September 11, 1985

Docket No: 50-390

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Mr. H. G. Parris
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Dear Mr. Parris:

Subject: Final Draft Technical Specifications for the Watts Bar Nuclear Plant, Unit 1

Enclosed are replacement pages to the Final Draft Technical Specifications for the Watts Bar Nuclear Plant, Unit 1 which were transmitted to you on December 11, 1984, and amended by letters dated February 15, April 15, and May 20, 1985. These changes are the result of resolution of certain issues on the facility. Since a number of other issues are still under review by the staff, changes to this document may be required prior to issuance.

Please note that any further changes to the Technical Specifications requested by your staff, other than those required to correct editorial and/or typographical errors, are required to be docketed with justification for the requested changes. Accordingly, you are requested to certify under oath and affirmation that the December 11, 1984, Technical Specifications as modified by the February 15, April 15, and May 20, 1985, letters and the attached page changes accurately reflect the as-built facility, the FSAR (as amended), and the SER analysis prior to receipt of the Watts Bar license.

If you have any questions about this matter, please contact the project manager, T. J. Kenyon, at FTS 492-7266.

Sincerely,

Thomas M. Novak, Assistant Director
for Licensing
Division of Licensing

Enclosure:
As stated

cc: See next page

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PDR ADOCK 05000390
A PDR

DESIGNATED ORIGINAL
Certified By Angela Henry

*PREVIOUSLY CONCURRED

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REPLACEMENT PAGES TO THE FINAL DRAFT TECHNICAL SPECIFICATIONS.

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REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES
14. Steam Generator Water Level--Low-Low	≥ 17% of narrow range span between 0 and 35% load, increasing linearly to ≥ 54.9% of narrow range span at 100% of nominal load	≥ 15.0% of narrow range span between 0 and 35% load increasing linearly to ≥ 52.9% of narrow range span at 100% of nominal load
15. Steam Generator Water Level-Low Coincident With Steam/Feedwater Flow Mismatch	< 38% of full steam flow at RATED THERMAL POWER coincident with steam generator water level ≥ 17% narrow range span between 0 and 35% load, increasing linearly to ≥ 54.9% of narrow range span at 100% of nominal load	< 41.5% of full steam flow at RATED THERMAL POWER coincident with steam generator water level ≥ 15.0% of narrow range span between 0 and 35% load, increasing linearly to 52.9% of narrow range span at 100% of nominal load
16. Undervoltage-Reactor Coolant Pumps	≥ 4830 volts-each bus	≥ 4734 volts-each bus
17. Underfrequency-Reactor Coolant Pumps	≥ 57 Hz - each bus	≥ 56.9 Hz - each bus
18. Turbine Trip		
a. Low Trip System Pressure	≥ 45 psig	≥ 43 psig
b. Turbine Stop Valve Closure	≥ 1% open	≥ 1% open
19. Safety Injection Input from ESF	N.A.	N.A.

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TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES
20. Reactor Trip System Interlocks		
a. Intermediate Range Neutron Flux, P-6	$\geq 1 \times 10^{-10}$ amps	$\geq 6 \times 10^{-11}$ amps
b. Low Power Reactor Trips Block, P-7		
1) P-10 Input	10% of RATED THERMAL POWER	$\geq$ 7.6%, $\leq$ 12.4% of RATED THERMAL POWER
2) P-13 Input	$\leq$ 10% RTP Turbine Impulse Pressure Equivalent	$\leq$ 11% RTP Turbine Impulse Pressure Equivalent
c. Power Range Neutron Flux, P-8	$\leq$ 48% of RATED THERMAL POWER	$\leq$ 50.4% of RATED THERMAL POWER
d. Power Range Neutron Flux, P-9	$\leq$ 50% of RATED THERMAL POWER	$\leq$ 52.4% of RATED THERMAL POWER
e. Power Range Neutron Flux, P-10	10% of RATED THERMAL POWER	$\geq$ 7.6, $\leq$ 12.4 of RATED THERMAL POWER
f. Turbine Impulse Chamber Pressure, P-13	$\leq$ 10% RTP Turbine Impulse Pressure Equivalent	$\leq$ 11% RTP Turbine Impulse Pressure Equivalent
21. Reactor Trip Breakers	N.A.	N.A.
22. Automatic Trip and Interlock Logic	N.A.	N.A.

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TABLE 3.3-6 (Continued)

TABLE NOTATIONS

*With fuel in the fuel storage areas.

**400 cpm is equivalent to 1×10^{-5} $\mu Ci/cm^3$ of Xe-133.

ACTION STATEMENTS

ACTION 27 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, within 1 hour isolate the Control Room Ventilation System and initiate operation of the Control Room Ventilation System in the recirculation mode.

ACTION 28 - With less than the Minimum channels OPERABLE requirement, operation may continue for up to 30 days provided an appropriate portable continuous monitor with the same Alarm Setpoint is provided in the fuel storage pool area. Restore the inoperable monitors to OPERABLE status within 30 days or suspend all operations involving fuel movement in the fuel storage pool areas.

ACTION 29 - Must satisfy the ACTION requirement for Specification 3.4.6.1.

TABLE 3.3-10

ACCIDENT MONITORING INSTRUMENTATION

INSTRUMENT	TOTAL NO. OF CHANNELS	MINIMUM CHANNELS OPERABLE
1. Containment Pressure	2	1
2. Reactor Coolant Outlet Temperature - T_{HOT} (Wide Range)	2	1
3. Reactor Coolant Inlet Temperature - T_{COLD} (Wide Range)	2	1
4. Reactor Coolant Pressure - Wide Range	2	1
5. Pressurizer Water Level	2	1
6. Steam Line Pressure	2/steam line	1/steam line
7. Steam Generator Water Level - Narrow Range	1/steam generator	1/steam generator
8. Steam Generator Water Level - Wide Range	1/steam generator	1/steam generator
9. Refueling Water Storage Tank Water Level	2	1
10. Auxiliary Feedwater Flow Rate	2/steam generator	1/steam generator
11. Reactor Coolant System Subcooling Margin Monitor	2	1
12. PORV Position Indicator*	2/Valve	1/Valve
13. PORV Block Valve Position Indicator**	2/Valve	1/Valve
14. Safety Valve Position Indicator	2/Valve	1/Valve
15. Containment Sump Water Level	2	1
16. In Core Thermocouples	4/core quadrant	2/core quadrant
17. Essential Raw Cooling Water Flow	2	1

*Not applicable if the associated block valve is in the closed position.
**Not applicable if the block valve is verified closed with power to the valve operator removed.

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TABLE 4.3-7

ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION
1. Containment Pressure	M	R
2. Reactor Coolant Outlet Temperature - T_{HOT} (Wide Range)	M	R
3. Reactor Coolant Inlet Temperature - T_{COLD} (Wide Range)	M	R
4. Reactor Coolant Pressure - Wide Range	M	R
5. Pressurizer Water Level	M	R
6. Steam Line Pressure	M	R
7. Steam Generator Water Level - Narrow Range	M	R
8. Steam Generator Water Level - Wide Range	M	R
9. Refueling Water Storage Tank Water Level	M	R
10. Auxiliary Feedwater Flow Rate	M	R
11. Reactor Coolant System Subcooling Margin Monitor	M	R
12. PORV Position Indicator	M	R
13. PORV Block Valve Position Indicator	M	R
14. Safety Valve Position Indicator	M	R
15. Containment Sump Water Level	M	R
16. In Core Thermocouples	M	R
17. Essential Raw Cooling Water Flow	M	R

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INSTRUMENTATION

FIRE DETECTION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.7 As a minimum, the fire detection instrumentation for each fire detection zone shown in Table 3.3-11 shall be OPERABLE.

APPLICABILITY: Whenever equipment protected by the fire detection instrument is required to be OPERABLE.

ACTION:

a. With any, but not more than one-half the total in any fire zone, Function A fire detection instrument shown in Table 3.3-11 inoperable, restore the inoperable instrument(s) to OPERABLE status within 14 days or within the next 1 hour establish a fire watch patrol to inspect the zone(s) with the inoperable instrument(s) at least once per hour, unless the instrument(s) is located inside the containment, then inspect that containment zone at least once per 8 hours or monitor the containment air temperature at least once per hour at the location listed in Specification 4.6.1.5.

b. With more than one-half of the Function A fire detection instruments in any fire zone shown in Table 3.3-11 inoperable, or with any Function B fire detection instruments shown in Table 3.3-11 inoperable, or with any two or more adjacent fire detection instrument shown in Table 3.3-11 inoperable, within 1 hour establish a fire watch patrol to inspect the zone(s) with the inoperable instrument(s) at least once per hour, unless the instrument(s) is located inside the containment, then inspect that containment zone at least once per 8 hours or monitor the containment air temperature at least once per hour at the locations listed in Specification 4.6.1.5.

c. With an automatic suppression system inoperable due to the inoperability of Function B detectors within a given zone, comply with the ACTIONS stated for Specification 3.7.11.2 or 3.7.11.3, as applicable, unless the zone is located inside the containment, then inspect that containment zone at least once per 8 hours or monitor the containment air temperature at least once per hour at the locations listed in Specification 3.6.1.5.

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

SURVEILLANCE REQUIREMENTS

4.3.3.7.1 Each of the above required smoke detection instruments which are accessible during plant operation shall be demonstrated OPERABLE at least once per 6 months by performance of a TRIP ACTUATING DEVICE OPERATIONAL TEST. Fire detectors which are not accessible during plant operation shall be demonstrated OPERABLE by the performance of a TRIP ACTUATING DEVICE OPERATIONAL TEST during each COLD SHUTDOWN exceeding 24 hours unless performed in the previous 6 months.

4.3.3.7.2 The NFPA Standard 72D supervised circuits supervision associated with the detector alarms of each of the above required fire detection instruments shall be demonstrated OPERABLE at least once per 6 months.

SURVEILLANCE REQUIREMENTS (Continued)

4.3.3.7.3 One of the above required infrared or thermal detection instruments in each zone which are accessible during plant operation shall be demonstrated OPERABLE at least once per 6 months by performing a TRIP ACTUATING DEVICE OPERATIONAL TEST. Fire detectors which are not accessible during plant operation shall be demonstrated OPERABLE by the performance of a TRIP ACTUATING DEVICE OPERATIONAL TEST on one of the above required infrared or thermal detection instruments in each zone during each COLD SHUTDOWN exceeding 24 hours unless performed in the previous 6 months. Detectors shall be selected from the previously untested instruments until all infrared or thermal detectors have been tested.

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TABLE 3.3-11

FIRE DETECTION INSTRUMENTATION

ZONE	INSTRUMENT LOCATION	TOTAL NUMBER OF INSTRUMENTS** HEAT (x/y)	FLAME (x/y)	SMOKE (x/y)
A.	Diesel Generator Building			
1	Diesel Gen. Rm. 2B-B, El. 742	0/5		
2	Diesel Gen. Rm. 2B-B, El. 742	0/5		
3	Diesel Gen. Rm. 1B-B, El. 742	0/5		
4	Diesel Gen. Rm. 1B-B, El. 742	0/5		
5	Diesel Gen. Rm. 2A-A, El. 742	0/5		
6	Diesel Gen. Rm. 2A-A, El. 742	0/5		
7	Diesel Gen. Rm. 1A-A, El. 742	0/5		
8	Diesel Gen. Rm. 1A-A, El. 742	0/5		
9	Lube Oil Storage Rm., El. 742	0/1		
10	Lube Oil Storage Rm., El. 742	0/1		
11	Fuel Oil Transfer Rm., El. 742	0/1		
12	Fuel Oil Transfer Rm., El 742	0/1		
13	Diesel Gen. Corridor, El. 742	0/6		
14	Air Intake & Exhaust Rm. 2B, El. 760	10/0		
15	Air Intake & Exhaust Rm. 1B, El. 760	10/0		
16	Air Intake & Exhaust Rm. 2A, El. 760	10/0		
17	Air Intake & Exhaust Rm. 1B, El. 760	10/0		
18	Diesel Gen. 2B-B Relay Bd. El. 742			3/0
19	Diesel Gen. 1B-B Relay Bd. El. 742			3/0
20	Diesel Gen. 2A-A Relay Bd. El. 742			3/0
21	Diesel Gen. 1A-A Relay Bd. El. 742			3/0
22	Diesel Gen. Board Rm. 2B-B, El. 760			0/2
23	Diesel Gen. Board Rm. 2B-B, El. 760			0/2

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TABLE 3.3-11 (Continued)

FIRE DETECTION INSTRUMENTATION

ZONE	INSTRUMENT LOCATION	TOTAL NUMBER OF INSTRUMENTS** HEAT (x/y)	FLAME (x/y)	SMOKE (x/y)
A.	Diesel Generator Building (Continued)			
24	Diesel Gen. Board Rm. 1B-B, El. 760			0/2
25	Diesel Gen. Board Rm. 1B-B, El. 760			0/2
26	Diesel Gen. Board Rm. 2A-A, El. 760			0/2
27	Diesel Gen. Board Rm. 2A-A, El. 760			0/2
28	Diesel Gen. Board Rm. 1A-A, El. 760			0/2
29	Diesel Gen. Board Rm. 1A-A, El. 760			0/2
36	DGB Tr B Conduit Entry, El. 742			0/1
37	DGB Tr A Conduit Entry, El. 742			0/1
B.	Control Building			
30	Cable Spreading Rm. C7-C11, El. 729			0/15
31	Cable Spreading Rm. C7-C11, El. 729			0/15
32	Cable Spreading Rm. C7-C11, El. 729			0/15
33	Cable Spreading Rm. C7-C11, El. 729			0/15
34	Cable Spreading Rm. C3-C7, El. 729			0/15
35	Cable Spreading Rm. C3-C7, El. 729			0/15
149	Cable Spreading Rm. C3-C7, El. 729			0/15
150	Cable Spreading Rm. C3-C7, El. 729			0/15
48	Control Bldg. Corridor, El. 692			0/4
49	Control Bldg. Corridor, El. 692			0/4
68	Mech. Equip. Rm., Col. C11, El. 692			0/2
69	Mech. Equip. Rm., Col. C11, El. 692			0/2
66	Communications Rm., El. 692			0/4
67	Communications Rm., El. 692			0/4

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TABLE 3.3-11 (Continued)

FIRE DETECTION INSTRUMENTATION

ZONE	INSTRUMENT LOCATION	TOTAL NUMBER OF INSTRUMENTS** HEAT (x/y)	FLAME (x/y)	SMOKE (x/y)
B.	Control Building (Continued)			
214	Mech. Equip. Rm., Col. C1-C2, El. 755			0/5
215	Mech. Equip. Rm., Col. C1-C2, El. 755			0/5
216	CR Fltr. B, Duct Det., El. 755			0/1
217	CR Fltr. B, Duct Det., El. 755			0/1
218	CR Fltr. A, Duct Det., El. 755			0/1
219	CR Fltr. A, Duct Det., El. 755			0/1
220	Main CR, El. 755			27/0
226	Electric Cont. Bds., El. 755			12/0
229	Main Cont. Bds., El. 755			8/0
221	Tech Support Center, El. 755			0/6
222	Tech Support Center, El. 755			0/6
223	PSO Eng. Shop, El. 755			0/1
224	PSO Eng. Shop, El. 755			0/1
225	Relay Bd. Rm., El. 755			11/0
227	Operation Living Area, El. 755			0/8
228	Operation Living Area, El. 755			0/8
267	Aux. Instr. Rm., Unit 1, El. 708			0/8
268	Aux. Instr. Rm., Unit 1, El. 708			0/10
269	Computer Rm., El. 708			0/4
270	Computer Rm., El. 708			0/4
271	Aux. Instr. Rm., Unit 2, El. 708			0/8
272	Aux. Instr. Rm., Unit 2, El. 708			0/10
273	Computer Rm. Corridor, El. 708			3/0

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TABLE 3.3-11 (Continued)

FIRE DETECTION INSTRUMENTATION

ZONE	INSTRUMENT LOCATION	TOTAL NUMBER OF INSTRUMENTS** HEAT (x/y)	FLAME (x/y)	SMOKE (x/y)
B.	Control Building (Continued)			
298	Common Main Cont. Boards & M-15, El. 755			12/0
412	Duplex Relay Bds., El. 755			4/0
50	Mech. Equip. Rm. Col. C1, El. 692			0/2
51	Mech. Equip. Rm. Col. C1, El. 692			0/2
52	Mech. Equip. Rm. Col. C3, El. 692			0/2
53	Mech. Equip. Rm. Col. C3, El. 692			0/2
54	Battery Rm., El. 692			0/3
55	Battery Rm., El. 692			0/3
56	Battery Bd. Rm., El. 692			2/0
57	Battery Bd. Rm., El. 692			2/0
58	Battery Bd. Rm., El. 692			2/0
59	Battery Bd. Rm., El. 692			2/0
60	Battery Rm., El. 692			0/3
61	Battery Rm., El. 692			0/3
62	Battery Rm., El. 692			0/3
63	Battery Rm., El. 692			0/3
64	Battery Bd. Rm., El. 692			2/0
65	Battery Bd. Rm., El. 692			2/0
387	Control/Turbine Bldg. Wall	0/26		
C.	Auxiliary Building			
39	Cont. Spray Pump 1A-A, El. 676			2/0
40	Cont. Spray Pump 1B-B, El. 676			2/0

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TABLE 3.3-11 (Continued)

FIRE DETECTION INSTRUMENTATION

ZONE	INSTRUMENT LOCATION	TOTAL NUMBER OF INSTRUMENTS** HEAT (x/y)	FLAME (x/y)	SMOKE (x/y)
C.	Auxiliary Building (Continued)			
43	RHR Pump 1A-A, El. 676			2/0
44	RHR Pump 1B-B, El. 676			2/0
47	Corridor of Aux. Bldg., El. 676			11/0
70	A5-A11, Col. W-X, El. 692			0/5
71	A5-A11, Col. W-X, El. 692			0/5
72	Aux. FW Pump Turbine 1A-S, El. 692			0/1
73	Aux. FW Pump Turbine 1A-S, El. 692			0/1
76	S.I. & Charging Pump Rms., El. 692			0/5
77	S.I. Pump Rm. 1A, El. 692			0/1
78	S.I. Pump Rm. 1B, El. 692			0/1
79	Charging Pump Rm. 1C, El. 692			0/1
80	Charging Pump Rm. 1B, El. 692			0/1
81	Charging Pump Rm. 1A, El. 692			0/1
88	Aux. Bldg. Corridor A1-A8, El. 692			0/8
89	Aux. Bldg. Corridor A1-A8, El. 692			0/8
90	Aux. Bldg. Corridor A8-A15, El. 692			0/8
91	Aux. Bldg. Corridor A8-A15, El. 692			0/8
92	Aux. Bldg. Corridor Col. U-W, El. 692			0/4
93	Aux. Bldg. Corridor Col. U-W, El. 692			0/4
94	Pipe Gallery, El. 692			0/2
95	Pipe Gallery, El. 692			0/2

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TABLE 3.3-11 (Continued)

FIRE DETECTION INSTRUMENTATION

ZONE	INSTRUMENT LOCATION	TOTAL NUMBER OF INSTRUMENTS** HEAT (x/y)	FLAME (x/y)	SMOKE (x/y)
C.	Auxiliary Building (Continued)			
98	Cntmt. Purge Air Fltr., A & B, Duct. Det., El. 713			0/2
99	Cntmt. Purge Air Fltr., A & B, Duct. Det., El. 713			0/2
102	Pipe Gallery, El. 713			0/4
103	Pipe Gallery, El. 713			0/4
106	Aux. Bldg. A5-A11, Col. T-W, El. 713			0/8
107	Aux. Bldg. A5-A11, Col. T-W, El. 713			0/8
108	Radio Chemical Lab. Area, El. 713			0/3
109	Radio Chemical Lab. Area, El. 713			0/3
110	Aux. Bldg. A1-A8, Col. Q-U, El. 713			0/18
111	Aux. Bldg. A1-A8, Col. Q-U, El. 713			0/19
112	Aux. Bldg. A8-A15, Col. Q-U, El. 713			0/9
113	Aux. Bldg. A8-A15, Col. Q-U, El. 713			0/9
114	Waste Packaging Area, El. 729			0/3
115	Waste Packaging Area, El. 729			0/3
116	Cask Loading Area, El. 729			0/2
117	Cask Loading Area, El. 729			0/2
118	New Fuel Storage Area			4/0
120	Aux. Bldg. Gas Trtmt. Fltr., El. 737			0/1
121	Aux. Bldg. Gas Trtmt. Fltr., El. 737			0/1
123	Vol. Control Tank Rm. 1A, El. 713			0/3
125	Vol. Control Tank Rm. 1A, El. 713			0/3
128	Post Accident Samp. Fac. U-1, El. 729			0/3
129	Post Accident Samp. Fac. U-1, El. 729			0/3

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TABLE 3.3-11 (Continued)

FIRE DETECTION INSTRUMENTATION

ZONE	INSTRUMENT LOCATION	TOTAL NUMBER OF INSTRUMENTS** HEAT (x/y)	FLAME (x/y)	SMOKE (x/y)
C.	Auxiliary Building (Continued)			
132	Ventilation & Purge Air Rm., El. 737			0/5
133	Ventilation & Purge Air Rm., El. 737			0/5
134	Aux. Bldg. A5-A11, Col. U-W, El. 737			0/7
135	Aux. Bldg. A5-A11, Col. U-W, El. 737			0/7
136	Heating & Vent Rm., El. 737			0/4
137	Heating & Vent Rm., El. 737			0/4
140	Hot Instrument Shop, El. 737			0/1
141	Hot Instrument Shop, El. 737			0/1
142	Aux. Bldg. A1-A8, Col. Q-U, El. 737			0/13
143	Aux. Bldg. A1-A8, Col. Q-U, El. 737			0/13
144	Aux. Bldg. A8-A15, Col. Q-U, El. 737			0/10
145	Aux. Bldg. A8-A15, Col. Q-U, El. 737			0/10
146	N_2 Storage, El. 729			4/0
155	Refueling Rm., El. 757			21/0
156	Reactor Bldg. Access Rm., El. 757			0/2
157	Reactor Bldg. Access Rm., El. 757			0/2
160	SG Blwdn. Rm. (Reverse Osmosis), El. 757			0/4
161	SG Blwdn. Rm., El. 757			0/4
162	EGTS Rm., El. 757			0/3
163	EGTS Rm., El. 757			0/3
164	EGTS Fltr. A, El. 757			0/1
165	EGTS Fltr. A, El. 757			0/1
166	EGTS Fltr. B, El. 757			0/1

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TABLE 3.3-11 (Continued)

FIRE DETECTION INSTRUMENTATION

ZONE	INSTRUMENT LOCATION	TOTAL NUMBER OF INSTRUMENTS** HEAT (x/y)	FLAME (x/y)	SMOKE (x/y)
C.	Auxiliary Building (Continued)			
167	EGTS Fltr. B, El. 757			0/1
168	Reactor Bldg. Equip. Hatch, El. 757			0/1
169	Reactor Bldg. Equip. Hatch, El. 757			0/1
172	Mech. Eqpt. Rm., El. 757			0/1
173	Mech. Eqpt. Rm., El. 757			0/1
176	480V Shtdn. Bd. Rm. 1A1, El. 757			0/2
177	480V Shtdn. Bd. Rm. 1A1, El. 757			0/2
178	480V Shtdn. Bd. Rm. 1A2, El. 757			0/2
179	480V Shtdn. Bd. Rm. 1A2, El. 757			0/2
180	480V Shtdn. Bd. Rm. 1B1, El. 757			0/2
181	480V Shtdn. Bd. Rm. 1B1, El. 757			0/2
182	480V Shtdn. Bd. Rm. 1B2, El. 757			0/3
183	480V Shtdn. Bd. Rm. 1B2, El. 757			0/3
184	6.9kV Shtdn. Bd. Rm. A, El. 757			0/6
185	6.9kV Shtdn. Bd. Rm. A, El. 757			0/6
186	6.9kV Shtdn. Bd. Rm. B, El. 757			0/6
187	6.9kV Shtdn. Bd. Rm. B, El. 757			0/6
188	480V Shtdn. Bd. Rm. 2A1, El. 757			0/2
189	480V Shtdn. Bd. Rm. 2A1, El. 757			0/2
190	480V Shtdn. Bd. Rm. 2A2, El. 757			0/3
191	480V Shtdn. Bd. Rm. 2A2, El. 757			0/3
192	480V Shtdn. Bd. Rm. 2B1, El. 757			0/2
193	480V Shtdn. Bd. Rm. 2B1, El. 757			0/2

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TABLE 3.3-11 (Continued)

FIRE DETECTION INSTRUMENTATION

ZONE	INSTRUMENT LOCATION	TOTAL NUMBER OF INSTRUMENTS** HEAT (x/y)	FLAME (x/y)	SMOKE (x/y)
C.	Auxiliary Building (Continued)			
194	480V Shtdn. Bd. Rm. 2B2, El. 757			0/2
195	480V Shtdn. Bd. Rm. 2B2, El. 757			0/2
196	125V Batt. Bd. Rm. I, El. 757			2/0
198	125V Batt. Bd. Rm. II, El. 757			2/0
200	125V Batt. Bd. Rm. III, El. 757			2/0
202	125V Batt. Bd. Rm. IV, El. 757			2/0
204	Aux. CR, El. 757			0/2
205	Aux. CR, El. 757			0/2
206	Aux. Cr Inst. Rm. 1A, El. 757			0/1
207	Aux. Cr Inst. Rm. 1A, El. 757			0/1
208	Aux. Cr Inst. Rm. 1B, El. 757			0/1
209	Aux. Cr Inst. Rm. 1B, El. 757			0/1
210	Aux. Cr Inst. Rm. 2A, El. 757			0/1
211	Aux. Cr Inst. Rm. 2A, El. 757			0/1
212	Aux. Cr Inst. Rm. 2B, El. 757			0/1
213	Aux. Cr Inst. Rm. 2B, El. 757			0/1
230	Aux. CR Bds. L-4A, 4C, 11A & 10, El. 757			12/0
296	Aux. CR Bds. L-4B, 4D & 11B, El. 757			8/0
235	Ctrl. Rod Dr. Eqpt. Rm., El. 782			0/4
236	Ctrl. Rod Dr. Eqpt. Rm., El. 782			0/4
237	Mech. Eqpt. Rm., El. 772			0/2
238	Mech. Eqpt. Rm., El. 772			0/2
241	480V XFMR Rm. 1A, El. 772			0/3

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TABLE 3.3-11 (Continued)

FIRE DETECTION INSTRUMENTATION

ZONE	INSTRUMENT LOCATION	TOTAL NUMBER OF INSTRUMENTS** HEAT (x/y)	FLAME (x/y)	SMOKE (x/y)
C.	Auxiliary Building (Continued)			
242	480V XFMR Rm. 1A, El. 772			0/3
243	480V XFMR Rm. 1B, El. 772			0/3
244	480V XFMR Rm. 1B, El. 772			0/3
245	480V XFMR Rm. 2A, El. 772			0/3
246	480V XFMR Rm. 2A, El. 772			0/3
247	480V XFMR Rm. 2B, El. 772			0/3
248	480V XFMR Rm. 2B, El. 772			0/3
249	125V Batt. Rm. I, El. 772			2/0
251	125V Batt. Rm. II, El. 772			2/0
253	125V Batt. Rm. III, El. 772			2/0
255	125V Batt. Rm. IV, El. 772			2/0
257	480V Bd. Rm. 1B, El. 772			0/4
258	480V Bd. Rm. 1B, El. 772			0/4
259	480V Bd. Rm. 1A, El. 772			0/4
260	480V Bd. Rm. 1A, El. 772			0/4
261	480V Bd. Rm. 2A, El. 772			0/4
262	480V Bd. Rm. 2A, El. 772			0/4
263	480V Bd. Rm. 2B, El. 772			0/4
264	480V Bd. Rm. 2B, El, 772			0/4
330	Pipe Chase, U-1, El. 737, 713, 692			20/0
332	North Main Stm. Vlv. Rm., El. 737			9/0
333	South Main Stm. Vlv. Rm., El. 737			10/0
455	Post Accident Samp. Fac., U-1, El. 737			0/2
456	Post Accident Samp. Fac., U-1, El. 737			0/2
D.	Additional Equipment Building			
122	Add. Eqpt. Bldg., Unit 1, El. 729			6/0
154	Add. Eqpt. Bldg., Unit 1, El. 763.5			6/0
231	Add. Eqpt. Bldg., El. 786.5			4/0

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TABLE 3.3-11 (Continued)

FIRE DETECTION INSTRUMENTATION

ZONE	INSTRUMENT LOCATION	TOTAL NUMBER OF INSTRUMENTS** HEAT (x/y)	FLAME (x/y)	SMOKE (x/y)
D.	Additional Equipment Building (Continued)			
232	Add. Eqpt. Bldg., El. 775.25			4/0
E.	Intake Pumping Station			
250	ERCW Pmp. Rm., El. 741	4/0		
277	Strainer Rm., El. 722			18/0
278	ECRW Pmp. Rm., El 741	4/0		
405	Elect. Bd. Rm., El. 711			0/5
406	Elect. Bd. Rm., El. 711			0/5
F.	Containment#			
352	Lwr. Compt. Coolers, El. 716			4/0
354	Upr. Compt. Coolers, El. 801			4/0
356	RCP 2, El. 716		0/2	
357	RCP 2, El. 716	0/2		
360	RCP 1, El. 716		0/2	
361	RCP 1, El. 716	0/2		
364	RCP 3, El. 716		0/2	
365	RCP 3, El. 716	0/2		
368	RCP 4, El. 716		0/2	
369	RCP 4, El. 716	0/2		
372	Reactor Bldg. Annulus			0/20
373	Reactor Bldg. Annulus			0/19
457	Reactor Bldg. Annulus			0/9
458	Reactor Bldg. Annulus			0/8

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TABLE 3.3-11 (Continued)

FIRE DETECTION INSTRUMENTATION

ZONE	INSTRUMENT LOCATION	TOTAL NUMBER OF INSTRUMENTS** HEAT (x/y)	FLAME (x/y)	SMOKE (x/y)
G.	Additional Diesel Generator Building			
425	Add. D/G Rm., Fuel Trf. Rm. & Pipe Gallery	0/8		
426	Add. D/G Rm., Fuel Trf. Rm. & Pipe Gallery	0/8		
427	Add. D/G Rm., Bd. Rm.			0/4
428	Add. D/G Rm., Bd. Rm.			0/4
429	Add. D/G Rm., C-S Relay Bd.			3/0
430	Add. D/G Rm., Corridor Fire Prot. Rm., Closet, Intake & Exhaust Rm.	11/0		4/0
432	Add. D/G B Conduit Interface Rm.			9/0

**(x/y): x is a number of Function A (early warning fire detection and notification only) instruments.
y is number of Function B (actuation of fire suppression systems and early warning and notification) instruments.

#The fire detection instruments located within the containment are not required to be OPERABLE during the performance of Type A containment leakage rate tests.

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INSTRUMENTATION

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.8 The radioactive liquid effluent monitoring instrumentation channels shown in Table 3.3-12 shall be OPERABLE with their Alarm/Trip Setpoints set to ensure that the limits of Specification 3.11.1.1 are not exceeded. The Alarm/Trip Setpoints of these channels shall be determined and adjusted in accordance with the methodology and parameters in the OFFSITE DOSE CALCULATION MANUAL (ODCM).

APPLICABILITY: At all times.

ACTION:

a. With a radioactive liquid effluent monitoring instrumentation channel Alarm/Trip Setpoint less conservative than required by the above specification, immediately suspend the release of radioactive liquid effluents monitored by the affected channel or declare the channel inoperable.

b. With less than the minimum number of radioactive liquid effluent monitoring instrumentation channels OPERABLE take the ACTION shown in Table 3.3-12. Restore the inoperable instrumentation to OPERABLE status within the time specified in the ACTION or explain in the next Semiannual Radioactive Effluent Release Report, pursuant to Specification 6.9.1.7 why this inoperability was not corrected within the time specified.

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

SURVEILLANCE REQUIREMENTS

4.3.3.8 Each radioactive liquid effluent monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, SOURCE CHECK, CHANNEL CALIBRATION, and ANALOG CHANNEL OPERATIONAL TEST at the frequencies shown in Table 4.3-8.

TABLE 3.3-12

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	ACTION
1. Radioactivity Monitors Providing Alarm and Automatic Termination of Release		
a. Waste Disposal System Liquid Effluent Line (RE-90-122)	1	31
b. Steam Generator Blowdown Effluent Line (RE-90-120 and 121)	1	32
c. Condensate Demineralizer Regenerant Effluent Line (RE-90-225)	1	31
2. Radioactivity Monitors Providing Alarm But Not Providing Automatic Termination of Release		
a. Essential Raw Cooling Water Effluent Line (RE-90-133 & 90-140 or RE-90-134 & 90-141)	1/discharge header	33
b. Turbine Building Sump Effluent Line (RE-90-212)	1	33
c. Plant Liquid Discharge Line (RE-90-211)	1	33
3. Flow Rate Measurement Devices		
a. Waste Disposal System Liquid Radwaste Effluent Line	1	34
b. Steam Generator Blowdown Effluent Line	1	34
c. Condensate Demineralizer Regenerant Effluent Line	1	34
d. Diffuser Discharge Effluent Line	1	34
4. Tank Level Indicating Devices		
a. Condensate Storage Tank	1	35
b. Steam Generator Layup Tank*	1	35

*Required when connected to the Secondary Coolant System.

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TABLE 3.3-12 (Continued)

ACTION STATEMENTS

ACTION 31 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 14 days provided that prior to initiating a release:

a. At least two independent samples are analyzed in accordance with Specification 4.11.1.1.1, and

b. At least two technically qualified members of the facility staff independently verify the release rate calculations and discharge line valving.

Otherwise, suspend release of radioactive effluents via this pathway.

ACTION 32 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided grab samples are analyzed for radioactivity at a limit of detection of no more than 10-7 microCurie/ml:

a. At least once per 12 hours when the specific activity of the secondary coolant is greater than 0.01 microCurie/gram DOSE EQUIVALENT I-131, or

b. At least once per 24 hours when the specific activity of the secondary coolant is less than or equal to 0.01 microCurie/gram DOSE EQUIVALENT I-131.

ACTION 33 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided that, at least once per 12 hours, grab samples are collected and analyzed for radioactivity at a lower limit of detection of no more than 10-7 microCurie/ml.

ACTION 34 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided the flow rate is estimated at least once per 4 hours during actual releases. Pump performance curves generated in place may be used to estimate flow.

ACTION 35 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, liquid additions to this tank may continue provided the tank liquid level is estimated during all liquid additions to the tank.

TABLE 4.3-8

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	SOURCE CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST
1. Radioactivity Monitors Providing Alarm and Automatic Termination of Release				
a. Waste Disposal System Liquid Effluent Line (RE-90-122)	D	P	R(3)	Q(1)
b. Steam Generator Blowdown Effluent Line (RE-90-120 and 121)	D	M	R(3)	Q(2)(5)
c. Condensate Demineralizer Regenerant Effluent Line (RE-90-225)	D	M	R(3)	Q(2)(5)
2. Radioactivity Monitors Providing Alarm But Not Providing Automatic Termination of Release				
a. Essential Raw Cooling Water Effluent Line (RE-90-133 & 90-140 or RE-90-134 & 90-141)	D	M	R(3)	Q(2)
b. Turbine Building Sump Effluent Line (RE-90-212)	D	M	R(3)	Q(2)
c. Plant Liquid Discharge Line (RE-90-211)	D	M	R(3)	Q(2)
3. Flow Rate Measurement Devices				
a. Waste Disposal System Liquid Effluent Line	D(4)	N.A.	R	Q
b. Steam Generator Blowdown Effluent Line	D(4)	N.A.	R	Q
c. Condensate Demineralizer Regenerant Effluent Line	D(4)	N.A.	N.A.	N.A.
d. Diffuser Discharge Effluent Line	D(4)	N.A.	R	Q
4. Tank Level Indicating Devices				
a. Condensate Storage Tank	D*	N.A.	R	Q
b. Steam Generator Layup Tank	D*	N.A.	R	N.A.

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TABLE 4.3-8 (Continued)

TABLE NOTATIONS

* During liquid additions to the tank.

(1) The ANALOG CHANNEL OPERATIONAL TEST shall also demonstrate that automatic isolation of this pathway and control room alarm annunciation occurs if any of the following conditions exists:

a. Instrument indicates measured levels above the Alarm/Trip Setpoint, or

b. Circuit failure, or

c. Instrument indicates downscale failure.

(2) The ANALOG CHANNEL OPERATIONAL TEST shall also demonstrate that control room alarm annunciation occurs if any of the following conditions exists:

a. Instrument indicates measured levels above the Alarm Setpoint, or

b. Circuit failure, or

c. Instrument indicates downscale failure.

(3) The initial CHANNEL CALIBRATION shall be performed using one or more of the reference standards certified by the National Bureau of Standards (NBS) or using standards that have been obtained from suppliers that participate in measurement assurance activities with NBS. These standards shall permit calibrating the system over its intended range of energy and measurement range. For subsequent CHANNEL CALIBRATION, sources that have been related to the initial calibration shall be used.

(4) CHANNEL CHECK shall consist of verifying indication of flow during periods of release. CHANNEL CHECK shall be made at least once per 24 hours on days on which continuous, periodic, or batch releases are made.

(5) The ANALOG CHANNEL OPERATIONAL TEST shall also demonstrate that automatic isolation of this pathway occurs if the instrument indicates measured levels above the Alarm Setpoint.

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INSTRUMENTATION

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.9 The radioactive gaseous effluent monitoring instrumentation channels shown in Table 3.3-13 shall be OPERABLE with their Alarm/Trip Setpoints set to ensure that the limits of Specifications 3.11.2.1 and 3.11.2.5 are not exceeded. The Alarm/Trip Setpoints of these channels meeting Specification 3.11.2.1 shall be determined and adjusted in accordance with the methodology and parameters in the ODCM.

APPLICABILITY: As shown in Table 3.3-13

ACTION:

a. With a radioactive gaseous effluent monitoring instrumentation channel Alarm/Trip Setpoint less conservative than required by the above specification, immediately suspend the release of radioactive gaseous effluents monitored by the affected channel, or declare the channel inoperable.

b. With less than the minimum number of radioactive gaseous effluent monitoring instrumentation channels OPERABLE, take the ACTION shown in Table 3.3-13. Restore the inoperable instrumentation to OPERABLE status within the time specified in the ACTION, or explain in the next Semiannual Radioactive Effluent Release Report pursuant to Specification 6.9.1.7 why this inoperability was not corrected within the time specified.

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

SURVEILLANCE REQUIREMENTS

4.3.3.9 Each radioactive gaseous effluent monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, SOURCE CHECK, CHANNEL CALIBRATION, and ANALOG CHANNEL OPERATIONAL TEST at the frequencies shown in Table 4.3-9.

TABLE 3.3-13

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	APPLICABILITY	ACTION
1. WASTE GAS HOLDUP SYSTEM (RE-90-118)			
a. Noble Gas Activity Monitor - Providing Alarm and Automatic Termination of Release	1	*	37
b. Effluent System Flow Rate Measuring Device	1	*	38
2. WASTE GAS HOLDUP SYSTEM Explosive Gas Monitoring System			
a. Hydrogen Monitor	1	**	40
b. Oxygen Monitor	1	**	40
3. Condenser Vacuum Exhaust System (RE-90-119 or RE-90-99)			
a. Noble Gas Activity Monitor	1	*	39
b. Effluent System Flow Rate Measuring Device	1	*	38
c. Monitor Flow Rate Measuring Device	1	*	38
d. Iodine Sampler	1	****	41
e. Particulate Sampler	1	****	41
f. Sampler Flow Rate Measuring Device	1	****	38
4. Shield Building Exhaust System (RE-90-400)			
a. Noble Gas Activity Monitor (Low Range)	1	***	39
b. Iodine Sampler	1	***	41
c. Particulate Sampler	1	***	41
d. Effluent System Flow Rate Measuring Device	1	***	38
e. Sampler Flow Rate Measuring Device	1	***	38
f. Monitor Flow Rate Measuring Device	1	***	38

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TABLE 3.3-13 (Continued)

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	APPLICABILITY	ACTION
5. Auxiliary Building Ventilation System And Fuel Handling Area Ventilation System (RE-90-101)			
a. Noble Gas Activity Monitor - Providing Alarm and Automatic Termination of Release	1	*	39
b. Iodine Sampler	1	*	41
c. Particulate Sampler	1	*	41
d. Effluent System Flow Rate Measuring Device	1	*	38
e. Sampler Flow Rate Measuring Device	1	*	38
f. Monitor Flow Rate Measuring Device	1	*	38
6. Service Building Ventilation System (RE-90-132)			
a. Noble Gas Activity Monitor	1	*	39
b. Effluent System Flow Rate Measuring Device	1	*	38
c. Monitor Flow Rate Measuring Device	1	*	38
7. Containment Purge and Exhaust System (RE-90-130/131) Noble Gas Activity Monitor - Providing Alarm and Automatic Termination of Release	1	*	42

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TABLE 3.3-13 (Continued)

TABLE NOTATIONS

* At all times.

** During WASTE GAS HOLDUP SYSTEM operation.

*** During operation of the Containment Purge System, Emergency Gas Treatment System, Auxiliary Building Gas Treatment System, or waste gas decay tank disposal.

**** At all times other than when the most recent Secondary Coolant System specific activity sample and analysis program gross radioactivity determination is less than or equal to 1×10^{-6} μCi/gm.

ACTION STATEMENTS

ACTION 37 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, the contents of the tank(s) may be released to the environment for up to 14 days provided that prior to initiating the release:

a. At least two independent samples of the tank's contents are analyzed, and

b. At least two technically qualified members of the Facility staff independently verify the release rate calculations and discharge valve lineup.

Otherwise, suspend release of radioactive effluents via this pathway.

ACTION 38 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided the flow rate is estimated at least once per 4 hours.

ACTION 39 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided grab samples are taken at least once per 12 hours and these samples are analyzed for radioactivity within 24 hours.

ACTION 40 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, operation of this Waste Gas Disposal System may continue provided grab samples are collected at least once per batch transfer to a waste gas decay tank and at least once per 4 hours and analyzed within the following 4 hours to meet the requirements of Specification 3.11.2.5. With either the hydrogen or oxygen monitor inoperable for more than 7 days or with both oxygen and hydrogen monitors inoperable, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report that identifies the cause(s) for the inoperability, action(s) taken to restore the monitor(s) to OPERABLE status, and a summary description of action(s) taken to prevent recurrence.

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TABLE 3.3-13 (Continued)

ACTION STATEMENTS (Continued)

ACTION 41 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via the affected pathway may continue for up to 30 days provided that samples are continuously collected with auxiliary sampling equipment as required in Table 4.11-2.

ACTION 42 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, immediately suspend PURGING or VENTING of radioactive effluents via this pathway.

TABLE 4.3-9

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	SOURCE CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
1. WASTE GAS HOLDUP SYSTEM (RE-90-118)					
a. Noble Gas Activity Monitor - Providing Alarm and Automatic Termination of Release	P	P	R(3)	Q(1)	*
b. Effluent System Flow Rate Measuring Device	D	N.A.	R	Q	****
2. WASTE GAS HOLDUP SYSTEM Explosive Gas Monitoring System					
a. Hydrogen Monitor	D	N.A.	Q(4)	M	**
b. Oxygen Monitor	D	N.A.	Q(5)	M	**
3. Condenser Vacuum Exhaust System (RE-90-119 or RE-90-99)					
a. Noble Gas Activity Monitor	D	M	R(3)	Q(2)	*
b. Effluent System Flow Rate Measuring Device	D	N.A.	R	Q	*
c. Monitor Flow Rate Measuring Device	D	N.A.	R	Q	*
d. Iodine Sampler	W	N.A.	N.A.	N.A.	*****
e. Particulate Sampler	W	N.A.	N.A.	N.A.	*****
f. Sampler Flow Rate Measuring Device	D	N.A.	R	Q	*****
4. Shield Building Exhaust System (RE-90-400)					
a. Noble Gas Activity Monitor (Low Range)	D	M	R(3)	Q(2)	***
b. Iodine Sampler	W	N.A.	N.A.	N.A.	***
c. Particulate Sampler	W	N.A.	N.A.	N.A.	***
d. Effluent System Flow Rate Measuring Device	D	N.A.	R	Q	***

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TABLE 4.3-9 (Continued)

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	SOURCE CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
4. Shield Building Exhaust System (Continued)					
e. Sampler Flow Rate Measuring Device	D	N.A.	R	Q	***
f. Monitor Flow Rate Measuring Device	D	N.A.	R	Q	***
5. Auxiliary Building Ventilation And Fuel Handling Area Ventilation System (RE-90-101)					
a. Noble Gas Activity Monitor - Providing Alarm and Automatic Termination of Release	D	M	R(3)	Q(1)	*
b. Iodine Sampler	W	N.A.	N.A.	N.A.	*
c. Particulate Sampler	W	N.A.	N.A.	N.A.	*
d. Effluent System Flow Rate Measuring Device	D	N.A.	R	Q	*
e. Sampler Flow Rate Measuring Device	D	N.A.	R	Q	*
f. Monitor Flow Rate Measuring Device	D	N.A.	R	Q	*
6. Service Building Ventilation System (RE-90-132)					
a. Noble Gas Actvity Monitor	D	M	R(3)	Q(2)	*
b. Effluent System Flow Rate Measuring Device	D	N.A.	R	Q	*
c. Monitor Flow Rate Measuring Device	D	N.A.	R	Q	*
7. Containment Purge and Exhaust System (RE-90-130/131) Noble Gas Activity Monitor - Providing Alarm and Automatic Termination of Release	D	P	R(3)	Q(2)(6)	*

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TABLE 4.3-9 (Continued)

TABLE NOTATIONS

* At all times.

** During WASTE GAS HOLDUP SYSTEM operation.

*** During Shield Building Exhaust System operation.

**** During waste gas releases.

***** At all times other than when the most recent Secondary Coolant System specific activity sample and analysis program gross radioactivity determination is less than or equal to 1 x 10-6 mCi/gm.

(1) The ANALOG CHANNEL OPERATIONAL TEST shall also demonstrate that automatic isolation of this pathway and control room alarm annunciation occurs if any of the following conditions exists:

a. Instrument indicates measured levels above the Alarm/Trip Setpoint, or

b. Circuit failure, or

c. Instrument indicates a downscale failure.

(2) The ANALOG CHANNEL OPERATIONAL TEST shall also demonstrate that control room alarm annunciation occurs if any of the following conditions exists:

a. Instrument indicates measured levels above the Alarm Setpoint, or

b. Circuit failure, or

c. Instrument indicates a downscale failure.

(3) The initial CHANNEL CALIBRATION shall be performed using one or more of the reference standards certified by the National Bureau of Standards (NBS) or using standards that have been obtained from suppliers that participate in measurement assurance activities with NBS. These standards shall permit calibrating the system over its intended range of energy and measurement range. For subsequent CHANNEL CALIBRATION, sources that have been related to the initial calibration shall be used.

(4) The CHANNEL CALIBRATION shall include the use of standard gas samples containing a nominal:

a. One volume percent hydrogen, balance nitrogen, and

b. Four volume percent hydrogen, balance nitrogen.

(5) The CHANNEL CALIBRATION shall include the use of standard gas samples containing a nominal:

a. One volume percent oxygen, balance nitrogen, and

b. Four volume percent oxygen, balance nitrogen.

(6) The ANALOG CHANNEL OPERATIONAL TEST shall also demonstrate that automatic isolation of this pathway occurs if the instrument indicates measured levels above the Alarm Setpoint.

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INSTRUMENTATION

LOOSE-PART DETECTION SYSTEM

LIMITING CONDITION FOR OPERATION

3.3.3.10 The Loose-Part Detection System shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTION:

a. With one or more Loose-Part Detection System channels inoperable for more than 30 days, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 10 days outlining the cause of the malfunction and the plans for restoring the channel(s) to OPERABLE status.

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

SURVEILLANCE REQUIREMENTS

4.3.3.10 Each channel of the Loose-Part Detection System shall be demonstrated OPERABLE by performance of:

a. A CHANNEL CHECK at least once per 24 hours,

b. An ANALOG CHANNEL OPERATIONAL TEST at least once per 31 days, and

c. A CHANNEL CALIBRATION at least once per 18 months.

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3/4.3.4 TURBINE OVERSPEED PROTECTION

LIMITING CONDITION FOR OPERATION

3.3.4 At least one Turbine Overspeed Protection System shall be OPERABLE.

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

ACTION:

a. With one stop valve or one control valve per high pressure turbine steam line inoperable and/or with one reheat stop valve or one reheat intercept valve per low pressure turbine steam line inoperable, restore the inoperable valve(s) to OPERABLE status within 72 hours, or close at least one valve in the affected steam line(s) or isolate the turbine from the steam supply within the next 6 hours.

b. With the above required Turbine Overspeed Protection System otherwise inoperable, within 6 hours isolate the turbine from the steam supply.

c. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.4.1 The provisions of Specification 4.0.4 are not applicable.

*Specification not applicable with all main steam isolation valves in the closed position and all other steam flow paths to the turbine isolated.

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3/4.4.6 REACTOR COOLANT SYSTEM LEAKAGE

LEAKAGE DETECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.4.6.1 The following Reactor Coolant System Leakage Detection Systems shall be OPERABLE:

a. The Lower Containment Atmosphere Gaseous Radioactivity Monitoring System,

b. The Containment Pocket Sump Level Monitoring System, and

c. The Lower Containment Atmosphere Particulate Radioactivity Monitoring System.

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

ACTION:

With only two of the above required Leakage Detection Systems OPERABLE, operation may continue for up to 30 days provided grab samples of the containment atmosphere are obtained and analyzed at least once per 24 hours when the required Gaseous or Particulate Radioactivity Monitoring System is inoperable; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.4.6.1 The Leakage Detection Systems shall be demonstrated OPERABLE by:

a. Lower Containment Atmosphere Gaseous And Particulate Monitoring System-performance of CHANNEL CHECK, CHANNEL CALIBRATION and ANALOG CHANNEL OPERATIONAL TEST at the frequencies specified in Table 4.3-3, and

b. Containment Pocket Sump Level Monitoring System-performance of CHANNEL CALIBRATION at least once per 18 months.

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3/4.5 EMERGENCY CORE COOLING SYSTEMS

3/4.5.1 ACCUMULATORS

COLD LEG INJECTION

LIMITING CONDITION FOR OPERATION

3.5.1.1 Each Cold Leg Injection Accumulator System shall be OPERABLE with:

a. The isolation valve open and power removed,

b. A contained borated water volume of between 7779 and 8206 gallons,

c. A boron concentration of between 1900 and 2100 ppm, and

d. A nitrogen cover-pressure of between 335 and 385 psig.

APPLICABILITY: MODES 1, 2, and 3*.

ACTION:

a. With one Cold Leg Injection Accumulator System inoperable, except as a result of a closed isolation valve, restore the inoperable accumulator to OPERABLE status within 1 hour or be in at least HOT STANDBY within the next 6 hours and reduce pressurizer pressure to less than 1000 psig within the following 6 hours.

b. With one Cold Leg Injection Accumulator System inoperable due to the isolation valve being closed, either immediately open the isolation valve or be in at least HOT STANDBY within 6 hours and reduce pressurizer pressure to less than 1000 psig within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.5.1.1.1 Each Cold Leg Injection Accumulator System shall be demonstrated OPERABLE:

a. At least once per 12 hours by:

1) Verifying, by the absence of alarms or by measurement of levels and pressures, the contained borated water volume and nitrogen cover-pressure in the tanks, and

2) Verifying that each cold leg injection accumulator isolation valve is open.

---

*Pressurizer pressure above 1000 psig.

b. At least once per 31 days and within 6 hours after each solution volume increase of greater than or equal to 1.0% of tank volume by verifying the boron concentration of the accumulator solution, and

c. At least once per 31 days when the RCS pressure is above 1000 psig by verifying that power to the isolation valve operator is disconnected by verifying the breaker is tagged open.

4.5.1.1.2 Each Cold Leg Injection Accumulator System water level and pressure channel shall be demonstrated OPERABLE:

a. At least once per 31 days by the performance of a ANALOG CHANNEL OPERATIONAL TEST, and

b. At least once per 18 months by the performance of a CHANNEL CALIBRATION.

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LIMITING CONDITION FOR OPERATION

3.5.1.2 Each Upper Head Injection Accumulator System shall be OPERABLE with:

a. The isolation valves open,

b. The water-filled accumulator containing between 1805 and 1851 cubic feet of borated water having a boron concentration of between 1900 and 2100 ppm, and

c. The nitrogen-bearing accumulator pressurized to between 1185 and 1285 psig.

APPLICABILITY: MODES 1, 2, and 3.*

ACTION:

a. With the Upper Head Injection Accumulator System inoperable, except as a result of a closed isolation valve(s), restore the Upper Head Injection Accumulator System to OPERABLE status within 1 hour or be in at least HOT STANDBY within the next 6 hours and reduce pressurizer pressure to less than 1000 psig within the following 6 hours.

b. With the Upper Head Injection Accumulator System inoperable due to the isolation valve(s) being closed, either immediately open the isolation valve(s) or be in HOT STANDBY within 6 hours and reduce pressurizer pressure to less than 1000 psig within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.5.1.2 Each Upper Head Injection Accumulator System shall be demonstrated OPERABLE:

a. At least once per 12 hours by:

1) Verifying the contained borated water volume and nitrogen pressure in the accumulators, and

2) Verifying that each accumulator isolation valve is open.

*Pressurizer pressure above 1900 psig.

TABLE 3.6-2 (Continued)

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (Seconds)
4. Manual (Cont.)		
FSV-43-288**	Post Acc Samp Cont Intake Train A	N.A.
FSV-43-307**	Post Acc Samp Cont Air Return Train A	N.A.
FSV-43-309**	Post Acc Samp Hot Leg 3 Train B	N.A.
FSV-43-310**	Post Acc Samp Hot Leg 3 Train B	N.A.
FSV-43-318**	Post Acc Samp Cont Intake Train B	N.A.
FSV-43-319**	Post Acc Samp Cont Intake Train B	N.A.
FSV-43-325**	Post Acc Samp Cont Air Ret Train B	N.A.
FSV-43-341**	Post Acc Samp Ret to Cont Sump Train B	N.A.
FSV-43-342**	Post Acc Samp Ret to Cont Sump Train A	N.A.
FCV-3-245*	Feedwater Bypass	N.A.
FCV-3-242*	Feedwater Bypass	N.A.
FCV-3-239*	Feedwater Bypass	N.A.
FCV-3-236*	Feedwater Bypass	N.A.
LCV-3-175*	Auxiliary Feedwater	N.A.
LCV-3-171*	Auxiliary Feedwater	N.A.
LCV-3-174*	Auxiliary Feedwater	N.A.
LCV-3-164*	Auxiliary Feedwater	N.A.
LCV-3-173*	Auxiliary Feedwater	N.A.
LCV-3-172*	Auxiliary Feedwater	N.A.
LCV-3-156*	Auxiliary Feedwater	N.A.
LCV-3-148*	Auxiliary Feedwater	N.A.
FCV-3-171A*	Auxiliary Feedwater Bypass	N.A.
FCV-3-164A*	Auxiliary Feedwater Bypass	N.A.
FCV-3-156A*	Auxiliary Feedwater Bypass	N.A.
FCV-3-148A*	Auxiliary Feedwater Bypass	N.A.
FCV-3-100*	Feedwater	N.A.
FCV-3-33*	Feedwater	N.A.
FCV-3-47*	Feedwater	N.A.
FCV-3-87*	Feedwater	N.A.
3-595*	Wet Lay Up	N.A.

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TABLE 3.6-2 (Continued)

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (Seconds)
4. Manual (Cont.)		
3-586*	Wet Lay Up	N.A.
3-592*	Wet Lay Up	N.A.
3-589*	Wet Lay Up	N.A.
FCV-1-4*	Main Steam Isolation Valve	N.A.
FCV-1-11*	Main Steam Isolation Valve	N.A.
FCV-1-22*	Main Steam Isolation Valve	N.A.
FCV-1-29*	Main Steam Isolation Valve	N.A.
PCV-1-30*	Atmospheric Relief Valve	N.A.
PCV-1-5*	Atmospheric Relief Valve	N.A.
PCV-1-12*	Atmospheric Relief Valve	N.A.
PCV-1-23*	Atmospheric Relief Valve	N.A.
FCV-1-15*	Steam Supply to Auxiliary Feedwater Turbine	N.A.
FCV-1-16*	Steam Supply to Auxiliary Feedwater Turbine	N.A.
FCV-1-512*	Main Steam Safety Relief Valve	N.A.
FCV-1-513*	Main Steam Safety Relief Valve	N.A.
FCV-1-514*	Main Steam Safety Relief Valve	N.A.
FCV-1-515*	Main Steam Safety Relief Valve	N.A.
FCV-1-516*	Main Steam Safety Relief Valve	N.A.
FCV-1-517*	Main Steam Safety Relief Valve	N.A.
FCV-1-518*	Main Steam Safety Relief Valve	N.A.
FCV-1-519*	Main Steam Safety Relief Valve	N.A.
FCV-1-520*	Main Steam Safety Relief Valve	N.A.
FCV-1-521*	Main Steam Safety Relief Valve	N.A.
FCV-1-522*	Main Steam Safety Relief Valve	N.A.
FCV-1-523*	Main Steam Safety Relief Valve	N.A.
FCV-1-524*	Main Steam Safety Relief Valve	N.A.
FCV-1-525*	Main Steam Safety Relief Valve	N.A.
FCV-1-526*	Main Steam Safety Relief Valve	N.A.
FCV-1-527*	Main Steam Safety Relief Valve	N.A.
FCV-1-528*	Main Steam Safety Relief Valve	N.A.

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TABLE 3.6-2 (Continued)

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (Seconds)
4. Manual (Cont.)		
FCV-1-529*	Main Steam Safety Relief Valve	N.A.
FCV-1-530*	Main Steam Safety Relief Valve	N.A.
FCV-1-531*	Main Steam Safety Relief Valve	N.A.
62-662	Pressure relief, Regenerative Heat Exchanger	N.A.
CV-62-543*	Regenerative Heat Exchanger Supply	N.A.
FCV-63-158*	RHR Hot Leg Injection	N.A.
CV-63-640*	RHR Hot Leg Injection	N.A.
CV-63-643*	RHR Hot Leg Injection	N.A.
FCV-63-73*	RHR Sump	N.A.
FCV-63-72*	RHR Sump	N.A.
FCV-72-44*	RHR Sump	N.A.
FCV-72-45*	RHR Sump	N.A.
CV-63-633*	RHR	N.A.
CV-63-635*	RHR	N.A.
FCV-63-112*	RHR	N.A.
FCV-63-111*	RHR	N.A.
CV-63-632*	RHR	N.A.
CV-63-634*	RHR	N.A.
FCV-63-167*	Safety Injection Hot leg	N.A.
CV-63-547*	Safety Injection Hot leg	N.A.
CV-63-549*	Safety Injection Hot leg	N.A.
FCV-63-174*	BIT Charging	N.A.
CV-63-581*	BIT Charging	N.A.
CV-68-559*	SIS Relief Valve Discharge	N.A.
52-500	ILRT Pressure Taps	N.A.
52-501	ILRT Pressure Taps	N.A.
52-502	ILRT Pressure Taps	N.A.
52-503	ILRT Pressure Taps	N.A.
52-504	ILRT Pressure Taps	N.A.
52-505	ILRT Pressure Taps	N.A.

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TABLE 3.6-2 (Continued)

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (Seconds)
4. Manual (Cont.)		
52-506	ILRT Pressure Taps	N.A.
52-507	ILRT Pressure Taps	N.A.
CV-70-698	Comp. Cooling from RCP Coolers	N.A.
CV-70-687	Comp. Cooling from Thermal Barrier	N.A.
CV-70-679	Comp. Cooling to Thermal Barrier	N.A.
CV-70-692	Comp. Cooling to RCP Coolers	N.A.
CV-26-1296	Reactor Building Fire Protection	N.A.
CV-26-1260	Reactor Building Fire Protection	N.A.
CV-63-543*	Safety Injection	N.A.
CV-63-545*	Safety Injection	N.A.
FCV-63-21*	Safety Injection	N.A.
FCV-63-121*	Safety Injection	N.A.
CV-63-557*	Safety Injection	N.A.
CV-63-551*	Safety Injection	N.A.
CV-63-555*	Safety Injection	N.A.
CV-63-553*	Safety Injection	N.A.
CV-32-293	Nonessential Control Air to Reactor Building	N.A.
CV-32-313	Train B Control Air to Reactor Building	N.A.
CV-32-303	Train A Control Air to Reactor Building	N.A.
32-308	Train B Control Air	N.A.
32-288	Nonessential Control Air	N.A.
32-298	Train A Control Air	N.A.
CV-77-868	Waste Disposal	N.A.
CV-77-849	Waste Disposal	N.A.
CV-81-502	Primary Water	N.A.
CV-62-560*	RCP Seal Injection	N.A.
CV-62-561*	RCP Seal Injection	N.A.
CV-62-562*	RCP Seal Injection	N.A.
CV-62-563*	RCP Seal Injection	N.A.
CV-62-639	Seal Injection	N.A.

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TABLE 3.6-2 (Continued)

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (Seconds)
4. Manual (Cont.)		
CV-61-533	Glycol Supply	N.A.
CV-61-680	Glycol Return	N.A.
CV-61-692	Glycol Floor Cooler Supply	N.A.
CV-61-745	Glycol Floor Cooler Return	N.A.
CV-72-549*	Containment Spray	N.A.
CV-72-548*	Containment Spray	N.A.
CV-72-562*	RHR Spray	N.A.
CV-72-563*	RHR Spray	N.A.
CV-67-580D	Upper Compartment Coolers	N.A.
CV-67-585D	Upper Compartment Coolers	N.A.
CV-67-580C	Upper Compartment Coolers	N.A.
CV-67-585C	Upper Compartment Coolers	N.A.
CV-67-580B	Upper Compartment Coolers	N.A.
CV-67-585B	Upper Compartment Coolers	N.A.
CV-67-580A	Upper Compartment Coolers	N.A.
CV-67-585A	Upper Compartment Coolers	N.A.
CV-67-562A	Lower Compartment Coolers	N.A.
CV-67-562B	Lower Compartment Coolers	N.A.
CV-67-562C	Lower Compartment Coolers	N.A.
CV-67-562D	Lower Compartment Coolers	N.A.
CV-67-575A	Lower Compartment Coolers	N.A.
CV-67-575B	Lower Compartment Coolers	N.A.
CV-67-575C	Lower Compartment Coolers	N.A.
CV-67-575D	Lower Compartment Coolers	N.A.
CV-31-3421	Incore Instrument Room Chillers	N.A.
CV-31-3407	Incore Instrument Room Chillers	N.A.
CV-31-3392	Incore Instrument Room Chillers	N.A.
CV-31-3378	Incore Instrument Room Chillers	N.A.
33-714	Service Air to Reactor Building	N.A.
33-713	Service Air to Reactor Building	N.A.

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TABLE 3.6-2 (Continued)

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (Seconds)
4. Manual (Cont.)		
59-698	Demineralized Water to Reactor Building	N.A.
59-522	Demineralized Water to Reactor Building	N.A.
78-558	Spent Fuel Pit Cooling	N.A.
78-557	Spent Fuel Pit Cooling	N.A.
78-560	Spent Fuel Pit Cooling	N.A.
78-561	Spent Fuel Pit Cooling	N.A.
FCV-74-2*	RHR Shutdown Cooling	N.A.
FCV-74-8*	RHR Shutdown Cooling	N.A.
CV-87-562*	UHI	N.A.
CV-87-563*	UHI	N.A.
CV-43-N0030**	Post-Accident Sampling System	N.A.
CV-43-N0026**	Post-Accident Sampling System	N.A.
CV-43-N0001**	Post-Accident Sampling System	N.A.
CV-43-N0002**	Post-Accident Sampling System	N.A.

NOTE: Valve numbers without a valve type prefix are hand valves.

---

*Not subject to Type C leakage tests.

**May be opened on an intermittent basis under administrative controls.

#The provisions of Specification 3.0.4 are not applicable if the requirements of items b or c of the ACTION statement are met.

##The provisions of Specification 3.0.4 are not applicable if the requirements of items b or c of the ACTION statement are met, and at least one other path of the affected system is OPERABLE.

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CONTAINMENT SYSTEMS

3/4.6.5 ICE CONDENSER

ICE BED

LIMITING CONDITION FOR OPERATION

3.6.5.1 The ice bed shall be OPERABLE with:

a. The stored ice having a boron concentration of at least 1800 ppm boron as sodium tetraborate and a pH of 9.0 to 9.5,

b. Flow channels through the ice condenser,

c. A maximum ice bed temperature of less than or equal to 27°F,

d. A total ice weight of at least 2,360,875 pounds at a 95% level of confidence, and

e. 1944 ice baskets.

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

ACTION:

With the ice bed inoperable, restore the ice bed to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.5.1 The ice condenser shall be determined OPERABLE:

a. At least once per 12 hours by using the Ice Bed Temperature Monitoring System to verify that the maximum ice bed temperature is less than or equal to 27°F,

b. At least once per 9 months by:

1) Chemical analyses which verify that at least nine representative samples of stored ice have a boron concentration of at least 1800 ppm as sodium tetraborate and a pH of 9.0 to 9.5 at 20°C;

2) Weighing a representative sample of at least 144 ice baskets and verifying that each basket contains at least 1214 lbs of ice. The representative sample shall include six baskets from each of the 24 ice condenser bays and shall be constituted of

one basket each from Radial Rows 1, 2, 4, 6, 8, and 9 (or from the same row of an adjacent bay if a basket from a designated row cannot be obtained for weighing) within each bay. If any basket is found to contain less than 1214 pounds of ice, a representative sample of 20 additional baskets from the same bay shall be weighed. The minimum average weight of ice from the 20 additional baskets and the discrepant basket shall not be less than 1214 pounds/basket at a 95% level of confidence.

The ice condenser shall also be subdivided into 3 groups of baskets, as follows: Group 1 - Bays 1 through 8, Group 2 - Bays 9 through 16, and Group 3 - Bays 17 through 24. The minimum average ice weight of the sample baskets from Radial Rows 1, 2, 4, 6, 8, and 9 in each group shall not be less than 1214 pounds/basket at a 95% level of confidence.

The minimum total ice condenser ice weight at a 95% level of confidence shall be calculated using all ice basket weights determined during this weighing program and shall not be less than 2,360,875 pounds; and

3) Verifying, by a visual inspection of at least two flow passages per ice condenser bay, that the accumulation of frost or ice on flow passages between ice baskets, past lattice frames, through the intermediate and top deck floor grating, or past the lower inlet plenum support structures and turning vanes is restricted to a thickness of less than or equal to 0.38 inch. If one flow passage per bay is found to have an accumulation of frost or ice with a thickness of greater than 0.38 inch, a representative sample of 20 additional flow passages from the same bay shall be visually inspected. If these additional flow passages are found acceptable, the surveillance program may proceed considering the single deficiency as unique and acceptable. More than one restricted flow passage per bay is evidence of abnormal degradation of the ice condenser.

c. At least once per 40 months by lifting and visually inspecting the accessible portions of at least two ice baskets from each one-third of the ice condenser and verifying that the ice baskets are free of detrimental structural wear, cracks, corrosion or other damage. The ice baskets shall be raised at least 10 feet for this inspection.

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SURVEILLANCE REQUIREMENTS (Continued)

4) Testing a sample of at least 50% of the doors and verifying that the torque required to keep each door from closing is greater than 78 inch-pounds when the door is 40 degrees open. This torque is defined as the "door closing torque" and is equal to the nominal door torque minus a frictional torque component. The doors selected for determination of the "door closing torque" shall be selected to ensure that all doors are tested at least once during two test intervals; and

5) Calculation of the frictional torque of each door tested in accordance with Specifications 4.6.5.3.1b.3) and 4) above. The calculated frictional torque shall be less than or equal to 40 inch-pounds.

4.6.5.3.2 Intermediate Deck Doors - Each ice condenser intermediate deck door shall be:

a. Verified closed and free of frost accumulation by a visual inspection at least once per 7 days, and

b. Demonstrated OPERABLE at least once per 3 months during the first year after the ice bed is initially fully-loaded and at least once per 18 months thereafter by visually verifying no structural deterioration, by verifying free movement of the vent assemblies, and by ascertaining free movement when lifted with the applicable force shown below:

	Door	Lifting Force
1)	0-1, 0-5	≤ 37.4 lbs.
2)	0-2, 0-6	≤ 33.8 lbs.
3)	0-3, 0-7	≤ 31.8 lbs.
4)	0-4, 0-8	≤ 31.0 lbs.

4.6.5.3.3 Top Deck Doors - Each ice condenser top deck door shall be determined closed and OPERABLE at least once per 92 days by visually verifying:

a. That the doors are in place, and

b. That no condensation, frost, or ice has formed on the doors or blankets which would restrict their lifting and opening if required.

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LIMITING CONDITION FOR OPERATION

3.7.3 At least two independent component cooling water loops shall be OPERABLE.

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

ACTION:

With only one component cooling water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.3 At least two component cooling water loops shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) servicing safety-related equipment that is not locked, sealed, or otherwise secured in position is in its correct position; and

b. At least once per 18 months during shutdown, by verifying that each Component Cooling Water System pump starts automatically on a Safety Injection test signal.

c. At least once per 7 days by verifying that the alternate feeder breaker to the component cooling water C-S pump is open when the C-S pump is required to be OPERABLE.

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3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.7 Two independent Control Room Emergency Ventilation Systems shall be OPERABLE.

APPLICABILITY: All MODES.

ACTION:

MODES 1, 2, 3 and 4:

With one Control Room Emergency Ventilation System inoperable, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

MODES 5 and 6:

a. With one Control Room Emergency Ventilation System inoperable, restore the inoperable system to OPERABLE status within 7 days or initiate and maintain operation of the remaining OPERABLE Control Room Emergency Ventilation System in the recirculation mode; and

b. With both Control Room Emergency Ventilation Systems inoperable, or with the OPERABLE Control Room Emergency Ventilation System, required to be in the recirculation mode by ACTION a., not capable of being powered by an OPERABLE emergency power source, suspend all operations involving CORE ALTERATIONS or positive reactivity changes.

SURVEILLANCE REQUIREMENTS

4.7.7 Each Control Room Emergency Ventilation System shall be demonstrated OPERABLE:

a. At least once per 12 hours, by verifying that the control room air temperature is less than or equal to 90°F;

b. At least once per 31 days on a STAGGERED TEST BASIS, by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 10 continuous hours with the humidity of the recirculation air at less than 70%;

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f. After each complete or partial replacement of a HEPA filter bank, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing criteria of less than 1% in accordance with ANSI N510-1975 for a DOP test aerosol while operating the cleanup system at a flow rate of 4000 cfm ± 10%; and

g. After each complete or partial replacement of a charcoal adsorber bank, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing criteria of less than 1% in accordance with ANSI N510-1975 for a halogenated hydrocarbon refrigerant test gas while operating the cleanup system at a flow rate of 4000 cfm ± 10%.

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TABLE 3.7-4

AREA TEMPERATURE MONITORING

	AREA	TEMPERATURE LIMIT (°F)
1.	Aux Bldg el 772 next to 480V Sd Bd transformer 1A2-A.	≤ 104
2.	Aux Bldg el 772 next to 480V Sd Bd transformer 1B1-B.	≤ 104
3.	Aux Bldg el 772 next to 480V Rx MOV Bd 1A2-A.	≤ 104
4.	Aux Bldg el 772 across from spare 125V vital battery charger 1-S.	≤ 104
5.	Aux Bldg el 772 next to 480V Rx MOV Bd 2A2-A.	≤ 104
6.	Aux Bldg el 772 next to 480V Sd Bd transformer 2A2-A.	≤ 104
7.	Aux Bldg el 772 next to 480V Sd Bd transformer 2B2-B.	≤ 104
8.	Aux Bldg el 772 next to 480V Rx MOV Bd 2B2-B.	≤ 104
9.	Aux Bldg el 772 U1 Mech Equip Room B.	≤ 104
10.	Sd Bd room el 757 U1 behind stairs S-A3.	≤ 104
11.	Sd Bd room el 757 U2 behind stairs S-A13.	≤ 104
12.	Refueling floor el 757 U1 beside Aux boration makeup tk.	≤ 104
13.	Aux Bldg el 737 U1 outside supply fan room.	≤ 104
14.	Aux Bldg el 713 U1 across from AFW pumps.	≤ 104
15.	Aux Bldg el 692 U1 outside AFW pump room door.	≤ 104
16.	Aux Bldg el 692 U2 near boric acid concentrate filter vault.	≤ 104
17.	Aux Bldg el 676 next to O-L-629.	≤ 104
18.	Add Equip Bldg U1 el 729 between UHI accumulators.	≥ 70 ≤ 92
19.	Main Control Room south wall.	≤ 90
20.	Main Control Room across from 1-M-9.	≤ 90
21.	D/G Bldg el 742 2B-B D/G room on wall by battery charger.	≤ 120
22.	D/G Bldg el 760.5 next to 480V diesel Aux Bd 2B1-B.	≤ 120
23.	IPS el 741 next to 1A-A ERCW-MCC transformer and board.	≤ 120
24.	IPS el 741 in B train ERCW pump room.	≤ 120
25.	IPS el 741 next to 2A-A ERCW-MCC transformer and board.	≤ 120
26.	Computer room el 708 center of room.	≥ 65 ≤ 75
27.	North steam valve vault room U1 Morgan Temp Recorder.	≥ 80
28.	South steam valve vault room U1 Morgan Temp Recorder.	≥ 80
29.	D/G Bldg el 742 1A-A D/G Room near D/G set	≥ 40
30.	D/G Bldg el 742 1B-B D/G Room near D/G set	≥ 40
31.	D/G Bldg el 742 2A-A D/G Room near D/G set	≥ 40
32.	D/G Bldg el 742 2B-B D/G Room near D/G set	≥ 40
33.	Aux. Instrument Room el 708	≤ 90

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3/4.8.2 D.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

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

a. 125-Volt Battery Bank No. I, and a full-capacity charger aligned to the associated power division,

b. 125-Volt Battery Bank No. II, and a full-capacity charger aligned to the associated power division,

c. 125-Volt Battery Bank No. III, and a full-capacity charger aligned to the associated power division, and

d. 125-Volt Battery Bank No. IV, and a full-capacity charger aligned to the associated power division.

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

ACTION:

With one of the required battery banks and/or full-capacity chargers inoperable, restore the inoperable battery bank and/or full-capacity charger to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.2.1 Each 125-volt battery bank and charger shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that:

1) The parameters in Table 4.8-2 meet the Category A limits,

2) The total battery terminal voltage is greater than or equal to 132 volts on float charge, and

3) The feeder breakers to the chargers associated with the opposite power division are open.

SURVEILLANCE REQUIREMENTS (Continued)

b. At least once per 18 months by selecting and functionally testing a representative sample of at least 10% of each type of electrically-operated circuit breaker. Electrically-operated circuit breakers selected for functional testing shall be selected on a rotating basis. The functional test shall consist of injecting a current input at the specified Setpoint to each selected electrically-operated circuit breaker or trip device and verifying that each electrically-operated circuit breaker functions as designed. For each device found inoperable during functional tests, an additional representative sample of 10% of the defective type electrically-operated circuit breakers shall also be functionally tested until no more failures are found or all electrically-operated circuit breakers of that type have been functionally tested; and

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

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TABLE 3.8-1

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

PRIMARY DEVICE NUMBER	BACKUP DEVICE NUMBER	LOCATION OF PRIMARY DEVICE	SYSTEM POWERED
1. 6.9kV RCP Boards			
52-202 -2/1A	52-2112 or 52-2522	6.9kV RCP BD 1A	REAC Coolant Pump 1
52-202 -2/1B	52-2114 or 52-2622	6.9kV RCP BD 1B	REAC Coolant Pump 2
52-202 -2/1C	52-2122 or 52-2524	6.9kV RCP BD 1C	REAC Coolant Pump 3
52-202 -3/1D	52-2124 or 52-2624	6.9kV RCP BD 1D	REAC Coolant Pump 4
2. 480V Boards			
52-212 -7B/A1	FU-212 -A17/13	Shutdown BD 1A1-A	CRD MECH CLR FAN 1A-A/1
52-212 -7D/A1	FU-212 -A17/33	Shutdown BD 1A1-A	CRD MECH CLR FAN 1A-A/2
52-212 -7C/A1	FU-212 -A17/23	Shutdown BD 1A1-A	REAC LWR COMP CLR FAN 1A-A
52-212 -10C/A1	FU-212 -A110/23	Shutdown BD 1A1-A	CNTMT AIR RTN FAN 1A-A
52-212 -7A/A2	FU-212 -A27/3	Shutdown BD 1A2-A	CRD MECH CLR FAN 1C-A/1
52-212 -7D/A2	FU-212 -A27/33	Shutdown BD 1A2-A	REAC LWR COMPT CLR FAN 1C-A
52-212 -8A/A2	FU-212 -A28/3	Shutdown BD 1A2-A	CRD MECH CLR FAN 1C-A/2
52-212 -7C/B1	FU-212 -B17/23	Shutdown BD 1B1-B	CRD MECH CLR FAN 1B-B/1
52-212 -7D/B1	FU-212 -B17/33	Shutdown BD 1B1-B	REAC LWR COMP CLR FAN 1B-B

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TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

PRIMARY DEVICE NUMBER	BACKUP DEVICE NUMBER	LOCATION OF PRIMARY DEVICE	SYSTEM POWERED
2. 480V Boards (Continued)			
52-212 -10D/B1	FU-212 -B110/23	Shutdown BD 1B1-B	CRD MECH CLR FAN 1B-B/2
52-212 -3B/B2	FU-212 -B23/12	Shutdown BD 1B2-B	REAC BLDG CRANE
52-212 -7B/B2	FU-212 -B27/13	Shutdown BD 1B2-B	CRD MECH CLR FAN 1D-B/1
52-212 -7D/B2	FU-212 -B27/33	Shutdown BD 1B2-B	REAC LWR COM CLR FAN 1D-B
52-212 -9C/B2	FU-212 -B29/23	Shutdown BD 1B2-B	CNTMNT AIR RTN FAN 1B-B
52-212 -10C/B2	FU-212 -B210/23	Shutdown BD 1B2-B	CRD MECH CLR FAN 1D-B/2
52-213 -7D/A1	FU-213 -A17/32	REAC MOV BD 1A1-A	SIS ACC TK 3 FLOW ISLN VLV
52-213 -8D/A1	FU-213 -A18/32	REAC MOV BD 1A1-A	SIS ACC TK 1 FLOW ISLN VLV
52-213 -5B/A1	FU-213 -A110/32	REAC MOV BD 1A1-A	RHR SYS ISLN VLV
52-213 -6D/A1	FU-213 -A16/32	REAC MOV BD 1A1-A	RCS PRESSURE RELIEF FLOW CONT VLV
52-213 -16A/A1	FU-213 -A116/2	REAC MOV BD 1A1-A	INCORE INSTR RM CLR FAN 1A
52-213 -16B/A1	FU-213 -A116/12	REAC MOV BD 1A1-A	REACT CNTMT PIT SMP EJCTR PMP
52-213 -17E/A1	FU-213 -A117/42	REAC MOV BD 1A1-A	POWER OUTLETS
52-213 -6D/A2	FU-213 -A26/32	REAC MOV BD 1A2-A	RHR SYS ISLN BYPASS VLV
52-213 -7D/A2	FU-213 -A27/32	REAC MOV BD 1A2-A	LWR CNTMT 1A CLR DISCH ISLN VLV

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TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

PRIMARY DEVICE NUMBER	BACKUP DEVICE NUMBER	LOCATION OF PRIMARY DEVICE	SYSTEM POWERED
2. 480V Boards (Continued)			
52-232 -10F/1A	FU-232 -A10/52	REAC VENT BD 1A-A	STUD TENSION HOISTS
52-232 -11D/1A	FU-232 -A11/32	REAC VENT BD 1A-A	REAC COOL. DRAIN TK PMP 1A
52-232 11F/1A	FU-232 -A11/52	REAC VENT BD 1A-A	REAC LWR COMPT U HTR 1A
52-232 -12F/1A	FU-232 -A12/52	REAC VENT BD 1A-A	CNTMT INSTR RM U HTR 1A
52-232 -13A/1A	FU-232 -A13/2	REAC VENT BD 1A-A	REAC BLDG MANI CRN 1
52-232 -13D/1A	FU-232 -A13/32	REAC VENT BD 1A-A	IC AHU (S)
52-232 -14B/1A	FU-232 -A14/12	REAC VENT BD 1A-A	IC END WALL DOOR 1A
52-232 -14D/1A	FU-232 -A14/32	REAC VENT BD 1A-A	IC AHU (S)
52-232 -15A/1A	FU-232 -A15/2	REAC VENT BD 1A-A	REAC UPR COMPT HTR 1A
52-232 -16A/1A	FU-232 -A16/2	REAC VENT BD 1A-A	REAC UPR COMP HTR 1C
52-232 -2D/1A	FU-232 -A2/32	REAC VENT BD 1A-A	HY ELECT RECOMBINER 1A-A
52-232 -2D/1B	FU-232 -B2/32	REAC VENT BD 1B-B	HY ELECT RECOMBINER 1B-B
52-232 -2A/1B	FU-232 -B2/2	REAC VENT BD 1B-B	CNTMT FL & EQPT DRAIN SMP PMP 1B
52-232 -3A/1B	FU-232 -B3/2	REAC VENT BD 1B-B	INCORE FLUX DET DRIVE UNIT 1A
52-232 -3B/1B	FU-232 -B3/12	REAC VENT BD 1B-B	INCORE FLUX DET DRIVE UNIT 1B

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TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

PRIMARY DEVICE NUMBER	BACKUP DEVICE NUMBER	LOCATION OF PRIMARY DEVICE	SYSTEM POWERED
2. 480V Boards (Continued)			
52-232 -14D/1B	FU-232 -B14/32	REAC VENT BD 1B-B	IC AHU(S)
52-232 -14F/1B	FU-232 -B14/52	REAC VENT BD 1B-B	EQPT HATCH HOIST
52-232 -15A/1B	FU-232 -B15/2	REAC VENT BD 1B-B	REAC UPR COMPT HTR 1B
52-232 -16A/1B	FU-232 -B16/2	REAC VENT BD 1B-B	REAC UPR COMPT HTR 1D
52-216 -4F/A	FU-216 -A4/52	FUEL & WASTE HNDLG BD A	FUEL PIT UP-ENDING WINCH
52-208 -2C/A	FU-208 -A2/22	AUX BLDG COM MCC A	REAC BLDG AUX FLR & EQ SMP PMP 1A
52-208 -5A/A	FU-208 -A5/2	AUX BLDG COM MCC A	REAC BLDG AUX FLR & EQ SMP PMP 1B
3. 480V AC CAB			
CB-68 -341F/D1	FU-211 -A21/10	DIST CAB CONT GP 1D	PRESSURIZER HTRS GP 1D ELEMENTS 47, 49, 51
CB-68 -341F/D2	FU-211 -A21/11	DIST CAB CONT GP 1D	PRESSURIZER HTRS GP 1D ELEMENTS 52, 54, 56
CB-68 -341F/D3	FU-211 -A21/12	DIST CAB CONT GP 1D	PRESSURIZER HTRS GP 1D ELEMENTS 57, 59, 61
CB-68 -341F/D4	FU-211 -A21/15	DIST CAB CONT GP 1D	PRESSURIZER HTRS GP 1D ELEMENTS 72, 74, 76

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TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

PRIMARY DEVICE NUMBER	BACKUP DEVICE NUMBER	LOCATION OF PRIMARY DEVICE	SYSTEM POWERED
3. 480V AC CAB (Continued)			
CB-68 -341F/D5	FU-211 -A21/14	DIST CAB CONT GP 1D	PRESSURIZER HTRS GP 1D ELEMENTS 67, 69, 71
CB-68 -341F/D6	FU-211 -A21/13	DIST CAB CONT GP 1D	PRESSURIZER HTRS GP 1D ELEMENTS 66, 64, 62
CB-68 -341A/A1-A	FU-211 -A20/11	DIST CAB CONT GP 1A-A	PRESSURIZER HTRS GP 1A-A ELEMENTS 22, 24, 26
CB-68 -341A/A2-A	FU-211 -A20/12	DIST CAB CONT GP 1A-A	PRESSURIZER HTRS GP 1A-A ELEMENTS 28, 30, 32
CB-68 -341A/A3-A	FU-211 -A20/13	DIST CAB CONT GP 1A-A	PRESSURIZER HTRS GP 1A-A ELEMENTS 34, 36, 38
CB-68 -341A/A5-A	FU-211 -A20/17	DIST CAB CONT GP 1A-A	PRESSURIZER HTRS GP 1A-A ELEMENTS 17, 15, 19
CB-68 -341A/A6-A	FU-211 -A20/16	DIST CAB CONT GP 1A-A	PRESSURIZER HTRS GP 1A-A ELEMENTS 11, 9, 13
CB-68 -341A/A7-A	FU-211 -A20/15	DIST CAB CONT GP 1A-A	PRESSURIZER HTRS GP 1A-A ELEMENTS 5, 3, 7
CB-68 -341A/A8-A	FU-211 -A20/14	DIST CAB CONT GP 1A-A	PRESSURIZER HTRS GP 1A-A ELEMENTS 42, 40, 44

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TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

PRIMARY DEVICE NUMBER	BACKUP DEVICE NUMBER	LOCATION OF PRIMARY DEVICE	SYSTEM POWERED
4. MISC 125V DC Control Pwr (Continued)			
FU-212 -A110/21(+)	FU-212 -A110/21(-)	480V SHUT DN BD 1A1-A	CNTMNT AIR RTN FAN 1A-A
FU-212 -A110/22(+)	FU-212 -A110/22(-)	480V SHUT DN BD 1A1-A	CNTMNT AIR RTN FAN 1A-A
FU-212 -A27/1N(+)	FU-212 -A27/1N(-)	480V SHUT DN BD 1A2-A	CRD MECH CLR FAN 1C-A/1
FU-212 -A27/1A(+)	FU-212 -A27/1A(-)	480V SHUT DN BD 1A2-A	CRD MECH CLR FAN 1C-A/1
FU-212 -A27/2N(+)	FU-212 -A27/2N(-)	480V SHUT DN BD 1A2-A	CRD MECH CLR FAN 1C-A/1
FU-212 -A27/2A(+)	FU-212 -A27/2A(-)	480V SHUT DN BD 1A2-A	CRD MECH CLR FAN 1C-A/1
FU-212 -A27/31N(+)	FU-212 -A27/31N(-)	480V SHUT DN BD 1A2-A	REAC LWR COMPT CLR FAN 1C-A
FU-212 -A27/31A(+)	FU-212 -A27/31A(-)	480V SHUT DN BD 1A2-A	REAC LWR COMPT CLR FAN 1C-A
FU-212 -A27/32N(+)	FU-212 -A27/32N(-)	480V SHUT DN BD 1A2-A	REAC LWR COMPT CLR FAN 1C-A
FU-212 -A27/32A(+)	FU-212 -A27/32A(-)	480V SHUT DN BD 1A2-A	REAC LWR COMPT CLR FAN 1C-A
FU-212 -B17/31N(+)	FU-212 -B17/31N(-)	480V SHUT DN BD 1B1-B	REAC LWR COMP CLR FAN 1B-B
FU-212 -B17/31A(+)	FU-212 -B17/31A(-)	480V SHUT DN BD 1B1-B	REAC LWR COMP CLR FAN 1B-B
FU-212 -B17/32N(+)	FU-212 -B17/32N(-)	480V SHUT DN BD 1B1-B	REAC LWR COMP CLR FAN 1B-B
FU-212 -B17/32A(+)	FU-212 -B17/32A(-)	480V SHUT DN BD 1B1-B	REAC LWR COMP CLR FAN 1B-B
FU-212 -B17/21N(+)	FU-212 -B17/21N(-)	480V SHUT DN BD 1B1-B	CRD MECH CLR FAN 1B-B/1

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TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

PRIMARY DEVICE NUMBER	BACKUP DEVICE NUMBER	LOCATION OF PRIMARY DEVICE	SYSTEM POWERED
4. MISC 125V DC Control Pwr (Continued)			
FU-212 -B17/21A(+)	FU-212 -B17/21A(-)	480V SHUT DN BD 1B1-B	CRD MECH CLR FAN 1B-B/1
FU-212 -B17/22N(+)	FU-212 -B17/22N(-)	480V SHUT DN BD 1B1-B	CRD MECH CLR FAN 1B-B/1
FU-212 -B17/22A(+)	FU-212 -B17/22A(-)	480V SHUT DN BD 1B1-B	CRD MECH CLR FAN 1B-B/1
FU-212 -B23/11(+)	FU-212 -B23/11(-)	480V SHUT DN BD 1B2-B	REAC BLDG CRANE
FU-212 -B27/11N(+)	FU-212 -B27/11N(-)	480V SHUT DN BD 1B2-B	CRD MECH CLR FAN 1D-B/1
FU-212 -B27/11A(+)	FU-212 -B27/11A(-)	480V SHUT DN BD 1B2-B	CRD MECH CLR FAN 1D-B/1
FU-212 -B27/12N(+)	FU-212 -B27/12N(-)	480V SHUT DN BD 1B2-B	CRD MECH CLR FAN 1D-B/1
FU-212 -B27/12A(+)	FU-212 -B27/12A(-)	480V SHUT DN BD 1B2-B	CRD MECH CLR FAN 1D-B/1
FU-212 -B27/31N(+)	FU-212 -B27/31N(-)	480V SHUT DN BD 1B2-B	REAC LWR COMP CLR FAN 1D-B
FU-212 -B27/31A(+)	FU-212 -B27/31A(-)	480V SHUT DN BD 1B2-B	REAC LWR COMPT CLR FAN 1D-B
FU-212 -B27/32N(+)	FU-212 -B27/32N(-)	480V SHUT DN BD 1B2-B	REAC LWR COMPT CLR FAN 1D-B
FU-212 -B27/32A(+)	FU-212 -B27/32A(-)	480V SHUT DN BD 1B2-B	REAC LWR COMPT CLR FAN 1D-B
FU-212 -B29/21(+)	FU-212 -B29/21(-)	480V SHUT DN BD 1B2-B	CNTMT AIR RTN FAN 1B-B
FU-212 -B29/22(+)	FU-212 -B29/22(-)	480V SHUT DN BD 1B2-B	CNTMT AIR RTN FAN 1B-B
5. 125V DC (VI-PWR)			
FU-236 -1/A1(+)	FU-236 -1/A1(-)	125V VI-BATT BDI PNL 4	CHGRG FLOW TO RCS COOL LP 4

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TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

PRIMARY DEVICE NUMBER	BACKUP DEVICE NUMBER	LOCATION OF PRIMARY DEVICE	SYSTEM POWERED
5. 125V DC (VI-PWR) (Continued)			
FU-236 -1/A31(+)	FU-236 -1/A31(-)	125V VI-BATT BDI PNL 4	SIS CK VLV ISLN HDR FLOW ISLN VLV
FU-236 -1/A40(+)	FU-236 -1/A40(-)	125V VI-BATT BDI PNL 4	RCP MOT CLR A SPLY VLV
FU-236 -1/A41(+)	FU-236 -1/A41(-)	125V VI-BATT BDI PNL 4	RCP MOT CLR C SPLY VLV
FU-236 -1/A42(+)	FU-236 -1/A42(-)	125V VI-BATT BDI PNL 4	CRD CLG UNIT 1A-A SUCT DMPR
FU-236 -1/A43(+)	FU-236 -1/A43(-)	125V VI-BATT BDI PNL 4	CRD CLG UNIT 1A-A RM DIVR DMPR
FU-236 -1/A44(+)	FU-236 -1/A44(-)	125V VI-BATT BDI PNL 4	CRD CLG UNIT 1C-A SUCT DMPR
FU-236 -1/A45(+)	FU-236 -1/A45(-)	125V VI-BATT BDI PNL 4	CRD CLG UNIT 1C-A RM DIVR DMPR
FU-236 -1/B1(+)	FU-236 -1/B1(-)	125V VI-BATT BDI PNL 4	CHG FL TO RCS COOL LP 4
FU-236 -1/B3(+)	FU-236 -1/B3(-)	125V VI-BATT BDI PNL 4	RCP LP 3 LT DN FLOW
FU-236 -1/B5(+)	FU-236 -1/B5(-)	125V VI-BATT BDI PNL 4	CHRG FLOW TO RCS SPRAY
FU-236 -1/B6(+)	FU-236 -1/B6(-)	125V VI-BATT BDI PNL 4	REGEN HT EXCH LT DN ISLN VLV A
FU-236 -1/B7(+)	FU-236 -1/B7(-)	125V VI-BATT BDI PNL 4	REGEN HT EXCH LT DN ISLN VLV B
FU-236 -1/B8(+)	FU-236 -1/B8(-)	125V VI-BATT BDI PNL 4	REGEN HT EXCH LT DN ISLN VLV C
FU-236 -1/B9(+)	FU-236 -1/B9(-)	125V VI-BATT BDI PNL 4	RCP LP 3 LT DN FLOW

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TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

PRIMARY DEVICE NUMBER	BACKUP DEVICE NUMBER	LOCATION OF PRIMARY DEVICE	SYSTEM POWERED
5. 125V DC (VI-PWR) (Continued)			
FU-236 -1/B11(+)	FU-236 -1/B11(-)	125V VI-BATT BDI PNL 4	RCS PRESS PWR RLF VLV
FU-236 -1/B17(+)	FU-236 -1/B17(-)	125V VI-BATT BDI PNL 4	TEST LINE ISLN VLV
FU-236 -1/B18(+)	FU-236 -1/B18(-)	125V VI-BATT BDI PNL 4	TEST LINE ISLN VLV
FU-236 -1/B19(+)	FU-236 -1/B19(-)	125V VI-BATT BDI PNL 4	SIS CK VLV ISLN HDR FLOW ISLN VLV
FU-236 -1/B21(+)	FU-236 -1/B21(-)	125V VI-BATT BDI PNL 4	LWR CNTMT VT CLR A SPLY VLV
FU-236 -1/B22(+)	FU-236 -1/B22(-)	125V VI-BATT BDI PNL 4	CRD VT CLR A SPLY VLV
FU-236 -1/B23(+)	FU-236 -1/B23(-)	125V VI-BATT BDI PNL 4	LWR CNTMT VT CLR C SPLY VLV
FU-236 -1/B24(+)	FU-236 -1/B24(-)	125V VI-BATT BDI PNL 4	CRD VT CLR C SPLY VLV
FU-236 -1/B29(+)	FU-236 -1/B29(-)	125V VI-BATT BDI PNL 4	UPR COMPT PURGE ISLN VLV
FU-236 -1/B30(+)	FU-236 -1/B30(-)	125V VI-BATT BDI PNL 4	LWR COMPT PURGE ISLN VLV
FU-236 -1/B32(+)	FU-236 -1/B32(-)	125V VI-BATT BDI PNL 4	INCORE INSTR RM PURGE ISLN VLV
FU-236 -1/B36(+)	FU-236 -1/B36(-)	125V VI-BATT BDI PNL 4	LWR COMPT PURGE VLV
FU-236 -1/B40(+)	FU-236 -1/B40(-)	125V VI-BATT BDI PNL 4	RCP MTR CLR A SPLY VLV
FU-236 -1/B41(+)	FU-236 -1/B41(-)	125V VI-BATT BDI PNL 4	RCP MTR CLR C SPLY VLV
FU-236 -1/B42(+)	FU-236 -1/B42(-)	125V VI-BATT BDI PNL 4	CRD CLG UNIT 1A-A SUCT DMPR

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TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

PRIMARY DEVICE NUMBER	BACKUP DEVICE NUMBER	LOCATION OF PRIMARY DEVICE	SYSTEM POWERED
5. 125V DC (VI-PWR) (Continued)			
FU-236 -1/D17(+)	FU-236 -1/D17(-)	125V VI-BATT BDI PNL 4	RCP 1 SEAL RTN FLOW CONT VLV
FU-236 -1/D20(+)	FU-236 -1/D20(-)	125V VI-BATT BDI PNL 4	RCS PRESS RLF TK VT
FU-236 -1/D21(+)	FU-236 -1/D21(-)	125V VI-BATT BDI PNL 4	RCS PRESS RLF TK DR
FU-236 -1/D22(+)	FU-236 -1/D22(-)	125V VI-BATT BDI PNL 4	GLYCOL SPLY FROM EXP TK
FU-236 -1/D23(+)	FU-236 -1/D23(-)	125V VI-BATT BDI PNL 4	SIS ACCUM TK 3 FILL VLV
FU-236 -1/D24(+)	FU-236 -1/D24(-)	125V VI-BATT BDI PNL 4	SIS ACCUM TK 1 FILL VLV
FU-236 -1/D27(+)	FU-236 -1/D27(-)	125V VI-BATT BDI PNL 4	RHR SPLY TEST LINE VLV
FU-236 -1/D28(+)	FU-336 -1/D28(-)	125V VI-BATT BDI PNL 4	SIS PMP OTLT TO SIS TEST LINE
FU-236 -1/D29(+)	FU-236 -1/D29(-)	125V VI-BATT BDI PNL 4	SIS CLR 3 CK VLV ISLN
FU-236 -1/D30(+)	FU-236 -1/D30(-)	125V VI-BATT BDI PNL 4	SIS ACCUM TK 1 N_2 MKUP VLV
FU-236 -1/D31(+)	FU-236 -1/D31(-)	125V VI-BATT BDI PNL 4	RCS LP 1 HT LEG FD TEST LINE VLV
FU-236 -1/D32(+)	FU-236 -1/D32(-)	125V VI-BATT BDI PNL 4	SIS FL TO COLD LEG CK VLV TEST
FU-236 -1/D33(+)	FU-236 -1/D33(-)	125V VI-BATT BDI PNL 4	RCP 1 STD PIPE MAKEUP WTR VLV
FU-236 -1/D37(+)	FU-236 -1/D37(-)	125 VI-BATT BDI PNL 4	SIS PMP OTLT TEST LINE VLV
FU-236 -1/D38(+)	FU-236 -1/D38(-)	125 VI-BATT BDI PNL 4	RHR RTN FROM SIS SMPL LINE VLV

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TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

PRIMARY DEVICE NUMBER	BACKUP DEVICE NUMBER	LOCATION OF PRIMARY DEVICE	SYSTEM POWERED
5. 125V DC (VI-PWR) (Continued)			
FU-236 -1/D40(+)	FU-236 -1/D40(-)	125V VI-BATT BDI PNL 4	RHR SPLY TEST LINE VLV
FU-236 -1/D41(+)	FU-236 -1/D41(-)	125V VI-BATT BDI PNL 4	GLYCOL SPLY FROM EXP TK
FU-236 -1/D42(+)	FU-236 -1/D42(-)	125V VI-BATT BDI PNL 4	RHR SPLY TEST LINE VLV
FU-236 -1/D45(+)	FU-236 -1/D45(-)	125V VI-BATT BDI PNL 4	RHR SPLY TEST LINE VLV
FU-236 -1/E2(+)	FU-236 -1/E2(-)	125V VI-BATT BDI PNL 4	RCP 3 SEAL RTN FL CONT
FU-236 -1/E7(+)	FU-236 -1/E7(-)	125V VI-BATT BDI PNL 4	SIS ACCUM TK 1 OTLT FL ISLN VLV
FU-236 -1/E14(+)	FU-236 -1/E14(-)	125V VI-BATT BDI PNL 4	NO.1 SEAL BYP FL CNTL VLV
FU-236 -1/E17(+)	FU-236 -1/E17(-)	125V VI-BATT BDI PNL 4	RCP 1 SEAL RTN FL CONT
FU-236 -1/E20(+)	FU-236 -1/E20(-)	125V VI-BATT BDI PNL 4	RCS PRESS RLF TK VT VLV
FU-236 -1/E21(+)	FU-236 -1/E21(-)	125V VI-BATT BDI PNL 4	RCS PRESS RLF TK VT VLV
FU-236 -1/E23(+)	FU-236 -1/E23(-)	125V VI-BATT BDI PNL 4	SIS ACCUM TK 3 FILL VLV
FU-236 -1/E24(+)	FU-236 -1/E24(-)	125V VI-BATT BDI PNL 4	SIS ACCUM TK 1 FILL VLV
FU-236 -1/E30(+)	FU-236 -1/E30(-)	125V VI-BATT BDI PNL 4	SIS ACCUM TK 1 N_2 MKUP VLV
FU-236 -1/E32(+)	FU-236 -1/E32(-)	125V VI-BATT BDI PNL 4	SIS ACUM TK 1 OTLT CK VLV ISLN VLV
FU-236 -1/E34(+)	FU-236 -1/E34(-)	125V VI-BATT BDI PNL 4	RCP 3 STD PIPE MAKEUP WTR VLV

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TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

PRIMARY DEVICE NUMBER	BACKUP DEVICE NUMBER	LOCATION OF PRIMARY DEVICE	SYSTEM POWERED
5. 125V DC (VI-PWR) (Continued)			
FU-236 -1/E36(+)	FU-236 -1/E36(-)	125V VI-BATT BDI PNL 4	RCS LP 3 HOT LEG FEED TEST LINE VLV
FU-236 -2/A3(+)	FU-236 -2/A3(-)	125V VI-BATT BDII PNL 4	CHGRG FLOW RCS COOL LP 1
FU-236 -2/A4(+)	FU-236 -2/A4(-)	125V VI-BATT BDII PNL 4	PRESS RLF TK ISLN VLV
FU-236 -2/A5(+)	FU-236 -2/A5(-)	125V VI-BATT BDII PNL 4	PRESS PWR RLF VLV
FU-236 -2/A8(+)	FU-236 -2/A8(-)	125V VI-BATT BDII PNL 4	EXCESS LETDN DIVR FLOW CONT VLV
FU-236 -2/A9(+)	FU-236 -2/A9(-)	125V VI-BATT BDII PNL 4	LWR CNTMT VT CLR B SPLY VLV
FU-236 -2/A10(+)	FU-236 -2/A10(-)	125V VI-BATT BDII PNL 4	CRD VT CLR B SPLY VLV
FU-236 -2/A11(+)	FU-236 -2/A11(-)	125V VI-BATT BDII PNL 4	LWR CNTMT VT CLR D SPLY VLV
FU-236 -2/A12(+)	FU-236 -2/A12(-)	125V VI-BATT BDII PNL 4	CRD VT CLR D SPLY VLV
FU-236 -2/A13(+)	FU-236 -2/A13(-)	125V VI-BATT BDII PNL 4	CRD CLG UNIT 1D-B SUCT DMPR
FU-236 -2/A14(+)	FU-236 -2/A14(-)	125V VI-BATT BDII PNL 4	CRD CLG UNIT 1D-B RM DIVR DMPR
FU-236 -2/A15(+)	FU-236 -2/A15(-)	125V VI-BATT BDII PNL 4	CRD CLG UNIT 1B-B SUCT DMPR
FU-236 -2/A16(+)	FU-236 -2/A16(-)	125V VI-BATT BDII PNL 4	CRD CLG UNIT 1B-B RM DIVR DMPR
FU-236 -2/A17(+)	FU-236 -2/A17(-)	125V VI-BATT BDII PNL 4	GLYCOL SPLY ISLN VLV

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TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

PRIMARY DEVICE NUMBER	BACKUP DEVICE NUMBER	LOCATION OF PRIMARY DEVICE	SYSTEM POWERED
5. 125V DC (VI-PWR) (Continued)			
FU-236 -2/A18(+)	FU-236 -2/A18(-)	125V VI-BATT BDII PNL 4	GLYCOL RTN ISLN VLV
FU-236 -2/A20(+)	FU-236 -2/A20(-)	125V VI-BATT BDII PNL 4	PRESS GAS ISLN VLV
FU-236 -2/A21(+)	FU-236 -2/A21(-)	125V VI-BATT BDII PNL 4	PRESS LIQ ISLN VLV
FU-236 -2/A22(+)	FU-236 -2/A22(-)	125V VI-BATT BDII PNL 4	RCS HOT LEG LP 1 OR 3 ISLN VLV
FU-236 -2/A23(+)	FU-236 -2/A23(-)	125V VI-BATT BDII PNL 4	ACCUM TKS ISLN VLV
FU-236 -2/A24(+)	FU-236 -2/A24(-)	125V VI-BATT BDII PNL 4	REAC CLT DRN TK TO GAS ANAL ISLN VLV
FU-236 -2/A41(+)	FU-236 -2/A41(-)	125V VI-BATT BDII PNL 4	RCP MTR CLR B SUP VLV
FU-236 -2/A42(+)	FU-236 -2/A42(-)	125V VI-BATT BDII PNL 4	RCP MTR CLR D SUP VLV
FU-236 -2/A43(+)	FU-236 -2/A43(-)	125V VI-BATT BDII PNL 4	REAC BLDG SMP PMP DISCH ISLN VLV
FU-236 -2/A44(+)	FU-236 -2/A44(-)	125V VI-BATT BDII PNL 4	REAC CLT DR TK PMPS DISCH ISLN VLV
FU-236 -2/A45(+)	FU-236 -2/A45(-)	125V VI-BATT BDII PNL 4	REAC CLT DR TK TO VT HDR ISLN VLV
FU-236 -2/B3(+)	FU-236 -2/B3(-)	125V VI-BATT BDII PNL 4	CHGR FL RCS CL LP 1
FU-236 -2/B4(+)	FU-236 -2/B4(-)	125V VI-BATT BDII PNL 4	RES FLOW CONT VLV
FU-236 -2/B5(+)	FU-236 -2/B5(-)	125V VI-BATT BDII PNL 4	RCS PRESS PWR RLF VLV

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TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

PRIMARY DEVICE NUMBER	BACKUP DEVICE NUMBER	LOCATION OF PRIMARY DEVICE	SYSTEM POWERED
5. 125V DC (VI-PWR) (Continued)			
FU-236 -2/B8(+)	FU-236 -2/B8(-)	125V VI-BATT BDII PNL 4	EXCESS LTDN DIVR FL CONT VLV
FU-236 -2/B9(+)	FU-236 -2/B9(-)	125V VI-BATT BDII PNL 4	LWR CNTMT VT CLR B SPLY VLV
FU-236 -2/B10(+)	FU-236 -2/B10(-)	125V VI-BATT BDII PNL 4	CRD VT CLR B SPLY VLV
FU-236 -2/B11(+)	FU-236 -2/B11(-)	125V VI-BATT BDII PNL 4	LWR CNTMT VT CLR D SPLY VLV
FU-236 -2/B12(+)	FU-236 -2/B12(-)	125V VI-BATT BDII PNL 4	CRD VT CLR D SPLY VLV
FU-236 -2/B13(+)	FU-236 -2/B13(-)	125V VI-BATT BDII PNL 4	CRD CLG UNIT 1D-B RM DIVR DMPR
FU-236 -2/B14(+)	FU-236 -2/B14(-)	125V VI-BATT BDII PNL 4	CRD CGL UNIT 1D-B RM DIVR DMPR
FU-236 -2/B15(+)	FU-236 -2/B15(-)	125V VI-BATT BDII PNL 4	CRD CLG UNIT 1B-B SUCT DMPR
FU-236 -2/B16(+)	FU-236 -2/B16(-)	125V VI-BATT BDII PNL 4	CRD CLG UNIT 1B-B DIVR DMPR
FU-236 -2/B17(+)	FU-236 -2/B17(-)	125V VI-BATT BDII PNL 4	REAC VSL HD VT ISLN VLV & THROT VLV
FU-236 -2/B21(+)	FU-236 -2/B21(-)	125V VI-BATT BDII PNL 4	REAC BLDG SMP DISCH ISLN VLV
FU-236 -2/B22(+)	FU-236 -2/B22(-)	125V VI-BATT BDII PNL 4	REAC CLT DR TK PMPS DISCH ISLN VLV
FU-236 -2/B23(+)	FU-236 -2/B23(-)	125V VI-BATT BDII PNL 4	REAC CLT DR TK TO VT HDR ISLN VLV
FU-236 -2/B24(+)	FU-236 -2/B24(-)	125V VI-BATT BDII PNL 4	REAC CLT DRN TK TO GAS ANAL ISLN VLV

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TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

PRIMARY DEVICE NUMBER	BACKUP DEVICE NUMBER	LOCATION OF PRIMARY DEVICE	SYSTEM POWERED
5. 125V DC (VI-PWR) (Continued)			
FU-236 -2/B27(+)	FU-236 -2/B27(-)	125V VI-BATT BDII PNL 4	CNTMT BLDG LWR COMPT AIR MON ISLN VLV
FU-236 -2/B28(+)	FU-236 -2/B28(-)	125V VI-BATT BDII PNL 4	CNTMT BLDG LWR COMPT AIR MON ISLN VLV
FU-236 -2/B33(+)	FU-236 -2/B33(-)	125V VI-BATT BDII PNL 4	CNTMT BLDG UPR COMPT AIR MON ISLN VLV
FU-236 -2/B36(+)	FU-236 -2/B36(-)	125V VI-BATT BDII PNL 4	CNTMT BLDG UPR COMPT AIR MON ISLN VLV
FU-236 -2/C5(+)	FU-236 -2/C5(-)	125V VI-BATT BDII PNL 4	INSTR RM COOL UNIT B VLV
FU-236 -2/C6(+)	FU-236 -2/C6(-)	125V VI-BATT BDII PNL 4	INSTR RM COOL UNIT B VLV
FU-236 -2/C7(+)	FU-236 -2/C7(-)	125V VI-BATT BDII PNL 4	CNTMT ANNS DIFF PRESS ISLN VLV
FU-236 -2/C10(+)	FU-236 -2/C10(-)	125V VI-BATT BDII PNL 4	LOCA H_2 CNTMT ISLN VLV
FU-236 -2/C11(+)	FU-236 -2/C11(-)	125V VI-BATT BDII PNL 4	LOCA H_2 CNTMT ISLN VLV
FU-236 -2/C17(+)	FU-236 -2/C17(-)	125V VI-BATT BDII PNL 4	STM GEN BLDN ISLN VLV LP 2
FU-236 -2/C18(+)	FU-236 -2/C18(-)	125V VI-BATT BDII PNL 4	UPR COMPT PURG ISLN VLV & EXH ISLN VLV
FU-236 -2/C21	52-236 -312/II	125V VI-BATT BDII PNL 4	DNSTR EXCESS LTDN HX TO HOT SMPLG RM ISLN VLV
FU-236 -2/C24(+)	FU-236 -2/C24(-)	125V VI-BATT BDII PNL 4	FLOOR CLG GLYCOL INLET ISLN VLV

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TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

PRIMARY DEVICE NUMBER	BACKUP DEVICE NUMBER	LOCATION OF PRIMARY DEVICE	SYSTEM POWERED
5. 125V DC (VI-PWR) (Continued)			
FU-236 -2/C26(+)	FU-236 -2/C26(-)	125V VI-BATT BDII PNL 4	FLOOR CLG GLYCOL OLET ISLN VLV
FU-236 -2/C34(+)	FU-236 -2/C34(-)	125V VI-BATT BDII PNL 4	CNTMT BLDG LWR COMPT AIR MON ISLN VLV
FU-236 -2/C35(+)	FU-236 -2/C35(-)	125V VI-BATT BDII PNL 4	CNTMT BLDG UPR COMPT AIR MON ISLN VLV
FU-236 -2/C37(+)	FU-236 -2/C37(-)	125V VI-BATT BDII PNL 4	INSTR RM PURGE ISLN VLVS
FU-236 -2/C40(+)	FU-236 -2/C40(-)	125V VI-BATT BDII PNL 4	LWR COMPT PURGE ISLN VLVS
FU-236 -2/C41(+)	FU-236 -2/C41(-)	125V VI-BATT BDII PNL 4	STM GEN NO. 1 BLDN ISLN VLV
FU-236 -2/C42(+)	FU-236 -2/C42(-)	125V VI-BATT BDII PNL 4	STM GEN NO. 2 BLDN ISLN VLV
FU-236 -2/C43(+)	FU-236 -2/C43(-)	125V VI-BATT BDII PNL 4	STM GEN NO. 3 BLDN ISLN VLV
FU-236 -2/C44(+)	FU-236 -2/C44(-)	125V VI-BATT BDII PNL 4	STM GEN NO. 4 BLDN ISLN VLV
FU-236 -2/C47(+)	FU-236 -2/C47(-)	125V VI-BATT BDII PNL 4	STM GEN BLDN ISLN VLV LP 4
FU-236 -2/D5(+)	FU-236 -2/D5(-)	125V VI-BATT BDII PNL 4	EXCESS LETDN ISLN VLV
FU-236 -2/D6(+)	FU-236 -2/D6(-)	125V VI-BATT BDII PNL 4	PRESS RLF TK PR WTR SPLY VLV
FU-236 -2/D7(+)	FU-236 -2/D7(-)	125V VI-BATT BDII PNL 4	SIS ACC FILL LINE ISLN VLV
FU-236 -2/D8(+)	FU-236 -2/D8(-)	125V VI-BATT BDII PNL 4	SIS ACC TK 4 N_2 MAKEUP VLV

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TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

PRIMARY DEVICE NUMBER	BACKUP DEVICE NUMBER	LOCATION OF PRIMARY DEVICE	SYSTEM POWERED
5. 125V DC (VI-PWR) (Continued)			
FU-236 -2/D9(+)	FU-236 -2/D9(-)	125V VI-BATT BDII PNL 4	SIS ACC TK 4 FLOW ISLN VLV
FU-236 -2/D10(+)	FU-236 -2/D10(-)	125V VI-BATT BDII PNL 4	SIS ACC TK 4 FILL VLV
FU-236 -2/D11(+)	FU-236 -2/D11(-)	125V VI-BATT BDII PNL 4	SIS ACCUM TK 3 N_2 MKUP VLV
FU-236 -2/D12(+)	FU-236 -2/D12(-)	125V VI-BATT BDII PNL 4	SIS ACC TK 2 N_2 MAKEUP VLV
FU-236 -2/D14(+)	FU-236 -2/D14(-)	125V VI-BATT BDII PNL 4	SIS ACC TK 2 FLOW ISLN VLV
FU-236 -2/D18(+)	FU-236 -2/D18(-)	125V VI-BATT BDII PNL 4	RCP 2 SEAL RTN FLOW CONT
FU-236 -2/D19(+)	FU-236 -2/D19(-)	125V VI-BATT BDII PNL 4	RCP 4 SEAL RTN FL CONT
FU-236 -2/D21(+)	FU-236 -2/D21(-)	125V VI-BATT BDII PNL 4	EXCESS LET DN ISLN VLV
FU-236 -2/D22(+)	FU-236 -2/D22(-)	125V VI-BATT BDII PNL 4	PRESS LIQ ISLN VLV
FU-236 -2/D24(+)	FU-236 -2/D24(-)	125V VI-BATT BDII PNL 4	RCS HOT LEG LP 3 ISLN VLV
FU-236 -2/D26(+)	FU-236 -2/D26(-)	125V VI-BATT BDII PNL 4	ACCUM TK 2 ISLN VLV
FU-236 -2/D27(+)	FU-236 -2/D27(-)	125V VI-BATT BDII PNL 4	SIS ACC TK 4 OUT CK VLV ISLN
FU-236 -2/D28(+)	FU-236 -2/D28(-)	125V VI-BATT BDII PNL 4	ACCUM TK 4 ISLN VLV
FU-236 -2/D29(+)	FU-236 -2/D29(-)	125V VI-BATT BDII PNL 4	SIS ACC TK 2 CK VLV ISLN
FU-236 -2/D31(+)	FU-236 -2/D31(-)	125V VI-BATT BDII PNL 4	SIS CK VLV LEAK TEST ISLN VLV

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TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

PRIMARY DEVICE NUMBER	BACKUP DEVICE NUMBER	LOCATION OF PRIMARY DEVICE	SYSTEM POWERED
5. 125V DC (VI-PWR) (Continued)			
FU-236 -2/D33(+)	FU-236 -2/D33(-)	125V VI-BATT BDII PNL 4	SIS TEST LINE CK VLV TEST VLV
FU-236 -2/D34(+)	FU-236 -2/D34(-)	125V VI-BATT BDII PNL 4	RCP 2 STD PIPE MAKEUP WTR VLV
FU-236 -2/D35(+)	FU-236 -2/D35(-)	125V VI-BATT BDII PNL 4	RCP 4 STD PIPE MAKEUP WTR VLV
FU-236 -2/D36(+)	FU-236 -2/D36(-)	125V VI-BATT BDII PNL 4	SIS ACCUM TK 3 FL ISLN VLV
FU-236 -2/D40(+)	FU-236 -2/D40(-)	125V VI-BATT BDII PNL 4	SIS ACCUM TK 2 FILL VLV
FU-236 -2/D41(+)	FU-236 -2/D41(-)	125V VI-BATT BDII PNL 4	PRESS GAS ISLN VLV
FU-236 -2/D44(+)	FU-236 -2/D44(-)	125V VI-BATT BDII PNL 4	ACCUM TK 1 ISLN VLV
FU-236 -2/D43(+)	FU-236 -2/D43(-)	125V VI-BATT BDII PNL 4	RCS HOT LEG LP 1 ISLN VLV
FU-236 -2/D45(+)	FU-236 -2/D45(-)	125V VI-BATT BDII PNL 4	ACC TK NO 3 ISLN VLV
FU-236 -2/E5(+)	FU-236 -2/E5(-)	125V VI-BATT BDII PNL 4	EXCESS LTDN ISLN VLV
FU-236 -2/E6(+)	FU-236 -2/E6(-)	125V VI-BATT BDII PNL 4	PRESS RLF TK PR WTR SPLY VLV
FU-236 -2/E7(+)	FU-236 -2/E7(-)	125V VI-BATT BDII PNL 4	SIS ACCUM FILL LINE ISLN VLV
FU-236 -2/E8(+)	FU-236 -2/E8(-)	125V VI-BATT BDII PNL 4	SIS ACCUM TK 4 N_2 MKUP VLV
FU-236 -2/E9(+)	FU-236 -2/E9(-)	125V VI-BATT BDII PNL 4	SIS ACCUM TK 4 FL ISLN VLV
FU-236 -2/E10(+)	FU-236 -2/E10(-)	125V VI-BATT BDII PNL 4	SIS ACCUM TK 4 FILL VLV

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TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

PRIMARY DEVICE NUMBER	BACKUP DEVICE NUMBER	LOCATION OF PRIMARY DEVICE	SYSTEM POWERED
5. 125V DC (VI-PWR) (Continued)			
FU-236 -2/E39(+)	FU-236 -2/E39(-)	125V VI-BATT BDII PNL 4	SIS ACCUM TK 3 FL ISLN VLV
FU-236 -2/E43(+)	FU-236 -2/E43(-)	125V VI-BATT BDII PNL 4	SIS CK VLV LEAK TEST ISLN VLV
FU-236 -2/E44(+)	FU-236 -2/E44(-)	125V VI-BATT BDII PNL 4	REAC VESSEL SEAL LEAK OFF VLV
FU-236 -2/E45(+)	FU-236 -2/E45(-)	125V VI-BATT BDII PNL 4	STM GEN NO. 1 BLDN SMPL VLV
FU-236 -2/E46(+)	FU-236 -2/E46(-)	125V VI-BATT BDII PNL 4	STM GEN NO. 2 BLDN SMPL VLV
FU-236 -2/E47(+)	FU-236 -2/E47(-)	125V VI-BATT BDII PNL 4	STM GEN NO. 3 BLDN SMPL VLV
FU-236 -2/E48(+)	FU-236 -2/E48(-)	125V VI-BATT BDII PNL 4	STM GEN NO. 4 BLDN SMPL VLV
FU-236 -2/E49(+)	FU-236 -2/E49(-)	125V VI-BATT BDII PNL 4	STM GEN NO. 1 SMPL VLV
FU-236 -2/E50(+)	FU-236 -2/E50(-)	125V VI-BATT BDII PNL 4	STM GEN NO. 2 SMPL VLV
6. 120VAC BDS			
52-228 -1/2B2	FU-228 -1/3	AUX BLDG LTG BD 1	LTG CAB LC-180
52-228 -1/2C2	FU-228 -1/4	AUX BLDG LTG BD 1	LTG CAB LC-181
52-268 -1/1A	FU-268 -1/1A	HY MIT DIST PNL 1A	IGNITORS 1 AND 32
52-268 -2/1A	FU-268 -2/1A	HY MIT DIST PNL 1A	IGNITORS 2 AND 23
52-268 -3/1A	FU-268 -3/1A	HY MIT DIST PNL 1A	IGNITORS 5 AND 6

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TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

PRIMARY DEVICE NUMBER	BACKUP DEVICE NUMBER	LOCATION OF PRIMARY DEVICE	SYSTEM POWERED
6. 120VAC BDS (Continued)			
FU-85 -L117/73(+)	FU-85 -L117/85(-)	PNL 1-L-117	CRDM K2 LIFT
FU-85 -L117/74(+)	FU-85 -L117/82(-)	PNL 1-L-117	CRDM H4 LIFT
FU-85 -L117/75(+)	FU-85 -L117/83(-)	PNL 1-L-117	CRDM D8 LIFT
FU-85 -L117/76(+)	FU-85 -L117/84(-)	PNL 1-L-117	CRDM H12 LIFT
FU-85 -L117/77(+)	FU-85 -L117/85(-)	PNL 1-L-117	CRDM M8 LIFT
FU-85 -L117/78(+)	FU-85 -L117/82(-)	PNL 1-L-117	CRDM C7 LIFT
FU-85 -L117/79(+)	FU-85 -L117/83(-)	PNL 1-L-117	CRDM G13 LIFT
FU-85 -L117/80(+)	FU-85 -L117/84(-)	PNL 1-L-117	CRDM N9 LIFT
FU-85 -L117/81(+)	FU-85 -L117/85(-)	PNL 1-L-117	CRDM J3 LIFT
FU-85 -L117/86(+)	FU-85 -L117/87(-)	PNL 1-L-117	CRDM H8 LIFT
FU-85 -L118/13(+)	FU-85 -L118/17(-)	PNL 1-L-118	CRDM F8 STA
FU-85 -L118/14(+)	FU-85 -L118/18(-)	PNL 1-L-118	CRDM K8 STA
FU-85 -L118/21(+)	FU-85 -L118/45(-)	PNL 1-L-118	CRDM F8 MOV
FU-85 -L118/22(+)	FU-85 -L118/46(-)	PNL 1-L-118	CRDM K8 MOV
FU-85 -L118/25(+)	FU-85 -L118/29(-)	PNL 1-L-118	CRDM F6 STA

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TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

PRIMARY DEVICE NUMBER	BACKUP DEVICE NUMBER	LOCATION OF PRIMARY DEVICE	SYSTEM POWERED
6. 120VAC BDS (Continued)			
FU-85 -L121/72(+)	FU-85 -L121/84(-)	PNL 1-L-121	CRDM K14 LIFT
FU-85 -L121/73(+)	FU-85 -L121/85(-)	PNL 1-L-121	CRDM P6 LIFT
FU-85 -L121/74(+)	FU-85 -L121/82(-)	PNL 1-L-121	CRDM D4 LIFT
FU-85 -L121/75(+)	FU-85 -L121/83(-)	PNL 1-L-121	CRDM D12 LIFT
FU-85 -L121/76(+)	FU-85 -L121/84(-)	PNL 1-L-121	CRDM M12 LIFT
FU-85 -L121/77(+)	FU-85 -L121/85(-)	PNL 1-L-121	CRDM M4 LIFT
FU-85 -L121/78(+)	FU-85 -L121/82(-)	PNL 1-L-121	CRDM G3 LIFT
FU-85 -L121/79(+)	FU-85 -L121/83(-)	PNL 1-L-121	CRDM C9 LIFT
FU-85 -L121/80(+)	FU-85 -L121/84(-)	PNL 1-L-121	CRDM J13 LIFT
FU-85 -L121/81(+)	FU-85 -L121/85(-)	PNL 1-L-121	CRDM N7 LIFT
A5F4	52-237 -2/M18	UNIT CONTROL BD M18	TRVLG INCORE PROBE SYS
A5F6	52-237 -4/M7	UNIT CONTROL BD M18	TRVLG INCORE PROBE SYS
FU-94 -M18A/1	FU-94 -M18A/2	UNIT CONTROL BD M18	TRVLG INCORE DEHUMIDIFIER A
FU-94 -M18A/3	FU-94 -M18A/4	UNIT CONT BD M18	TRVLG INCORE DEHUMIDIFIER A
FU-94 -M18A/5	FU-94 -M18A/6	UNIT CONTROL BD M18	TRVLG INCORE DEHUMIDIFIER B

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TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

PRIMARY DEVICE NUMBER	BACKUP DEVICE NUMBER	LOCATION OF PRIMARY DEVICE	SYSTEM POWERED
6. 120VAC BDS (Continued)			
FU-94 -M18A/7	FU-94 -M18A/8	UNIT CONT BD M18	TRVLG INCORE DEHUMIDIFIER B
FU-94 -M18C/1	FU-94 -M18C/2	UNIT CONTROL BD M18	TRVLG INCORE DEHUMIDIFIER C
FU-94 -M18C/3	FU-94 -M18C/4	UNIT CONT BD M18	TRVLG INCORE DEHUMIDIFIER C
FU-94 -M18C/5	FU-94 -M18C/6	UNIT CONTROL BD M18	TRVLG INCORE DEHUMIDIFIER D
FU-94 -M18C/7	FU-94 -M18C/8	UNIT CONT BD M18	TRVLG INCORE DEHUMIDIFIER D
FU-94 -M18D/1	FU-94 -M18D/2	UNIT CONTROL BD M18	TRVLG INCORE DEHUMIDIFIER E
FU-94 -M18D/3	FU-94 -M18D/4	UNIT CONT BD M18	TRVLG INCORE DEHUMIDIFIER E
FU-94 -M18D/5	FU-94 -M18D/6	UNIT CONTROL BD M18	TRVLG INCORE DEHUMIDIFIER F
FU-94 -M18D/7	FU-94 -M18D/8	UNIT CONT BD M18	TRVLG INCORE DEHUMIDIFIER F
FU-278 -M4/9, 10	52-235 -43/1-II	UNIT CONTROL BD M4	RCS LOOP 1 PRES SPRAY CONT VLV POSN INDR
FU-278 -M4/11, 12	52-235 -42/1-I	UNIT CONTROL BD M4	RCS LOOP 2 PRES SPRAY CONT VLV POSN INDR
FU-40 -2272/F3, F4	52-237 -24/B	JB 2272	REAC BLDG FLOOD ALARM
FU-275 -R76/L9, L10	52-235 -12/1-III	AUX RELAY RK 1-R-76	UPR COMPT VT UNIT A FLOW ALA
FU-275 -R76/N21, N22	52-235 -6/1-III	AUX RELAY 1-R-76	UPR COMPT CLR UNITS LOW FL

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TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

PRIMARY DEVICE NUMBER	BACKUP DEVICE NUMBER	LOCATION OF PRIMARY DEVICE	SYSTEM POWERED
6. 120VAC BDS (Continued)			
FU-275 -R76/L15, L16	52-235 -5/1-IV	AUX RELAY RK 1-R-76	UPR COMPT VT UNIT B FLOW ALA
FU-275 -R76/L7, L8	52-235 -12/1-III	AUX RELAY RK 1-R-76	UPR COMPT VT UNIT C FLOW ALA
FU-275 -R76/L17, L18	52-235 -5/1-IV	AUX RELAY RK 1-R-76	UPR COMPT VT UNIT D FLOW ALA
FU-99 -R58/M19, M20	52-235 -6/1-IV	NSSS AUX RLY PNL 1-R-58	ICE CONDENSER RELAY
FU-275 -R75/K1, K2	52-235 -4/1-III	AUX RLY PNL 1-R-75	CRD MECH CLR UNIT 1B-B ANN SEP RLY
FU-275 -R75/K21, K22	52-235 -8/1-IV	AUX RLY PNL 1-R-75	CRD MECH CLR UNIT 1C-A ANN SEP RLY
FU-242 -BD/F2(+)	FU-242 BD/F2(-)	RAD MON & SMPLG RN DISTR PNL 1	AIR PART MON SYS
52-242 -11/1	FU-242 -DPL1/F11	RAD PROC AND AREA MON PWR DIST PNL 1	UPR COMPT ACC HATCH AREA MON
52-242 -12/1	FU-242 -DPL1/F12	RAD PROC AND AREA MON PWR DIST PNL 1	UPR COMPT PERS LOCK AREA MON
52-242 -13/1	FU-242 -DPL1/F13	RAD PROC AND AREA MON PWR DIST PNL 1	LWR COMPT INSTR RM AREA MON
FU-99 -R58/M7	FU-99 -R58/M8	AUX RLY PNL 1-R-58	COMTMT EVAC HORN
FU-237 -M7B/F3	FU-237 -M7B/F4	UNIT CONT BD M7	REAC COOL ST AND FW
FU-275 -R75/L11, L12	52-235 -4/1-III	AUX RLY PNL 1-R-75	CRD MECH CLR FAN 1D-B/1 ANN SEP RLY

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TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

PRIMARY DEVICE NUMBER	BACKUP DEVICE NUMBER	LOCATION OF PRIMARY DEVICE	SYSTEM POWERED
6. 120VAC BDS (Continued)			
FU-275 -R75/K19, K20	52-235 -8/1-IV	AUX RLY PNL 1-R-75	CRD MECH CLR FAN 1A-A/1 ANN SEP RLY
FU-234 -A1/1	52-234 -22/A1	SIS HT TR DIST PNL A1	HT TRACE CKT 132P
FU-234 -B1/4	52-234 -28/B1	SIS HT TR DIST PNL B1	HT TRACE CKT 214S
FU-234 -B1/1	52-234 -22/B1	SIS HT TR DIST PNL B1	HT TRACE CKT 132S
FU-234 -A1/2	52-234 -24/A1	SIS HT TR DIST PNL A1	HT TRACE CKT 213P
FU-234 -B1/5	52-234 -2/B1	SIS HT TR DIST PNL B1	HT TRACE CKT 134S
FU-234 -B1/16	52-234 -30/B1	SIS HT TR DIST PNL B1	HT TRACE CKT 215S
FU-234 -B1/7	52-234 -32/B1	SIS HT TR DIST PNL B1	HT TRACE CKT 135S
FU-234 -B1/8	52-234 -34/B1	SIS HT TR DIST PNL B1	HT TRACE CKT 216S
FU-234 -B1/2	52-234 -24/B1	SIS HT TR DIST PNL B1	HT TRACE CKT 213S
FU-234 -A1/3	52-234 -26/A1	SIS HT TR DIST PNL A1	HT TRACE CKT 133P
FU-234 -B1/3	52-234 -26/B1	SIS HT TR DIST PNL B1	HT TRACE CKT 133S
FU-234 -A1/4	52-234 -28/A1	SIS HT TR DIST PNL A1	HT TRACE CKT 214P
FU-275 -R79/K11, K12	52-237 -15/M7B	AUX RLY PNL 1-R-79	FIRE PMP ST CIRCUIT
FU-275 -R58/M19, M20	52-235 -6/1-IV	AUX RLY PNL 1-R-58	GLY EXP TK LVL SW

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TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

PRIMARY DEVICE NUMBER	BACKUP DEVICE NUMBER	LOCATION OF PRIMARY DEVICE	SYSTEM POWERED
6. 120VAC BDS (Continued)			
FU-237 -A/F23	52-237 -23/1A	120 VAC DIST PNL 1A	IC BK DRAFT DMPR
FU-292 -4314/FS55, FS56	52-235 -12/1-II	JB 4314	INCORE INST RM CLR FAN 1A
FU-292 -4313/FS53, FS54	52-235 -7/1-I	JB 4313	INCORE INST RM A/C PKG CLR FAN 1B
FU-275 -R75/L9	FU-275 -R75/L10	AUX RLY PNL 1-R-75	AUX BLDG EGTS FAN B-B
FU-234 -A1/5	52-234 -2/A1	SIS HT TR DIST PNL A1	HT TRAC CKT 134P
FU-234 -A1/6	52-234 -30/A1	SIS HT TR DIST PNL A1	HT TRAC CKT 215P
FU-234 -A1/7	52-234 -32/A1	SIS HT TR DIST PNL A1	HT TRAC CKT 135P
FU-234 -A1/8	52-234 -34/A1	SIS HT TR DIST PNL A1	HT TRAC CKT 216P
52-235 -17/1-II	FU-235 -2/F17	120VAC VIT PWR BD 1-II	PAS CONTMT AIR ISLN VLVS
52-235 -17/1-I	FU-235 -1/F17	120VAC VIT PWR BD 1-I	PAS HOT LEG 1 ISLN VLVS
52-235 -36/1-IV	FU-235 -4/F36	120VAC VIT PWR BD 1-IV	EGTS SHIELD BLDG VENT FL
52-235 -2/1-III	FU-99 -R58/M19, M20	120VAC VIT PWR BD 1-III	GLYCOL EXP TK
FU-99 -R55/L15, L16	52-235 -44/1-II	AUX RLY PNL 1-R-55	SIS ACCUM TK 4 FL ISLN VLV
FU-99 -R55/L17, L18	52-235 -43/1-I	AUX RLY PNL 1-R-55	SIS ACCUM TK 1 FL ISLN VLV
FU-77 -L2/LF2(+)	FU-77 -L2/LF2(-)	PNL-77-L2	REAC CLNT DR TK PMP CNTL

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TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

PRIMARY DEVICE NUMBER	BACKUP DEVICE NUMBER	LOCATION OF PRIMARY DEVICE	SYSTEM POWERED
6. 120VAC BDS (Continued)			
FU-77 -L2/LF17(+)	FU-77 -L2/LF17(-)	PNL-77-L2	REAC CLNT DR TK LVL CNTL VLV
FU-275 -R76/I1, I2	52-235 -12/1-III	AUX RLY PNL I-R-76	INCORE INST A RM A/C AIR FL
FU-275 -R76/I23, I24	52-235 -5/1-IV	AUX RLY PNL I-R-76	INCORE INST B RM A/C AIR FL
FU-228 -152/10B	52-228 -152/10	JB 4806	LTG CIR IN PERS ACC LOCK EL 713
FU-228 -156/6C	52-228 -152/6	JB 4810	LTR CIR IN PERS ACC LOCK EL 757
7. 250VDC BDS			
FU-202 -A2/1(+)	FU-202 -A2/1(-)	RCP BD 1A/2	RCP MTR 1 PROT
FU-202 -B2/1(+)	FU-202 -B2/1(-)	RCP BD 1B/2	RCP MTR 2 PROT
FU-202 -C2/1(+)	FU-202 -C2/1(-)	RCP BD 1C/2	RCP MTR 3 PROT
FU-202 -D3/1(+)	FU-202 -D3/1(-)	RCP BD 1D/3	RCP MTR 4 PROT
8. 48VDC BDS			
FUSE 1	FUSE 1, BAY 37, PNL L	COMM BD, BAY 39, PNL M	LOUDSPKR
FUSE 2	FUSE 1, BAY 37, PNL L	COMM BD, BAY 39, PNL M	LOUDSPKR
FUSE 3	FUSE 1, BAY 37, PNL L	COMM BD, BAY 39, PNL M	LOUDSPKR
FUSE 4	FUSE 1, BAY 37, PNL L	COMM BD, BAY 39, PNL M	LOUDSPKR
FUSE 5	FUSE 1, BAY 37, PNL L	COMM BD, BAY 39, PNL M	LOUDSPKR

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TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

PRIMARY DEVICE NUMBER	BACKUP DEVICE NUMBER	LOCATION OF PRIMARY DEVICE	SYSTEM POWERED
8. 48VDC BDS (Continued)			
FUSE 8	FUSE 1, BAY 37, PNL L	COMM BD, BAY 39, PNL M	LOUDSPKR
FUSE 9	FUSE 1, BAY 37, PNL L	COMM BD, BAY 39, PNL M	LOUDSPKR
FUSE 10	FUSE 1, BAY 37, PNL L	COMM BD, BAY 39, PNL M	LOUDSPKR
FUSE 11	FUSE 1, BAY 37, PNL L	COMM BD, BAY 39, PNL M	LOUDSPKR
FUSE 12	FUSE 1, BAY 37, PNL L	COMM BD, BAY 39, PNL M	LOUDSPKR
FUSE 13	FUSE 1, BAY 37, PNL L	COMM BD, BAY 39, PNL M	LOUDSPKR
FUSE 3	FUSE 1, BAY 37, PNL L	COMM BD, BAY 38, PNL M	LOUDSPKR
FUSE 4	FUSE 1, BAY 37, PNL L	COMM BD, BAY 38, PNL M	LOUDSPKR
FUSE 5	FUSE 1, BAY 37, PNL L	COMM BD, BAY 38, PNL M	LOUDSPKR
FUSE 6	FUSE 1, BAY 37, PNL L	COMM BD, BAY 38, PNL M	LOUDSPKR
FUSE 7	FUSE 1, BAY 37, PNL L	COMM BD, BAY 38, PNL M	LOUDSPKR
FUSE 8	FUSE 1, BAY 37, PNL L	COMM BD, BAY 38, PNL M	LOUDSPKR
FUSE 9	FUSE 1, BAY 37, PNL L	COMM BD, BAY 38, PNL M	LOUDSPKR
FUSE 10	FUSE 1, BAY 37, PNL L	COMM BD, BAY 38, PNL M	LOUDSPKR
FUSE 13	FUSE 1, BAY 37, PNL L	COMM BD, BAY 38, PNL M	LOUDSPKR
FUSE 14	FUSE 1, BAY 37, PNL L	COMM BD, BAY 38, PNL M	LOUDSPKR

TABLE 3.12-1 (Continued)

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

EXPOSURE PATHWAY AND/OR SAMPLE	NUMBER OF REPRESENTATIVE SAMPLES AND SAMPLE LOCATIONS[1]	SAMPLING AND COLLECTION FREQUENCY	TYPE AND FREQUENCY OF ANALYSIS
4. Ingestion (Continued)			
b. Fish and Invertebrates	One sample each of a commercially and recreationally important species from Nickajack, Chickamauga, and Watts Bar Reservoirs.	At least once per 184 days.	Gamma isotopic analysis[5] on edible portions.
c. Food Products	One sample of each principal class of food products from any area that is irrigated by water in which liquid plant wastes have been discharged.	At time of harvest.[10]	Gamma isotopic analyses[5] on edible portion.
	Samples of three different kinds of available broad leaf vegetation grown nearest each of two different offsite locations of highest predicted annual average ground-level D/Q if milk sampling is not performed as outlined in Section 4.a. above.	Monthly when available.	Gamma isotopic[5] and I-131 analysis.
	One sample of each of the similar broad leaf vegetation grown 15-30 km distant in the least prevalent wind direction if milk sampling is not performed as outlined in Section 4.a. above.	Monthly when available.	Gamma isotopic[5] and I-131 analysis.

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3/4.3.3.7 FIRE DETECTION INSTRUMENTATION

OPERABILITY of the fire detection instrumentation ensures that both adequate warning capability is available for prompt detection of fires and that Fire Suppression Systems, that are actuated by fire detectors, will discharge extinguishing agents in a timely manner. Prompt detection and suppression of fires will reduce the potential for damage to safety-related equipment and is an integral element in the overall facility fire protection program.

Fire detectors that are used to actuate Fire Suppression Systems represent a more critically important component of a plant's fire protection program than detectors that are installed solely for early fire warning and notification. Consequently, the minimum number of operable fire detectors must be greater.

The loss of detection capability for Fire Suppression Systems, actuated by fire detectors, represents a significant degradation of fire protection for any area. As a result, the establishment of a fire watch patrol must be initiated at an earlier stage than would be warranted for the loss of detectors that provide only early fire warning. The establishment of frequent fire patrols in the affected areas is required to provide detection capability until the inoperable instrumentation is restored to OPERABILITY.

3/4.3.3.8 RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

The radioactive liquid effluent instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in liquid effluents during actual or potential releases of liquid effluents. The Alarm/Trip Setpoints for these instruments shall be calculated and adjusted in accordance with the methodology and parameters in the ODCM to ensure that the alarm/trip will occur prior to exceeding the limits of 10 CFR Part 20. The OPERABILITY and use of this instrumentation is consistent with the requirements of General Design Criteria 60, 63, and 64 of Appendix A to 10 CFR Part 50. The purpose of tank level indicating devices is to assure the detection and control of leaks that if not controlled could potentially result in the transport of radioactive materials to UNRESTRICTED AREAS.

3/4.3.3.9 RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

The radioactive gaseous effluent instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in gaseous effluents during actual or potential releases of gaseous effluents. The Alarm/Trip Setpoints for these instruments shall be calculated and adjusted in accordance with the methodology and parameters in the ODCM to ensure that the alarm/trip will occur prior to exceeding the limits of 10 CFR Part 20. This

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION (Continued)

instrumentation also includes provisions for monitoring (and controlling) the concentrations of potentially explosive gas mixtures in the WASTE GAS HOLDUP SYSTEM. The OPERABILITY and use of this instrumentation is consistent with the requirements of General Design Criteria 60, 63 and 64 of Appendix A to 10 CFR Part 50. The sensitivity of any noble gas activity monitor used to show compliance with the gaseous effluent release requirements of Specification 3.11.2.2 shall be such that concentrations as low as $1x10^{-6}$ μCi/cc are measurable.

3/4.3.3.10 LOOSE-PART DETECTION SYSTEM

The OPERABILITY of the Loose-Part Detection System ensures that sufficient capability is available to detect loose metallic parts in the Reactor Coolant System and avoid or mitigate damage to Reactor Coolant System components. The allowable out-of-service times and Surveillance Requirements are consistent with the recommendations of Regulatory Guide 1.133, "Loose-Part Detection Program for the Primary System of Light-Water-Cooled Reactors," May 1981.

EMERGENCY GAS TREATMENT SYSTEM (Continued)

annulus pressure equal to or more negative than minus 0.5 inch Water Gauge relative to the Mechanical Equipment Room in less than about 160 seconds after onset of a LOCA, assuming an initial annulus pressure equal to or more negative than minus 5.0 inches Water Gauge relative to Mechanical Equipment Room. Operation of the system with the heaters operating to maintain low humidity ($\leq$70%) for at least 10 continuous hours in a 31-day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters. These requirements are necessary to meet the assumptions used in the safety analyses and limit the SITE BOUNDARY radiation doses to within the dose guideline values of 10 CFR Part 100 during LOCA conditions. ANSI N510-1975 will be used as a procedural guide for surveillance testing.

3/4.6.1.9 CONTAINMENT VENTILATION SYSTEM

The 24-inch lower compartment valves at less than or equal to 50° open, the 24-inch upper compartment valves, and the 12-inch valves are capable of closing during a LOCA or steam line break accident. Therefore, the SITE BOUNDARY dose guideline values of 10 CFR Part 100 would not be exceeded in the event of an accident during containment purging operation. Operation with one pair open will be limited to 1000 hours during a calendar year. The total time the containment purge (vent) system isolation valves may be open during MODES 1, 2, 3, and 4 in a calendar year is a function of anticipated need and operating experience. Only safety-related reasons; e.g., containment pressure control or the reduction of airborne radioactivity to facilitate personnel access for surveillance and maintenance activities, may be used to support the additional time requests.

Leakage integrity tests with a maximum allowable leakage rate for containment purge supply and exhaust supply valves will provide early indication of resilient material seal degradation and will allow opportunity for repair before gross leakage failures could develop. The 0.60 L_a leakage limit of Specification 3.6.1.2b. shall not be exceeded when the leakage rates determined by the leakage integrity tests of the valves are added to the previously determined total for all valves and penetrations subject to Type B and C tests.

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

The OPERABILITY of the Containment Spray System ensures that containment depressurization and cooling capability will be available in the event of a LOCA. The pressure reduction and resultant lower containment leakage rate are consistent with the assumptions used in the safety analyses.

3/4.6.3 CONTAINMENT 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 consistent with the requirements of GDC 54 through 57 of Appendix A to 10 CFR Part 50. Containment 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 consistent with the assumptions used in the analyses for a LOCA.

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3/4.6.4 COMBUSTIBLE GAS CONTROL

The OPERABILITY of the equipment and systems required for the detection and control of hydrogen gas ensures that this equipment will be available to maintain the hydrogen concentration within containment below its flammable limit during post-LOCA conditions. Either recombiner unit is capable of controlling the expected hydrogen generation associated with: (1) zirconium-water reactions, (2) radiolytic decomposition of water, and (3) corrosion of metals within containment. These Hydrogen Control Systems are consistent with the recommendations of Regulatory Guide 1.7, "Control of Combustible Gas Concentrations in Containment Following a LOCA," March 1971.

The Hydrogen Mixing Systems are provided to ensure adequate mixing of the containment atmosphere following a LOCA. This mixing action will prevent localized accumulations of hydrogen from exceeding the flammable limit.

The OPERABILITY of at least 33 of 34 ignitors per train (66 of 68 for both trains) in the Hydrogen Mitigation System will maintain an effective coverage throughout the containment provided the two inoperable ignitors are not on corresponding redundant circuits which provide coverage for the same region. This system of ignitors will initiate combustion of any significant amount of hydrogen released after a degraded core accident. This system is to ensure burning in a controlled manner as the hydrogen is released instead of allowing it to be ignited at high concentrations by a random ignition source.

3/4.6.5 ICE CONDENSER

The requirements associated with each of the components of the ice condenser ensure that the overall system will be available to provide sufficient pressure suppression capability to limit the containment peak pressure transient to less than 15 psig during LOCA conditions.

3/4.6.5.1 ICE BED

The OPERABILITY of the ice bed ensures that the required ice inventory will: (1) be distributed evenly through the containment bays, (2) contain sufficient boron to preclude dilution of the containment sump following the LOCA, and (3) contain sufficient heat removal capability to condense the Reactor Coolant System volume released during a LOCA. These conditions are consistent with the assumptions used in the safety analyses.

The minimum weight figure of 1214 pounds of ice per basket contains a 10% conservative allowance for ice loss through sublimation which is a factor of 10 higher than assumed for the ice condenser design and 1% for weighing accuracies. In the event that observed sublimation rates are equal to or lower than design predictions after 3 years of operation, the minimum ice basket weight may be adjusted downward. In addition, the number of ice baskets required to be weighed each 9 months may be reduced after 3 years of operation if such a reduction is supported by observed sublimation data.

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PROCEDURES AND PROGRAMS (Continued)

b. The change is approved by two members of the plant management staff, at least one of whom holds a Senior Operator license on the unit affected, and

c. The change is documented, reviewed by the PORC and approved by the Plant Manager within 14 days of implementation.

6.8.4 Written procedures shall be established, implemented and maintained by the Manager, Radiological Health, covering the activities below:

a. OFFSITE DOSE CALCULATIONAL MANUAL implementation,

b. Quality Assurance Program for environmental radiological monitoring, and

c. Surveillance requirements and environmental monitoring requirements shown in Table 6.1-1.

6.8.5 The following programs shall be established, implemented, and maintained:

a. Reactor Coolant Sources Outside Containment

A program to reduce leakage from those portions of systems outside containment that could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. The systems include the Safety Injection System, RHR System, Chemical and Volume Control System, Containment Spray System, RCS Sampling System, and the Waste Gas System. The program shall include the following:

1) Preventive maintenance and periodic visual inspection requirements, and

2) Integrated leak test requirements for each system at refueling cycle intervals or less.

b. In-Plant Radiation Monitoring

A program which will ensure the capability to accurately determine the airborne iodine concentrations in vital areas under accident conditions. This program shall include the following:

1) Training of personnel,

2) Procedures for monitoring, and

3) Provisions for maintenance of sampling and analysis equipment.

c. Secondary Water Chemistry

A program for monitoring of secondary water chemistry to inhibit steam generator tube degradation. This program shall include: