October 19, 1984

Docket No. 50-454

MEMORANDUM FOR: Thomas M. Novak, Assistant Director
for Licensing
Division of Licensing

FROM: Dennis M. Crutchfield, Assistant Director
for Safety Assessment
Division of Licensing

SUBJECT: BYRON STATION UNIT 1 - TECHNICAL SPECIFICATIONS

By our memorandum of August 24, 1984, we provided you with Byron Station Unit 1 Technical Specifications in final draft form for you to transmit to the applicant. Several typographical errors, omissions and clarifications were noted by our memorandum of September 14, 1984, and replacement pages were enclosed for you to transmit to the applicant. Because many additional pages had been changed we enclosed a complete set of Byron Technical Specifications with our memorandum of October 12, 1984 for you to transmit to the applicant for their review and certification that those technical specifications accurately reflected the as-built plant and FSAR.

Since October 12, 1984, we have completed our review of the interim Technical Specifications proposed by the applicant in its letter of October 4, 1984. The enclosure includes (1) page changes to incorporate interim Technical Specifications acceptable to the staff, (2) extensive changes to tables of MOV Thermal Overload Protection Devices and Containment Isolation valves in response to a request by the applicant in its letter of October 16, 1984, and (3) several changes to provide clarifications and corrections of errors and omissions.

Except for technical specifications for the ultimate heat sink we believe that these technical specifications are complete and not subject to further change prior to a decision on issuance of an operating license. Changes upon completion of the staff's review of the ultimate heat sink will be forwarded to you.

Original signed by
Dennis M. Crutchfield, Assistant Director
for Safety Assessment
Division of Licensing

Enclosures:
As stated
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

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SECTION PAGE

POWER DISTRIBUTION LIMITS

SURVEILLANCE REQUIREMENTS

4.2.2.1 The provisions of Specification 4.0.4 are not applicable.

4.2.2.2 F_{xy} shall be evaluated to determine if $F_Q(Z)$ is within its limit by:

a. Using the movable incore detectors to obtain a power distribution map at any THERMAL POWER greater than 5% of RATED THERMAL POWER;

b. Increasing the measured F_{xy} component of the power distribution map by 3% to account for manufacturing tolerances and further increasing the value by 5% to account for measurement uncertainties;

c. Comparing the F_{xy} computed (F_{xy}^C) obtained in Specification 4.2.2.2b., above, to:

1) The F_{xy} limits for RATED THERMAL POWER (F_{xy}^{RTP}) for the appropriate measured core planes given in Specifications 4.2.2.2e. and f., below, and

2) The relationship:

$$F_{xy}^L = F_{xy}^{RTP}\,[1+0.3(1-P)]$$

Where F_{xy}^L is the limit for fractional THERMAL POWER operation expressed as a function of F_{xy}^{RTP} and P is the fraction of RATED THERMAL POWER at which F_{xy} was measured.

d. Remeasuring F_{xy} according to the following schedule:

1. When F_{xy}^C is greater than the F_{xy}^{RTP} limit for the appropriate measured core plane but less than the F_{xy}^L relationship, additional power distribution maps shall be taken and F_{xy}^C compared to F_{xy}^{RTP} and F_{xy}^L:

a) Within 24 hours after exceeding by 20% of RATED THERMAL POWER or greater, the THERMAL POWER at which F_{xy}^C was last determined, or

b) At least once per 31 EFPD, whichever occurs first.

TABLE NOTATIONS

*With new fuel or irradiated fuel in the fuel storage areas or fuel building.
**Trip Setpoint is to be established such that the actual submersion dose rate would not exceed 10 mR/hr in the containment building. For containment purge or vent the Setpoint value may be increased up to twice the maximum concentration activity in the containment determined by the sample analysis performed prior to each release in accordance with Table 4.11-2 provided the value does not exceed 10% of the equivalent limits of Specification 3.11.2.1.a in accordance with the methodology and parameters in the ODCM.

ACTION STATEMENTS

ACTION 26 - With less than the Minimum Channels OPERABLE requirement, operation may continue provided the containment purge valves are maintained closed.

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 Make-up System.

ACTION 28 - Must satisfy the ACTION requirement for Specification 3.4.6.1.

ACTION 29 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, ACTION a. of Specification 3.9.12* must be satisfied. With both channels inoperable, provide an appropriate portable continuous monitor with the same Alarm Setpoint in the fuel pool area with one Fuel Handling Building Exhaust filter plenum in operation. Otherwise satisfy ACTION b. of Specification 3.9.12.

*Satisfaction of Specification 3.9.12 ACTIONS are not required prior to MODE 1 because of the low fission product inventory available at or below the limiting power level of 5%.

TABLE 3.3-10

ACCIDENT MONITORING INSTRUMENTATION

INSTRUMENT	REQUIRED 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/steam generator	1/steam generator
6. Steam Line Pressure	1/steam generator	1/steam generator
7. Steam Generator Water Level - Narrow Range	1/steam generator	1/steam generator
8. Steam Generator Water Level - Wide Range	2	1
9. Refueling Water Storage Tank Water Level	2/steam generator	1/steam generator
10. Auxiliary Feedater Flow Rate	1/Valve	1/Valve
11. PORV Position Indicator* (Open/Closed)	1/Valve	1/Valve
12. PORV Block Valve Position Indicator** (Open/Closed)	1/Valve	1/Valve
13. Safety Valve Position Indicator (Open/Closed)	2	1
14. Containment Floor Drain Sump Water Level (Narrow Range)	2	1
15. Containment Water Level (Wide Range)	4/core quadrant	2/core quadrant
16. In Core Thermocouples	N.A.	1
17. Containment High Range Area Radiation	2	1
18. Containment Hydrogen Concentration	4	2
19. Neutron Flux (Power Range)	N.A.	1/stack
20. Auxiliary Building Vent Stack - Wide Range Noble Gas	N.A.	1/stm line
21. Main Steam Line Radiation	2	1
22. Reactor Vessel Water Level	2***	1***
23. Reactor Coolant Subcooling Margin Monitor		

*Not applicable if the associated block valve is in the closed position.
**Not applicable if the block valve is verified in the closed position and power is removed.
***Use monitoring channels (10 highest average core exit temperatures) in conjunction with RCS Pressure (item 4 above) to determine the subcooling margin.

CONTAINMENT SYSTEMS

LIMITING CONDITION FOR OPERATION

3.6.1.2 Containment leakage rates shall be limited to:

a. An overall integrated leakage rate of:

1) Less than or equal to L_a, 0.10% by weight of the containment air per 24 hours at P_a, 44.4 psig, or

2) Less than or equal to L_t, 0.07% by weight of the containment air per 24 hours at P_t, 22.2 psig.

b. A combined leakage rate of less than 0.60 L_a for all penetrations and valves subject to Type B and C tests, when pressurized to P_a.

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

ACTION:

With either the measured overall integrated containment leakage rate exceeding 0.75 L_a or 0.75 L_t, as applicable, or the measured combined leakage rate for all penetrations and valves subject to Types B and C tests exceeding 0.60 L_a, restore the overall integrated leakage rate to less than 0.75 L_a or less than 0.75 L_t, as applicable, and the combined leakage rate for all penetrations subject to Type B and C tests to less than 0.60 L_a prior to increasing the Reactor Coolant System temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.1.2 The containment leakage rates shall be demonstrated at the following test schedule and shall be determined in conformance with the criteria specified in Appendix J of 10 CFR Part 50 using the methods and provisions of ANSI N45.4-1972:

a. Three Type A tests (Overall Integrated Containment Leakage Rate) shall be conducted at 40 ± 10 month intervals during shutdown at a pressure not less than P_a, 44.4 psig, or P_t, 22.2 psig, during each 10-year service period. The third test of each set shall be conducted during the shutdown for the 10-year plant inservice inspection;

SURVEILLANCE REQUIREMENTS (Continued)

b. If any periodic Type A test fails to meet either 0.75 L_a or 0.75 L_t, the test schedule for subsequent Type A tests shall be reviewed and approved by the Commission. If two consecutive Type A tests fail to meet 0.75 L_a, a Type A test shall be performed at least every 18 months until two consecutive Type A tests meet 0.75 L_a, at which time the above test schedule may be resumed;

c. The accuracy of each Type A test shall be verified by a supplemental test which:

1) Confirms the accuracy of the test by verifying that the containment leakage rate calculated in accordance with ANSI N45.4-1972 Appendix C, is within 25% of the containment leakage rate measured prior to the introduction of the superimposed leak;

2) Has a duration sufficient to establish accurately the change in leakage rate between the Type A test and the supplemental test; and

3) Requires that the rate at which gas is injected into the containment or bled from the containment during the supplemental test is between 0.75 L_a and 1.25 L_a.

d. Type B and C tests shall be conducted with gas at a pressure not less than P_a, 44.4 psig, at intervals no greater than 24 months except for tests involving:

1) Air locks, and

2) Purge supply and exhaust isolation valves with resilient material seals.

e. Air locks shall be tested and demonstrated OPERABLE by the requirements of Specification 4.6.1.3;

f. Purge supply and exhaust isolation valves with resilient material seals shall be tested and demonstrated OPERABLE by the requirements of Specification 4.6.1.7.3 or 4.6.1.7.4, as applicable; and

g. The provisions of Specification 4.0.2 are not applicable.

CONTAINMENT SYSTEMS

CONTAINMENT AIR LOCKS

LIMITING CONDITION FOR OPERATION

3.6.1.3 Each containment air lock shall be OPERABLE with:

a. Both doors closed except when the air lock is being used for normal transit entry and exits through the containment, then at least one air lock door shall be closed, and

b. An overall air lock leakage rate of less than or equal to 0.05 L_a at P_a, 44.4 psig.

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

ACTION:

a. With one containment air lock door inoperable:

1. Maintain at least the OPERABLE air lock door closed and either restore the inoperable air lock door to OPERABLE status within 24 hours or lock the OPERABLE air lock door closed;

2. Operation may then continue until performance of the next required overall air lock leakage test provided that the OPERABLE air lock door is verified to be locked closed at least once per 31 days;

3. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours; and

4. The provisions of Specification 3.0.4 are not applicable.

b. With the containment air lock inoperable, except as the result of an inoperable air lock door, maintain at least one air lock door closed; restore the inoperable air lock to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.7.1 Each 48-inch containment purge supply and exhaust isolation valve(s) shall be verified closed and power removed at least once per 31 days.

4.6.1.7.2 The cumulative time that all 8-inch containment purge supply and/or exhaust isolation valves have been open during a calendar year shall be determined at least once per 7 days.

4.6.1.7.3 At least once per 6 months on a STAGGERED TEST BASIS, the inboard and outboard valves with resilient material seals in each closed 48-inch containment purge supply and exhaust penetration shall be demonstrated OPERABLE by verifying that the measured leakage rate is less than 0.05 L_a when pressurized to at least P_a, 44.4 psig.

4.6.1.7.4 At least once per 3 months, each 8-inch containment purge supply and exhaust isolation valve with resilient material seals shall be demonstrated OPERABLE by verifying that the measured leakage rate is less than 0.01 L_a when pressurized to at least P_a, 44.4 psig.

CONTAINMENT SYSTEMS

3/4.6.3 CONTAINMENT ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.3 The containment isolation valves specified in Table 3.6-1 shall be OPERABLE with isolation times as shown in Table 3.6-1.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With one or more of the isolation valve(s) specified in Table 3.6-1 inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and within 4 hours:

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

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

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

   Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. The provisions of Specification 3.0.4 are not applicable provided that within 4 hours the affected penetration is isolated in accordance with ACTION a.2 or a.3 above, and provided that the associated system, if applicable, is declared inoperable and the appropriate ACTION statements for that system are taken.

SURVEILLANCE REQUIREMENTS

4.6.3.1 The isolation valves specified in Table 3.6-1 shall be demonstrated OPERABLE prior to returning the valve to service after maintenance, repair or replacement work is performed on the valve or its associated actuator, control or power circuit by performance of a cycling test, and verification of isolation time.

4.6.3.2 Each isolation valve specified in Table 3.6-1 shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once per 18 months by:

a. Verifying that on a Phase "A" Isolation test signal, each Phase "A" isolation valve actuates to its isolation position;

b. Verifying that on a Phase "B" Isolation test signal, each Phase "B" isolation valve actuates to its isolation position; and

c. Verifying that on a Containment Vent Isolation test signal, each purge and exhaust isolation valve actuates to its isolation position.

4.6.3.3 The isolation time of each power operated or automatic valve of Table 3.6-1 shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

TABLE 3.6-1

CONTAINMENT ISOLATION VALVES

PENETRATION	VALVE NO.	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
1. Phase "A" Isolation			
2B	1CV8100	RCP Seal Water Return	10
2B	1CV8112	RCP Seal Water Return	10
41	1CV8152	RCS Letdown	10
41	1CV8160	RCS Letdown	10
5	1WØ020A	Chilled Water	50
5	1WØ056A	Chilled Water	50
6	1WØ006A	Chilled Water	50
8	1WØ020B	Chilled Water	50
8	1WØ056B	Chilled Water	50
10	1WØ006B	Chilled Water	50
22	1CC9437B**	Excess Ltdn HX Return	10
48	1CC9437A**	Excess Ltdn HX Supply	10
34	1FP010**	Fire Protection	12
39	1IA065	Instrument Air	15
39	1IA066	Instrument Air	15
13	1ØG079	Hydrogen Recombiner	60
13	1ØG080	Hydrogen Recombiner	60
13	1ØG082	Hydrogen Recombiner	60
13	1ØG084	Hydrogen Recombiner	60
23	1ØG081	Hydrogen Recombiner	60
23	1ØG085	Hydrogen Recombiner	60
69	1ØG057A	Hydrogen Recombiner	60
69	1ØG083	Hydrogen Recombiner	60
56	1SA032	Service Air	4.5
56	1SA033	Service Air	4.5
80	1SD002C	Steam Generator Blowdown	7.5
80	1SD005B	Steam Generator Blowdown	3.0
81	1SD002D	Steam Generator Blowdown	7.5
82	1SD002A	Steam Generator Blowdown	7.5
82	1SD005A	Steam Generator Blowdown	3.0
83	1SD002B	Steam Generator Blowdown	7.5
88	1SD002E	Steam Generator Blowdown	7.5
88	1SD005C	Steam Generator Blowdown	3.0
89	1SD002F	Steam Generator Blowdown	7.5
90	1SD002G	Steam Generator Blowdown	7.5
90	1SD005D	Steam Generator Blowdown	3.0
91	1SD002H	Steam Generator Blowdown	7.5

TABLE 3.6-1

CONTAINMENT ISOLATION VALVES

PENETRATION	VALVE NO.	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
1. Phase "A" Isolation			
~~28~~ 25	1CV8100	RCP Seal Water Return	10
~~28~~ 25	1CV8112	RCP Seal Water Return	10
41	1CV8152	RCS Letdown	10
41	1CV8160	RCS Letdown	10
5	1WØ020A	Chilled Water	50
5	1WØ056A	Chilled Water	50
6	1WØ006A	Chilled Water	50
8	1WØ020B	Chilled Water	50
8	1WØ056B	Chilled Water	50
10	1WØ006B	Chilled Water	50
22	1CC9437B*	Excess Ltdn HX Return	10
48	1CC9437A*	Excess Ltdn HX Supply	10
34	1FP010*	Fire Protection	12
39	1IA065	Instrument Air	15
39	1IA066	Instrument Air	15
13	1ØG079	Hydrogen Recombiner	60
13	1ØG080	Hydrogen Recombiner	60
13	1ØG082	Hydrogen Recombiner	60
13	1ØG084	Hydrogen Recombiner	60
23	1ØG081	Hydrogen Recombiner	60
23	1ØG085	Hydrogen Recombiner	60
69	1ØG057A	Hydrogen Recombiner	60
69	1ØG083	Hydrogen Recombiner	60
56	1SA032	Service Air	4.5
56	1SA033	Service Air	4.5
80	1SD002C	Steam Generator Blowdown	7.5
80	1SD005B	Steam Generator Blowdown	3.0
81	1SD002D	Steam Generator Blowdown	7.5
82	1SD002A	Steam Generator Blowdown	7.5
82	1SD005A	Steam Generator Blowdown	3.0
83	1SD002B	Steam Generator Blowdown	7.5
88	1SD002E	Steam Generator Blowdown	7.5
88	1SD005C	Steam Generator Blowdown	3.0
89	1SD002F	Steam Generator Blowdown	7.5
90	1SD002G	Steam Generator Blowdown	7.5
90	1SD005D	Steam Generator Blowdown	3.0
91	1SD002H	Steam Generator Blowdown	7.5

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

OCT 19 1984

PENETRATION	VALVE NO.	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
1. Phase "A" Isolation (Continued)			
52	1PR001A	Process Radiation	4.5
52	1PR001B	Process Radiation	4.5
52	1PR066	Process Radiation	5.0
12	1PS228A	Hydrogen Monitor	N/A
12	1PS229A	Hydrogen Monitor	N/A
12	1PS230A	Hydrogen Monitor	N/A
12	1PS228B	Hydrogen Monitor	N/A
12	1PS229B	Hydrogen Monitor	N/A
12	1PS230B	Hydrogen Monitor	N/A
70	1PS9354A	Primary Process Sampling	10
70	1PS9354B	Primary Process Sampling	10
70	1PS9355A	Primary Process Sampling	10
70	1PS9355B	Primary Process Sampling	10
70	1PS9356A	Primary Process Sampling	10
70	1PS9356B	Primary Process Sampling	10
70	1PS9357A	Primary Process Sampling	10
70	1PS9357B	Primary Process Sampling	10
11	1RE9170	Reactor Bldg Equip Drains	10
11	1RE1003	Reactor Bldg Equip Drains	10
65	1RE9157	Reactor Bldg Equip Drains	10
65	1RE9159A	Reactor Bldg Equip Drains	10
65	1RE9159B	Reactor Bldg Equip Drains	10
65	1RE9160A	Reactor Bldg Equip Drains	10
65	1RE9160B	Reactor Bldg Equip Drains	10
27	1RY8025	PRT Nitrogen	10
27	1RY8026	PRT Nitrogen	10
27	1RY8033	PRT Nitrogen	10
44	1RY802B	PRT Make-up	10
55	1SI8964	Accumulator Fill	10
55	1SI8880	Nitrogen Supply to Accumulator	10
55	1SI8871	Accumulator Fill	10
55	1SI8888	Hot Leg Safety Injection	10
47	1RF026	Reactor Building Floor Drains	15
47	1RF027	Reactor Building Floor Drains	15

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

PENETRATION	VALVE NO.	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
2. Phase "B" Isolation			
21	1CC9414	RCP Mtr Brng Return	10
21	1CC9416	RCP Mtr Brng Return	10
24	1CC685	RCP Thermal Barrier Return	10
24	1CC9438	RCP Thermal Barrier Return	10
5	1CC9413A	RCP Cooling Wtr Supply	10
5	1CC9413B*	RCP Cooling Wtr Supply	10
3. Safety Injection			
71	1CV8105*	CVCS Charging	10
71	1CV8106*	CVCS Charging	10
7	1SX016B*	Essential Service Water	N/A
9	1SX027B*	Essential Service Water	N/A
14	1SX027A*	Essential Service Water	N/A
15	1SX016A*	Essential Service Water	N/A
26	1SI8801A*	Cold Leg Safety Injection	N/A
26	1SI8801B*	Cold Leg Safety Injection	N/A
92	1SI8811A*	Containment Recirc. Sump	N/A
93	1SI8811B*	Containment Recirc. Sump	N/A
4. Containment Ventilation Isolation			
94	1VQ003	Mini-Flow Purge Exhaust	5
94	1VQ005A	Mini-Flow Purge Exhaust	5
94	1VQ005B	Mini-Flow Purge Exhaust	5
94	1VQ005C	Mini-Flow Purge Exhaust	5
95	1VQ002A	Purge Exhaust	5
95	1VQ002B	Purge Exhaust	5
96	1VQ004A	Mini-Flow Purge Exhaust	5
96	1VQ004B	Mini-Flow Purge Exhaust	5
97	1VQ001A	Purge Supply	5
97	1VQ001B	Purge Supply	5
5. Containment Spray Actuation			
1	1CS007A	Containment Spray	30
16	1CS007B	Containment Spray	30
6. Main Steam Isolation			
77	1MS101D*	Main Steam	10.0
78	1MS101A*	Main Steam	10.0

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

PENETRATION	VALVE NO.	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
6. Main Steam Isolation (Continued)			
85	1MS101B*	Main Steam	10.0
86	1MS101C*	Main Steam	10.0
7. Feedwater Isolation			
76	1FW009D*	Main Feedwater	5.0
76	1FW043D*	Main Feedwater	6.0
79	1FW009A*	Main Feedwater	5.0
79	1FW043A*	Main Feedwater	6.0
84	1FW009B*	Main Feedwater	5.0
84	1FW043B*	Main Feedwater	6.0
87	1FW009C*	Main Feedwater	5.0
87	1FW043C*	Main Feedwater	6.0
99	1FW035D*	Main Feedwater	6.0
99	1FW039D*	Main Feedwater	6.0
100	1FW035A*	Main Feedwater	6.0
100	1FW039A*	Main Feedwater	6.0
101	1FW035B*	Main Feedwater	6.0
101	1FW039B*	Main Feedwater	6.0
102	1FW035C*	Main Feedwater	6.0
102	1FW039C*	Main Feedwater	6.0
8. Remote Manual			
68	1RH8701A*	RH Suction	N/A
68	1RH8701B*	RH Suction	N/A
75	1RH8702A*	RH Suction	N/A
75	1RH8702B*	RH Suction	N/A
59	1SI8881*	Hot Leg Safety Injection	N/A
73	1SI8824*	Hot Leg Safety Injection	N/A
66	1SI8825*	Hot Leg RH Injection	N/A
60	1SI8823*	Cold Leg Safety Injection	N/A
50	1SI8890A*	Cold Leg RH Injection	N/A
51	1SI8890B*	Cold Leg RH Injection	N/A
26	1SI8843*	Cold Leg Safety Injection	N/A
92	1CS009A*	Containment Spray	N/A
93	1CS009B*	Containment Spray	N/A
33	1CV8355A*	RCP Seal Injection	N/A
33	1CV8355D*	RCP Seal Injection	N/A
53	1CV8355B*	RCP Seal Injection	N/A
53	1CV8355C*	RCP Seal Injection	N/A

TABLE 3.6-1 (Continued)

OCT 19 1984

CONTAINMENT ISOLATION VALVES

PENETRATION	VALVE NO.	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
8. Remote Manual (Continued)			
59	1SI8802A*	Hot Leg Safety Injection	N/A
73	1SI8802B*	Hot Leg Safety Injection	N/A
60	1SI8835*	Hot Leg Safety Injection	N/A
50	1SI8809A*	RH Cold Leg Injection	N/A
51	1SI8809B*	RH Cold Leg Injection	N/A
66	1SI8840*	Hot Leg Safety Injection	N/A
100	1AF013A*	Feedwater	N/A
100	1AF013E*	Feedwater	N/A
101	1AF013B*	Feedwater	N/A
101	1AF013F*	Feedwater	N/A
102	1AF013C*	Feedwater	N/A
102	1AF013G*	Feedwater	N/A
99	1AF013D*	Feedwater	N/A
99	1AF013H*	Feedwater	N/A
9. Manual			
37	1CV8346*	RCS Loop Fill	N/A
I3	1VQ016	Instrument Penetration	N/A
I3	1VQ017	Instrument Penetration	N/A
I3	1VQ018	Instrument Penetration	N/A
I3	1VQ019	Instrument Penetration	N/A
I5	1RY075	Instrument Penetration	N/A
30	1WM190	Make-Up Demin	N/A
57	1FC009	Spent Fuel Pool Cleaning	N/A
57	1FC010	Spent Fuel Pool Cleaning	N/A
32	1FC011	Spent Fuel Pool Cleaning	N/A
32	1FC012	Spent Fuel Pool Cleaning	N/A
77	1MS021D*	Main Steam	N/A
78	1MS021A*	Main Steam	N/A
85	1MS021B*	Main Steam	N/A
86	1MS021C*	Main Steam	N/A
AL	1PR002E	Process Radiation	N/A
AL	1PR033A	Process Radiation	N/A
AL	1PR033B	Process Radiation	N/A
AL	1PR002F	Process Radiation	N/A
AL	1PR033C	Process Radiation	N/A
AL	1PR033D	Process Radiation	N/A

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

PENETRATION	VALVE NO.	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
9. Manual (Continued)			
99	1FW015D*	Feedwater	N/A
100	1FW015A*	Feedwater	N/A
101	1FW015B*	Feedwater	N/A
102	1FW015C*	Feedwater	N/A
10. Check			
28	1CV8113	RCP Seal Water Return	N/A
37	1CV8348*	RCS Loop Fill	N/A
6	1WØ007A	Chilled Water	N/A
10	1WØ007B	Chilled Water	N/A
21	1CC9534	RCP Mtr Brng Return	N/A
24	1CC9518	RCP Thermal Barrier Return	N/A
25	1CC9486	RCP Cooling Wtr Supply	N/A
1	1CS008A	Containment Spray	N/A
16	1CS008B	Containment Spray	N/A
39	1IA091	Instrument Air	N/A
30	1WM191	Make-Up Demin	N/A
52	1PR032	Process Radiation	N/A
AL	1PR002G	Process Radiation	N/A
AL	1PR002H	Process Radiation	N/A
12	1PS231A	Hydrogen Monitor	N/A
12	1PS231B	Hydrogen Monitor	N/A
27	1RY8047	PRT Nitrogen	N/A
44	1RY8046	PRT Make-Up	N/A
26	1SI8815*	Safety Injection	N/A
50	1SI8818A*	Safety Injection	N/A
50	1SI8818D*	Safety Injection	N/A
51	1SI8818B*	Safety Injection	N/A
51	1SI8818C*	Safety Injection	N/A
59	1SI8905A*	Safety Injection	N/A
59	1SI8805D*	Safety Injection	N/A
60	1SI8819A*	Safety Injection	N/A
60	1SI8819B*	Safety Injection	N/A

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

PENETRATION	VALVE NO.	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
10. Check (Continued)			
60	1SI8819C*	Safety Injection	N/A
60	1SI8819D*	Safety Injection	N/A
66	1SI8841A*	Safety Injection	N/A
66	1SI8841B*	Safety Injection	N/A
73	1SI8905B*	Safety Injection	N/A
73	1SI8905C*	Safety Injection	N/A
55	1SI8968*	Safety Injection	N/A
34	1FP345*	Fire Protection	N/A
33	1CV8368A*	RCP Seal Injection	N/A
33	1CV8368D*	RCP Seal Injection	N/A
53	1CV8368B*	RCP Seal Injection	N/A
53	1CV8368C*	RCP Seal Injection	N/A
11. S/G Safeties/PORVs			
77	1MS013D*	Main Steam	N/A
77	1MS014D*	Main Steam	N/A
77	1MS015D*	Main Steam	N/A
77	1MS016D*	Main Steam	N/A
77	1MS017D*	Main Steam	N/A
78	1MS013A*	Main Steam	N/A
78	1MS014A*	Main Steam	N/A
78	1MS015A*	Main Steam	N/A
78	1MS016A*	Main Steam	N/A
78	1MS017A*	Main Steam	N/A
85	1MS013B*	Main Steam	N/A
85	1MS014B*	Main Steam	N/A
85	1MS015B*	Main Steam	N/A
85	1MS016B*	Main Steam	N/A
85	1MS017B*	Main Steam	N/A
86	1MS013C*	Main Steam	N/A
86	1MS014C*	Main Steam	N/A
86	1MS015C*	Main Steam	N/A
86	1MS016C*	Main Steam	N/A
86	1MS017C*	Main Steam	N/A
77	1MS018D*	Main Steam	20
78	1MS018A*	Main Steam	20
85	1MS018B*	Main Steam	20
86	1MS018C*	Main Steam	20

*Not subject to Type C leaka e tests.

CONTAINMENT SYSTEMS

3/4.6.4 COMBUSTIBLE GAS CONTROL

HYDROGEN MONITORS

LIMITING CONDITION FOR OPERATION

3.6.4.1 Two independent containment hydrogen monitors shall be OPERABLE.*

APPLICABILITY: MODES 1 and 2.

ACTION:

a. With one hydrogen monitor inoperable, restore the inoperable monitor to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours.

b. With both hydrogen monitors inoperable, restore at least one monitor to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.6.4.1 Each hydrogen monitor shall be demonstrated OPERABLE by the performance of a CHANNEL CHECK and a check that the monitor is in standby mode at least once per 12 hours, an ANALOG CHANNEL OPERATIONAL TEST at least once per 31 days, and at least once per 92 days by performing a CHANNEL CALIBRATION using five gas samples which shall cover the range from zero volume percent hydrogen (100% N_2) to greater than 20 volume percent hydrogen, balance nitrogen.

*The monitors must be in standby mode to meet the requirement in NUREG-0737, Item II.F.1.6.

CONTAINMENT SYSTEMS

ELECTRIC HYDROGEN RECOMBINERS

LIMITING CONDITION FOR OPERATIO

3.6.4.2 Two independent Hydrog n Recombiner Systems shall be OPERABLE.

APPLICABILITY: MODES 1 and 2

ACTION:

With one Hydrogen Recombiner Sy tem inoperable, restore the inoperable system to OPERABLE status within 30 da s or be in at least HOT STANDBY within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.6.4.2 Each Hydrogen Recombir r System shall be demonstrated OPERABLE:

a. At least once per 6 m nths by verifying, during a Recombiner System functional test that he minimum heater sheath temperature increases to greater than or ec al to 1200°F within 90 minutes. Upon reaching 1200°F, increase the emperature controller to maximum setting for 2 minutes and verify hat the power is greater than or equal to 38 kW, and

b. At least once per 18 onths by:

1) Performing a CHA NEL CALIBRATION of all recombiner instrumentation and contr l circuits,

2) Verifying throug a visual examination that there is no evidence of abnormal conc tions within the recombiners enclosure (i.e., loose wiring or tructural connections, deposits of foreign materials, etc.) and

3) Verifying the in egrity of all heater electrical circuits by performing a res stance to ground test following the above required functio al test. The resistance to ground for any heater phase sha l be greater than or equal to 10,000 ohms.

CONTAINMENT SYSTEMS

3/4.6.4 COMBUSTIBLE GAS CONTROL

HYDROGEN MONITORS

LIMITING CONDITION FOR OPERATION

3.6.4.1 Two independent containment hydrogen monitors shall be OPERABLE.*

APPLICABILITY: MODES 1 and 2.

ACTION:

a. With one hydrogen monitor inoperable, restore the inoperable monitor to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours.

b. With both hydrogen monitors inoperable, restore at least one monitor to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.6.4.1 Each hydrogen monitor shall be demonstrated OPERABLE by the performance of a CHANNEL CHECK and a check that the monitor is in standby mode at least once per 12 hours, an ANALOG CHANNEL OPERATIONAL TEST at least once per 31 days, and at least once per 92 days by performing a CHANNEL CALIBRATION using five gas samples which shall cover the range from zero volume percent hydrogen (100% N_2) to greater than 20 volume percent hydrogen, balance nitrogen.

*The monitors must be in standby mode to meet the requirement in NUREG-0737, Item II.F.1.6.

CONTAINMENT SYSTEMS

ELECTRIC HYDROGEN RECOMBINERS

LIMITING CONDITION FOR OPERATION

3.6.4.2 Two independent Hydrogen Recombiner Systems shall be OPERABLE.

APPLICABILITY: MODES 1 and 2

ACTION:

With one Hydrogen Recombiner System inoperable, restore the inoperable system to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.6.4.2 Each Hydrogen Recombiner System shall be demonstrated OPERABLE:

a. At least once per 6 months by verifying, during a Recombiner System functional test that the minimum heater sheath temperature increases to greater than or equal to 1200°F within 90 minutes. Upon reaching 1200°F, increase the temperature controller to maximum setting for 2 minutes and verify that the power is greater than or equal to 38 kW, and

b. At least once per 18 months by:

1) Performing a CHANNEL CALIBRATION of all recombiner instrumentation and control circuits,

2) Verifying through a visual examination that there is no evidence of abnormal conditions within the recombiners enclosure (i.e., loose wiring or structural connections, deposits of foreign materials, etc.), and

3) Verifying the integrity of all heater electrical circuits by performing a resistance to ground test following the above required functional test. The resistance to ground for any heater phase shall be greater than or equal to 10,000 ohms.

PLANT SYSTEMS

MAIN STEAM LINE ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.5* Each main steam line isolation valve (MSIV) shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

MODE 1:

With one MSIV inoperable but open, POWER OPERATION may continue provided the inoperable valve is restored to OPERABLE status within 4 hours; otherwise be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

MODES 2 and 3:

With one MSIV inoperable, subsequent operation in MODE 2 or 3 may proceed provided the isolation valve is maintained closed. The provisions of Specification 3.0.4 are not applicable. Otherwise, be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.7.1.5 Each MSIV shall be demonstrated OPERABLE by verifying full closure within 5 seconds when tested pursuant to Specification 4.0.5. The provisions of Specification 4 0.4 are not applicable for entry into MODE 3.

*Not applicable prior to initial criticality on Cycle 1, provided the RCS boron concentration is greater than or equal to 1900 ppm.

SURVEILLANCE REQUIREMENTS (Continued)

f. each NWS flood forecasted river stage (at river screenhouse) of elevation 702.0 ft msl or above or a measured stage at the river screenhouse of 670.6 ft msl or less by starting each deep well pump and operating it for 15 minutes and verifying that each valve (manual, power-operated, or automatic) in the flow path is in its correct position and verifying that each pump will provide at least a 1550 gpm flow rate.

g. 92 days by verifying that a sample of diesel fuel from the fuel storage tank, obtained in accordance with ASTM-D270-1975, is within the acceptable limits specified in Table 1 of ASTM-D975-1977 when checked for viscosity, water, and sediment.

h. 18 months by verifying that each UHS cooling tower fan starts automatically when the associated essential service water redundant train is started.

i. 18 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.

j. 18 months by subjecting each diesel that powers an essential service water makeup pump to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for the class of service and by cycling each testable valve in the flow path through at least one complete cycle of full travel.

PLANT SYSTEMS

3/4.7.6 CONTROL ROOM VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.6* Two independent Control Room Ventilation Systems shall be OPERABLE.

APPLICABILITY: All MODES.

ACTION:

MODES 1, 2, 3 and 4:

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

b. With both Control Room Ventilation Systems inoperable, or with the OPERABLE Control Room Ventilation System, required to be in the makeup 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

4.7.6 Each Control Room 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 Emergency Makeup System HEPA filters and charcoal adsorbers and verifying that the system operates for at least 10 continuous hours with the heaters operating;

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

*Not applicable prior to initial criticality on Cycle 1.

PLANT SYSTEMS

3/4.7.6 CONTROL ROOM VENTIL TION SYSTEM

LIMITING CONDITION FOR OPERA ION

3.7.6* One Control Room Ven ilation System shall be OPERABLE.

APPLICABILITY: 3, 4, 5, 6.

ACTION:

MODES 3 and 4:

With the Control Room V ntilation System inoperable, restore the inoperable system to OPERABLE stat s within 4 hours 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 the Control R om Ventilation System inoperable suspend all operations involvi g CORE ALTERATIONS or positive reactivity changes.

SURVEILLANCE REQUIREMENTS

4.7.6 The Control Room Vent lation System shall be demonstrated OPERABLE:

a. At least once per 2 hours by verifying that the control room air temperature is les than or equal to 90°F;

b. At least once per 1 days on a STAGGERED TEST BASIS by initiating, from the control r om, flow through the Emergency Makeup System HEPA filters and charco l adsorbers and verifying that the system operates for at least 10 co tinuous hours with the heaters operating;

c. At least once per 8 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or hemical release in any ventilation zone communicating with the Emergency Makeup System filter plenum by:

*Applicable only before init al criticality on Cycle 1.

SURVEILLANCE REQUIREMENTS (Continued)

1) Verifying that the cleanup system satisfies the in-place penetration testing acceptance criteria of less than 0.05% and uses the test procedure guidance in Regulatory Positions C.5.a, C.5.c, and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, and the system flow rate is 6000 cfm ± 10% for the Emergency Makeup System;

2) Verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample from the Emergency Makeup System obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 0.175% when tested at a temperature of 30°C and a relative humidity of 70%; and

3) Verifying a system flow rate of 6000 cfm ± 10% for the Emergency Makeup System and 51,000 cfm ±10% for the Recirculation System when tested in accordance with ANSI N510-1975.

d. After every 720 hours of Emergency Makeup System operation by verifying within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 0.175% when tested at a temperature of 30°C and a relative humidity of 70%;

e. At least once per 18 months by:

1) Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6.0 inches Water Gauge while operating the Emergency Makeup System at a flow rate of 6000 cfm ± 10%;

SURVEILLANCE REQUIREMENTS (Continued)

2) Verifying that on a Safety Injection or High Radiation-Control Room Outside Air Intake test signal, the system automatically switches into a makeup mode of control room ventilation with flow through the Emergency Makeup System HEPA filters and charcoal adsorber banks;

3)* Verifying that the Emergency Makeup System maintains the control room at a positive nominal pressure of greater than or equal to 1/8 inch Water Gauge relative to ambient pressure in areas adjacent to the control room area when operating an Emergency Makeup System at a flowrate of 6,000 cfm ±10%;

4) Verifying that the heaters dissipate 27.2 ± 2.7 kW when tested in accordance with ANSI N510-1975.

f. After each complete or partial replacement of a HEPA filter bank, by verifying that the cleanup system satisfies the in-place penetration testing acceptance criteria of less than 0.05% in accordance with ANSI N510-1975 for a DOP test aerosol while operating the Emergency Makeup System at a flow rate of 6000 cfm ± 10%; and

g. After each complete or partial replacement of a charcoal adsorber bank in the Emergency Makeup System by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% in accordance with ANSI N510-1975 for a halogenated hydrocarbon refrigerant test gas while operating the system at a flow rate of 6000 cfm ± 10%.

*Up to 5% power (Cycle 1), this surveillance requirement is

3) Verifying that one Makeup System maintains the control room at a positive nominal pressure of greater than or equal to 1/8 inch Water Gauge relative to ambient pressure in areas adjacent to this Control Room area. However, in the interim, this system will be operating such that the Control Room is maintained at a positive pressure with respect to all adjacent areas.

PLANT SYSTEMS

3/4.7.7 NON-ACCESSIBLE AREA EXHAUST FILTER PLENUM VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.7* Three independent non-accessible area exhaust filter plenums (50% capacity each) shall be OPERABLE.

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

ACTION:

With one non-accessible area exhaust filter plenum inoperable, restore the inoperable plenum 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.

SURVEILLANCE REQUIREMENTS

4.7.7 Each non-accessible area exhaust filter plenum shall be demonstrated OPERABLE:

a. 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 operation occurs for at least 15 minutes;

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

1) Verifying that the exhaust filter plenum satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% when using the test procedure guidance in Regulatory Positions C.5.a, C.5.c and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, and the flow rate is 66,900 cfm ± 10% for the train and 22,300 cfm ±10% per bank;

2) Verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample from each bank of adsorbers of the train obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for methyl iodide penetration of less than 1% when tested at the temperature of 30°C and a relative humidity of 70%;

*Not applicable prior to Mode 1 because of the low fission product inventory available at or below the limiting power level of 5%.

PLANT SYSTEMS

CO_2 SYSTEMS

LIMITING CONDITION FOR OPERATION

3.7.10.3 The following CO_2 Systems shall be OPERABLE:

a. Diesel generator rooms and day tank rooms,

b. Lower cable spreading room,

c. Auxiliary feedwater diesel room and day tank room, and

d. Diesel-driven Essential Service Water (ESW) make-up pumps and day tank rooms.

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

ACTION:

a. With one or more of the above required CO_2 systems inoperable, within 1 hour establish a continuous fire watch with backup fire suppression equipment for those areas (Lower Cable Spreading Room) in which redundant systems or components could be damaged; for other areas, establish an hourly fire watch patrol.

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

SURVEILLANCE REQUIREMENTS

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

4.7.10.3.2 Each of the above required CO_2 Systems shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying the plant CO_2 storage tank level to be greater than 96% (9.6 tons) and river screen house CO_2 storage tank level to be greater than 50% (1 ton), and pressure of both to be greater than 275 and less than 375 psig, and

b. At least once per 18 months by verifying:

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

2) Flow from each nozzle during a "Puff Test."

TABLE 3.7-6

AREA TEMPERATURE MONITORING

	AREA	TEMPERATURE LIMIT (°F)
1.	Misc. Electric Equipment and Battery Rooms	108
2.	ESF Switchgear Rooms	108
3.	Division 12 Cable Spreading Room	108
4.	Upper and Lower Cable Spreading Rooms	90
5.	Diesel-Generator Rooms	132
6.	Diesel Oil Storage Rooms	132
7.	Aux. Building Vent Exhaust Filter Cubicle	122
8.	Centrifugal Charging Pump Rooms	122
9.	Containment Spray Pump Rooms	130
10.	RHR Pump Rooms	130
11.	Safety Injection Pump Room	130
12.	Control Room	90

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

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

a. Each Class 1E 4160 volt bus capable of being powered from:

1) Either transformer of a given units normal System Auxiliary Transformer bank, and

2) Either transformer of the other units System Auxiliary Transformers bank, with

Each units System Auxiliary Transformer bank energized from an independent transmission circuit.

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

1) A separate day tank containing a minimum volume of 450 gallons of fuel,

2) A separate Fuel Oil Storage System containing a minimum volume of 44,000 gallons of fuel, and

3) A separate fuel transfer pump.

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

ACTION:

a. With either an offsite circuit or diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Specification 4.8.1.1.1a or Specification 4.8.1.1.2a.4 within 1 hour and at least once per 8 hours thereafter; restore at least two offsite circuits and two diesel generators 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.

b. With one offsite circuit and one diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Specifications 4.8.1.1.1a and 4.8.1.1.2a.4) within 1 hour and at least once per 8 hours thereafter; restore at least one of the inoperable sources to OPERABLE status within 12 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore at least two offsite circuits and two diesel generators to OPERABLE status within 72 hours from the time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS (Continued)

13) Verifying that the following diesel generator lockout features prevent diesel generator starting only when required:

a) Turning gear engaged, and

b) Emergency stop.

g. At least once per 10 years or after any modifications which could affect diesel generator interdependence by starting both diesel generators simultaneously, during shutdown, and verifying that both diesel generators accelerate to at least 600 rpm in less than or equal to 10 seconds; and

h. At least once per 10 years by:

1) Draining each fuel oil storage tank, removing the accumulated sediment and cleaning the tank using a sodium hypochlorite solution, and

2) Performing a pressure test of those portions of the diesel fuel oil system designed to Section III, subsection ND of the ASME Code at a test pressure equal to 110 percent of the system design pressure.

i. *At least once per 31 days by:

1) Verifying the capability of crosstieing the Unit 2, A diesel generator to Bus 141 by independently performing the following:

a) Synchronizing the Unit 2, A diesel generator to Bus 241.

b) Closing breaker 1414.

c) Closing breaker 2414.

j. *At least once per 18 months by:

1) Crosstieing the diesel generator to Bus 141.

4.8.1.1.3 Reports - All diesel generator failures, valid or non-valid, shall be reported to the Commission pursuant to Specification 6.9.2. Reports of diesel generator failures shall include the information recommended in Regulatory Position C.3.b of Regulatory Guide 1.108, Revision 1, August 1977. If the number of failures in the last 100 valid tests (on a per nuclear unit basis) is greater than or equal to 7, the report shall be supplemented to include the additional information recommended in Regulatory Position C.3.b of Regulatory Guide 1.108, Revision 1, August 1977.

*This surveillance only applies to MODES 1, 2, and 3 and is not applicable until 2 years after issuance of an operating license for Unit 1.

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A. C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.1.3* The Unit 2, A Diesel Generator shall be capable of being manually started and crosstied to Bus 141.

APPLICABILITY: MODES 1, 2, and 3.

ACTION: With the Unit 2, A Diesel Generator incapable of being manually started and crosstied to Bus 141, restore the diesel generator to the required status within 7 days or be in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.*

SURVEILLANCE REQUIREMENTS

4.8.1.3* The Unit 2, A diesel generator shall be demonstrated capable of providing power to Bus 141.

a. At least once per day by:

1. Verifying the day tank level is greater than 450 gallons.
2. Verifying DC control power is available to the Unit 2, A Diesel Generator local control panel (2PL071).
3. Verifying that at least one starting air receiver is at greater than 175 psig.
4. Verifying the Essential Service Water System is available to supply cooling requirements.

b. At least once per 31 days by:

1. Verifying the diesel generator starts manually and operates with a load of greater than or equal to 5500 KW for one half hour.
2. Verifying the capability of crosstieing the Unit 2, A diesel generator to Bus 141 by independently performing the following:
   a. Synchronizing the Unit 2, A diesel generator to Bus 241.
   b. Closing breaker 1414.
   c. Closing breaker 2414.

c. At least once per 18 months by:

1. Crosstieing the diesel generator to Bus 141.

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*Applicable for only 2 years after issuance of an operating license for Unit 1. Subsequently the requirements of Specification 3/4 8.1.1 shall be applicable to the Unit 2, A diesel as an emergency power supply for the Unit 1 motor driven auxiliary feedwater pump.

TABLE 3.8-2 (Continued)

MOTOR-OPERATED VALVES THERMAL OVERLOAD

PROTECTION DEVICES

VALVE NUMBER	FUNCTION
1CS001A	1A CS Pp Suct from RWST
1CS001B	1B CS Pp Suction from RWST
1CS007A	CS Pp 1A Disch Line Dwst Isol Vlv
1CS007B	CS Pp 1B Disch Line Downstream Isol Vlv
1CS009A	1A Pump uction from 1A Recirc Sump
1CS009B	1B CS Co t Recirc Sump B Suct Isol Vlv to CS
1CS019A	CS Educt r 1A Suction Conn Isol Vlv
1CS019B	CS Educt 1B Suction Conn Isol Vlv
1CV112B	MOV VCT utlet Upstm Isol VCT Vlv
1CV112C	MOV VCT utlet Dwstm Isol VCT Vlv
1CV112D	MOV RWST to Chg Pp Suct Hdr
1CV112E	MOV RWST to Chg Pp Suct Hdr
1CV8100	MOV RCP eal Leakoff Hdr Isol
1CV8104	MOV Eme Boration Vlv
1CV8105	MOV Chr Pps Disch Hdr Isol Vlv
1CV8106	MOV Chr Pps Disch Hdr Isol Vlv
1CV8110	MOV A & B Chg. pp Recirc Downstream Isol
1CV8111	MOV A & B Chg Pp Recirc Upstream Isol
1CV8112	RC Pump eal Water Return Isol. Valve
1CV8355A	MOV RCP 1A Seal Inj Inlet to containment Isol
1CV8355B	MOV RCP 1B Seal Inj Inlet Isol
1CV8355C	MOV RCP 1C Seal Inj Isol
1CV8355D	MOV RCP 1D Seal Inj Isol
1CV8804A	MOV RHR Sys X-Tie Vlv to Chrgng Pump Suction Hdr A.B.
1RH610	RH PP 1 H01PB Recirc, Line Isol.
1RH611	RH PP 1 H01PB Recirc, Line Isol.
1RH8701A	RC Loop 1A to RHR Pump Isol. Valve
1RH8702A	RC Loop 1C to RHR Pump Isol. Valve
1RH8701B	RC Loop 1A to RHR Pump Isol. Valve
1RH8702B	RC Loop 1C to RHR Pump Isol. Valve
1RH8716A	RH HX 1 H02AA Dwnstrm Isol Vlv
1RH8716B	RH HX 1 H02AB Dwnstrm Isol Valve
1RY8000A	Prz. Re ief Isol. Valve 1A
1RY8000B	Prz. Re ief Isol. Valve 1B
1SI8801A	SI Char ing Pump Disch Isol Vlv
1SI8801B	SI Char ing Pump Disch Isol Vlv
1SI8802A	SI PP 1 Disch Line Dwst Cont Isol Vlv
1SI8802B	SI PP 1 Disch Line Dwst Isol Vlv

TABLE 3.8-2 (Continued)

MOTOR-OPERATED VALVES THERMAL OVERLOAD

PROTECTION DEVICES

VALVE NUMBER	FUNCTION
1SI8804B	SI Pump 1B Suct X-tie from RHR HX
1SI8806	SI Pumps Upstream Suction Isol
1SI8807A	SI to Chg PP Suction Crosstie Isol Vlv
1SI8807B	SI to Chg PP Suction Crosstie Isol Vlv
1SI8808A	Accum. 1A Disch. Isol. Valve
1SI8808B	Accum. 1B Disch. Isol. Valve
1SI8808C	Accum. 1C Disch. Isol. Valve
1SI8808D	Accum. 1D Disch. Isol. Valve
1SI8809A	SI RX HX 1A Dsch Line Dwst Isol Vlv
1SI8809B	SI RX HX 1B Dsch Line Dwst Isol Vlv
1SI8811A	SI Cnmt Sump A Outlet Isol Vlv
1SI8811B	SI Cnmt Sump B Outlet Isol Vlv
1SI8812A	SI Rwst to RH Pp 1A Outlet Isol Vlv
1SI8812B	SI Rwst to RH Pp 1B Outlet Isol Vlv
1SI8813	SI Pumps 1A-1B Recirc Line Dwst Isol
1SI8814	SI Pump 1A Recirc Line Isol Vlv
1SI8835	SI Pumps X-tie Disch Isol Vlv
1SI8840	SI RHR HX Disch Line Upstrm Cont Pen Isl Vlv
1SI8821A	SI PP 1A Disch Line X-tie Isol Vlv
1SI8821B	SI Pump 1B Disch Line X-tie Isol Vlv
1SI8920	SI Pump 1B Recirc Line Isol Vlv
1SI8923A	SI PP 1A Suction Isol Vlv
1SI8923B	SI Pump 1B Suct Isol Valve
1SI8924	SI Pump 1A Suction X-tie Dwnstrm Isol Vlv
1SX016B	RCFC B&D Sx Supply MOV
1SX016A	RCFC A&C SX Supply MOV
1SX027A	RCFC A&C Return
1SX027B	RCFC B&D SX Return MOV
OSX007	CC HX Outlet Vlv
OSX063A	SX to Cont Rm Refrig Cdsr OA
OSX063B	SX to Cont Rm Refrig Cdsr OB
OSX146	CC Hx "O" return Vlv to Unit 1 MDCT
OSX147	CC Hx "O" return Vlv to Unit 2 MDCT
OSX157A	SX M/U Pp OA Supply Fill to MDCT
OSX157B	SX M/U Pp OB Supply to MDCT OB MOV
OSX158A	SX M/U Pp OA Supply Fill to MDCT MOV
OSX158B	SX M/U Pp OB Supply to MDCT OB MOV
OSX162A	MDCT OA Bypass to basin MOV
OSX162B	MDCT OB Bypass to basin MOV

TABLE 3.8-2 (Continued)

MOTOR-OPE TED VALVES THERMAL OVERLOAD

OTECTION DEVICES

VALVE NUMBER	FUNC ON
OSX162C	MDCT OA By ass to basin MOV
OSX162D	MDCT OB By ass to basin MOV
OSX163A	MDCT OA Ri er Isol Vlv MOV
OSX163B	MDCT OA Ri er Isol Vlv MOV
OSX163C	MDCT OA Ri er Isol Vlv MOV
OSX163D	MDCT OA Ri er Isol Vlv MOV
OSX163E	MDCT OB Ri er Isol Vlv MOV
OSX163F	MDCT OB Ri er Isol Vlv MOV
OSX163G	MDCT OB Ri er Isol Vlv MOV
OSX163H	MDCT OB Ri er Isol Vlv MOV
1SX001A	1A SX Pp S ct Vlv MOV
1SX001B	1B SX Pp-S ct Vlv MOV
1SX004	U-1 SX Sup ly to U-1 CCW HX MOV
1SX005	1B SX Pp S pply to 0 CCW HX MOV
1SX007	CC HX Outl t Vlv
1SX010	U-1 Trn A eturn Vlv AB
1SX011	Trn A Trn Unit 1 return X-tie Vlv AB
1SX033	1A SX Pp D sch X-tie MOV
1SX034	1B SX Pp D sch X-tie MOV
1SX136	Unit 1 Trn B return Vlv AB
1W0006A	Chilled wt coils 1A & 1C Supply Isol vlv
1W0006B	Chilled wt coils 1B & 1D Supply Isol vlv
1W0020A	Chilled wt coils 1A & 1C Return Isol vlv
1W0020B	Chilled wt coils 1B & 1D Return Isol vlv
1W0056A	Chilled Wa er Cnmt. Isol. Valve
1W0056B	Chilled Wa er Cnmt. Isol. Valve

REFUELING OPERATIONS

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS

LIMITING CONDITION FOR OPERATION

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

a. The personnel hatch should have a minimum of one door closed at any one time and the equipment hatch shall be in place and held by a minimum of four bolts or the equipment hatch removed pursuant to Surveillance Requirement 4.9.4.2,

b. A minimum of one door in the personnel emergency exit hatch is closed, and

c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere shall be either:

1) Closed by an isolation valve, blind flange, or manual valve, or

2) Capable of being closed by an OPERABLE automatic containment purge isolation valve.

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

ACTION:

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

SURVEILLANCE REQUIREMENTS

4.9.4 Each of the above required containment building penetrations shall be determined to be either in its closed/isolated condition or capable of being closed by an OPERABLE automatic containment purge isolation valve within 100 hours prior to the start of and at least once per 7 days during CORE ALTERATIONS or movement of irradiated fuel in the containment building by:

a. Verifying the penetrations are in their closed/isolated condition, or

b. Testing the containment purge isolation valves per the applicable portions of Specification 4.6.3.2.

*Not applicable prior to initial criticality.

3/4.9.12 FUEL HANDLING BUILDING EXHAUST FILTER PLENUMS

LIMITING CONDITION FOR OPERATION

3.9.12* Two independent Fuel Handling Building Exhaust Filter Plenums shall be OPERABLE.

APPLICABILITY: Whenever irradiated fuel is in the storage pool

ACTION:

a. With one Fuel Handling Building Exhaust Filter Plenum inoperable, fuel movement within the storage pool, or crane operation with loads over the storage pool, may proceed provided the OPERABLE Fuel Handling Building Exhaust Filter Plenum is capable of being powered from an OPERABLE emergency power source and is in operation and taking suction from at least one train of HEPA filters and charcoal adsorbers.

b. With no Fuel Handling Building Exhaust Filter Plenums OPERABLE, suspend all operations involving movement of fuel within the storage pool, or crane operation with loads over the storage pool, until at least one Fuel Handling Building Exhaust Filter Plenum is restored to OPERABLE status.

c. The provisions of Specifications 3.0.3 and [illegible] are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.12 The above required Fuel Handling Building Exhaust Filter Plenums shall be demonstrated OPERABLE:

a. 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 15 minutes;

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

*Not applicable prior to MODE 1 because of the low fission product inventory available at or below the limiting power level of 5%.

URVEILLANCE REQUIREMENTS (Continued)

1) Verifying that the Fuel Handling Building Exhaust Filter Plenum satisfies the in-place penetration testing acceptance criteria of less than 1% when using the test procedure guidance in Regulatory Positions C.5.a, C.5.c, and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, and the flow rate is 21,000 cfm ± 10%;

2) Verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, and by showing a methyl iodide penetration of less than 10% when tested at a temperature of 30°C and a relative humidity of 95%.

3) Verifying a flow rate of 21,000 cfm ± 10% through the Fuel Handling Building Exhaust Filter Plenum during operation when tested in accordance with ANSI N510-1975; and

4) Verifying that with the system operating at a flow rate of 21,000 cfm ±10% and exhausting through the HEPA filters and charcoal adsorbers, the total bypass flow of the system and the leakage is less than or equal to 1% when the system is tested by injecting cold DOP at the system intake and the damper leakage rate is determined by either direct measurements or pressure decay measurements at a test pressure of 2 inches of water and the auxiliary building exhaust fans are operating at their rated flow.

c. After every 720 hours of charcoal adsorber operation, by verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, by showing a methyl iodide penetration of less than 10% when tested at a temperature of 30°C and a relative humidity of 95%.

d. At least once per 18 months by:

1) Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6 inches Water Gauge while operating the exhaust filter plenum at a flow rate of 21,000 cfm ± 10%;

2) Verifying that on a Safety Injection or a High Radiation test signal, the system automatically starts (unless already operating) and directs its exhaust flow through the HEPA filters and charcoal adsorber banks; and

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
2. Airborne Radioiodine and Particulates	Samples from five locations: Three samples from close to the three SITE BOUNDARY locations, in different sectors, of the highest calculated annual average ground level D/Q; One sample from the vicinity of a community having the highest calculated annual average ground-level D/Q; and One sample from a control location, as for example 10 to 30 km distant and in the least prevalent wind direction.	Continuous sampler operation with sample collection weekly, or more frequently if required by dust loading.	Radioiodine Cannister: I-131 analysis weekly. Particulate Sampler: Gross beta radioactivity analysis following filter change;(3) and gamma isotopic analysis(4) of composite (by location) quarterly.
3. Waterborne a. Surface(5)	One sample upstream. One sample downstream.	Composite sample over 1-month period by weekly grab samples.	Gamma isotopic analysis(4) monthly. Composite for tritium analysis quarterly.
b. Ground	Samples from one or two sources only if likely to be affected(7)	Quarterly.	Gamma isotopic(4) and tritium analysis quarterly.
c. Drinking	One sample of each community drinking water supply downstream of the plant within 10 kilometers. One sample from a control location.	Composite sample over 2-week period(6) when I-131 analysis is performed, monthly composite otherwise.	I-131 analysis on each composite when the dose calculated for the consumption of the water is greater than 1 mrem per year.(8) Composite for gross beta and gamma isotopic analyses(4) monthly. Composite for tritium analysis quarterly.

RADIOLOGICAL ENVIRONMENTAL MONITORING

3/4.12.3 INTERLABORATORY COMPARISON PROGRAM

LIMITING CONDITION FOR OPERATION

3.12.3 Analyses shall be performed on radioactive materials, supplied as part of an Interlaboratory Comparison Program that has been approved by the Commission, that correspond to samples required by Table 3.12-1.

APPLICABILITY: At all times.

ACTION:

a. With analyses not being performed as required above, report the corrective actions taken to prevent a recurrence to the Commission in the Annual Radiological Environmental Operating Report pursuant to Specification 6.9.1.6.

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

SURVEILLANCE REQUIREMENTS

4.12.3 The Interlaboratory Comparison Program shall be described in the ODCM. A summary of the results obtained as part of the above required Interlaboratory Comparison Program shall be included in the Annual Radiological Environmental Operating Report pursuant to Specification 6.9.1.6. :

BASES

3/4.2.5 DNB PARAMETERS

The limits on the DNB-related parameters assure that each of the parameters are maintained within the normal steady-state envelope of operation assumed in the transient and accident analyses. The limits are consistent with the initial FSAR assumptions and have been analytically demonstrated adequate to maintain a design DNBR throughout each analyzed transient. The calculated valves of the DNB-related parameters will be an average of the indicated values for the OPERABLE channels.

The 12-hour periodic surveillance of these parameters through instrument readout is sufficient to ensure that the parameters are restored within their limits following load changes and other expected transient operation.

Engineered Safety Features Actuation System Interlocks

The Engineered Safety Features Actuation System interlocks perform the following functions:

P-4 Reactor tripped - Actuates Turbine trip, closes main feedwater valves on T_{avg} below Setpoint, prevents the opening of the main feedwater valves which were closed by a Safety Injection or High Steam Generator Water Level signal, allows Safety Injection block so that components can be reset or tripped.

Reactor not tripped - prevents manual block of Safety Injection.

P-11 On increasing pressure P-11 automatically reinstates Safety Injection actuation on low pressurizer pressure and low steamline pressure and automatically blocks steamline isolation on negative steamline pressure rate. On decreasing pressure; P-11 allows the manual block of Safety Injection low pressurizer pressure and low steamline pressure and allows steamline isolation on negative steamline pressure rate to become active upon manual block of low steamline pressure SI.

P-12 On increasing reactor coolant loop temperature, P-12 automatically provides an arming signal to the Steam Dump System. On decreasing reactor coolant loop temperature, P-12 automatically removes the arming signal from the Steam Dump System.

P-14 An increasing steam generator water level, P-14 automatically trips all feedwater isolation valves and inhibits feedwater control valve modulation.

3/4.3.3 MONITORING INSTRUMENTATION

3/4.3.3.1 RADIATION MONITORING FOR PLANT OPERATIONS

The OPERABILITY of the radiation monitoring instrumentation for plant operations ensures that: (1) the associated action will be initiated when the radiation level monitored by each channel reaches its setpoint and (2) sufficient redundancy is maintained to permit a channel to be out-of-service for testing or maintenance. The radiation monitors for plant operations senses radiation levels in selected plant systems and locations and determines whether or not predetermined limits are being exceeded. If they are, the system sends actuation signals to initiate alarms and automatic actuation of Emergency Exhaust or Ventilation Systems. The radiation monitor Setpoints given in the requirements are assumed to be values established above normal background radiation levels for the particular area.

3/4.6.1 PRIMARY CONTAINMENT

3/4.6.1.1 CONTAINMENT INTEGRITY

Primary CONTAINMENT INTEGRITY ensures that the release of radioactive materials from the containment atmosphere will be restricted to those leakage paths and associated leak rates assumed in the safety analyses. This restriction, in conjunction with the leakage rate limitation, will limit the SITE BOUNDARY radiation doses to within the dose guideline values of 10 CFR Part 100 during accident conditions.

3/4.6.1.2 CONTAINMENT LEAKAGE

The limitations on containment leakage rates ensure that the total containment leakage volume will not exceed the value assumed in the accident analyses at the peak accident pressure, P_a. As an added conservatism, the measured overall integrated leakage rate is further limited to less than or equal to 0.75 L_a or 0.75 L_t, as applicable, during performance of the periodic test to account for possible degradation of the containment leakage barriers between leakage tests.

The surveillance testing for measuring leakage rates are consistent with the requirements of Appendix J of 10 CFR Part 50.

3/4.6.1.3 CONTAINMENT AIR LOCKS

The limitations on closure and leak rate for the containment air locks are required to meet the restrictions on CONTAINMENT INTEGRITY and containment leak rate. Surveillance testing of the air lock seals provides assurance that the overall air lock leakage will not become excessive due to seal damage during the intervals between air lock leakage tests.

3/4.6.1.4 INTERNAL PRESSURE

The limitations on containment internal pressure ensure that: (1) the containment structure is prevented from exceeding its design negative pressure differential with respect to the outside atmosphere of 0.1 psig, and (2) the containment peak pressure does not exceed the design pressure of 50 psig during steam line break conditions.

The maximum increase in peak pressure expected to be obtained from a cold leg double-ended break event is 44.4 psig. The limit of 1.0 psig for initial positive containment pressure will limit the total pressure to 44.4 psig, which is higher than the FSAR Chapter accident analysis calculated peak pressure assuming a limit of 0.3 psig for initial positive containment pressure, but is considerably less than the design pressure of 50 psig.

CONTAINMENT VENTILATION SYSTEM (Continued)

be exceeded in the event of an accident during containment purging operation. Operation with two lines open will be allowed. 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 time required.

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 3.6.1.2.b. shall not be exceeded when the leakage rates determined by the leakage integrity tests of these 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

3/4.6.2.1 CONTAINMENT SPRAY SYSTEM

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

The Containment Spray System and the Containment Cooling System are redundant to each other in providing post-accident cooling of the containment atmosphere. However, the Containment Spray System also provides a mechanism for removing iodine from the containment atmosphere and therefore the time requirements for restoring an inoperable Spray System to OPERABLE status have been maintained consistent with that assigned other inoperable ESF equipment.

3/4.6.2.2 SPRAY ADDITIVE SYSTEM

The OPERABILITY of the Spray Additive System ensures that sufficient NaOH is added to the containment spray in the event of a LOCA. The limits on NaOH volume and concentration ensure a pH value of between 8.5 and 11.0 for the solution recirculated within containment after a LOCA. This pH band minimizes the evolution of iodine and minimizes the effect of chloride and caustic stress corrosion on mechanical systems and components. The contained solution volume limit includes an allowance for solution not usable because of tank discharge line location or other physical characteristics. These assumptions are consistent with the iodine removal efficiency assumed in the safety analyses. A spray additive tank level of between 78.6% and 90.3% ensures a volume of greater than or equal to 4000 gallons but less than or equal to 4540 gallons.

3/4.9 REFUELING OPERATIONS

BASES

3/4.9.1 BORON CONCENTRATION

The limitations on reactivity conditions during REFUELING ensure that: (1) the reactor will remain subcritical during CORE ALTERATIONS, and (2) a uniform boron concentration is maintained for reactivity control in the water volume having direct access to the reactor vessel. The limitation on Keff of no greater than 0.95 is sufficient to prevent reactor criticality during refueling operations and includes a 1% $\Delta k/k$ conservative allowance for uncertainties. Similarly, the boron concentration value of 2000 ppm or greater includes a conservative uncertainty allowance of 50 ppm. These limitations are consistent with the initial conditions assumed for the boron dilution incident in the safety analyses. The locking closed of the required valves during refueling operations precludes the possibility of uncontrolled boron dilution of the filled portions of the RCS. This action prevents flow to the RCS of unborated water by closing flow paths from sources of unborated water.

3/4.9.2 INSTRUMENTATION

The OPERABILITY of the Source Range Neutron Flux Monitors ensures that redundant monitoring capability is available to detect changes in the reactivity condition of the core.

3/4.9.3 DECAY TIME

The minimum requirement for reactor subcriticality prior to movement of irradiated fuel assemblies in the reactor vessel ensures that sufficient time has elapsed to allow the radioactive decay of the short-lived fission products. This decay time is consistent with the assumptions used in the safety analyses.

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS

The requirements on containment building penetration closure and OPERABILITY ensure that a release of radioactive material within containment will be restricted from leakage to the environment. The OPERABILITY and closure restrictions are sufficient to restrict radioactive material release from a fuel element rupture based upon the lack of containment pressurization potential while in the REFUELING MODE.

The Byron Station is designed such that the containment opens into the fuel building through the personnel hatch or equipment hatch. In the event of a fuel drop accident in the containment, any gaseous radioactivity escaping from the containment building will be filtered through the Fuel Handling Building Exhaust Ventilation System.

3/4.9.5 COMMUNICATIONS

The requirement for communications capability ensures that refueling station personnel can be promptly informed of significant changes in the facility status or core reactivity conditions during CORE ALTERATIONS.

3/4.10 SPECIAL TEST EXCEPTIONS

BASES

3/4.10.1 SHUTDOWN MARGIN

This special test exception provides that a minimum amount of control rod worth is immediately available for reactivity control when tests are performed for control rod worth measurement and shutdown margin determination. This special test exception is required to permit the periodic verification of the actual versus predicted core reactivity condition occurring as a result of fuel burnup or fuel cycling operations.

3/4.10.2 GROUP HEIGHT, INSERTION, AND POWER DISTRIBUTION LIMITS

This special test exception permits individual control rods to be positioned outside of their normal group heights and insertion limits during the performance of such PHYSICS TESTS as those required to: (1) measure control rod worth, and (2) determine the reactor stability index and dampening factor under xenon oscillation conditions.

3/4.10.3 PHYSICS TESTS

This special test exception permits PHYSICS TESTS to be performed at less than or equal to 10% of RATED THERMAL POWER with the RCS T_{avg} slightly lower than normally allowed so that the fundamental nuclear characteristics of the core and related instrumentation can be verified. In order for various characteristics to be accurately measured, it is at times necessary to operate outside the normal restrictions of these Technical Specifications. For instance, to measure the moderator temperature coefficient at BOL, it is necessary to position the various control rods at heights which may not normally be allowed by Specification 3.1.3.6 which in turn may cause the RCS T_{avg} to fall slightly below the minimum temperature of Specification 3.1.1.4.

3/4.10.4 REACTOR COOLANT LOOPS

This special test exception permits reactor criticality under no flow conditions and is required to perform certain startup and PHYSICS TESTS while at low THERMAL POWER levels.

3/4.10.5 POSITION INDICATION SYSTEM-SHUTDOWN

This special test exception permits the Position Indication Systems to be inoperable during rod drop time measurements. The exception is required since the data necessary to determine the rod drop time is derived from the induced voltage in the position indicator coils as the rod is dropped. This induced voltage is small compared to the normal voltage and, therefore, cannot be observed if the Position Indication Systems remain OPERABLE.

6.2.4 SHIFT TECHNICAL ADVISOR (Continued)

To assure capability for performance of all STA functions:

(1) The shift foreman (SRO) shall participate in the SCRE shift relief turnover.

(2) During the shift, the shift engineer and the shift foreman (SRO) shall be made aware of any significant changes in plant status in a timely manner by the SCRE.

(3) During the shift, the shift engineer and the shift foreman (SRO) shall remain abreast of the current plant status. The shift foreman (SRO) shall return to the control room two or three times per shift, where practicable, to confer with the SCRE regarding plant status. Where not practicable to return to the control room, the shift foreman (SRO) shall periodically check with the SCRE for a plant status update. The shift foreman (SRO) shall not abandon duties original to reactor operation, unless specifically ordered by the shift engineer.

6. UNIT STAFF QUALIFICATION

6. .1 Each member of the unit staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971, except for the Rad/Chem Supervisor or Lead Health Physicist, who shall meet or exceed the qualifications of Regulatory Guide 1.8, September 1975, for a Radiation Protection Manager. The licensed Operators and Senior Operators shall also meet or exceed the minimum qualifications of the supplemental requirements specified in Sections A and C of Enclosure 1 of the March 28, 1980 NRC letter to all licensees.

6. TRAINING

6. .1 A retraining and replacement training program for the unit staff shall be maintained under the direction of the Production Training Department and shall meet or exceed the requirements and recommendations of Section 5 of ANSI/ANS 3.1-1978 and Appendix A of 10 CFR Part 55 and the supplemental requirements specified in Sections A and C of Enclosure 1 of the March 28, 1980 NRC letter to all licensees, and shall include familiarization with relevant industry operational experience identified by the Office of Nuclear Safety.

6 5 REVIEW INVESTIGATION AND AUDIT

The Review and Investigative function and the Audit Function of activities affecting quality during facility operations shall be constituted and have the responsibilities and authorities outlined below.

OFFSITE (Continued)

h) Instrumentation and Control

Engineering graduate or equivalent with at least 5 years of experience in instrumentation and control design and/or operation.

i) Metallurgy

Engineering graduate or equivalent with at least 5 years of experience in the metallurgical field.

3) The Supervisor of the Offsite Review and Investigative Function shall have experience and training which satisfy ANSI N18.1-1971 requirements for plant managers.

ONSITE

6.5.2 The Onsite Review and Investigative Function shall be supervised by the Station Superintendent.

a. Onsite Review and Investigative Function

The Station Superintendent shall: (1) provide directions for the Review and Investigative Function and appoint the Technical Staff Supervisor, or other comparably qualified individual as the senior participant to provide appropriate directions; (2) approve participants for this function; (3) assure that at least two participants who collectively possess background and qualifications in the subject matter under review are selected to provide comprehensive interdisciplinary review coverage under this function; (4) independently review and approve the findings and recommendations developed by personnel performing the Review and Investigative Function; (5) report all findings of noncompliance with NRC requirements, and provide recommendations to the Division Vice President and General Manager - Nuclear Stations and the Supervisor of the Offsite Review and Investigative Function; and (6) submit to the Offsite Review and Investigative Function for concurrence in a timely manner, those items described in Specification 6.5.1a which have been approved by the Onsite Review and Investigative Function.

b. Responsibility

The responsibilities of the personnel performing this function are:

1) Review of: (1) station specific portions of all procedures required by Specification 6.8.1 and changes thereto, (2) all programs required by Specification 6.8.4 and changes thereto, and (3) any other proposed procedures or changes thereto as determined by the Station Superintendent to affect nuclear safety;

2) Review of all proposed tests and experiments that affect nuclear safety;

REPORTING REQUIREMENTS (Continued)

"Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water-Cooled Nuclear Power Plants," Revision 1, June 1974, with data summarized on a quarterly basis following the format of Appendix B thereof. For solid wastes, the format for Table 3 in Appendix B shall be supplemented with three additional categories: class of solid wastes (as defined by 10 CFR Part 61), type of container (e.g., LSA, Type A, Type B, Large Quantity), and SOLIDIFICATION agent or absorbent (e.g., cement, urea formaldehyde).

The Semiannual Radioactive Effluent Release Reports shall include a list and description of unplanned releases from the site to UNRESTRICTED AREAS of radioactive materials in gaseous and liquid effluents made during the reporting period.

The Semiannual Radioactive Effluent Release Reports shall include any changes made during the reporting period to the PCP, pursuant to Specifications 6.13, as well as any major changes to Liquid, Gaseous or Solid Radwaste Treatment Systems, pursuant to Specification 6.15.

The Semiannual Radioactive Effluent Release Reports shall also include the following: an explanation as to why the inoperability of liquid or gaseous effluent monitoring instrumentation was not corrected within the time specified in Specifications 3.3.3.10 or 3.3.3.11, respectively; and description of the events leading to liquid holdup tanks or gas storage tanks exceeding the limits of Specification 3.11.1.4 or 3.11.2.6, respectively.

MONTHLY OPERATING REPORT

6.9.1.8 Routine reports of operating statistics and shutdown experience, including documentation of all challenges to the PORVs or RCS safety valves, shall be submitted on a monthly basis to the Director, Office of Resource Management, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, with a copy to the Regional Administrator of the NRC Regional Office, no later than the 15th of each month following the calendar month covered by the report.

RADIAL PEAKING FACTOR LIMIT REPORT

6.9.1.9 Changes to the F_{xy} limits for Rated Thermal Power (F_{xy}^{RTP}) shall be provided to the NRC Regional Administrator with a copy to Director of Nuclear Reactor Regulation, Attention: Chief, Core Performance Branch, U. S. Nuclear Regulatory Commission, Washington, D. C. 20555 for all core planes containing Bank "D" control rods and all unrodded core planes and the plot of predicted ($F_q^T \cdot P_{Rel}$) vs Axial Core Height with the limit envelope at least 60 days prior to cycle initial criticality unless otherwise approved by the Commission by letter. In addition, in the event that the limit should change requiring a new

6.13 PROCESS CONTROL PROGRAM (PCP)

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

6.13.2 Licensee-initiated changes to the PCP:

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

1) Sufficiently detailed information to totally support the rationale for the change wthout benefit of additional or supplemental information;

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

3) Documentation of the fact that the change has been reviewed and found acceptable by the Onsite Review and Investigative Function.

b. Shall become effective upon review and acceptance by the Onsite Review and Investigative Function in accordance with Specification 6.5.2.

6.14 OFFSITE DOSE CALCULATION MANUAL (ODCM)

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

6.14.2 Licensee-initiated changes to the ODCM:

a. Shall be submitted to the Commission by inclusion in the Monthly Operating Report pursuant to Specification 6.9.1.8 within 90 days of the date the change(s) was made effective. This submittal shall contain:

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

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

3) Documentation of the fact that the change has been reviewed and found acceptable by the Onsite Review and Investigative Function.

b. Shall become effective upon review and acceptance by the Onsite Review and Investigative Function in accordance with Specification 6.5.2.