LICENSE AMENDMENT REQUESTS DATED August 30, 1994

Line-Item Technical Specification Improvements to Reduce
Surveillance Requirements for Testing During Power Operation

EXHIBIT B

Appendix A, Technical Specification Pages
Marked Up Pages

Table TS.4.1-1C(Page 2 of 4)
Table TS.4.1-2A
TS.4.3-1
TS.4.4-5
TS.4.5-1
TS.4.8-1
B.4.8-1

TABLE TS.4.1-1C (Page 2 of 4)

MISCELLANEOUS INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT UIRED	CHECK	CALIBRATE	FUNCTIONAL TEST	RESPONSE TEST	MODES FOR WHICH SURVEILLANCE IS REQ
13. Containment Sump A, B and C Level	N.A.	R	R	N.A.	1, 2, 3, 4
14. ~~Deleted~~~~Accumulator Level and Pressure~~	~~S~~	~~R~~	~~R~~	~~N.A.~~	~~1, 2, 3, 4~~
15. Turbine First Stage Pressure	S	R	Q	N.A.	1
16. Emergency Plan Radiation Instruments (35)	M	R	M	N.A.	1, 2, 3, 4, 5, 6
17. Seismic Monitors	R	R	N.A.	N.A.	1, 2, 3, 4, 5, 6
18. Coolant Flow - RTD Bypass Flowmeter	S	R	M	N.A.	1, 2, 3(34)
19. CRDM Cooling Shroud Exhaust Air Temperature	S	N.A.	R	N.A.	1, 2, 3(31), 4(31), 5(31)
20. Reactor Gap Exhaust Air Temperature	S	N.A.	R	N.A.	1, 2, 3, 4
21. Post-Accident Monitoring Instruments (Table TS.3.15-1)(36)	M	R	N.A.	N.A.	1, 2
22. Post-Accident Monitoring Radiation Instruments (Table TS.3.15-2)	D	R	M	N.A.	1, 2

TABLE TS.4.1-1C (Page 2 of 4)

MINIMUM FREQUENCIES FOR EQUIPMENT TESTS

	Test	Frequency	FSAR Sect. Reference
1. Control Rod Assemblies	Rod Drop Times of full length rods	All rods during each refueling shutdown or following each removal of the reactor vessel head; affected rods following maintenance on or modification to the control rod drive system which could affect performance of those specified rods	7
2. Control Rod Assemblies	Partial movement of all rods	Every Quarter ~~2 weeks~~	7
3. Pressurizer Safety Valves	Set point	Per ASME Code, Section XI Inservice Testing Program	-
4. Main Steam Safety Valves	Set point	Per ASME Code, Section XI Inservice Testing Program	-
5. Reactor Cavity	Water Level	Prior to moving fuel assemblies or control rods and at least once every day while the cavity is flooded.	
6. Pressurizer PORV Block Valves	Functional	Quarterly, unless the block valve has been closed per Specification 3.1.A.2.c.(1).(b).2 or 3.1.A.2.c.(1).(b).3.	-
7. Pressurizer PORVs	Functional	Every 18 months	-
8. Deleted			
9. Primary System Leakage	Evaluate	Daily	4
10. Deleted			
11. Turbine stop valves, governor valves, and intercept valves. (Part of turbine overspeed protection)	Functional	See (1)	10

(1) Turbine stop valves, governor valves and intercept valves are to be tested at a frequency consistent with the methodology presented in WCAP-11525 "Probabilistic Evaluation of Reduction in Turbine Valve test Frequency", and in accordance with the established NRC acceptance criteria for the probability of a turbine missile ejection incident of 1.0×10^{-5} per year. In no case shall the turbine valve test interval exceed one year.

4.3 PRIMARY COOLANT SYSTEM PRESSURE ISOLATION VALVES

Applicability

Applies to the surveillance performed on the primary coolant system pressure isolation valves to verify operability.

Objective

To increase the reliability of primary coolant system pressure isolation valves thereby reducing the potential of an intersystem loss of coolant accident.

Specification

Periodic leakage testing of each of the following valves shall be individually accomplished prior to resuming power operation after each time the plant is placed in the cold shutdown condition for refueling, each time the plant is placed in a cold shutdown condition for 7 days ~~72 hours~~ or more if testing has not been accomplished in the preceding 9 months, and prior to returning the valve to service after maintenance, repair, or replacement work is performed:

System	Valve Number Unit No. 1	Valve Number Unit No. 2	Maximum Allowable Leakage (*)(**)
Low-Pressure SI to Upper Plenum	SI-9-6	2SI-9-6	≤ 5 gpm
	SI-9-4	2SI-9-4	≤ 5 gpm
	SI-9-5	2SI-9-5	≤ 5 gpm
	SI-9-3	2SI-9-3	≤ 5 gpm
RHR to Loop B Accumulator Inj Line	SI-6-2	2SI-6-2	≤ 5 gpm

To satisfy ALARA requirements, leakage may be measured indirectly (as from the performance of pressure indicators) if accomplished in accordance with approved procedures and supported by computations showing that the method is capable of demonstrating valve compliance with the leakage criteria.

NOTES:

* 1. Leakage rates less than or equal to one gpm are acceptable.

2. Leakage rates greater than one, but less than or equal to five gpm are considered acceptable if the latest measured rate has not exceeded the previous measured rate by an amount which reduces the margin to five gpm by 50% or more. Otherwise the leakage rate is considered unacceptable.

3. Leakage rates greater than five gpm are considered unacceptable.

** Minimum differential test pressure shall not be less than 150 psid.

E. Containment Isolation Valves

During each refueling shutdown, the containment isolation valves, shield building ventilation valves, and the auxiliary building normal ventila- tion system isolation valves shall be tested for operability by applying a simulated accident signal to them.

F. Post Accident Containment Ventilation System

During each refueling shutdown, the operability of system recirculating fans and valves, including actuation and indication, shall be demonstrated.

G. Containment and Shield Building Air Temperature

Prior to establishing reactor conditions requiring containment integrity, the average air temperature difference between the containment and its associated Shield Building shall be verified to be within acceptable limits.

H. Containment Shell Temperature

Prior to establishing reactor conditions requiring containment integrity, the temperature of the containment vessel wall shall be verified to be within acceptable limits.

I. Electric Hydrogen Recombiners

Each hydrogen recombiner train shall be demonstrated Operable at least once each refueling interval by:

a. ~~At least once per 6 months by v~~Verifying during a recombiner system functional test that the minimum heater sheath temperature increases to greater than or equal to 700°F within 90 minutes. Upon reaching 700°F, increase the power setting to maximum power for 2 minutes and verify that the power meter reads greater than or equal to 60kw.

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

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

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

c. ~~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.

4.5 ENGINEERED SAFETY FEATURES

Applicability

Applies to testing of the Emergency Core Cooling System and the Containment Cooling Systems.

Objective

To verify that the subject systems will respond promptly and perform their design functions, if required

Specification

A. System Tests

1. Safety Injection System

a. System tests shall be performed during each reactor refueling shutdown. With the Reactor Coolant System pressure less than or equal to 350 psig and temperature less than or equal to 350°F, a test safety injection signal will be applied to initiate operation of the system. The safety injection and residual heat removal pumps need not be operable for this test.

b. The test will be considered satisfactory if control board indications and visual observations indicate that all components have received the safety injection signal in the proper sequence and timing, the appropriate pump breakers have opened and closed, and all automatic valves have been placed in the proper position required to establish a safety injection flow path to the reactor coolant system.

2. Containment Spray System

a. System tests shall be performed during each reactor refueling shutdown. The tests shall be performed with the isolation valves in the spray supply lines at the containment and the spray additive tank isolation valves blocked closed. Operation of the system is initiated by tripping the normal actuation instrumentation.

b. The spray nozzles shall be checked for proper functioning at least every ten ~~five~~ years.

c. The test will be considered satisfactory if visual observations indicate all components have operated satisfactorily.

4.8 STEAM AND POWER CONVERSION SYSTEMS

Applicability

Applies to periodic testing requirements of the Auxiliary Feedwater, Steam Generator Power Operated Relief Valves, and Steam Exclusion Systems.

Objective

To verify the OPERABILITY of the steam and power conversion systems required for emergency shutdown cooling of the plant.

Specification

A. Auxiliary Feedwater System

1. Each ~~motor-driven~~ auxiliary feedwater pump* shall be started semi-quarterly on a STAGGERED TEST BASIS ~~at intervals of one month~~ and full flow to the steam generators shall be demonstrated once every refueling shutdown.

2. Deleted. ~~The steam turbine-driven auxiliary feedwater pump shall be started at intervals of one month* and full flow to the steam generators shall be demonstrated once every refueling shutdown.~~

3. The auxiliary feedwater pumps discharge valves shall be tested by operator action in accordance with Section 4.2.

4. Motor-operated valves required to function during accident conditions shall be tested in accordance with Section 4.2.

5. These tests shall be considered satisfactory if control board indication and subsequent visual observation of the equipment demonstrate that all components have operated properly.

6. During POWER OPERATION, for the manual valves outside containment, that could reduce auxiliary feedwater flow, if improperly positioned, to less than assumed in the accident analysis, monthly inspections are required to verify the valves are locked in the proper position required for emergency use.

7. After each COLD SHUTDOWN and prior to exceeding 10% power, a test is required to verify the normal flow path from the primary auxiliary feedwater source to the steam generators. This test may consist of maintaining steam generator level during startup with the auxiliary feed pumps.

8. At least once every 18 months during shutdown verify that each pump starts as designed automatically and each automatic valve in the flow path actuates to its correct position upon receipt of each auxiliary feedwater actuation test signal.

*If the test for a steam turbine-driven pump comes due during a [illegible] shutdown the test shall be performed within 24 hours of entering POWER OPERATION.

4.8 STEAM AND POWER CONVERSION SYSTEMS

Bases

The Surveillance Frequency for the auxiliary feedwater pumps specifies that the pumps shall be started semi-quarterly on a STAGGERED TEST BASIS. Per the definition of STAGGERED TEST BASIS, the Surveillance Frequency interval is semi-quarterly and the number of trains (channels) is 2 (n=2). Therefore, STAGGERED TEST BASIS requires one pump shall be tested each semi-quarter such that after two Surveillance Frequency intervals, i.e., one quarter, both trains will have been tested.

Quarterly ~~Monthly~~ testing of each ~~the~~ auxiliary feedwater pump~~s~~, valve inspections in accordance with Section 4.2, and startup flow verification provide assurance that the Auxiliary Feedwater System will meet emergency demand requirements. The full flow test is done once a cycle associated with the refueling shutdown to minimize the thermal shock to the auxiliary feedwater piping. The discharge valves of the pumps are normallyopen, as are the suction valves from the condensate storage tanks. Proper opening of the steam admission valve on each turbine-driven pump will be demonstrated each time a turbine-driven pump is tested. Ventilation system isolation dampers required to function for the postulated rupture of a high energy line will also be tested.

At 18-month intervals, pump starting and valve positioning is verified using test signals to simulate each of the automatic actuation parameters.

Reference

USAR, Sections 11.9, 14, and Appendix I.

LICENSE AMENDMENT REQUESTS DATED August 30, 1994

Line-Item Technical Specification Improvements to Reduce
Surveillance Requirements for Testing During Power Operation

EXHIBIT C

Appendix A, Technical Specification Pages
Marked Up Pages

Table TS.4.1-1C(Page 2 of 4)
Table TS.4.1-2A
TS.4.3-1
TS.4.4-5
TS.4.5-1
TS.4.8-1
B.4.8-1

TABLE TS.4.1-1C (Page 2 of 4)

MISCELLANEOUS INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHECK	CALIBRATE	FUNCTIONAL TEST	RESPONSE TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
13. Containment Sump A, B and C Level	N.A.	R	R	N.A.	1, 2, 3, 4
14. Deleted					
15. Turbine First Stage Pressure	S	R	Q	N.A.	1
16. Emergency Plan Radiation Instruments (35)	M	R	M	N.A.	1, 2, 3, 4, 5. 6
17. Seismic Monitors	R	R	N.A.	N.A.	1, 2, 3, 4, 5, 6
18. Coolant Flow - RTD Bypass Flowmeter	S	R	M	N.A.	1, 2, 3(34)
19. CRDM Cooling Shroud Exhaust Air Temperature	S	N.A.	R	N.A.	1, 2, 3(31), 4(31), 5(31)
20. Reactor Gap Exhaust Air Temperature	S	N.A.	R	N.A.	1, 2, 3, 4
21. Post-Accident Monitoring Instruments (Table TS.3.15-1)(36)	M	R	N.A.	N.A.	1, 2
22. Post-Accident Monitoring Radiation Instruments (Table TS.3.15-2)	D	R	M	N.A.	1, 2

TABLE TS.4.1-1C
(Page 2 of 4)

MINIMUM FREQUENCIES FOR EQUIPMENT TESTS

	Test	Frequency	FSAR Sect. Reference
1. Control Rod Assemblies	Rod Drop Times of full length rods	All rods during each refueling shutdown or following each removal of the reactor vessel head; affected rods following maintenance on or modification to the control rod drive system which could affect performance of those specified rods	7
2. Control Rod Assemblies	Partial movement of all rods	Every Quarter	7
3. Pressurizer Safety Valves	Set point	Per ASME Code, Section XI Inservice Testing Program	-
4. Main Steam Safety Valves	Set point	Per ASME Code, Section XI Inservice Testing Program	-
5. Reactor Cavity	Water Level	Prior to moving fuel assemblies or control rods and at least once every day while the cavity is flooded.	
6. Pressurizer PORV Block Valves	Functional	Quarterly, unless the block valve has been closed per Specification 3.1.A.2.c.(1).(b).2 or 3.1.A.2.c.(1).(b).3.	-
7. Pressurizer PORVs	Functional	Every 18 months	-
8. Deleted			
9. Primary System Leakage	Evaluate	Daily	4
10. Deleted			
11. Turbine stop valves, governor valves, and intercept valves. (Part of turbine overspeed protection)	Functional	See (1)	10

(1) Turbine stop valves, governor valves and intercept valves are to be tested at a frequency consistent with the methodology presented in WCAP-11525 "Probabilistic Evaluation of Reduction in Turbine Valve test Frequency", and in accordance with the established NRC acceptance criteria for the probability of a turbine missile ejection incident of 1.0×10^{-5} per year. In no case shall the turbine valve test interval exceed one year.

4.3 PRIMARY COOLANT SYSTEM PRESSURE ISOLATION VALVES

Applicability

Applies to the surveillance performed on the primary coolant system pressure isolation valves to verify operability.

Objective

To increase the reliability of primary coolant system pressure isolation valves thereby reducing the potential of an intersystem loss of coolant accident.

Specification

Periodic leakage testing of each of the following valves shall be individually accomplished prior to resuming power operation after each time the plant is placed in the cold shutdown condition for refueling, each time the plant is placed in a cold shutdown condition for 7 days or more if testing has not been accomplished in the preceding 9 months, and prior to returning the valve to service after maintenance, repair, or replacement work is performed:

System	Valve Number Unit No. 1	Unit No. 2	Maximum Allowable Leakage (*)(**)
Low-Pressure SI to Upper Plenum	SI-9-6	2SI-9-6	≤ 5 gpm
	SI-9-4	2SI-9-4	≤ 5 gpm
	SI-9-5	2SI-9-5	≤ 5 gpm
	SI-9-3	2SI-9-3	≤ 5 gpm
RHR to Loop B Accumulator Inj Line	SI-6-2	2SI-6-2	≤ 5 gpm

To satisfy ALARA requirements, leakage may be measured indirectly (as from the performance of pressure indicators) if accomplished in accordance with approved procedures and supported by computations showing that the method is capable of demonstrating valve compliance with the leakage criteria.

NOTES:

* 1. Leakage rates less than or equal to one gpm are acceptable.

2. Leakage rates greater than one, but less than or equal to five gpm are considered acceptable if the latest measured rate has not exceeded the previous measured rate by an amount which reduces the margin to five gpm by 50% or more. Otherwise the leakage rate is considered unacceptable.

3. Leakage rates greater than five gpm are considered unacceptable.

** Minimum differential test pressure shall not be less than 150 psid.

E. Containment Isolation Valves

During each refueling shutdown, the containment isolation valves, shield building ventilation valves, and the auxiliary building normal ventilation system isolation valves shall be tested for operability by applying a simulated accident signal to them.

F. Post Accident Containment Ventilation System

During each refueling shutdown, the operability of system recirculating fans and valves, including actuation and indication, shall be demonstrated.

G. Containment and Shield Building Air Temperature

Prior to establishing reactor conditions requiring containment integrity, the average air temperature difference between the containment and its associated Shield Building shall be verified to be within acceptable limits.

H. Containment Shell Temperature

Prior to establishing reactor conditions requiring containment integrity, the temperature of the containment vessel wall shall be verified to be within acceptable limits.

I. Electric Hydrogen Recombiners

Each hydrogen recombiner train shall be demonstrated Operable at least once each refueling interval by:

a. Verifying during a recombiner system functional test that the minimum heater sheath temperature increases to greater than or equal to 700°F within 90 minutes. Upon reaching 700°F, increase the power setting to maximum power for 2 minutes and verify that the power meter reads greater than or equal to 60kw.

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

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

4.5 ENGINEERED SAFETY FEATURES

Applicability

Applies to testing of the Emergency Core Cooling System and the Containment Cooling Systems.

Objective

To verify that the subject systems will respond promptly and perform their design functions, if required

Specification

A. System Tests

1. Safety Injection System

a. System tests shall be performed during each reactor refueling shutdown. With the Reactor Coolant System pressure less than or equal to 350 psig and temperature less than or equal to 350°F, a test safety injection signal will be applied to initiate operation of the system. The safety injection and residual heat removal pumps need not be operable for this test.

b. The test will be considered satisfactory if control board indications and visual observations indicate that all components have received the safety injection signal in the proper sequence and timing, the appropriate pump breakers have opened and closed, and all automatic valves have been placed in the proper position required to establish a safety injection flow path to the reactor coolant system.

2. Containment Spray System

a. System tests shall be performed during each reactor refueling shutdown. The tests shall be performed with the isolation valves in the spray supply lines at the containment and the spray additive tank isolation valves blocked closed. Operation of the system is initiated by tripping the normal actuation instrumentation.

b. The spray nozzles shall be checked for proper functioning at least every ten years.

c. The test will be considered satisfactory if visual observations indicate all components have operated satisfactorily.

4.8 STEAM AND POWER CONVERSION SYSTEMS

Applicability

Applies to periodic testing requirements of the Auxiliary Feedwater, Steam Generator Power Operated Relief Valves, and Steam Exclusion Systems.

Objective

To verify the OPERABILITY of the steam and power conversion systems required for emergency shutdown cooling of the plant.

Specification

A. Auxiliary Feedwater System

1. Each auxiliary feedwater pump* shall be started semi-quarterly on a STAGGERED TEST BASIS and full flow to the steam generators shall be demonstrated once every refueling shutdown.

2. Deleted.

3. The auxiliary feedwater pumps discharge valves shall be tested by operator action in accordance with Section 4.2.

4. Motor-operated valves required to function during accident conditions shall be tested in accordance with Section 4.2.

5. These tests shall be considered satisfactory if control board indication and subsequent visual observation of the equipment demonstrate that all components have operated properly.

6. During POWER OPERATION, for the manual valves outside containment, that could reduce auxiliary feedwater flow, if improperly positioned, to less than assumed in the accident analysis, monthly inspections are required to verify the valves are locked in the proper position required for emergency use.

7. After each COLD SHUTDOWN and prior to exceeding 10% power, a test is required to verify the normal flow path from the primary auxiliary feedwater source to the steam generators. This test may consist of maintaining steam generator level during startup with the auxiliary feed pumps.

8. At least once every 18 months during shutdown verify that each pump starts as designed automatically and each automatic valve in the flow path actuates to its correct position upon receipt of each auxiliary feedwater actuation test signal.

*If the test for a steam turbine-driven pump comes due during a reactor shutdown the test shall be performed within 24 hours of entering POWER OPERATION.

4.8 STEAM AND POWER CONVERSION SYSTEMS

Bases

The Surveillance Frequency for the auxiliary feedwater pumps specifies that the pumps shall be started semi-quarterly on a STAGGERED TEST BASIS. Per the definition of STAGGERED TEST BASIS, the Surveillance Frequency interval is semi-quarterly and the number of trains (channels) is 2 (n=2). Therefore, STAGGERED TEST BASIS requires one pump shall be tested each semi-quarter such that after two Surveillance Frequency intervals, i.e., one quarter, both trains will have been tested.

Quarterly testing of each auxiliary feedwater pump, valve inspections in accordance with Section 4.2, and startup flow verification provide assurance that the Auxiliary Feedwater System will meet emergency demand requirements. The full flow test is done once a cycle associated with the refueling shutdown to minimize the thermal shock to the auxiliary feedwater piping. The discharge valves of the pumps are normallyopen, as are the suction valves from the condensate storage tanks. Proper opening of the steam admission valve on each turbine-driven pump will be demonstrated each time a turbine-driven pump is tested. Ventilation system isolation dampers required to function for the postulated rupture of a high energy line will also be tested.

At 18-month intervals, pump starting and valve positioning is verified using test signals to simulate each of the automatic actuation parameters.

Reference

USAR, Sections 11.9, 14, and Appendix I.