ATTACHMENT 2 TO AEP:NRC:1196

EXISTING TECHNICAL SPECIFICATION
PAGES MARKED TO REFLECT PROPOSED CHANGES

LIMITING CONDITION FOR OPERATION (Continued)

c) A power distribution map is obtained from the movable incore detectors and $F_Q(Z)$ and $F^N_{\Delta H}$ are verified to be within their limits within 72 hours, and

d) Either the THERMAL POWER level is reduced to less than or equal to 75% of RATED THERMAL POWER within one hour and within the next 4 hours the high neutron flux trip setpoint is reduced to less than or equal to 85% of RATED THERMAL POWER, or

e) The remainder of the rods in the group with the inoperable rod are aligned to within ± 12 steps of the inoperable rod within one hour while maintaining the rod sequence and insertion limits as specified in the COLR; the THERMAL POWER level shall be restricted pursuant to Specification 3.1.3.5 during subsequent operation.

SURVEILLANCE REQUIREMENTS

4.1.3.1.1 The position of each full length rod shall be determined to be within the group demand limit by verifying the individual rod positions at least once per 12 hours except during time intervals when the Rod Position Deviation Monitor is inoperable, then verify the group positions at least once per 4 hours.

4.1.3.1.2 Each full length rod not fully inserted shall be determined to be OPERABLE by movement of at least 8 steps in any one direction at least once per ~~31~~ 92 days.

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURED ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
3. CONTAINMENT ISOLATION					
a. Phase "A" Isolation					
1) Manual	---------- See Functional Unit 9 ----------				
2) From Safety Injection Automatic Actuation Logic	N.A.	N.A.	M(2)	N.A.	1, 2, 3, 4
b. Phase "B" Isolation					
1) Manual	---------- See Functional Unit 9 ----------				
2) Automatic Actuation Logic	N.A.	N.A.	M(2)	N.A.	1, 2, 3, 4
3) Containment Pressure-High-High	S	R	M(3)	N.A.	1, 2, 3
c. Purge and Exhaust Isolation					
1) Manual	---------- See Functional Unit 9 ----------				
2) Containment Radioactivity-High	S	R	~~M~~ Q	N.A.	1, 2, 3, 4

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

Operation Mode/Instrument	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES FOR WHICH SURVEILLANCE REQUIRED
1. Modes 1, 2, 3 & 4				
A) Area Monitors				
i) Upper Containment (VRS 1101/1201)	S*	R	~~M~~ Q	1, 2, 3, 4
ii) Containment - High Range (VRS 1310/1410)	S	R	~~M~~ Q	1, 2, 3, 4
B) Process Monitors				
i) Particulate Channel (ERS 1301/1401)	S*	R	~~M~~ Q	1, 2, 3, 4
C) Noble Gas Effluent Monitors				
i) Unit Vent Effluent Monitor				
a) Low Range (VRS 1505)----------(See Table 4.3-9, Item 3.a, 4a, 5a)----------				
b) Mid Range (VRS 1507)	S	R	N/A	1, 2, 3, 4
c) High Range (VRS 1509)	S*	R	N/A	1, 2, 3, 4
ii) Steam Generator PORV				
a) MRA 1601 (Loop 1)	S*	R	~~M~~ Q	1, 2, 3, 4
b) MRA 1602 (Loop 4)	S*	R	~~M~~ Q	1, 2, 3, 4
c) MRA 1701 (Loop 2)	S*	R	~~M~~ Q	1, 2, 3, 4
d) MRA 1702 (Loop 3)	S*	R	~~M~~ Q	1, 2, 3, 4

TABLE 4.3-3 (Cont'd)

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

Operation Mode/Instrument	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES FOR WHICH SURVEILLANCE REQUIRED
iii) Gland Steam Condenser Vent Monitor				
a) Low Range (SRA 1805)----------(See Table 4.3-9 Item 6.a)----------				
iv) Steam Jet Air Ejector Vent Monitor				
a) Low Range (SRA 1905)----------(See Table 4.3-9, Item 2.a)----------				
b) Mid Range (SRA 1907)	S	R	~~M~~ Q	1, 2, 3, 4
c) High Range (SRA 1909)	S*	R	N/A	1, 2, 3, 4
2. Mode 6				
A) Train A				6
i) Containment Area Radiation Channel (VRS 1101)	S*	R	~~M~~ Q	
ii) Particulate Channel (ERS 1301)	S*	R	~~M~~ Q	
iii) Noble Gas Channel (ERS 1305)	S*	R	~~M~~ Q	
B) Train B				6
i) Containment Area Radiation Channel (VRS 1201)	S*	R	~~M~~ Q	
ii) Particulate Channel (ERS 1401)	S*	R	~~M~~ Q	

TABLE 4.3-3 (Cont'd)

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

Operation Mode/Instrument	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES FOR WHICH SURVEILLANCE REQUIRED
iii) Noble Gas Channel (ERS 1405)	S*	R	~~M~~ Q	6
3. Mode**				
A) Spent Fuel Storage (RRC-330)	S	R	~~M~~ Q	**

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* To include Source Check per T/S Section 1.27.

** With fuel in storage pool or building.

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CONTAINMENT SYSTEMS

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.1 Two independent containment spray systems shall be OPERABLE with each spray system capable of taking suction from the RWST and transferring suction to the containment sump.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one containment spray system inoperable, restore the inoperable spray system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours; restore the inoperable spray system to OPERABLE status within the next 48 hours or be in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each containment spray system shall be demonstrated OPERABLE:

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

b. By verifying, that on recirculation flow, each pump develops a discharge pressure of greater than or equal to 255 psig at a flow of greater than or equal to 700 gpm, when tested pursuant to Specification 4.0.5.

c. At least once per 18 months during shutdown, by:

1. Verifying that each automatic valve in the flow path actuates to its correct position on a Containment Pressure--High-High test signal.

2. Verifying that each spray pump starts automatically on a Containment Pressure--High-High test signal.

d. At least once per ~~5~~ 10 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

ELECTRIC HYDROGEN RECOMBINERS - W

LIMITING CONDITION FOR OPERATION

3.6.4.2 Two independent containment 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~~ 18 months by verifying during a recombiner system functional test that the minimum heater sheath temperature increases to $\geq$ 700°F within 90 minutes and is maintained for at least 2 hours.

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 (i.e., loose wiring or structural connections, deposits of foreign materials, etc.)

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

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

1. A separate day fuel tank containing a minimum of 70 gallons of fuel,

2. A separate fuel storage system* containing a minimum indicated volume of 46,000 gallons of fuel, and

3. A separate fuel transfer pump.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With an offsite circuit of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. offsite source by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter; ~~and Surveillance Requirement 4.8.1.1.2.a.4 within 24 hours;~~ 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 a diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the A.C. offsite sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter; and if the diesel generator became inoperable due to any cause other than preplanned preventive maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE diesel generator by performing Surveillance Requirement 4.8.1.1.2.a.4 within ~~24 hours;~~ restore 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. At the number of failures for the inoperable diesel indicated in Table 4.8-1 perform the Additional Reliability Actions prescribed in Table 4.8-1.

an inoperable support system, an independently testable component, or

→ 8 hours, unless the absence of any potential common mode failure for the remaining diesel generator is demonstrated;

*Tanks are separate between diesels but shared between Units 1 and 2.

ACTION (Continued)

c. 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. offsite source by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter and if the diesel generator became inoperable due to any cause other than preplanned preventive maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE diesel generator by performing Surveillance ~~Requirement 4.8.1.1.2.a.4 within 8 hours~~; 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. With the diesel generator restored to OPERABLE status, follow ACTION Statement a.* With the offsite circuit restored to OPERABLE status, follow ACTION Statement b.*;

d. With two of the above required offsite A.C. circuits inoperable, ~~demonstrate the OPERABILITY of two diesel generators by performing Surveillance Requirement 4.8.1.1.2.a.4 within 8 hours unless the diesel generators are already operating.~~ Restore at least one of the inoperable offsite sources to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours. With only one offsite source restored, follow ACTION Statement a.*

e. With two of the above required diesel generators inoperable, demonstrate the OPERABILITY of two offsite A.C. circuits by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter; restore at least one of the inoperable diesel generators 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. With one diesel generator unit restored, follow ACTION Statement b* or c.*

* The ACTION statement time shall be based upon the time associated with the component inoperability, and is not reset when exiting this ACTION statement.

SURVEILLANCE REQUIREMENTS

4.8.1.1.1 Each of the above required independent circuits between the offsite transmission network and the onsite Class 1E distribution system shall be:

a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignments and indicated power availability, and

b. Demonstrated OPERABLE at least once per 18 months by transferring the unit power source automatically from the normal auxiliary source to the preferred reserve source and by transferring manually to the alternate reserve source.

SURVEILLANCE REQUIREMENTS (Continued)

c) Verifying that all automatic diesel generator trips, except engine overspeed and generator differential, are automatically bypassed upon loss of voltage on the emergency bus and/or Safety Injection actuation signal.

7. Verifying that the diesel generator operates for at least 24 hours. During this test the diesel generator shall be loaded to 3500 kw. Within 5 minutes after completing this 24-hour test, perform Surveillance Requirement 4.8.1.1.2.a.4. (at existing conditions)*

8. Determine that the auto-connected loads to each diesel generator do not exceed 3500 kw.

9. Verifying the diesel generator's capability to:

a) Synchronize with the offsite power source while the generator is loaded with its emergency loads upon a simulated restoration of offsite power.

b) Transfer its loads to the offsite power source, and

c) Be restored to its standby status.

10. Verifying that with the diesel generator operating in a test mode while connected to its test load, a simulated Safety Injection signal overrides the test mode by:

a) Returning the diesel generator to standby operation, and

b) Verifying the emergency loads are serviced by offsite power.

11. Verifying that the automatic sequence timing relays are OPERABLE with each load sequence time within plus or minus 5% of its required value and that each load is sequenced on within the design allowable time limit.

f. At least once per 10 years by:

1) Employing one of the following cleaning methods to clean the fuel oil storage tanks:

a) Drain each fuel oil storage tank, remove the accumulated sediment, and clean the tank, or

* If Surveillance Requirement 4.8.1.1.2.a.4 is not satisfactorily completed, it is not necessary to repeat the preceding 24-hour test. Instead the diesel generator may be operated at 3500 kw for 2 hours or until operating temperature has stabilized.

3/4.10 SPECIAL TEST EXCEPTIONS

SHUTDOWN MARGIN

LIMITING CONDITION FOR OPERATION

3.10.1 The SHUTDOWN MARGIN requirement of Specification 3.1.1.1 may be suspended for measurement of control rod worth and shutdown margin provided the reactivity equivalent to at least the highest estimated control rod worth is available for trip insertion from OPERABLE control rod(s).

APPLICABILITY: MODE 2.

ACTION:

a. With the reactor critical ($K_{eff} \geq 1.0$) and with less than the above reactivity equivalent available for trip insertion, immediately initiate and continue boration at $\geq$ 10 gpm of 20,000 ppm boric acid solution or its equivalent until the SHUTDOWN MARGIN required by Specification 3.1.1.1 is restored.

b. With the reactor subcritical ($K_{eff} < 1.0$) by less than the above reactivity equivalent, immediately initiate and continue boration at $\geq$ 10 gpm of 20,000 ppm boric acid solution or its equivalent until the SHUTDOWN MARGIN required by Specification 3.1.1.1 is restored.

SURVEILLANCE REQUIREMENTS

4.10.1.1 The position of each full length rod either partially or fully withdrawn shall be determined at least once per 2 hours.

4.10.1.2 Each full length rod not fully inserted shall be demonstrated OPERABLE by verifying its rod drop time to be $\leq$ 2.4 seconds within ~~24 hours~~ 7 days prior to reducing the SHUTDOWN MARGIN to less than the limits of Specification 3.1.1.1.

RADIOACTIVE EFFLUENTS

GAS STORAGE TANKS

LIMITING CONDITION FOR OPERATION

3.11.2.6 The quantity of radioactivity contained in each gas storage tank shall be limited to 43,800 curies noble gas (considered as Xe-133).

APPLICABILITY: At all times.

ACTION:

a. With the quantity of radioactive material in any gas storage tank exceeding the above limit, without delay suspend all additions of radioactive material to the tank and within 48 hours reduce the tank contents to within the limit.

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

SURVEILLANCE REQUIREMENTS

4.11.2.6 The quantity of radioactive material contained in each gas storage tank shall be determined to be within the above limit at least once per ~~4~~ 7 days by analysis of the Reactor Coolant System noble gases. (whenever radioactive materials are added to the tank and at least once per 24 hours during primary coolant system degassing operations,

LIMITING CONDITION FOR OPERATION (Continued)

c) A power distribution map is obtained from the movable incore detectors and $F_Q(Z)$ and $F^N_{\Delta H}$ are verified to be within their limits within 72 hours, and

d) Either the THERMAL POWER level is reduced to less than or equal to 75% of RATED THERMAL POWER within one hour and within the next 4 hours the high neutron flux trip setpoint is reduced to less than or equal to 85% of RATED THERMAL POWER, or

e) The remainder of the rods in the group with the inoperable rod are aligned to within ± 12 steps of the inoperable rod within one hour while maintaining the rod sequence and insertion limits as specified in the COLR; the THERMAL POWER level shall be restricted pursuant to Specification 3.1.3.6 during subsequent operation.

SURVEILLANCE REQUIREMENTS

4.1.3.1.1 The position of each full length rod shall be determined to be within the group demand limit by verifying the individual rod positions at least once per 12 hours except during time intervals when the Rod Position Deviation Monitor is inoperable, then verify the group positions at least once per 4 hours.

4.1.3.1.2 Each full length rod not fully inserted in the core shall be determined to be OPERABLE by movement of at least 8 steps in any one direction at least once per ~~31~~ 92 days.

TABLE 4.3-2 (Continued)
ENGINEERED SAFETY FEATURED ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
c. Purge and Exhaust Isolation					
1) Manual	----------	----------	See Functional Unit 9	----------	----------
2) Containment Radioactivity-High	S	R	M Q	N.A.	1, 2, 3, 4
4. STEAM LINE ISOLATION					
a. Manual	----------	----------	See Functional Unit 9	----------	----------
b. Automatic Actuation Logic	N.A.	N.A.	M(2)	N.A.	1, 2, 3
c. Containment Pressure--High-High	S	R	M(3)	N.A.	1, 2, 3
d. Steam Flow in Two Steam Lines--High Coincident with T_{avg}--Low-Low	S	R†	M	N.A.	1, 2, 3
e. Steam Line Pressure--Low	S	R	M	N.A.	1, 2, 3
5. TURBINE TRIP AND FEEDWATER ISOLATION					
a. Steam Generator Water Level--High-High	S	R	M	N.A.	1, 2, 3
6. MOTOR DRIVEN AUXILIARY FEEDWATER PUMPS					
a. Steam Generator Water Level--Low-Low	S	R	M	N.A.	1, 2, 3
b. 4 kV Bus Loss of Voltage	S	R	M	N.A.	1, 2, 3
c. Safety Injection	N.A.	N.A.	M(2)	N.A.	1, 2, 3
d. Loss of Main Feed Pumps	N.A.	N.A.	R†	N.A.	1, 2

† The provisions of Technical Specification 4.0.8 are applicable.

TABLE 4.3-3

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

Operation Mode/Instrument	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES FOR WHICH SURVEILLANCE REQUIRED
1. Modes 1, 2, 3 & 4				
A) Area Monitors				
i) Upper Containment (VRS 2101/2201)	S*	R	M Q	1, 2, 3, 4
ii) Containment - High Range (VRS 2310/2410)	S	R	M Q	1, 2, 3, 4
B) Process Monitors				
i) Particulate Channel (ERS 2301/2401)	S*	R	M Q	1, 2, 3, 4
C) Noble Gas Effluent Monitors				
i) Unit Vent Effluent Monitor				
a) Low Range (VRS 2505)	(See Table 4.3-9, Item 3.a, 4a, 5a)			
b) Mid Range (VRS 2507)	S.	R	N/A	1, 2, 3, 4
c) High Range (VRS 2509)	S*	R	N/A	1, 2, 3, 4
ii) Steam Generator PORV				
a) MRA 2601 (Loop 1)	S*	R	M Q	1, 2, 3, 4
b) MRA 2602 (Loop 4)	S*	R	M Q	1, 2, 3, 4
c) MRA 2701 (Loop 2)	S*	R	M Q	1, 2, 3, 4
d) MRA 2702 (Loop 3)	S*	R	M Q	1, 2, 3, 4

TABLE 4.3-3 (Cont'd)

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

Operation Mode/Instrument	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES FOR WHICH SURVEILLANCE REQUIRED
iii) Gland Steam Condenser Vent Monitor				
a) Low Range (SRA 2805)----------(See Table 4.3-9 Item 6.a)----------				
iv) Steam Jet Air Ejector Vent Monitor				
a) Low Range (SRA 2905)----------(See Table 4.3-9, Item 2.a)----------				
b) Mid Range (SRA 2907)	S	R	~~M~~ Q	1, 2, 3, 4
c) High Range (SRA 2909)	S*	R	N/A	1, 2, 3, 4
2. Mode 6				
A) Train A				6
i) Containment Area Radiation Channel (VRS 2101)	S*	R	~~M~~ Q	
ii) Particulate Channel (ERS 2301)	S*	R	~~M~~ Q	
iii) Noble Gas Channel (ERS 2305)	S*	R	~~M~~ Q	
B) Train B				6
i) Containment Area Radiation Channel (VRS 2201)	S*	R	~~M~~ Q	
ii) Particulate Channel (ERS 2401)	S*	R	~~M~~ Q	

TABLE 4.3-3 (Cont'd)

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

Operation Mode/Instrument	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES FOR WHICH SURVEILLANCE REQUIRED
iii) Noble Gas Channel (ERS 2405)	S*	R	M Q	6
3. Mode**				
A) Spent Fuel Storage (RRC-330)	S	R	M Q	**

* To include Source Check per T/S Section 1.27.
** With fuel in storage pool or building.

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.1 Two independent containment spray systems shall be OPERABLE with each spray system capable of taking suction from the RWST and transferring suction to the containment sump.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one containment spray system inoperable, restore the inoperable spray system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours; restore the inoperable spray system to OPERABLE status within the next 48 hours or be in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each containment spray system shall be demonstrated OPERABLE:

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

b. By verifying, that on recirculation flow, each pump develops a discharge pressure of greater than or equal to 255 psig at a flow of greater than or equal to 700 gpm, when tested pursuant to Specification 4.0.5.

c. At least once per 18 months during shutdown, by:†

1. Verifying that each automatic valve in the flow path actuates to its correct position on a Containment Pressure--High-High test signal.

2. Verifying that each spray pump starts automatically on a Containment Pressure--High-High test signal.

d. At least once per ~~5~~ 10 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

† The provisions of Technical Specification 4.0.8 are applicable.

ELECTRIC HYDROGEN RECOMBINERS - W

LIMITING CONDITION FOR OPERATION

3.6.4.2 Two independent containment 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~~ 18 months by verifying during a recombiner system functional test that the minimum heater sheath temperature increases to $\geq$ 700°F within 90 minutes and is maintained for at least 2 hours.

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 (i.e., loose wiring or structural connections, deposits of foreign materials, etc.)

3. Verifying during a recombiner system functional test that the heater sheath temperature increases to $\geq$ 1200°F within 5 hours and is maintained for at least 4 hours.

4. Verifying the integrity of all heater electrical circuits by performing a continuity and resistance to ground test following the above required functional test. The resistance to ground for any heater phase shall be $\geq$ 10,000 ohms.

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

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

1. A separate day fuel tank containing a minimum of 70 gallons of fuel,

2. A separate fuel storage system* containing a minimum indicated volume of 46,000 gallons of fuel, and

3. A separate fuel transfer pump.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With an offsite circuit of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. offsite source by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter; ~~and Surveillance Requirement 4.8.1.1.2.a.4 within 24 hours;~~ 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 a diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the A.C. offsite sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter; and if the diesel generator became inoperable due to any cause other than preplanned preventive maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE diesel generator by performing Surveillance Requirement 4.8.1.1.2.a.4 within ~~24 hours~~; restore 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. At the number of failures for the inoperable diesel indicated in Table 4.8-1 perform the Additional Reliability Actions prescribed in Table 4.8-1.

an inoperable support system, an independently testable component, or

8 hours, unless the absence of any potential common mode failure for the remaining diesel generator is demonstrated;

*Tanks are separate between diesels but shared between Units 1 and 2.

ACTION (Continued)

c. 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. offsite source by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter and if the diesel generator became inoperable due to any cause other than preplanned preventive maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE diesel generator by performing Surveillance Requirement 4.8.1.1.2.a.4 within 8 hours; 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. With the diesel generator restored to OPERABLE status, follow ACTION Statement a.* With the offsite circuit restored to OPERABLE status, follow ACTION Statement b.*

d. With two of the above required offsite A.C. circuits inoperable, ~~demonstrate the OPERABILITY of two diesel generators by performing Surveillance Requirement 4.8.1.1.2.a.4 within 8 hours unless the diesel generators are already operating.~~ Restore at least one of the inoperable offsite sources to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours. With only one offsite source restored, follow ACTION Statement a.*

e. With two of the above required diesel generators inoperable, demonstrate the OPERABILITY of two offsite A.C. circuits by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter; restore at least one of the inoperable diesel generators 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. With one diesel generator unit restored, follow ACTION Statement b* or c.*

* The ACTION statement time shall be based upon the time associated with the component inoperability, and is not reset when exiting this ACTION statement.

SURVEILLANCE REQUIREMENTS

4.8.1.1.1 Each of the above required independent circuits between the offsite transmission network and the onsite Class 1E distribution system shall be:

a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignments and indicated power availability, and

b. Demonstrated OPERABLE at least once per 18 months by transferring the unit power source automatically from the normal auxiliary source to the preferred reserve source and by transferring manually to the alternate reserve source.

SURVEILLANCE REQUIREMENTS (Continued)

c) Verifying that all automatic diesel generator trips, except engine overspeed and generator differential, are automatically bypassed upon loss of voltage on the emergency bus and/or Safety Injection actuation signal.

7. Verifying that the diesel generator operates for at least 24 hours. During this test the diesel generator shall be loaded to 3500 kw. Within 5 minutes after completing this 24-hour test, perform Surveillance Requirement 4.8.1.1.2.a.4 (at existing conditions), *

8. Determine that the auto-connected loads to each diesel generator do not exceed 3500 kw.

9. Verifying the diesel generator's capability to:

a) Synchronize with the offsite power source while the generator is loaded with its emergency loads upon a simulated restoration of offsite power.

b) Transfer its loads to the offsite power source, and

c) Be restored to its standby status.

10. Verifying that with the diesel generator operating in a test mode while connected to its test load, a simulated Safety Injection signal overrides the test mode by:

a) Returning the diesel generator to standby operation, and

b) Verifying the emergency loads are serviced by offsite power.

11. Verifying that the automatic sequence timing relays are OPERABLE with each load sequence time within plus or minus 5% of its required value and that each load is sequenced on within the design allowable time limit.

f. At least once per 10 years by:

1) Employing one of the following cleaning methods to clean the fuel oil storage tanks:

a) Drain each fuel oil storage tank, remove the accumulated sediment, and clean the tank, or

* If Surveillance Requirement 4.8.1.1.2.a.4 is not satisfactorily completed, it is not necessary to repeat the preceding 24-hour test. Instead, the diesel generator may be operated at 3500 kw for 2 hours or until operating temperature has stabilized.

3/4.10 SPECIAL TEST EXCEPTIONS

SHUTDOWN MARGIN

LIMITING CONDITION FOR OPERATION

3.10.1 The SHUTDOWN MARGIN requirement of Specification 3.1.1.1 may be suspended for measurement of control rod worth and shutdown margin provided the reactivity equivalent to at least the highest estimated control rod worth is available for trip insertion from OPERABLE control rod(s).

APPLICABILITY: MODE 2.

ACTION:

a. With any full length control rod not fully inserted and with less than the above reactivity equivalent available for trip insertion, immediately initiate and continue boration at $\geq$ 10 gpm of 20,000 ppm boric acid solution or its equivalent until the SHUTDOWN MARGIN required by Specification 3.1.1.1 is restored.

b. With all full length control rods inserted and the reactor subcritical by less than the above reactivity equivalent, immediately initiate and continue boration at $\geq$ 10 gpm of 20,000 ppm boric acid solution or its equivalent until the SHUTDOWN MARGIN required by Specification 3.1.1.1 is restored.

SURVEILLANCE REQUIREMENTS

4.10.1.1 The position of each full length rod either partially or fully withdrawn shall be determined at least once per 2 hours.

4.10.1.2 Each full length rod not fully inserted shall be demonstrated capable of full insertion when tripped from at least the 50% withdrawn position within ~~24 hours~~ prior to reducing the SHUTDOWN MARGIN to less than the limits of Specification 3.1.1.1.

→ 7 days

RADIOACTIVE EFFLUENTS

GAS STORAGE TANKS

LIMITING CONDITION FOR OPERATION

3.11.2.6 The quantity of radioactivity contained in each gas storage tank shall be limited to 43,800 curies noble gas (considered as Xe-133).

APPLICABILITY: At all times.

ACTION:

a. With the quantity of radioactive material in any gas storage tank exceeding the above limit, without delay suspend all additions of radioactive material to the tank and within 48 hours reduce the tank contents to within the limit.

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

SURVEILLANCE REQUIREMENTS

4.11.2.6 The quantity of radioactive material contained in each gas storage tank shall be determined to be within the above limit at least once per ~~4~~ 7 days by analysis of the Reactor Coolant System noble gases.

Whenever radioactive materials are added to the tank and at least once per 24 hours during primary coolant system degassing operations)

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LIMITING CONDITION FOR OPERATION (Continued)

c) A power distribution map is obtained from the movable incore detectors and $F_Q(Z)$ and $F^N_{\Delta H}$ are verified to be within their limits within 72 hours, and

d) Either the THERMAL POWER level is reduced to less than or equal to 75% of RATED THERMAL POWER within one hour and within the next 4 hours the high neutron flux trip setpoint is reduced to less than or equal to 85% of RATED THERMAL POWER, or

e) The remainder of the rods in the group with the inoperable rod are aligned to within ± 12 steps of the inoperable rod within one hour while maintaining the rod sequence and insertion limits as specified in the COLR; the THERMAL POWER level shall be restricted pursuant to Specification 3.1.3.5 during subsequent operation.

SURVEILLANCE REQUIREMENTS

4.1.3.1.1 The position of each full length rod shall be determined to be within the group demand limit by verifying the individual rod positions at least once per 12 hours except during time intervals when the Rod Position Deviation Monitor is inoperable, then verify the group positions at least once per 4 hours.

4.1.3.1.2 Each full length rod not fully inserted shall be determined to be OPERABLE by movement of at least 8 steps in any one direction at least once per 92 days.

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURED ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
3. CONTAINMENT ISOLATION					
a. Phase "A" Isolation					
1) Manual---------- See Functional Unit 9 ----------					
2) From Safety Injection Automatic Actuation Logic	N.A.	N.A.	M(2)	N.A.	1,2,3,4
b. Phase "B" Isolation					
1) Manual ---------- See Functional Unit 9 ----------					
2) Automatic Actuation Logic	N.A.	N.A.	M(2)	N.A.	1,2,3,4
3) Containment Pressure-High-High	S	R	M(3)	N.A.	1,2,3
c. Purge and Exhaust Isolation					
1) Manual---------- See Functional Unit 9 ----------					
2) Containment Radioactivity-High	S	R	Q	N.A.	1,2,3,4

TABLE 4.3-3

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

OPERATION MODE/INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES FOR WHICH SURVEILLANCE REQUIRED
1. MODES 1, 2, 3, 4				
A) Area Monitors				
i) Upper Containment (VRS 1101/1201)	S*	R	Q	1, 2, 3, 4
ii) Containment - High Range (VRS 1310/1410)	S	R	Q	1, 2, 3, 4
B) Process Monitors				
i) Particulate Channel (ERS 1301/1401)	S*	R	Q	1, 2, 3, 4
C) Noble Gas Effluent Monitors				
i) Unit Vent Effluent Monitors				
a) Low Range (VRS 1505)	--------(see Table 4.3-9, Item 3.a, 4.a, 5.a)--------			
b) Mid Range (VRS 1507)	S	R	N/A	1, 2, 3, 4
c) High Range (VRS 1509)	S*	R	N/A	1, 2, 3, 4
ii) Steam Generator PORV				
a) MRA 1601 (Loop 1)	S*	R	Q	1, 2, 3, 4
b) MRA 1602 (Loop 4)	S*	R	Q	1, 2, 3, 4
c) MRA 1701 (Loop 2)	S*	R	Q	1, 2, 3, 4
d) MRA 1702 (Loop 3)	S*	R	Q	1, 2, 3, 4

TABLE 4.3-3 (Cont'd)
RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

OPERATION MODE/INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES FOR WHICH SURVEILLANCE REQUIRED
iii) Gland Steam Condenser Vent Monitor				
a) Low Range (SRA 1805)	--------(see Table 4.3-9, Item 6.a)--------			
iv) Steam Jet Air Ejector Vent Monitor				
a) Low Range (SRA 1905)	--------(see Table 4.3-9, Item 2.a)--------			
b) Mid Range (SRA 1907)	S	R	Q	1, 2, 3, 4
c) High Range (SRA 1909)	S*	R	N/A	1, 2, 3, 4
2. MODE 6				
A) Train A				6
i) Containment Area Radiation Channel (VRS 1101)	S*	R	Q	
ii) Particulate Channel (ERS 1301)	S*	R	Q	
iii) Noble Gas Channel (ERS 1305)	S*	R	Q	
B) Train B				6
i) Containment Area Radiation Channel (VRS 1201)	S*	R	Q	
ii) Particulate Channel (ERS 1401)	S*	R	Q	

TABLE 4.3-3 (Cont'd)
RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

OPERATION MODE/INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES FOR WHICH SURVEILLANCE REQUIRED
iii) Noble Gas Channel (ERS 1405)	S*	R	Q	6
3. MODE**				
A) Spent Fuel Storage (RRC-330)	S	R	Q	**

*To include source check per T/S Section 1.27.
**With fuel in storage pool or building.

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.1 Two independent containment spray systems shall be OPERABLE with each spray system capable of taking suction from the RWST and transferring suction to the containment sump.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one containment spray system inoperable, restore the inoperable spray system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours; restore the inoperable spray system to OPERABLE status within the next 48 hours or be in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each containment spray system shall be demonstrated OPERABLE:

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

b. By verifying, that on recirculation flow, each pump develops a discharge pressure of greater than or equal to 255 psig at a flow of greater than or equal to 700 gpm, when tested pursuant to Specification 4.0.5.

c. At least once per 18 months during shutdown, by:

   1. Verifying that each automatic valve in the flow path actuates to its correct position on a Containment Pressure -- High-High test signal.

   2. Verifying that each spray pump starts automatically on a Containment Pressure -- High-High test signal.

d. At least once per 10 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

CONTAINMENT SYSTEMS

ELECTRIC HYDROGEN RECOMBINERS - W

LIMITING CONDITION FOR OPERATION

3.6.4.2 Two independent containment 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 18 months by verifying during a recombiner system functional test that the minimum heater sheath temperature increases to $\geq 700^{\circ}F$ within 90 minutes and is maintained for at least 2 hours.

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 (i.e., loose wiring or structural connections, deposits of foreign materials, etc.)

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

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

1. A separate day fuel tank containing a minimum of 70 gallons of fuel,

2. A separate fuel storage system* containing a minimum indicated volume of 46,000 gallons of fuel, and

3. A separate fuel transfer pump.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With an offsite circuit of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. offsite source by performing Surveillance Requirement 4.8.1.1.1.a 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 a diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the A.C. offsite sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter; and if the diesel generator became inoperable due to any cause other than an inoperable support system, an independently testable component, or preplanned preventive maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE diesel generator by performing Surveillance Requirement 4.8.1.1.2.a.4 within 8 hours, unless the absence of any potential common mode failure for the remaining diesel generator is demonstrated; restore 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. At the number of failures for the inoperable diesel indicated in Table 4.8-1 perform the Additional Reliability Actions prescribed in Table 4.8-1.

*Tanks are separate between diesels but shared between Units 1 and 2.

ACTION (Continued)

c. 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. offsite source by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter and if the diesel generator became inoperable due to any cause other than an inoperable support system, an independently testable component, or preplanned preventive maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE diesel generator by performing Surveillance Requirement 4.8.1.1.2.a.4 within 8 hours, unless the absence of any potential common mode failure for the remaining diesel generator is demonstrated; 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. With the diesel generator restored to OPERABLE status, follow ACTION Statement a.* With the offsite circuit restored to OPERABLE status, follow ACTION Statement b.*

d. With two of the above required offsite A.C. circuits inoperable, restore at least one of the inoperable offsite sources to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours. With only one offsite source restored, follow ACTION Statement a.*

e. With two of the above required diesel generators inoperable, demonstrate the OPERABILITY of two offsite A.C. circuits by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter; restore at least one of the inoperable diesel generators 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. With one diesel generator unit restored, follow ACTION Statement b* or c*.

* The ACTION statement time shall be based upon the time associated with the component inoperability, and is not reset when exiting this ACTION statement.

SURVEILLANCE REQUIREMENTS

4.8.1.1.1 Each of the above required independent circuits between the offsite transmission network and the onsite Class 1E distribution system shall be:

a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignments and indicated power availability, and

b. Demonstrated OPERABLE at least once per 18 months by transferring the unit power source automatically from the normal auxiliary source to the preferred reserve source and by transferring manually to the alternate reserve source.

SURVEILLANCE REQUIREMENTS (Continued)

c) Verifying that all automatic diesel generator trips, except engine overspeed and generator differential, are automatically bypassed upon loss of voltage on the emergency bus and/or Safety Injection actuation signal.

7. Verifying that the diesel generator operates for at least 24 hours. During this test the diesel generator shall be loaded to 3500 kw. Within 5 minutes after completing this 24-hour test, perform Surveillance Requirement 4.8.1.1.2.a.4 (at existing conditions).*

8. Determine that the auto-connected loads to each diesel generator do not exceed 3500 kw.

9. Verifying the diesel generator's capability to:

a) Synchronize with the offsite power source while the generator is loaded with its emergency loads upon a simulated restoration of offsite power.

b) Transfer its loads to the offsite power source, and

c) Be restored to its standby status.

10. Verifying that with the diesel generator operating in a test mode while connected to its test load, a simulated Safety Injection signal overrides the test mode by:

a) Returning the diesel generator to standby operation, and

b) Verifying the emergency loads are serviced by offsite power.

11. Verifying that the automatic sequence timing relays are OPERABLE with each load sequence time within plus or minus 5% of its required value and that each load is sequenced on within the design allowable time limit.

f. At least once per 10 years by:

1) Employing one of the following cleaning methods to clean the fuel oil storage tanks:

a) Drain each fuel oil storage tank, remove the accumulated sediment, and clean the tank, or

* If Surveillance Requirement 4.8.1.1.2.a.4 is not satisfactorily completed, it is not necessary to repeat the preceding 24 hour test. Instead, the diesel generator may be operated at 3500 kw for 2 hours or until operating temperature has stabilized.

3/4.10 SPECIAL TEST EXCEPTIONS

SHUTDOWN MARGIN

LIMITING CONDITION FOR OPERATION

3.10.1 The SHUTDOWN MARGIN requirement of Specification 3.1.1.1 may be suspended for measurement of control rod worth and shutdown margin provided the reactivity equivalent to at least the highest estimated control rod worth is available for trip insertion from OPERABLE control rod(s).

APPLICABILITY: MODE 2.

ACTION:

a. With the reactor critical ($K_{eff} \geq 1.0$) and with less than the above reactivity equivalent available for trip insertion, immediately initiate and continue boration at $\geq$ 10 gpm of 20,000 ppm boric acid solution or its equivalent until the SHUTDOWN MARGIN required by Specification 3.1.1.1 is restored.

b. With the reactor subcritical ($K_{eff} < 1.0$) by less than the above reactivity equivalent, immediately initiate and continue boration at $\geq$ 10 gpm of 20,000 ppm boric acid solution or its equivalent until the SHUTDOWN MARGIN required by Specification 3.1.1.1 is restored.

SURVEILLANCE REQUIREMENTS

4.10.1.1 The position of each full length rod either partially or fully withdrawn shall be determined at least once per 2 hours.

4.10.1.2 Each full length rod not fully inserted shall be demonstrated OPERABLE by verifying its rod drop time to be $\leq$ 2.4 seconds within 7 days prior to reducing the SHUTDOWN MARGIN to less than the limits of Specification 3.1.1.1.

RADIOACTIVE EFFLUENTS

GAS STORAGE TANKS

LIMITING CONDITION FOR OPERATION

3.11.2.6 The quantity of radioactivity contained in each gas storage tank shall be limited to 43,800 curies noble gas (considered as Xe-133).

APPLICABILITY: At all times.

ACTION:

a. With the quantity of radioactive material in any gas storage tank exceeding the above limit, without delay suspend all additions of radioactive material to the tank and within 48 hours reduce the tank contents to within the limit.

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

SURVEILLANCE REQUIREMENTS

4.11.2.6 The quantity of radioactive material contained in each gas storage tank shall be determined to be within the above limit at least once per 7 days whenever radioactive materials are added to the tank and at least once per 24 hours during primary coolant system degassing operations, by analysis of the Reactor Coolant System noble gases.

LIMITING CONDITION FOR OPERATION (Continued)

c) A power distribution map is obtained from the movable incore detectors and $F_Q(Z)$ and $F^N_{\Delta H}$ are verified to be within their limits within 72 hours; and

d) Either the THERMAL POWER level is reduced to less than or equal to 75% of RATED THERMAL POWER within one hour and within the next 4 hours the high neutron flux trip setpoint is reduced to less than or equal to 85% of RATED THERMAL POWER, or

e) The remainder of the rods in the group with the inoperable rod are aligned to within ± 12 steps of the inoperable rod within one hour while maintaining the rod sequence and insertion limits as specified in the COLR; the THERMAL POWER level shall be restricted pursuant to Specification 3.1.3.6 during subsequent operation.

SURVEILLANCE REQUIREMENTS

4.1.3.1.1 The position of each full length rod shall be determined to be within the group demand limit by verifying the individual rod positions at least once per 12 hours except during time intervals when the Rod Position Deviation Monitor is inoperable, then verify the group positions at least once per 4 hours.

4.1.3.1.2 Each full length rod not fully inserted in the core shall be determined to be OPERABLE by movement of at least 8 steps in any one direction at least once per 92 days.

TABLE 4.3-2 (Continued)
ENGINEERED SAFETY FEATURED ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
c. Purge and Exhaust Isolation					
1) Manual	---------- See Functional Unit 9 ----------				
2) Containment Radioactivity-High	S	R	Q	N.A.	1,2,3,4
4. STEAM LINE ISOLATION					
a. Manual	---------- See Functional Unit 9 ----------				
b. Automatic Actuation Logic	N.A.	N.A.	M(2)	N.A.	1,2,3
c. Containment Pressure--High-High	S	R	M(3)	N.A.	1,2,3
d. Steam Flow in Two Steam Lines--High Coincident with T_{avg}--Low-Low	S	R†	M	N.A.	1,2,3
e. Steam Line Pressure--Low	S	R	M	N.A.	1,2,3
5. TURBINE TRIP AND FEEDWATER ISOLATION					
a. Steam Generator Water Level--High-High	S	R	M	N.A.	1,2,3
6. MOTOR DRIVEN AUXILIARY FEEDWATER PUMPS					
a. Steam Generator Water Level--Low-Low	S	R	M	N.A.	1,2,3
b. 4 kV Bus Loss of Voltage	S	R	M	N.A.	1,2,3
c. Safety Injection	N.A.	N.A.	M(2)	N.A.	1,2,3
d. Loss of Main Feed Pumps	N.A.	N.A.	R†	N.A.	1,2

† The provisions of Technical Specification 4.0.8 are applicable.

TABLE 4.3-3

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

OPERATION MODE/INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES FOR WHICH SURVEILLANCE REQUIRED
1. MODES 1, 2, 3, 4				
A) Area Monitors				
i) Upper Containment (VRS 2101/2201)	S*	R	Q	1, 2, 3, 4
ii) Containment - High Range (VRS 2310/2410)	S	R	Q	1, 2, 3, 4
B) Process Monitors				
i) Particulate Channel (ERS 2301/2401)	S*	R	Q	1, 2, 3, 4
C) Noble Gas Effluent Monitors				
i) Unit Vent Effluent Monitors				
a) Low Range (VRS 2505)	--------(see Table 4.3-9, Item 3.a, 4.a, 5.a)--------			
b) Mid Range (VRS 2507)	S	R	N/A	1, 2, 3, 4
c) High Range (VRS 2509)	S*	R	N/A	1, 2, 3, 4
ii) Steam Generator PORV				
a) MRA 2601 (Loop 1)	S*	R	Q	1, 2, 3, 4
b) MRA 2602 (Loop 4)	S*	R	Q	1, 2, 3, 4
c) MRA 2701 (Loop 2)	S*	R	Q	1, 2, 3, 4
d) MRA 2702 (Loop 3)	S*	R	Q	1, 2, 3, 4

TABLE 4.3-3 (Cont'd)
RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

OPERATION MODE/INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES FOR WHICH SURVEILLANCE REQUIRED
iii) Gland Steam Condenser Vent Monitor				
a) Low Range (SRA 2805)	--------(see Table 4.3-9, Item 6.a)--------			
iv) Steam Jet Air Ejector Vent Monitor				
a) Low Range (SRA 2905)	--------(see Table 4.3-9, Item 2.a)--------			
b) Mid Range (SRA 2907)	S	R	Q	1, 2, 3, 4
c) High Range (SRA 2909)	S*	R	N/A	1, 2, 3, 4
2. MODE 6				
A) Train A				6
i) Containment Area Radiation Channel (VRS 2101)	S*	R	Q	
ii) Particulate Channel (ERS 2301)	S*	R	Q	
iii) Noble Gas Channel (ERS 2305)	S*	R	Q	
B) Train B				6
i) Containment Area Radiation Channel (VRS 2201)	S*	R	Q	
ii) Particulate Channel (ERS 2401)	S*	R	Q	

TABLE 4.3-3 (Cont'd)
RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

OPERATION MODE/INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES FOR WHICH SURVEILLANCE REQUIRED
iii) Noble Gas Channel (ERS 2405)	S*	R	Q	6
3. MODE**				
A) Spent Fuel Storage (RRC-330)	S	R	Q	**

*To include source check per T/S Section 1.27.
**With fuel in storage pool or building.

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.1 Two independent containment spray systems shall be OPERABLE with each spray system capable of taking suction from the RWST and transferring suction to the containment sump.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one containment spray system inoperable, restore the inoperable spray system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours; restore the inoperable spray system to OPERABLE status within the next 48 hours or be in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each containment spray system shall be demonstrated OPERABLE:

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

b. By verifying, that on recirculation flow, each pump develops a discharge pressure of greater than or equal to 255 psig at a flow of greater than or equal to 700 gpm, when tested pursuant to Specification 4.0.5.

c. At least once per 18 months during shutdown, by: †

1. Verifying that each automatic valve in the flow path actuates to its correct position on a Containment Pressure--High-High test signal.

2. Verifying that each spray pump starts automatically on a Containment Pressure--High-High test signal.

d. At least once per 10 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

† The provisions of Technical Specification 4.0.8 are applicable.

ELECTRIC HYDROGEN RECOMBINERS - W

LIMITING CONDITION FOR OPERATION

3.6.4.2 Two independent containment 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 18 months by verifying during a recombiner system functional test that the minimum heater sheath temperature increases to ≥700 °F within 90 minutes and is maintained for at least 2 hours.

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 (i.e., loose wiring or structural connections, deposits of foreign materials, etc.).

3. Verifying during a recombiner system functional test that the heater sheath temperature increases to ≥ 1200°F within 5 hours and is maintained for at least 4 hours.

4. Verifying the integrity of all heater electrical circuits by performing a continuity and resistance to ground test following the above required functional test. The resistance to ground for any heater phase shall be ≥ 10,000 ohms.

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

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

1. A separate day fuel tank containing a minimum of 70 gallons of fuel,

2. A separate fuel storage system* containing a minimum indicated volume of 46,000 gallons of fuel, and

3. A separate fuel transfer pump.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With an offsite circuit of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. offsite source by performing Surveillance Requirement 4.8.1.1.1.a 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 a diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the A.C. offsite sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter; and if the diesel generator became inoperable due to any cause other than an inoperable support system, an independently testable component, or preplanned preventive maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE diesel generator by performing Surveillance Requirement 4.8.1.1.2.a.4 within 8 hours, unless the absence of any potential common mode failure for the remaining diesel generator is demonstrated; restore 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. At the number of failures for the inoperable diesel indicated in Table 4.8-1 perform the Additional Reliability Actions prescribed in Table 4.8-1.

*Tanks are separate between diesels but shared between Units 1 and 2.

ACTION (Continued)

c. 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. offsite source by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter and if the diesel generator became inoperable due to any cause other than an inoperable support system, an independently testable component, or preplanned preventive maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE diesel generator by performing Surveillance Requirement 4.8.1.1.2.a.4 within 8 hours, unless the absence of any potential common mode failure for the remaining diesel generator is demonstrated; 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. With the diesel generator restore to OPERABLE status, follow ACTION Statement a.* With the offsite circuit restored to OPERABLE status, follow ACTION Statement b.*

d. With two of the above required offsite A.C. circuits inoperable, restore at least one of the inoperable offsite sources to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours. With only one offsite source restored, follow ACTION Statement a.*

e. With two of the above required diesel generators inoperable, demonstrate the OPERABILITY of two offsite A.C. circuits by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter; restore at least one of the inoperable diesel generators 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. With one diesel generator unit restored, follow ACTION Statement b* or c.*

*The ACTION statement time shall be based upon the time associated with the component inoperability, and is not reset when exiting this ACTION statement.

SURVEILLANCE REQUIREMENTS

4.8.1.1.1 Each of the above required independent circuits between the offsite transmission network and the onsite Class 1E distribution system shall be:

a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignments and indicated power availability, and

b. Demonstrated OPERABLE at least once per 18 months by transferring the unit power source automatically from the normal auxiliary source to the preferred reserve source and by transferring manually to the alternate reserve source.

SURVEILLANCE REQUIREMENTS (Continued)

c) Verifying that all automatic diesel generator trips, except engine overspeed and generator differential, are automatically bypassed upon loss of voltage on the emergency bus and/or Safety Injection actuation signal.

7. Verifying that the diesel generator operates for at least 24 hours. During this test the diesel generator shall be loaded to 3500 kw. Within 5 minutes after completing this 24-hour test, perform Surveillance Requirement 4.8.1.1.2.a.4 (at existing conditions).*

8. Determine that the auto-connected loads to each diesel generator do not exceed 3500 kw.

9. Verifying the diesel generator's capability to:

a) Synchronize with the offsite power source while the generator is loaded with its emergency loads upon a simulated restoration of offsite power.

b) Transfer its loads to the offsite power source, and

c) Be restored to its standby status.

10. Verifying that with the diesel generator operating in a test mode while connected to its test load, a simulated Safety Injection signal overrides the test mode by:

a) Returning the diesel generator to standby operation, and

b) Verifying the emergency loads are serviced by offsite power.

11. Verifying that the automatic sequence timing relays are OPERABLE with each load sequence time within plus or minus 5% of its required value and that each load is sequenced on within the design allowable time limit.

f. At least once per 10 years by:

1) Employing one of the following cleaning methods to clean the fuel oil storage tanks:

a) Drain each fuel oil storage tank, remove the accumulated sediment, and clean the tank, or

* If Surveillance Requirement 4.8.1.1.2.a.4 is not satisfactorily completed, it is not necessary to repeat the preceding 24-hour test. Instead, the diesel generator may be operated at 3500 kw for 2 hours or until operating temperature has stabilized.

3/4.10 SPECIAL TEST EXCEPTIONS

SHUTDOWN MARGIN

LIMITING CONDITION FOR OPERATION

3.10.1 The SHUTDOWN MARGIN requirement of Specification 3.1.1.1 may be suspended for measurement of control rod worth and shutdown margin provided the reactivity equivalent to at least the highest estimated control rod worth is available for trip insertion for OPERABLE control rod(s).

APPLICABILITY: MODE 2.

ACTION:

a. With any full length control rod not fully inserted and with less than the above reactivity equivalent available for trip insertion, immediately initiate and continue boration at ≥ 10 gpm of 20,000 ppm boric acid solution or its equivalent until the SHUTDOWN MARGIN required by Specification 3.1.1.1 is restored.

b. With all full length control rods inserted and the reactor subcritical by less than the above reactivity equivalent, immediately initiate and continue boration at ≥ 10 gpm of 20,000 ppm boric acid solution or its equivalent until the SHUTDOWN MARGIN required by Specification 3.1.1.1 is restored.

SURVEILLANCE REQUIREMENTS

4.10.1.1 The position of each full length rod either partially or fully withdrawn shall be determined at least once per 2 hours.

4.10.1.2 Each full length rod not fully inserted shall be demonstrated capable of full insertion when tripped from at least the 50% withdrawn position within 7 days prior to reducing the SHUTDOWN MARGIN to less than the limits of Specification 3.1.1.1.

RADIOACTIVE EFFLUENTS

GAS STORAGE TANKS

LIMITING CONDITION FOR OPERATION

3.11.2.6 The quantity of radioactivity contained in each gas storage tank shall be limited to 43,800 curies noble gas (considered as Xe-133).

APPLICABILITY: At all times.

ACTION:

a. With the quantity of radioactive material in any gas storage tank exceeding the above limit, without delay suspend all additions of radioactive material to the tank and within 48 hours reduce the tank contents to within the limit.

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

SURVEILLANCE REQUIREMENTS

4.11.2.6 The quantity of radioactive material contained in each gas storage tank shall be determined to be within the above limit at least once per 7 days whenever radioactive materials are added to the tank and at least once per 24 hours during primary coolant system degassing operations, by analysis of the Reactor Coolant System noble gases.

ATTACHMENT 4 TO AEP:NRC:1196

DONALD C. COOK NUCLEAR PLANT
COST BENEFICIAL LICENSING ACTION
GENERIC LETTER 93-05
TECHNICAL SPECIFICATION CHANGES

Regulatory Requirement:

Generic Letter 93-05 was the result of an NRC study, published as NUREG 1366, that provided line-item improvements to the technical specifications (T/S) to reduce the frequency of at-power testing.

Effect of Requirement:

The effect of the suggested T/S changes is to reduce the frequency of certain surveillance tests. The surveillances affected by this change include both at-power and outage surveillance tests.

Rationale for Regulatory Change:

The rationale for the line item improvements was provided by the NRC, in Generic Letter 93-05 and NUREG 1366.

Approximate Cost of Requirement:

There are a total of seven line item T/S changes that will be requested. The cost savings associated with each of these is provided below. The cost savings per surveillance was calculated using an estimate provided by Westinghouse Electric Corp. of an average of $1,000 to perform a surveillance.

1. Control Rod Movement: Frequency of surveillance changed from monthly to quarterly. Savings of $368,000

2. Radiation Monitors: Frequency of channel functional tests changed from monthly to quarterly. Savings of $368,000

3. Containment Spray System: Frequency of nozzle obstruction test changed from once per 5 years to once per 10 years. Savings of $9,200.

4. Hydrogen Recombiners: Frequency of functional test changed from once per six months to once per 18 months. Savings of $61,000.

5. Emergency Diesel Generator Surveillances: Currently, every 18 months we must do a 24 hour run followed (within 5 minutes) by a load shed and restart test. If the 24 hour run is aborted, or if the load shed test is not successfully performed within 5 minutes, the entire 24 hour run must be repeated. The NRC has relaxed this requirement, and now the diesel must only be

run for an additional 2 hours if the initial 24 hour run and/or load shed is unsuccessful. This could have the potential to reduce outage critical path time. Cost savings were estimated assuming 36 hours of critical path are saved every 3 years, and using a value of $250,000 per day for critical path time. Savings of $2,900,000.

6. Shutdown Margin Special Test Exception: The requirement to perform a rod drop test prior to suspending shutdown margin requirements for rod worth testing is changed from 24 hours of suspension to within seven days of suspension. This will typically save one test per year. Savings of $23,000.

7. Waste Gas Storage Tanks: Measurement of curie content of the waste gas storage tanks is changed from once per four days to once per seven days. This will save 39 tests per year. Savings of $897,000.

Total plant lifetime savings for Generic Letter 93-05 are approximately $4,600,000.