CORE ALTERATION

1.7 CORE ALTERATION shall be the movement of any fuel, sources, or reactivity control components, within the reactor vessel with the vessel head removed and fuel in the vessel. The following exceptions are not considered to be CORE ALTERATIONS:

a. Movement of source range monitors, local power range monitors, intermediate range monitors, traversing incore probes, or special movable detectors (including undervessel replacement), and

b. Control rod movement, provided there are no fuel assemblies in the associated core cell.

Suspension of CORE ALTERATIONS shall not preclude completion of movement of a component to a safe position.

1.8 DELETED

CORE OPERATING LIMITS REPORT

1.9 The CORE OPERATING LIMITS REPORT is the unit-specific document that provides core operating limits for the current operating reload cycle. These cycle-specific core operating limits shall be determined for each reload cycle in accordance with Specification 6.9.1.9. Plant operation within these limits is addressed in individual specifications.

CRITICAL POWER RATIO

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

DOSE EQUIVALENT I-131

1.11 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."

INSERT 1

$\bar{E}$-AVERAGE DISINTEGRATION ENERGY

1.12 $\bar{E}$ shall be the average, weighted in proportion to the concentration of each radionuclide in the reactor coolant at the time of sampling, of the sum of the average beta and gamma energies per disintegration, in MeV, for isotopes, with half lives greater than 15 minutes, making up at least 95% of the total non-iodine activity in the coolant.

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INSERT 1

DRAIN TIME

1.11.1 The DRAIN TIME is the time it would take for the water inventory in and above the Reactor Pressure Vessel (RPV) to drain to the top of the active fuel (TAF) seated in the RPV assuming:

a) The water inventory above the TAF is divided by the limiting drain rate;

b) The limiting drain rate is the larger of the drain rate through a single penetration flow path with the highest flow rate, or the sum of the drain rates through multiple penetration flow paths susceptible to a common mode failure (e.g., seismic event, loss of normal power, single human error), for all penetration flow paths below the TAF except:

1. Penetration flow paths connected to an intact closed system, or isolated by manual or automatic valves that are locked, sealed, or otherwise secured in the closed position, blank flanges, or other devices that prevent flow of reactor coolant through the penetration flow paths;

2. Penetration flow paths capable of being isolated by valves that will close automatically without offsite power prior to the RPV water level being equal to the TAF when actuated by RPV water level isolation instrumentation; or

3. Penetration flow paths with isolation devices that can be closed prior to the RPV water level being equal to the TAF by a dedicated operator trained in the task, who in continuous communication with the control room, is stationed at the controls, and is capable of closing the penetration flow path isolation device without offsite power.

c) The penetration flow paths required to be evaluated per paragraph b) are assumed to open instantaneously and are not subsequently isolated, and no water is assumed to be subsequently added to the RPV water inventory;

d) No additional draining events occur; and

e) Realistic cross-sectional areas and drain rates are used.

A bounding DRAIN TIME may be used in lieu of a calculated value.

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TABLE 3.3.2-1
ISOLATION ACTUATION INSTRUMENTATION

TRIP FUNCTION	VALVE ACTUATION GROUPS OPERATED BY SIGNAL	MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM [a]	APPLICABLE OPERATIONAL CONDITION	ACTION
1. PRIMARY CONTAINMENT ISOLATION				
a. Reactor Vessel Water Level				
1) Low Low, Level 2	2, 8, 9, 12, 13, 14, 15, 17, 18	2	1, 2, 3	20
2) Low low Low, Level 1	10, 11, 15, 16	2	1, 2, 3	20
b. Drywell Pressure - High	8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18	2[j]	1, 2, 3	20
c. Reactor Building Exhaust Radiation - High	8, 9, 12 13, 14, 15, 17, 18	3	1, 2, 3	28
d. Manual Initiation	8, 9, 10 11, 12, 13, 14, 15, 16, 17, 18	1	1, 2, 3	24
2. SECONDARY CONTAINMENT ISOLATION				
a. Reactor Vessel Water Level – Low Low, Level 2	19[c]	2	1, 2, 3 and *	26
b. Drywell Pressure - High	19[c]	2[j]	1, 2, 3	26
c. Refueling Floor Exhaust Radiation - High	19[c]	3	1, 2, 3 and *	29
d. Reactor Building Exhaust Radiation - High	19[c]	3	1, 2, 3 and *	28
e. Manual Initiation	19[c]	1	1, 2, 3 and *	26

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TABLE 3.3.2-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

TRIP FUNCTION	VALVE ACTUATION GROUPS OPERATED BY SIGNAL	MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM[a]	APPLICABLE OPERATIONAL CONDITION	ACTION
7. RHR SYSTEM SHUTDOWN COOLING MODE ISOLATION				
a. Reactor Vessel Water Level - Low, Level 3	3[j]	2/Valve[e]	1, 2, 3	27
b. Reactor Vessel (RHR Cut-in Permissive) Pressure - High	3[j]	2/Valve[e]	1, 2, 3	27
c. Manual Initiation	3	1/Valve[e]	1, 2, 3	25

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TABLE 3.3.2-1 (Continued)

NOTES

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

** When any turbine stop valve is greater than 90% open and/or when the key-locked bypass switch is in the Norm position.

Below 20% of RATED THERMAL POWER the Main Steamline Radiation Monitor setpoints shall not exceed the values determined using normal full power background radiation levels with the hydrogen water chemistry (HWC) system shut down. After reaching 20% of RATED THERMAL POWER the normal full power background radiation level and associated trip setpoints may be increased to levels previously measured during full power operation with hydrogen injection. Prior to decreasing below 20% of RATED THERMAL POWER the background level and associated setpoint shall be returned to the normal full power values. If the Main Steamline Radiation Monitor setpoints have been increased for HWC operation and a power reduction event occurs so that the reactor power is below 20% of RATED THERMAL POWER without the required setpoint change, control rod motion shall be suspended (except for scram or other emergency actions) until the necessary setpoint adjustment is made.

(a) A channel may be placed in an inoperable status for up to 6 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 trips and isolates the mechanical vacuum pumps.

(c) Also starts the Filtration, Recirculation and Ventilation System (FRVS).

(d) DELETED

(e) Sensors arranged per valve group, not per trip system.

(f) Closes only RWCU system isolation valve(s) HV-F001 and HV-F004.

(g) Requires system steam supply pressure-low coincident with drywell pressure-high to close turbine exhaust vacuum breaker valves.

(h) Manual isolation closes HV-F008 only, and only following manual or automatic initiation of the RCIC system.

(i) Manual isolation closes HV-F003 and HV-F042 only, and only following manual or automatic initiation of the HPCI system.

(j) Trip functions common to RPS instrumentation.

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TABLE 4.3.2.1-1

ISOLATION ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP FUNCTION	CHANNEL CHECK [c]	CHANNEL FUNCTIONAL TEST [c]	CHANNEL CALIBRATION [c]	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
1. PRIMARY CONTAINMENT ISOLATION				
a. Reactor Vessel Water Level -				
1) Low Low, Level 2				1, 2, 3
2) Low Low Low, Level 1				1, 2, 3
b. Drywell Pressure - High				1, 2, 3
c. Reactor Building Exhaust Radiation - High				1, 2, 3
d. Manual Initiation	NA	[a]	NA	1, 2, 3
2. SECONDARY CONTAINMENT ISOLATION				
a. Reactor Vessel Water Level - Low Low, Level 2				1, 2, 3 and *
b. Drywell Pressure - High				1, 2, 3
c. Refueling Floor Exhaust Radiation - High				1, 2, 3 and *
d. Reactor Building Exhaust Radiation - High				1, 2, 3 and *
e. Manual Initiation	NA	[a]	NA	1, 2, 3 and *
3. MAIN STEAM LINE ISOLATION				
a. Reactor Vessel Water Level – Low Low Low, Level 1				1, 2, 3
b. Main Steam Line Radiation - High, High				1, 2, 3
c. Main Steam Line Pressure - Low				1
d. Main Steam Line Flow - High				1, 2, 3
e. Condenser Vacuum - Low				1, 2**, 3**
f. Main Steam Line Tunnel Temperature - High	NA			1, 2, 3
g. Manual Initiation	NA	[a]	NA	1, 2, 3

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TABLE 4.3.2.1-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

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

** When any turbine stop valve is greater than 90% open and/or when the key-locked bypass switch is in the Norm position.

(a) Manual initiation switches shall be tested in accordance with the Surveillance Frequency Control Program. All other circuitry associated with manual initiation shall receive a CHANNEL FUNCTIONAL TEST in accordance with the Surveillance Frequency Control Program as part of circuitry required to be tested for automatic system isolation.

(b) Each train or logic channel shall be tested in accordance with the Surveillance Frequency Control Program.

(c) Frequencies are specified in the Surveillance Frequency Control Program unless otherwise noted in the table.

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TABLE 3.3.3-1

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

TRIP FUNCTION	MINIMUM OPERABLE CHANNELS PER TRIP FUNCTION[a]	APPLICABLE OPERATIONAL CONDITIONS	ACTION
1. CORE SPRAY SYSTEM			
a. Reactor Vessel Water Level - Low Low Low, Level 1	2[b][e]	1, 2, 3, ~~4*, 5*~~	30
b. Drywell Pressure - High	2[b][e]	1, 2, 3	30
c. Reactor Vessel Pressure - Low (Permissive)	4/division[f]	1, 2, 3	31
		~~4*, 5*~~	~~32~~
d. Core Spray Pump Discharge Flow - Low (Bypass)	1/subsystem	1, 2, 3, ~~4*, 5*~~	37
e. Core Spray Pump Start Time Delay - Normal Power	1/subsystem	1, 2, 3, ~~4*, 5*~~	31
f. Core Spray Pump Start Time Delay - Emergency Power	1/subsystem	1, 2, 3, ~~4*, 5*~~	31
g. Manual Initiation	1/division[b][g]	1, 2, 3, ~~4*, 5*~~	33
2. LOW PRESSURE COOLANT INJECTION MODE OF RHR SYSTEM			
a. Reactor Vessel Water Level - Low Low Low, Level 1	2/valve	1, 2, 3, ~~4*, 5*~~	30
b. Drywell Pressure - High	2/valve	1, 2, 3	30
c. Reactor Vessel Pressure - Low (Permissive)	1/valve	1, 2, 3	31
		~~4*, 5*~~	~~32~~
d. LPCI Pump Discharge Flow - Low (Bypass)	1/pump	1, 2, ~~3, 4*, 5*~~	37
e. LPCI Pump Start Time Delay - Normal Power	1/pump[i]	1, 2, 3, ~~4*, 5*~~	31
f. Manual Initiation	1/subsystem	1, 2, 3, ~~4*, 5*~~	33
3. HIGH PRESSURE COOLANT INJECTION SYSTEM#			
a. Reactor Vessel Water Level - Low Low Level 2	4	1, 2, 3	34
b. Drywell Pressure - High	4	1, 2, 3	34
c. Condensate Storage Tank Level - Low	2[c]	1, 2, 3	35
d. Suppression Pool Water Level - High	2[c]	1, 2, 3	35
e. Reactor Vessel Water Level - High, Level 8	4[d]	1, 2, 3	31
f. HPCI Pump Discharge Flow - Low (Bypass)	1	1, 2, 3	37
g. Manual Initiation	1/system	1, 2, 3	33
4. AUTOMATIC DEPRESSURIZATION SYSTEM##			
a. Reactor Vessel Water Level - Low Low Low, Level 1	4	1, 2, 3	30
b. Drywell Pressure - High	4	1, 2, 3	30
c. ADS Timer	2	1, 2, 3	31
d. Core Spray Pump Discharge Pressure - High (Permissive)	1/pump	1, 2, 3	31

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TABLE 3.3.3-1 (Cont'd)
EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

TRIP FUNCTION	MINIMUM OPERABLE CHANNELS PER TRIP FUNCTION(a)	APPLICABLE OPERATIONAL CONDITIONS	ACTION
4. AUTOMATIC DEPRESSURIZATION SYSTEM##			
e. RHR LPCI Mode Pump Discharge Pressure - High (Permissive)	2/pump	1, 2, 3	31
f. Reactor Vessel Water Level - Low, Level 3 (Permissive)	2	1, 2, 3	31
g. ADS Drywell Pressure Bypass Timer	4	1, 2, 3	31
h. ADS Manual Inhibit Switch	2	1, 2, 3	31
i. Manual Initiation	4	1, 2, 3	33

	TOTAL NO. OF CHANNELS(h)	CHANNELS TO TRIP(h)	MINIMUM CHANNELS OPERABLE(h)	APPLICABLE OPERATIONAL CONDITIONS	ACTION
5. LOSS OF POWER					
1. 4.16 kv Emergency Bus Under-voltage (Loss of Voltage)	4/bus	2/bus	3/bus	1, 2, 3, 4**, 5**	36
2. 4.16 kv Emergency Bus Under-voltage (Degraded Voltage)	2/source/bus	2/source/bus	2/source/bus	1, 2, 3, 4**, 5**	36

(a) A channel may be placed in an inoperable status for up to 6 hours for required surveillance without placing the trip system in the tripped condition provided at least one OPERABLE channel in the same trip system is monitoring that parameter.
(b) Also actuates the associated emergency diesel generators.
(c) One trip system. Provides signal to HPCI pump suction valve only.
(d) Provides a signal to trip HPCI pump turbine only.
(e) In divisions 1 and 2, the two sensors are associated with each pump and valve combination. In divisions 3 and 4, the two sensors are associated with each pump only.
(f) Division 1 and 2 only.
(g) In divisions 1 and 2, manual initiation is associated with each pump and valve combination; in divisions 3 and 4, manual initiation is associated with each pump only.
(h) Each voltage detector is a channel.
(i) Start time delay is applicable to LPCI Pump C and D only.
* ~~When the system is required to be OPERABLE per Specification 3.5.2.~~ Deleted
** 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 200 psig.
\## Not required to be OPERABLE when reactor steam dome pressure is less than or equal to 100 psig.

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EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

ACTION

ACTION 30 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip Function requirement:

a. With one channel inoperable, place the inoperable channel in the tripped condition within 24 hours or declare the associated system inoperable.

b. With more than one channel inoperable, declare the associated system inoperable.

ACTION 31 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip Function requirement, declare the associated ECCS inoperable within 24 hours.

ACTION 32 - ~~With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip Function requirement, place the inoperable channel in the tripped condition within 24 hours.~~ Deleted

ACTION 33 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip Function requirement, restore the inoperable channel to OPERABLE status within 24 hours or declare the associated ECCS inoperable.

ACTION 34 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip Function requirement:

a. For one channel inoperable, place the inoperable channel in the tripped condition within 24 hours or declare the HPCI system inoperable.

b. With more than one channel inoperable, declare the HPCI system inoperable.

ACTION 35 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip Function requirement, place at least one inoperable channel in the tripped condition within 24 hours or declare the HPCI system inoperable.

ACTION 36 - With the number of OPERABLE channels one less than the Total Number of Channels, place the inoperable channel in the tripped condition within 1 hour; operation may then continue until performance of the next required CHANNEL FUNCTIONAL TEST.

ACITON 37 - With the number of OPERABLE channels less than required by the Minimum OPERABLE channels per Trip Function requirement, open the minimum flow bypass valve within one hour. Restore the inoperable channel to OPERABLE status within 7 days or declare the associated ECCS inoperable.

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TABLE 4.3.3.1-1
EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP FUNCTION	CHANNEL CHECK [a]	CHANNEL FUNCTIONAL TEST [a]	CHANNEL CALIBRATION [a]	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
1. CORE SPRAY SYSTEM				
a. Reactor Vessel Water Level – Low Low Low, Level 1				1, 2, 3, ~~4*, 5*~~
b. Drywell Pressure - High				1, 2, 3
c. Reactor Vessel Pressure - Low				1, 2, 3, ~~4*, 5*~~
d. Core Spray Pump Discharge Flow - Low (Bypass)				1, 2, 3, ~~4*, 5*~~
e. Core Spray Pump Start Time Delay - Normal Power	NA			1, 2, 3, ~~4*, 5*~~
f. Core Spray Pump Start Time Delay - Emergency Power	NA			1, 2, 3, ~~4*, 5*~~
g. Manual Initiation	NA		NA	1, 2, 3, ~~4*, 5*~~
2. LOW PRESSURE COOLANT INJECTION MODE OF RHR SYSTEM				
a. Reactor Vessel Water Level – Low Low Low, Level 1				1, 2, 3, ~~4*, 5*~~
b. Drywell Pressure - High				1, 2, 3
c. Reactor Vessel Pressure – Low (Permissive)				1, 2, 3, ~~4*, 5*~~
d. LPCI Pump Discharge Flow - Low (Bypass)				1, 2, 3, ~~4*, 5*~~
e. LPCI Pump Start Time Delay - Normal Power	NA			1, 2, 3, ~~4*, 5*~~
f. Manual Initiation	NA		NA	1, 2, 3, ~~4*, 5*~~
3. HIGH PRESSURE COOLANT INJECTION SYSTEM#				
a. Reactor Vessel Water Level – Low Low, Level 2				1, 2, 3
b. Drywell Pressure - High				1, 2, 3
c. Condensate Storage Tank Level - Low				1, 2, 3
d. Suppression Pool Water Level - High				1, 2, 3
e. Reactor Vessel Water Level - High, Level 8				1, 2, 3
f. HPCI Pump Discharge Flow – Low (Bypass)				1, 2, 3
g. Manual Initiation	NA		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 [(a)]	CHANNEL FUNCTIONAL TEST [(a)]	CHANNEL CALIBRATION [(a)]	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
4. AUTOMATIC DEPRESSURIZATION SYSTEM##				
a. Reactor Vessel Water Level – Low Low Low, Level 1				1, 2, 3
b. Drywell Pressure - High				1, 2, 3
c. ADS Timer	NA			1, 2, 3
d. Core Spray Pump Discharge Pressure - High				1, 2, 3
e. RHR LPCI Mode Pump Discharge Pressure - High				1, 2, 3
f. Reactor Vessel Water Level - Low, Level 3				1, 2, 3
g. ADS Drywell Pressure Bypass Timer	NA			1, 2, 3
h. ADS Manual Inhibit Switch	NA		NA	1, 2, 3
i. Manual initiation	NA		NA	1, 2, 3
5. LOSS OF POWER				
a. 4.16 kv Emergency Bus Under-voltage (Loss of Voltage)	NA	NA		1, 2, 3, 4**, 5**
b. 4.16 kv Emergency Bus Under-voltage (Degraded Voltage)				1, 2, 3, 4**, 5**

(a) Frequencies are specified in the Surveillance Frequency Control Program unless otherwise noted in the table.
* ~~When the system is required to be OPERABLE per Specification 3.5.2.~~ **Deleted**
** Required OPERABLE when ESF equipment is required to be OPERABLE.
# Not required to be OPERABLE when reactor steam dome pressure is less than or equal to 200 psig.
Not required to be OPERABLE when reactor steam dome pressure is less than or equal to 100 psig.

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INSTRUMENTATION

3/4.3.3.1 RPV WATER INVENTORY CONTROL INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.1 The RPV Water Inventory Control (WIC) actuation instrumentation channels shown in Table 3.3.3.1-1 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3.3.1-2.

APPLICABILITY: As shown in Table 3.3.3.1-1

ACTION:

a. With an RPV Water Inventory Control actuation instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3.3.1-2, declare the channel inoperable until the channel is restored to OPERABLE status with its trip setpoint adjusted consistent with the Trip Setpoint value.

b. With one or more channels inoperable, take the ACTION referenced in Table 3.3.3.1-1 for the channel immediately.

SURVEILLANCE REQUIREMENTS

4.3.3.1 Each RPV Water Inventory Control (WIC) actuation instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST and LOGIC SYSTEM FUNCTIONAL TEST at the frequencies shown in Table 4.3.3.1.1-1.

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TABLE 3.3.3.1-1
RPV WATER INVENTORY CONTROL INSTRUMENTATION

TRIP FUNCTION	MINIMUM OPERABLE CHANNELS PER TRIP FUNCTION	APPLICABLE OPERATIONAL CONDITIONS	ACTIONS
1. CORE SPRAY SYSTEM			
a. Reactor Vessel Pressure - Low (Permissive)	4/division[c]	4, 5	83
b. Core Spray Pump Discharge Flow - Low (Bypass)	1/subsystem[a]	4, 5	84
c. Manual Initiation	1/subsystem[a]	4, 5	84
2. LOW PRESSURE COOLANT INJECTION MODE OF RHR SYSTEM			
a. Reactor Vessel Pressure-Low (Permissive)	1/valve	4, 5	83
b. LPCI Pump Discharge Flow - Low (Bypass)	1/pump[a]	4, 5	84
c. Manual Initiation	1/subsystem[a]	4, 5	84
3. RHR SYSTEM SHUTDOWN COOLING MODE ISOLATION			
a. Reactor Vessel Water Level Low - Level 3	2	(b)	85
4. REACTOR WATER CLEANUP SYSTEM ISOLATION			
a. Reactor Vessel Water Level - Low Low, Level 2	2	(b)	85

(a) Associated with an ECCS subsystem required to be OPERABLE by LCO 3.5.2, "Reactor Pressure Vessel Water Inventory Control."

(b) When automatic isolation of the associated penetration flow path(s) is credited in calculating DRAIN TIME.

(c) Division 1 and 2 only.

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TABLE 3.3.3.1-1 (Continued)

RPV WATER INVENTORY CONTROL INSTRUMENTATION

ACTION

ACTION 83 - Place the channel in trip within 1 hour. Otherwise, immediately declare the associated low pressure ECCS injection/spray subsystem inoperable.

ACTION 84 - Restore the channel to OPERABLE status within 24 hours. Otherwise, immediately declare the associated low pressure ECCS injection/spray subsystem inoperable.

ACTION 85 - Declare the associated flow path(s) incapable of automatic isolation and calculate DRAIN TIME immediately.

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TABLE 3.3.3.1-2
RPV WATER INVENTORY CONTROL INSTRUMENTATION SETPOINTS

TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE
1. CORE SPRAY SYSTEM		
a. Reactor Vessel Pressure – Low (Permissive)	≤ 461 psig	≤ 481 psig
b. Core Spray Pump Discharge Flow - Low (Bypass)	≥ 775 gpm	≥ 650 gpm
c. Manual Initiation	N.A.	N.A.
2. LOW PRESSURE COOLANT INJECTION MODE OF RHR SYSTEM		
a. Reactor Vessel Pressure – Low (Permissive)	≤ 450 psig	≥ 440 psig,
b. LPCI Pump Discharge Flow – Low (Bypass)	≥ 1250 gpm,	≥ 1100 gpm
c. Manual Initiation	N.A.	N.A.
3. RHR SYSTEM SHUTDOWN COOLING MODE ISOLATION		
a. Reactor Vessel Water Level Low - Level 3	≥ 12.5 inches*	≥ 11.0 inches
4. REACTOR WATER CLEANUP SYSTEM ISOLATION		
a. Reactor Vessel Water Level - Low, Low, - Level 2	≥ -38 inches*	≥ -45 inches

*See Bases Figure B 3/4.3-1.

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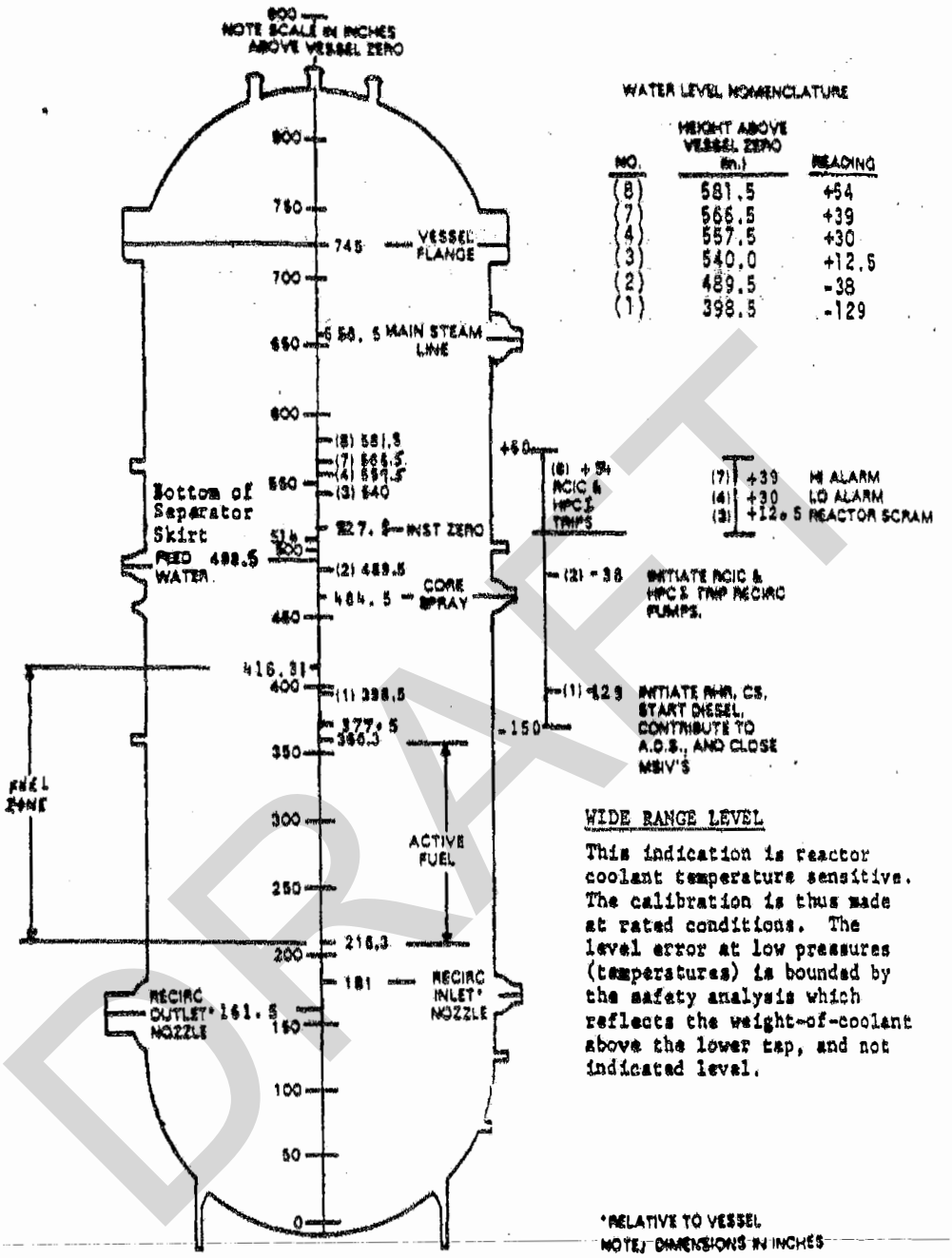

Bases Figure B 3/4 3-1

REACTOR VESSEL WATER LEVEL

TABLE 4.3.3.1.1-1
RPV WATER INVENTORY CONTROL INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP FUNCTION	CHANNEL CHECK[a]	CHANNEL FUNCTIONAL TEST[a]	LOGIC SYSTEM FUNCTIONAL TEST [a]	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
1. CORE SPRAY SYSTEM				
a. Reactor Vessel Pressure – Low (Permissive)			N.A.	4, 5
b. Core Spray Pump Discharge Flow - Low (Bypass)			N.A.	4, 5
c. Manual Initiation	N.A.	N.A.		4, 5
2. LOW PRESSURE COOLANT INJECTION MODE OF RHR SYSTEM				
a. Reactor Vessel Pressure – Low (Permissive)			N.A.	4, 5
b. LPCI Pump Discharge Flow – Low (Bypass)			N.A.	4, 5
c. Manual Initiation	N.A.	N.A.		4, 5
3. RHR SYSTEM SHUTDOWN COOLING MODE ISOLATION				
a. Reactor Vessel Water Level Low - Level 3			N.A.	(b)
4. REACTOR WATER CLEANUP SYSTEM ISOLATION				
a. Reactor Vessel Water Level - Low, Low - Level 2			N.A.	(b)

(a) Frequencies are specified in the Surveillance Frequency Control Program unless otherwise noted in the table.

(b) When automatic isolation of the associated penetration flow path(s) is credited in calculating DRAIN TIME.

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TABLE 3.3.7.1-1

RADIATION MONITORING INSTRUMENTATION

INSTRUMENTATION	MINIMUM CHANNELS OPERABLE	APPLICABLE CONDITIONS	ALARM/TRIP SETPOINT	ACTION
1. Control Room Ventilation Radiation Monitor	2/intake	1,2,3 and *	$\leq 2 \times 10^{-5}$ µC/cc**	71
2. Area Monitors				
a. Criticality Monitors				
1) New Fuel Storage Vault	1	#	$\geq$ 5 mR/hr and $\leq$ 20 mR/hr [a]	72
2) Spent Fuel Storage Pool	1	##	$\geq$ 5 mR/hr and $\leq$ 20 mR/hr [a]	72
b. Control Room Direct Radiation Monitor	1	At all times	2.5 mR/hr [a]	72
3. Reactor Auxiliaries Cooling Radiation Monitor	1	At all times	9×10^{-5} µC/cc [a]	73
4. Safety Auxiliaries Cooling Radiation Monitor	1/loop	At all times	6×10^{-5} µC/cc [a]	73
5. Offgas Pre-treatment Radiation Monitor	1	***	(b)	74

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TABLE 3.3.7.1-1 (Continued)

RADIATION MONITORING INSTRUMENTATION

TABLE NOTATION

*When recently irradiated fuel is being handled in the secondary containment ~~and during operations with the potential for draining the reactor vessel~~.

**Activates control room emergency filtration system.

***When the offgas treatment system is operating.

#With fuel in the new fuel storage vault.

##With fuel in the spent fuel storage pool.

(a)Alarm only.

(b)Alarm setpoint to be set in accordance with Specification 3.11.2.7.

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No changes on this page - provided for information only

TABLE 4.3.7.1-1
RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENTATION	CHANNEL CHECK [a]	CHANNEL FUNCTIONAL TEST [a]	CHANNEL CALIBRATION [a]	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
1. Control Room Ventilation Radiation Monitor				1, 2, 3, and *
2. Area Monitors				
a. Criticality Monitors				
1) New Fuel Storage Vault				#
2) Spent Fuel Storage Pool				##
b. Control Room Direct Radiation Monitor				At all times
3. Reactor Auxiliaries Cooling Radiation Monitor				At all times
4. Safety Auxiliaries Cooling Radiation Monitor				At all times
5. Offgas Pre-treatment Radiation Monitor				**

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TABLE 4.3.7.1-1 (Continued)

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TABLE NOTATION

(a) Frequencies are specified in the Surveillance Frequency Control Program unless otherwise noted in the table.

#With fuel in the new fuel storage vault.

##With fuel in the spent fuel storage pool.

*When recently irradiated fuel is being handled in the secondary containment ~~and during operations with the potential for draining the reactor vessel~~.

**When the offgas treatment system is operating.

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3/4.5 EMERGENCY CORE COOLING SYSTEMS (ECCS) AND RPV WATER INVENTORY CONTROL

3/4.5.1 ECCS - OPERATING

LIMITING CONDITION FOR OPERATION

3.5.1 The emergency core cooling systems shall be OPERABLE with:

a. The core spray system (CSS) consisting of two subsystems with each subsystem comprised of:

   1. Two OPERABLE core spray pumps, and

   2. An OPERABLE flow path capable of taking suction from the suppression chamber and transferring the water through the spray sparger to the reactor vessel.

b. The low pressure coolant injection (LPCI) system of the residual heat removal system consisting of four subsystems with each subsystem comprised of:

   1. One OPERABLE LPCI pump, and

   2. An OPERABLE flow path capable of taking suction from the suppression chamber and transferring the water to the reactor vessel.

c. The high pressure coolant injection (HPCI) system consisting of:

   1. One OPERABLE HPCI pump, and

   2. An OPERABLE flow path capable of taking suction from the suppression chamber and transferring the water to the reactor vessel.

d. The automatic depressurization system (ADS) with five OPERABLE ADS valves.

APPLICABILITY: OPERATIONAL CONDITION 1, 2*, ** #, and 3*, **, ##.

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*The HPCI system is not required to be OPERABLE when reactor steam dome pressure is less than or equal to 200 psig.

**The ADS is not required to be OPERABLE when reactor steam dome pressure is less than or equal to 100 psig.

#See Special Test Exception 3.10.6.

##Two LPCI subsystems of the RHR system may be inoperable in that they are aligned in the shutdown cooling mode when the reactor vessel pressure is less than the RHR shutdown cooling permissive setpoint.

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LIMITING CONDITION FOR OPERATION (Continued)

ACTION:

NOTE: LCO 3.0.4.b is not applicable to HPCI.

a. For the Core Spray system:

1. With one core spray subsystem inoperable, provided that at least two LPCI subsystem are OPERABLE, restore the inoperable core spray subsystem 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.

2. With both core spray subsystems inoperable, be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.

b. For the LPCI system:

1. With one LPCI subsystem inoperable, provided that at least one core spray subsystem is OPERABLE, restore the inoperable LPCI subsystem to OPERABLE status within 30 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

2. With two LPCI subsystems inoperable, provided that at least one core spray subsystem is operable, restore at least one LPCI subsystem 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.

3. With three LPCI subsystems inoperable, provided that both core spray subsystems are OPERABLE, restore at least two LPCI subsystems 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.

4. With all four LPCI subsystems inoperable, be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.*

c. For the HPCI system, provided the Core Spray System, the LPCI system, the ADS and the RCIC system are OPERABLE:

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

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LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

1. With the HPCI system inoperable, restore the HPCI system to OPERABLE status within 14 days or be in at least HOT SHUTDOWN within the next 12 hours and reduce reactor steam dome pressure to ≤200 psig within the following 24 hours.

2. With the HPCI system inoperable and either one LPCI subsystem or one CSS subsystem inoperable, restore the HPCI system to operable status within 72 hours or restore the LPCI subsystem/CSS subsystem to operable status within 72 hours. Otherwise, be in HOT SHUTDOWN within the next 12 hours and reduce reactor steam dome pressure to ≤ 200 psig in the next 24 hours.

d. For the ADS:

1. With one of the above required ADS valves inoperable, provided the HPCI system, the core spray system and the LPCI system are OPERABLE, restore the inoperable ADS valve to OPERABLE status within 14 days or be in at least HOT SHUTDOWN within the next 12 hours and reduce reactor steam dome pressure to ≤100 psig within the next 24 hours.

2. With two or more of the above required ADS valves inoperable, be in at least HOT SHUTDOWN within 12 hours and reduce reactor steam dome pressure to ≤100 psig within the next 24 hours.

e. With a CSS and/or LPCI header ΔP instrumentation channel inoperable, restore the inoperable channel to OPERABLE status within 7 days or determine the ECCS header ΔP locally at least once per 12 hours; otherwise, declare the associated ECCS subsystem inoperable.

f. The discharge line "keep filled" alarm instrumentation associated with a LPCI and/or CSS subsystem(s) may be in an inoperable status for up to 6 hours for required surveillance testing* provided that the "keep filled" alarm instrumentation associated with at least one LPCI or CSS subsystem serviced by the affected "keep filled" system remains OPERABLE; otherwise, perform Surveillance Requirement 4.5.1.a.1.a.

g. In the event an ECCS system is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date. The current value of the usage factor for each affected safety injection nozzle shall be provided in this Special Report whenever its value exceeds 0.70.

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* This includes testing of the "Reactor Coolant System Interface Valves Leakage Pressure Monitors" associated with LPCI and CSS in accordance with Surveillance 4.4.3.2.3

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SURVEILLANCE REQUIREMENTS

4.5.1 The emergency core cooling systems shall be demonstrated OPERABLE by:

a. In accordance with the Surveillance Frequency Control Program:

1. For the core spray system, the LPCI system, and the HPCI system:

a) Verifying by venting at the high point vents that the system piping from the pump discharge valve to the system isolation valve is filled with water.

b) 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) Verify the RHR System cross tie valves on the discharge side of the pumps are closed and power, if any, is removed from the valve operators.

2. For the HPCI system, verifying that the HPCI pump flow controller is in the correct position.

b. Verifying that, when tested pursuant to the IST Program:

1. The two core spray system pumps in each subsystem together develop a flow of at least 6150 gpm against a test line pressure corresponding to a reactor vessel pressure of ≥105 psi above suppression pool pressure.

2. Each LPCI pump in each subsystem develops a flow of at least 10,000 gpm against a test line pressure corresponding to a reactor vessel to primary containment differential pressure of ≥20 psid.

3. The HPCI pump develops a flow of at least 5600 gpm against a test line pressure corresponding to a reactor vessel pressure of 1000 psig when steam is being supplied to the turbine at 1000, +20, -80 psig.**

c. In accordance with the Surveillance Frequency Control Program:

1. For the core spray system, the LPCI system, and the HPCI system, 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 injection of coolant into the reactor vessel may be excluded from this test.

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* Except that an automatic valve capable of automatic return to its ECCS position when an ECCS signal is present may be in position for another mode of operation.

** 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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SURVEILLANCE REQUIREMENTS (Continued)

2. For the HPCI system, verifying that:

   a) The system develops a flow of at least 5600 gpm against a test line pressure corresponding to a reactor vessel pressure of ≥200 psig, when steam is being supplied to the turbine at 200 + 15, -0 psig.**

   b) The suction is automatically transferred from the condensate storage tank to the suppression chamber on a condensate storage tank water level - low signal and on a suppression chamber - water level high signal.

3. Performing a CHANNEL CALIBRATION of the CSS, and LPCI system discharge line "keep filled" alarm instrumentation.

4. Performing a CHANNEL CALIBRATION of the CSS header ΔP instrumentation and verifying the setpoint to be ≤ the allowable value of 4.4 psid.

5. Performing a CHANNEL CALIBRATION of the LPCI header ΔP instrumentation and verifying the setpoint to be ≤ the allowable value of 1.0 psid.

d. For the ADS:

1. In accordance with the Surveillance Frequency Control Program, performing a CHANNEL FUNCTIONAL TEST of the Primary Containment Instrument Gas System low-low pressure alarm system.

2. In accordance with the Surveillance Frequency Control Program:

   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) Verify that when tested pursuant to the IST Program, that each ADS valve is capable of being opened.

   c) Performing a CHANNEL CALIBRATION of the Primary Containment Instrument Gas System low-low pressure alarm system and verifying an alarm setpoint of 85 ± 2 psig on decreasing pressure.

** 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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DRAIN TIME of RPV water inventory to the top of active fuel (TAF) shall be ≥ 36 hours AND

EMERGENCY CORE COOLING SYSTEMS (ECCS) AND RPV WATER INVENTORY CONTROL

3/4 5.2 ~~ECCS - SHUTDOWN~~ RPV WATER INVENTORY CONTROL

LIMITING CONDITION FOR OPERATION

3.5.2 At least ~~two~~ one of the following low pressure ECCS subsystems shall be OPERABLE:

a. Core spray system subsystems ~~with a subsystem~~ comprised of:

1. Two OPERABLE core spray pumps, and

2. An OPERABLE flow path capable of taking suction from at least one of the following water sources and transferring the water through the spray sparger to the reactor vessel:

a) From the suppression chamber, or

b) When the suppression chamber water level is less than the limit or is drained, from the condensate storage tank containing at least 135,000 available gallons of water.

b. Low pressure coolant injection (LPCI) system subsystems ~~each with a subsystem~~ comprised of:

1. One OPERABLE LPCI pump, and

2. An OPERABLE flow path capable of taking suction from the suppression chamber and transferring the water to the reactor vessel. **

APPLICABILITY: OPERATIONAL CONDITION 4 and 5~~*~~.

ACTION:

a. With ~~one~~ none of the above ~~required subsystems inoperable~~ low pressure ECCS subsystems OPERABLE, restore ~~at least two~~ a subsystems to OPERABLE status within 4 hours~~. or suspend all operations with a potential for draining the reactor vessel.~~ Otherwise, immediately initiate action to establish a method of water injection capable of operating without offsite electrical power.

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

INSERT 2

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

** A ~~One~~ LPCI subsystem may be considered OPERABLE during alignment and operation for decay heat removal if capable of being manually realigned and not otherwise inoperable.

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EMERGENCY CORE COOLING SYSTEMS (ECCS) AND RPV WATER INVENTORY CONTROL

LIMITING CONDITION FOR OPERATION (Continued)

ACTION:

c. With DRAIN TIME < 36 hours and ≥ 8 hours, within 4 hours:

1. Verify secondary containment boundary is capable of being established in less than the DRAIN TIME, AND
2. Verify each secondary containment penetration flow path is capable of being isolated in less than the DRAIN TIME, AND
3. Verify one Filtration, Recirculation and Ventilation (FRVS) ventilation unit is capable of being placed in operation in less than the DRAIN TIME.

Otherwise, IMMEDIATELY initiate action to restore DRAIN TIME to ≥ 36 hours.

d. With DRAIN TIME < 8 hours, IMMEDIATELY:

1. Initiate action to establish an additional method of water injection with water sources capable of maintaining RPV water level > TAF for ≥ 36 hours*** AND,
2. Initiate action to establish secondary containment boundary, AND
3. Initiate action to isolate each secondary containment penetration flow path or verify it can be manually isolated from the control room, AND
4. Initiate action to verify one FRVS ventilation unit is capable of being placed in operation.

Otherwise, IMMEDIATELY initiate action to restore DRAIN TIME to ≥ 36 hours.

e. With DRAIN TIME < 1 hour, IMMEDIATELY initiate action to restore DRAIN TIME to ≥ 36 hours.

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*** Required ECCS injection/spray subsystem or additional method of water injection shall be capable of operating without offsite electrical power.

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 core spray system shall be determined OPERABLE in accordance with the Surveillance Frequency Control Program by verifying the condensate storage tank required volume when the condensate storage tank is required to be OPERABLE per Specification 3.5.2.a.2.b.~~

INSERT 3

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4.5.2.1 Verify DRAIN TIME ≥ 36 hours in accordance with the Surveillance Frequency Control Program.

4.5.2.2 Verify, for a required low pressure coolant injection (LPCI) subsystem, the suppression chamber indicated water level is ≥ 5.0 inches in accordance with the Surveillance Frequency Control Program.

4.5.2.3 Verify, for a required Core Spray (CS) subsystem, the Suppression chamber indicated water level is ≥ 5.0 inches or condensate storage tank contains at least 135,000 available gallons of water in accordance with the Surveillance Frequency Control Program.

4.5.2.4 Verify, for the required ECCS injection/spray subsystem, the piping is filled with water from the pump discharge valve to the injection valve in accordance with the Surveillance Frequency Control Program.

4.5.2.5 Verify, for the required ECCS injection/spray subsystem, each manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position, in accordance with the Surveillance Frequency Control Program. #

4.5.2.6 Operate the required ECCS injection/spray subsystem through the recirculation line for ≥ 10 minutes, in accordance with the Surveillance Frequency Control Program.

4.5.2.7 Verify each valve credited for automatically isolating a penetration flow path actuates to the isolation position on an actual or simulated isolation signal, in accordance with the Surveillance Frequency Control Program

4.5.2.8 Verify the required ECCS injection/spray subsystem actuates on a manual initiation signal, in accordance with the Surveillance Frequency Control Program. ##

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Except that an automatic valve capable of automatic return to its ECCS position when an ECCS signal is present may be in position for another mode of operation.

Vessel injection/spray may be excluded.

3/4.5.3 SUPPRESSION CHAMBER

LIMITING CONDITION FOR OPERATION

3.5.3 The suppression chamber shall be OPERABLE:

a. In OPERATIONAL CONDITION 1, 2 and 3 with an indicated water level of at least 74.5".

b. ~~In OPERATIONAL CONDITION 4 and 5* with an indicated water level of at least 5.0" except that the suppression chamber level may be less than the limit or may be drained provided that:~~

Deleted

~~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 condensate storage tank contains at least 135,000 available gallons of water, and~~

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

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, ~~3, 4~~ and 3.

ACTION:

a. In OPERATIONAL CONDITION 1, 2 or 3 with the suppression chamber 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 chamber 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.~~

Deleted

~~* The suppression chamber 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 spent fuel pool gates are removed when the cavity is flooded, and the water level is maintained within the limits of Specifications 3.9.8 and 3.9.9.~~

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SURVEILLANCE REQUIREMENTS

4.5.3.1 The suppression chamber shall be determined OPERABLE by verifying the water level to be greater than or equal to:

a. 74.5" in accordance with the Surveillance Frequency Control Program in OPERATIONAL CONDITIONS 1, 2, and 3.

~~b. 5.0" in accordance with the Surveillance Frequency Control Program in OPERATIONAL CONDITIONS 4 and 5*.~~

4.5.3.2 ~~With the suppression chamber level less than the above limit or drained in OPERATIONAL CONDITION 4 or 5*, in accordance with the Surveillance Frequency Control Program:~~ Deleted

~~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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3/4.6.5 SECONDARY CONTAINMENT

SECONDARY CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.5.1 SECONDARY CONTAINMENT INTEGRITY shall be maintained.

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

ACTION:

Without SECONDARY CONTAINMENT INTEGRITY:

a. In OPERATIONAL CONDITION 1, 2 or 3, restore SECONDARY CONTAINMENT INTEGRITY within 4 hours 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 *, suspend handling of recently irradiated fuel in the secondary containment ~~and operations with a potential for draining the reactor vessel~~. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.6.5.1 SECONDARY CONTAINMENT INTEGRITY shall be demonstrated by:

a. Verifying in accordance with the Surveillance Frequency Control Program that the reactor building is at a negative pressure.

b. Verifying in accordance with the Surveillance Frequency Control Program that:

1. All secondary containment equipment hatches and blowout panels are closed and sealed.

2. a. For double door arrangements, at least one door in each access to the secondary containment is closed.

   b. For single door arrangements, the door in each access to the secondary containment is closed except for routine entry and exit.

3. All secondary containment penetrations not capable of being closed by OPERABLE secondary containment automatic isolation dampers/valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic dampers/valves secured in position.

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* When recently irradiated fuel is being handled in the secondary containment ~~and during operations with a potential for draining the reactor vessel~~.

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SECONDARY CONTAINMENT AUTOMATIC ISOLATION DAMPERS

LIMITING CONDITION FOR OPERATION

3.6.5.2 The secondary containment ventilation system (RBVS) automatic isolation dampers shown in Table 3.6.5.2-1 shall be OPERABLE with isolation times less than or equal to the times shown in Table 3.6.5.2-1.

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

ACTION:

With one or more of the secondary containment ventilation system automatic isolation dampers shown in Table 3.6.5.2-1 inoperable, maintain at least one isolation damper OPERABLE in each affected penetration that is open and within 8 hours either:

a. Restore the inoperable dampers to OPERABLE status, or

b. Isolate each affected penetration by use of at least one deactivated damper secured in the isolation position, or

c. 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 handling of recently irradiated fuel in the secondary containment ~~and operations with a potential for draining the reactor vessel~~. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.6.5.2 Each secondary containment ventilation system automatic isolation damper shown in Table 3.6.5.2-1 shall be demonstrated OPERABLE:

a Prior to returning the damper to service after maintenance, repair or replacement work is performed on the damper or its associated actuator, control or power circuit by cycling the damper through at least one complete cycle of full travel and verifying the specified isolation time.

b. In accordance with the Surveillance Frequency Control Program by verifying that on a containment isolation test signal each isolation damper actuates to its isolation position.

c. By verifying the isolation time to be within its limit in accordance with the Surveillance Frequency Control Program.

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* When recently irradiated fuel is being handled in the secondary containment ~~and during operations with a potential for draining the reactor vessel~~.

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3.6.5.3 FILTRATION, RECIRCULATION AND VENTILATION SYSTEM (FRVS)

FRVS VENTILATION SUBSYSTEM

LIMITING CONDITION FOR OPERATION

3.6.5.3.1 Two FRVS ventilation units shall be OPERABLE.

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

ACTION:

a. With one of the above required FRVS ventilation units inoperable, restore the inoperable unit to OPERABLE status within 7 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 Operational Condition *, place the OPERABLE FRVS ventilation unit in operation or suspend handling of recently irradiated fuel in the secondary containment ~~and operations with a potential for draining the reactor vessel~~. The provisions of Specification 3.0.3 are not applicable.

b. With both ventilation units inoperable in Operational Condition *, suspend handling of recently irradiated fuel in the secondary containment ~~and operations with a potential for draining the reactor vessel~~. The provisions of Specification 3.0.3. are not applicable.

SURVEILLANCE REQUIREMENTS

4.6.5.3.1 Each of the two ventilation units shall be demonstrated OPERABLE:

a. In accordance with the Surveillance Frequency Control Program by verifying that the water seal bucket traps have a water seal and making up any evaporative losses by filling the traps to the overflow.

b. In accordance with the Surveillance Frequency Control Program by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the subsystem operates for at least 15 minutes.

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* When recently irradiated fuel is being handled in the secondary containment ~~and during operations with a potential for draining the reactor vessel~~.

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3.6.5.3 FILTRATION, RECIRCULATION AND VENTILATION SYSTEM (FRVS)

FRVS RECIRCULATION SUBSYSTEM

LIMITING CONDITION FOR OPERATION

3.6.5.3.2 Six FRVS recirculation units shall be OPERABLE.

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

ACTION:

a. With one or two of the above required FRVS recirculation units inoperable, restore all the inoperable unit(s) to OPERABLE status within 7 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 Operational Condition*, suspend handling of recently irradiated fuel in the secondary containment ~~and operations with a potential for draining the reactor vessel~~. The provisions of Specification 3.0.3 are not applicable.

b. With three or more of the above required FRVS recirculation units inoperable in Operational Condition *, suspend handling of recently irradiated fuel in the secondary containment ~~and operations with a potential for draining the reactor vessel~~. The provisions of Specification 3.0.3 are not applicable.

c. With three or more of the above required FRVS recirculation units inoperable 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.

SURVEILLANCE REQUIREMENTS

4.6.5.3.2 Each of the six FRVS recirculation units shall be demonstrated OPERABLE:

a. In accordance with the Surveillance Frequency Control Program by verifying that the water seal bucket traps have a water seal and making up any evaporative losses by filling the traps to the overflow.

b. In accordance with the Surveillance Frequency Control Program by initiating, from the control room, flow through the HEPA filters and verifying that the subsystem operates for at least 15 minutes.

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* When recently irradiated fuel is being handled in the secondary containment ~~and during operations with a potential for draining the reactor vessel~~.

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3/4.7.2 CONTROL ROOM SYSTEMS

CONTROL ROOM EMERGENCY FILTRATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.2.1 Two control room emergency filtration system subsystems shall be OPERABLE.

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

ACTION:

a. In OPERATIONAL CONDITION 1, 2 or 3

1. With one control room emergency filtration subsystem inoperable for reasons other than Condition a.2, restore the inoperable subsystem 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.

2. With one or more control room emergency filtration subsystems inoperable due to an inoperable control room envelope (CRE) boundary[##],

a. Immediately, initiate action to implement mitigating actions; and

b. Within 24 hours, verify mitigating actions ensure CRE occupant exposures to radiological and chemical hazards will not exceed the limits and actions to mitigate exposure to smoke hazards are taken; and

c. Within 90 days, restore the CRE boundary to operable status;

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

b. In OPERATIONAL CONDITION *:

1. With one control room emergency filtration subsystem inoperable for reasons other than Condition b.3, restore the inoperable subsystem to OPERABLE status within 7 days or initiate and maintain operation of the OPERABLE subsystem in the pressurization/recirculation mode of operation.

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* When recently irradiated fuel is being handled in the secondary containment ~~and during operations with a potential for draining the reactor vessel~~.

The main control room envelope (CRE) boundary may be opened intermittently under administrative control.

LIMITING CONDITION FOR OPERATION (continued)

2. With both control room emergency filtration subsystems inoperable for reasons other than Condition b.3, suspend handling of recently irradiated fuel in the secondary containment ~~and operations with a potential for draining the reactor vessel~~.

3. With one or more control room emergency filtration subsystems inoperable due to an inoperable CRE boundary##, immediately suspend handling of recently irradiated fuel ~~and operations with a potential for draining the vessel~~.

c. The provisions of Specification 3.0.3 are not applicable in OPERATIONAL CONDITION*.

SURVEILLANCE REQUIREMENTS

4.7.2.1.1 Each control room emergency filtration subsystem shall be demonstrated OPERABLE:

a. DELETED

b. In accordance with the Surveillance Frequency Control Program by verifying that the subsystem operates for at least 15 continuous minutes with the heaters on.

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* When recently irradiated fuel is being handled in the secondary containment ~~and during operations with a potential for draining the reactor vessel~~.

The main control room envelope (CRE) boundary may be opened intermittently under administrative control.

CONTROL ROOM AIR CONDITIONING (AC) SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.2.2 Two control room AC subsystems shall be OPERABLE.

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

ACTION:

a. In OPERATIONAL CONDITION 1, 2 or 3:

1. With one control room AC subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 30 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

2. With two control room AC subsystems inoperable:

a. Verify control room air temperature is less than 90°F at least once per 4 hours; and

b. Restore one control room AC subsystem to OPERABLE status within 72 hours.

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

b. In OPERATIONAL CONDITION *:

1. With one control room AC subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 30 days; or place the OPERABLE control room AC subsystem in operation; or immediately suspend movement of recently irradiated fuel assemblies in the secondary containment ~~and initiate action to suspend operations with a potential for draining the reactor vessel~~.

2. With two control room AC subsystems inoperable, immediately suspend movement of recently irradiated fuel assemblies in the secondary containment ~~and initiate action to suspend operations with a potential for draining the reactor vessel~~.

3. The provisions of Specification 3.0.3 are not applicable in Operational Condition *.

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* When recently irradiated fuel is being handled in the secondary containment ~~and during operations with a potential for draining the reactor vessel~~.

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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. Two diesel generators, one of which shall be diesel generator A or diesel generator B, each with:

1. A separate fuel oil day tank containing a minimum of 360 gallons of fuel.

2. A fuel storage system consisting of two storage tanks containing a minimum of 44,800 gallons of fuel.

3. A separate fuel transfer pump for each storage tank.

APPLICABILITY: OPERATIONAL CONDITIONS 4, 5 and *.

ACTION:

a. With less than the above required A.C. electrical power sources OPERABLE, suspend CORE ALTERATIONS, handling of recently 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 stored therein. In addition, when in OPERATIONAL CONDITION 5 with the water level less than 22'-2" above the reactor pressure vessel flange, immediately initiate corrective action to restore the required power sources to OPERABLE status as soon as practical.

b. The provisions of Specification 3.0.3 are not applicable.

c. With one fuel oil transfer pump inoperable, realign the flowpath of the affected tank to the tank with the remaining operable fuel oil transfer pump within 48 hours and restore the inoperable transfer pump to OPERABLE status within 14 days, otherwise declare the affected emergency diesel generator (EDG) inoperable. This variance may be applied to only one EDG at a time.

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 recently irradiated fuel in the secondary containment.

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D.C. SOURCES - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.2.2 As a minimum, two of the following four channels of the D.C. electrical power sources, one of which shall be channel A or channel B, shall be OPERABLE with:

a. Channel A, consisting of:
   1. 125 volt battery 1AD411
   2. 125 volt full capacity charger# 1AD413 or 1AD414

b. Channel B, consisting of:
   1. 125 volt battery 1BD411
   2. 125 volt full capacity charger# 1BD413 or 1BD414.

c. Channel C, consisting of:
   1. 125 volt battery 1CD411
   2. 125 volt full capacity charger# 1CD413 or 1CD414
   3. 125 volt battery 1CD447
   4. 125 volt full capacity charger 1CD444

d. Channel D, consisting of:
   1. 125 volt battery 1DD411
   2. 125 volt full capacity charger# 1DD413 or 1DD414
   3. 125 volt battery 1DD447
   4. 125 volt full capacity charger 1DD444

APPLICABILITY: OPERATIONAL CONDITIONS 4, 5 and *.

ACTION:

a. With less than two channels of the above required D.C. electrical power sources OPERABLE, suspend CORE ALTERATIONS, handling of recently irradiated fuel in the secondary containment ~~and operations with a potential for draining the reactor vessel~~.

b. 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 recently irradiated fuel in the secondary containment.
#Only one full capacity charger per battery is required for the channel to be OPERABLE.

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DISTRIBUTION - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.3.2 As a minimum, 2 of the 4 channels, one of which shall be channel A or channel B, of the power distribution system shall be energized with:

a. A.C. power distribution:

1. Channel A, consisting of:

a) 4160 volt A.C. switchgear bus	10A401
b) 480 volt A.C. load centers	10B410 10B450
c) 480 volt A.C. MCCs	10B212 10B411 10B451 10B553
d) 208/120 volt A.C. distribution panels	10Y401(source:10B411) 10Y411(source:10B451) 10Y501(source:10B553)
e) 120 volt A.C. distribution panels	1AJ481 1YF401(source:1AJ481) 1AJ482

2. Channel B, consisting of:

a) 4160 volt A.C. switchgear bus	10A402
b) 480 volt A.C. load centers	10B420 10B460
c) 480 volt A.C. MCCs	10B222 10B421 10B461 10B563
d) 208/120 volt A.C. distribution panels	10Y402(source:10B421) 10Y412(source:10B461) 10Y502(source:10B563)
e) 120 volt A.C. distribution panels	1BJ481 1YF402(source:1BJ481) 1BJ482

3. Channel C, consisting of:

a) 4160 volt A.C. switchgear bus	10A403
b) 480 volt A.C. load centers	10B430 10B470
c) 480 volt A.C. MCCs	10B232 10B431 10B471 10B573
d) 208/120 volt A.C. distribution panels	10Y403(source:10B431) 10Y413(source:10B471) 10Y503(source:10B573)

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	e) 120 volt A.C. distribution panels	1CJ481 1YF403(source:1CJ481) 1CJ482
4.	Channel D, consisting of:	
	a) 4160 volt A.C. switchgear bus	10A404
	b) 480 volt A.C. load centers	10B440 10B480
	c) 480 volt A.C. MCCs	10B242 10B441 10B481 10B583
	d) 208/120 volt A.C. distribution panels	10Y404(source:10B441) 10Y414(source:10B481) 10Y504(source:10B583)
	e) 120 volt A.C. distribution panels	1DJ481 1YF404(source:1DJ481) 1DJ482

b. D.C. power distribution:

1.	Channel A, consisting of:	
	a) 125 volt D.C. switchgear	10D410
	b) 125 volt D.C. fuse box	1AD412
	c) 125 volt D.C. distribution panel	1AD417
2.	Channel B, consisting of:	
	a) 125 volt D.C. switchgear	10D420
	b) 125 volt D.C. fuse box	1BD412
	c) 125 volt D.C. distribution panel	1BD417
3.	Channel C, consisting of:	
	a) 125 volt D.C. switchgear	10D430 10D436
	b) 125 volt D.C. fuse boxes	1CD412 1CD448
	c) 125 volt D.C. distribution panel	1CD417
4.	Channel D, consisting of:	
	a) 125 volt D.C. switchgear	10D440 10D446
	b) 125 volt D.C. fuse box	1DD412 1DD448
	c) 125 volt D.C. distribution panel	1DD417

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LIMITING CONDITION FOR OPERATION (Continued)

APPLICABILITY: OPERATIONAL CONDITIONS 4, 5 and *.

ACTION:

a. With less than two channels of the above required A.C. distribution system energized, suspend CORE ALTERATIONS, handling of recently irradiated fuel in the secondary containment~~ and operations with a potential for draining the reactor vessel~~.

b. With less than two channels of the above required D.C. distribution system energized, suspend CORE ALTERATIONS, handling of recently irradiated fuel in the secondary containment~~ and operations with a potential for draining the reactor vessel~~.

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 channels shall be determined energized in accordance with the Surveillance Frequency Control Program by verifying correct breaker/switch alignment and voltage on the busses/MCCs/panels.

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*When handling recently irradiated fuel in the secondary containment.