In addition, while the unit is in OPERATIONAL CONDITION 1, 2 or 3, at least one licensed Senior Operator shall be in the control room.

c. A Radiation Protection Technician* shall be on site when fuel is in the reactor;

d. All CORE ALTERATIONS shall be observed and directly supervised by either a licensed Senior Operator or licensed Senior Operator Limited to Fuel Handling who has no other concurrent responsibilities during this operation;

e. A site fire brigade of at least five members shall be maintained on site at all times*. The fire brigade shall not include the Shift Supervisor, the Shift Technical Advisor, nor the two other members of the minimum shift crew necessary for safe shutdown of the unit and any personnel required for other essential functions during a fire emergency; and

*The Radiation Protection Technician and fire brigade composition may be less than the minimum requirements for a period of time not to exceed 2 hours, in order to accommodate unexpected absence, provided immediate action is taken to fill the required positions.

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6.4 TRAINING

Director, Nuclear Training 5.5

6.4.1 A retraining and replacement training program for the unit staff shall be maintained under the direction of the ~~Supervisor of Training~~, shall meet or exceed the requirements and recommendations of Section ~~(X)~~ of ~~an~~ ANSI Standard N18.1-1971 ~~acceptable to the NRC staff~~ and Appendix "A" of 10 CFR Part 55 and the supplemental requirements specified in Sections A and C of Enclosure 1 of the March 28, 1980 NRC letter to all licensees, and shall include familiarization with relevant industry operational experience. CPS

6.5 REVIEW AND AUDIT

6.5.1 FACILITY REVIEW GROUP (FRG)

FUNCTION

6.5.1.1 The FRG shall function to advise the Power Plant Manager on all matters related to nuclear safety.

COMPOSITION

6.5.1.2 The FRG shall be composed of the:

Chairman:	Assistant Power Plant Manager - Operations
Member:	Assistant-Power Plant Manager - Maintenance
Member:	Supervisor-Plant Operations
Member:	Supervisor-Technical
Member:	Supervisor-C&I
Member:	Supervisor-Rad ~~Chem~~ Protection
~~Member:~~	~~Supervisor-Radiation Protection~~
Member:	Supervisor-Nuclear
Member:	Quality Assurance Representative

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ALTERNATES

6.5.1.3 All alternate members shall be appointed in writing by the FRG Chairman to serve on a temporary basis; however, no more than two alternates shall participate as voting members in FRG activities at any one time.

MEETING FREQUENCY

6.5.1.4 The FRG shall meet at least once per calendar month and as convened by the FRG Chairman or his designated alternate.

QUORUM

6.5.1.5 The quorum of the FRG necessary for the performance of the FRG responsibility and authority provisions of these Technical Specifications shall consist of the Chairman or his designated alternate and five members including alternates.

MAR 16 1983

Insert 6.5.1.6

f. Review of the safety evaluations for procedures, tests, and experiments, and changes thereto, completed under the provisions of 10 CFR 50.59.

l. Review of any accidental, unplanned or uncontrolled radioactive release including the preparation of reports covering evaluation, recommendations and disposition of the corrective action to prevent recurrence, and the forwarding of the reports to the Executive Vice President ~~(NUCLEAR)~~ and to the Nuclear Review and Audit Group (NRAG). TE-45-01 CPS

m. Review of changes to the PROCESS CONTROL PROGRAM and the OFFSITE DOSE CALCULATION MANUAL.

Insert
6-8A

RECORDS

6.5.1.8 The FRG shall maintain written minutes of each FRG meeting that, at a minimum, document the results of all FRG activities performed under the responsibility provisions of these Technical Specifications. Copies shall be provided to the ~~Executive~~ Vice President (NUCLEAR) and the Nuclear Review and Audit Group.

6.5.2 NUCLEAR REVIEW AND AUDIT GROUP (NRAG)

FUNCTION

6.5.2.1 The NRAG shall function to provide independent review and audit of designated activities in the areas of:

a. Nuclear power plant operations,

b. Nuclear engineering,

c. Chemistry and radiochemistry,

d. Metallurgy,

e. Instrumentation and control,

f. Radiological safety,

g. Mechanical and electrical engineering, and

h. Quality assurance practices.

The NRAG shall report to and advise the ~~Executive~~ Vice President (NUCLEAR) on those areas of responsibility in Specifications 6.5.2.7 and 6.5.2.8.

COMPOSITION

6.5.2.2 The NRAG shall be composed of the:

Director:	~~Executive~~ Vice President NUCLEAR
Member:	Manager-Nuclear Station Engineering Dept.
Member:	Power Plant Manager
Member:	Director-~~Design Engineering~~ NUCLEAR TRAINING
Member:	~~Director-Nuclear Safety and Engineering Analysis~~ ASSISTANT TO THE VICE PRESIDENT
Member:	Supervisor-~~Technology~~ Technical Assessment
Member:	~~Supervisor-Compliance (NSED)~~
Member:	MANAGER QUALITY ASSURANCE

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ALTERNATES

6.5.2.3 All alternate members shall be appointed in writing by the NRAG Director to serve on a temporary basis; however, no more than two alternates shall participate as voting members in NRAG activities at any one time.

ADMINISTRATIVE CONTROLS

CONSULTANTS

6.5.2.4 Consultants shall be utilized as determined by the NRAG Director to provide expert advice to the NRAG.

MEETING FREQUENCY

6.5.2.5 The NRAG shall meet at least once per calendar quarter during the initial year of unit operation following fuel loading and at least once per 6 months thereafter.

QUORUM

6.5.2.6 The quorum of the NRAG necessary for the performance of the NRAG review and audit functions of these Technical Specifications shall consist of the Director or his designated alternate and at least four NRAG members including alternates. No more than a minority of the quorum shall have line responsibility for operation of the unit.

REVIEW

6.5.2.7 The NRAG shall review:

a. The safety evaluations for (1) changes to procedures, equipment or systems and (2) tests or experiments completed under the provision of 10 CFR 50.59 to verify that such actions did not constitute a change to the Technical Specifications an unreviewed safety question;

b. Proposed changes to procedures, equipment, or systems which involve a change to the Technical Specifications an unreviewed safety question as defined in 10 CFR 50.59;

c. Proposed tests or experiments which involve a change to the Technical Specifications or an unreviewed safety question as defined in 10 CFR 50.59;

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d. Proposed changes to Technical Specifications or this Operating License;

e. Violations of codes, regulations, orders, Technical Specifications, license requirements, or of internal procedures or instructions having nuclear safety significance;

f. Significant operating abnormalities or deviations from normal and expected performance of unit ~~equipment~~ structures, systems, or components that affect nuclear safety;

g. ALL REPORTABLE EVENTS ~~Events requiring 24 hour written notification to the Commission;~~ TE8501 CPS

h. All recognized indications of an unanticipated deficiency in some aspect of design or operation of structures, systems, or components that could affect nuclear safety; and

i. Reports and meeting minutes of the FRG.

Insert 6.5.2.8

e. The Emergency Plan and implementing procedures at least once per 12 months.

f. The Security Plan and implementing procedures at least once per 12 months.

i. An independent fire protection and loss prevention inspection and audit shall be performed at least once per 12 months utilizing either qualified offsite licensee personnel or an outside fire protection firm.

j. An inspection and audit of the fire protection and loss prevention program shall be performed by an outside qualified fire consultant at intervals no greater than 36 months.

k. The radiological environmental monitoring program and the results thereof at least once per 12 months.

l. The OFFSITE DOSE CALCULATION MANUAL and implementing procedures at least once per 24 months.

m. The PROCESS CONTROL PROGRAM and implementing procedures for solidification of radioactive wastes at least once per 24 months.

n. The performance of activities required by the Quality Assurance Program to meet the criteria of Regulatory Guide 4.15, December, 1977, at least once per 12 months.

AUTHORITY

6.5.2.9 The ~~SRC~~ NRAG shall report to and advise the ~~Senior~~ Executive Vice President ~~Nuclear~~ on those areas of responsibility specified in Sections 6.5.2.7 and 6.5.2.8.

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Insert 6-11A

criteria approved by the

6.5.3 TECHNICAL REVIEW AND CONTROL

ACTIVITIES

Procedures and programs required by Technical Specification 6.8 and other procedures which affect plant nuclear safety as determined by the Power Plant Manager, and changes thereto, other than editorial or typographical changes, shall be reviewed as follows: TE-85-01 CPS

6.5.3.1 Technical Review

a. Each such procedure, program or procedure change shall be independently reviewed by an individual knowledgeable in the area affected other than the individual who prepared the procedure, program or procedure change. The Power Plant Manager, shall approve all plant procedures, programs, and changes thereto.

b. Individuals responsible for reviews performed in accordance with item 6.5.3.1a. above shall be members of the plant staff previously designated by the Power Plant Manager. Each such review shall include a determination of whether or not additional, cross-disciplinary, review is necessary. If deemed necessary, such review shall be performed by the review personnel of the appropriate discipline.

Individuals performing these reviews shall meet or exceed the qualifications stated in section 4.4 of ANSI N18.1-1971 for the appropriate discipline. CPS

c. When required by 10 CFR 50.59, a safety evaluation to determine whether or not an unreviewed safety question is involved shall be included in the procedure review. Pursuant to 10 CFR 50.59, NRC approval of items involving unreviewed safety questions shall be obtained prior to the Power Plant Manager approval for implementation.

d. Written records of reviews performed in accordance with item 6.5.3.1a. above, including recommendations for approval or disapproval, shall be prepared and maintained.

All items not reviewed in accordance with item 6.5.3.1a. above shall be reviewed by ~~SORC~~ FRG. TE-85-01 CPS

6.6 REPORTABLE EVENT ACTION

6.6.1 The following actions shall be taken for REPORTABLE EVENTS:

a. The Commission shall be notified and a report submitted pursuant to the requirements of Section 50.73 to 10 CFR Part 50, and

b. Each REPORTABLE EVENT shall be reviewed by the FRG and submitted to the NRAG and the Executive Vice President ~~(Nuclear)~~. TE-85-01 CPS

THIS PAGE ... INFORMATION ...

STARTUP REPORT (Continued)

6.9.1.3 Startup reports shall be submitted within (1) 90 days following completion of the startup test program, (2) 90 days following resumption or commencement of commercial power operation, or (3) 9 months following initial criticality, whichever is earliest. If the startup report does not cover all three events (i.e., initial criticality, completion of startup test program, and resumption or commencement of commercial operation) supplementary reports shall be submitted at least every 3 months until all three events have been completed.

ANNUAL REPORTS~~*~~

6.9.1.4 Annual reports covering the activities of the unit as described below for the previous calendar year shall be submitted prior to March 1 of each year. The initial report shall be submitted prior to March 1 of the year following initial criticality.

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6.9.1.5 Reports required on an annual basis shall include except 6.9.1.6 CPS

a. A tabulation on an annual basis of the number of station, utility, and other personnel (including contractors) receiving exposures greater than 100 mrem/yr and their associated man-rem exposure according to work and job functions,** (e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintanance [describe maintenance], waste processing, and refuelings). The dose assignments to various duty functions may be estimated based on pocket dosimeter, thermoluminescent dosimeter (TLD), or film badge measurements. Small exposures totalling less than 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total whole-body dose received from external sources should be assigned to specific major work functions;

6.9.1.6 Insert Attached

~~b. Documentation of all challenges to main steam line safety/relief valves.~~ CPS

6.9.1.7 Insert Attached

MONTHLY OPERATING REPORTS

6.9.1.~~6~~ 8 Routine reports of operating statistics and shutdown experience ~~, including documentation of all challenges to the main steam system safety/relief valves,~~ shall be submitted on a monthly basis to the Director, Office of Resource Management, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, with a copy to the Regional Administrator of the Regional Office of the NRC, no later than the 15th of each month following the calendar month covered by the report. ~~Insert Attached~~

~~REPORTABLE OCCURRENCES~~

~~6.9.1.7 The REPORTABLE OCCURRENCES of Specifications 6.9.1.8 and 6.9.1.9 below, including corrective actions and measures to prevent recurrence, shall be reported to the NRC. Supplemental reports may be required to fully describe final resolution of occurrence. In case of corrected or supplemental reports, a Licensee Event Report shall be completed and reference shall be made to the original report date.~~

~~*A single submittal may be made for a multiple unit station. The submittal should combine those sections that are common to all units at the station.~~

**This tabulation supplements the requirements of §20.407 of 10 CFR Part 20.

ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT*

6.9.1.~~8~~ 6 Routine Radiological Environmental Operating Reports covering the operation of the unit during the previous calendar year shall be submitted prior to May 1 of each year. The initial report shall be submitted prior to May 1 of the year following initial criticality.

The Annual Radiological Environmental Operating Reports shall include summaries, interpretations, and an analysis of trends of the results of the radiological environmental surveillance activities for the report period, including a comparison with preoperational studies, with operational controls as appropriate, and with previous environmental surveillance reports, and an assessment of the observed impacts of the plant operation on the environment. The reports shall also include the results of land use censuses required by Specification 3.12.2.

The Annual Radiological Environmental Operating Reports shall include the results of analysis of all radiological environmental samples and of all environmental radiation measurements taken during the period pursuant to the locations specified in the Table and Figures in the ODCM, as well as summarized and tabulated results of these analyses and measurements in the format of the table in the Radiological Assessment Branch Technical Position, Revision 1, November 1979. In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted as soon as possible in a supplementary report.

The reports shall also include the following: a summary description of the radiological environmental monitoring program; at least two legible maps** covering all sampling locations keyed to a table giving distances and directions from the ~~centerline of one reactor~~ HVAC Stack; the results of licensee participation in the Interlaboratory Comparison Program, required by Specification 3.12.3; discussion of all deviations from the sampling schedule of Table 3.12-1; and discussion of all analyses in which the LLD required by Table 4.12-1 was not achievable.

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~~*A single submittal may be made for a multiple unit station.~~

**One map shall cover stations near the site boundary; a second shall include the more distant stations.

Insert

CPS

CPS

CPS

Insert 6.9.1.8

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CPS

~~Any changes to the OFFSITE DOSE CALCULATION MANUAL shall be submitted with the Monthly Operating Report within 90 days of when the change(s) was made effective. In addition, a report of any major changes to the radioactive waste treatment systems shall be submitted with the Monthly Operating Report for the period in which the evaluation was reviewed and accepted by the FRG.~~

Insert

6.13 PROCESS CONTROL PROGRAM (PCP)

6.13.1 The PCP shall be approved by the Commission prior to implementation.

6.13.2 Licensee initiated changes to the PCP:

a. Shall be submitted to the Commission in the Semiannual Radioactive Effluent Release Report for the period in which the change(s) was made. This submittal shall contain:

1. Sufficiently detailed information to totally ~~suport~~ support the rationale for the change without benefit of additional or supplemental information; IE 85-9 CPS

2. A determination that the change did not reduce the overall conformance of the solidified waste product to existing criteria for solid wastes; and

3. Documentation of the fact that the change has been reviewed and found acceptable by the ~~(URG)~~ FRG.

b. Shall become effective upon review and acceptance by the ~~(URG)~~ FRG. CPS

6.14 OFFSITE DOSE CALCULATION MANUAL (ODCM)

6.14.1 The ODCM shall be approved by the Commission prior to implementation.

6.14.2 Licensee initiated changes to the ODCM:

a. Shall be submitted to the Commission in the Semiannual Radioactive Effluent Release Report for the period in which the change(s) was made effective. This submittal shall contain:

1. Sufficiently detailed information to totally support the rationale for the change without benefit of additional or supplemental information. Information submitted should consist of a package of those pages of the ODCM to be changed with each page numbered and provided with an approval and date box, together with appropriate analyses or evaluations justifying the change(s);

2. A determination that the change will not reduce the accuracy or reliability of dose calculations or setpoint determinations; and

3. Documentation of the fact that the change has been reviewed and found acceptable by the ~~(URG)~~ FRG.

b. Shall become effective upon review and acceptance by the ~~(URG)~~ FRG.

6.2.3 INDEPENDENT SAFETY ENGINEERING GROUP (ISEG)

FUNCTION

6.2.3.1 The ISEG shall function to examine unit operating characteristics, NRC issuances, industry advisories, Licensee Event Reports, and other sources of unit design and operating experience information, including units of similar design, which may indicate areas for improving unit safety. The ISEG shall make detailed recommendations for revised procedures, equipment modifications, maintenance activities, operations activities, or other means of improving unit safety to the ~~Executive Vice President~~. Director - Nuclear Safety and Engineering Analysis, Manager - Nuclear Station Engineering, and Members of the NRAG.

COMPOSITION

6.2.3.2 The ISEG shall be composed of at least five, dedicated, full-time engineers located on site.. Each shall have a bachelor's degree in engineering or related science and at least ~~2~~ 3 years professional level experience in his field, at least 1 year of which experience shall be in the nuclear field. CPS

RESPONSIBILITIES

6.2.3.3 The ISEG shall be responsible for maintaining surveillance of unit activities to provide independent verification* that these activities are performed correctly and that human errors are reduced as much as practical. CPS

RECORDS

6.2.3.4 Records of activities performed by the ISEG shall be prepared, maintained, and forwarded each calendar month to ~~(a high level corporate official in a technically oriented position who is not in the management chain for power production)~~. the Director - Nuclear Safety and Engineering Analysis, Manager - Nuclear Station Engineering and Members of the NRAG. CPS

6.2.4 SHIFT TECHNICAL ADVISOR

6.2.4.1 The Shift Technical Advisor shall provide advisory technical support to the Shift Supervisor in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to safe operation of the unit. The Shift Technical Advisor shall have a bachelor's degree or equivalent in scientific or engineering discipline and shall have received specific training in the response and analysis of the unit for transients and accidents, and in unit design and layout, including the capabilities of instrumentation and controls in the control room.

6.3 UNIT STAFF QUALIFICATIONS

6.3.1 Each member of the unit staff shall meet or exceed the minimum qualifications of ANSI/ANS 3.1-1978 except for the ~~Rad Chem~~ Radiation Protection Supervisor who shall meet or exceed the qualifications of Regulatory Guide 1.8, September 1975. The licensed Operators and Senior Operators shall also meet or exceed the minimum qualifications of the March 28, 1980 NRC letter to all licensees. CPS

*Not responsible for sign-off function.