Attachment 2 to AEP:NRC:1178
Existing Technical Specifications
Pages Marked to Reflect Proposed Changes

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DEFINITIONS

REPORTABLE EVENT

1.7 A REPORTABLE EVENT shall be any of those conditions specified in 10 CFR 50.73.

CONTAINMENT INTEGRITY

1.8 CONTAINMENT INTEGRITY shall exist when:

1.8.1 All penetrations required to be closed during accident conditions are either:

a. Capable of being closed by an OPERABLE containment automatic isolation valve system, or

b. Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions, except ~~as provided in Table 3.6-1 of Specification 3.6.3.1~~ for valves that are open under administrative control as permitted by Specification 3.6.3.1.

1.8.2 All equipment hatches are closed and sealed.

1.8.3 Each air lock is in compliance with the requirements of Specification 3.6.1.3, and

1.8.4 The containment leakage rates are within the limits of Specification 3.6.1.2.

CHANNEL CALIBRATION

1.9 A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds with the necessary range and accuracy to known values of the parameter which the channel monitors. The CHANNEL CALIBRATION shall encompass the entire channel including the sensor and alarm and/or trip functions, and shall include the CHANNEL FUNCTIONAL TEST. The CHANNEL CALIBRATION may be performed by any series of sequential, overlapping or total channel steps such that the entire channel is calibrated.

CHANNEL CHECK

1.10 A CHANNEL CHECK shall be the qualitative assessment of channel behavior during operation by observation. This determination shall include, where possible, comparison of the channel indication and/or status with other indications and/or status derived from independent instrument channels measuring the same parameter.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENT

CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

a. At least once per 31 days by verifying that:

1. All penetrations* not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their positions, except ~~as provided in Table 3.6-1 of Specification 3.6.3.1,~~ and for valves that are open under administrative control as permitted by Specification 3.6.3.1

2. All equipment hatches are closed and sealed,

b. By verifying that each containment air lock is in compliance with the requirements of Specification 3.6.1.3.

*Except valves, blind flanges, and deactivated automatic valves which are located inside the containment and are locked, sealed or otherwise secured in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except that such verification need not be performed more often than once per 92 days.

3/4.6.3 CONTAINMENT ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.3.1 ~~The~~ Each containment isolation valves ~~specified in Table 3.6-1~~ shall be OPERABLE ~~with isolation times as shown in Table 3.6-1.~~* The ACTION statement of T/S 3/4.6.3.1 is not applicable to the containment purge supply and exhaust isolation valves, ~~VCR-101 through 106 and VCR-201 through 206, listed in Table 3.6-1.~~ The Limiting Condition for Operation and its associated ACTION statement for these valves is given in Technical Specification 3/4.6.1.7.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one or more of the containment isolation valve(s) ~~specified in Table 3.6-1~~ inoperable, either:

a. Restore the inoperable valve(s) to OPERABLE status within 4 hours, or

b. Isolate each affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the isolation position, or

c. Isolate each affected penetration within 4 hours by use of at least one closed manual valve or blind flange, or

d. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

Each containment

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

*Containment purge valves and locked or sealed closed valves may be opened on an intermittent basis under administrative control.

SURVEILLANCE REQUIREMENTS (Continued)

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

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

b. Verifying that on a Phase B containment isolation test signal, each Phase B isolation valve actuates to its isolation position.

c. Verifying that on a Containment Purge and Exhaust isolation signal, each Purge and Exhaust valve actuates to its isolation position.

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

TABLE 3.6-1

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	ISOLATION TIME IN SECONDS
A. PHASE "A" ISOLATION		
1. CCR-455	CCW to Reactor Supports	10
2. CCR-456	CCW from Reactor Supports	10
3. CCR-457	CCW from Reactor Supports	10
4. CCR-460	CCW from Excess Ltdn. Hx.	10
5. CCR-462	CCW to Excess Ltdn. Hx.	10
6. DCR-201	R.C. Drain Tank to Vent. Hdr.	10
7. DCR-202	R.C. Drain Tank to Gas Analyzer	10
8. DCR-203	R.C. Drain Tank to Vent. Hdr.	10
9. DCR-204	R.C. Drain Tank to Gas Analyzer	10
10. DCR-205	R.C. Drain Pump Suction Isolation	10
11. DCR-206	R.C. Drain Pump Suction Isolation	10
12. DCR-207	H_2 Supply to R.C. Drain Tank	10
13. DCR-301	Steam Generator Blowdown Sample #1	10
14. DCR-302	Steam Generator Blowdown Sample #2	10
15. DCR-303	Steam Generator Blowdown Sample #3	10
16. DCR-304	Steam Generator Blowdown Sample #4	10
17. DCR-310	Steam Generator Blowdown Lines #1	10
18. DCR-320	Steam Generator Blowdown Lines #2	10
19. DCR-330	Steam Generator Blowdown Lines #3	10
20. DCR-340	Steam Generator Blowdown Lines #4	10
21. DCR-600	Containment Sump to Waste Holdup	10
22. DCR-601	Containment Sump to Waste Holdup	10
23. DCR-610	Ice Condenser Drain to Drain Hdr.	10
24. DCR-611	Ice Condenser Drain to Drain Hdr.	10
25. DCR-620	Continuous Ventilation Drain to Holdup	10
26. DCR-621	Continuous Ventilation Drain to Holdup	10

Pages 3/4 6-17 through 3/4 6-20 deleted.

TABLE 3.6-1

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	ISOLATION TIME IN SECONDS
A. PHASE "A" ISOLATION		
1. CCR-455	CCW to Reactor Supports	10
2. CCR-456	CCW from Reactor Supports	10
3. CCR-457	CCW from Reactor Supports	10
4. CCR-460	CCW from Excess Ltdn. Hx.	10
5. CCR-462	CCW to Excess Ltdn. Hx.	10
6. DCR-201	R.C. Drain Tank to Vent. Hdr.	10
7. DCR-202	R.C. Drain Tank to Gas Analyzer	10
8. DCR-203	R.C. Drain Tank to Vent. Hdr.	10
9. DCR-204	R.C. Drain Tank to Gas Analyzer	10
10. DCR-205	R.C. Drain Pump Suction Isolation	10
11. DCR-206	R.C. Drain Pump Suction Isolation	10
12. DCR-207	H_2 Supply to R.C. Drain Tank	10
13. DCR-301	Steam Generator Blowdown Sample #1	10
14. DCR-302	Steam Generator Blowdown Sample #2	10
15. DCR-303	Steam Generator Blowdown Sample #3	10
16. DCR-304	Steam Generator Blowdown Sample #4	10
17. DCR-310	Steam Generator Blowdown Lines #1	10
18. DCR-320	Steam Generator Blowdown Lines #2	10
19. DCR-330	Steam Generator Blowdown Lines #3	10
20. DCR-340	Steam Generator Blowdown Lines #4	10
21. DCR-600	Containment Sump to Waste Holdup	10
22. DCR-601	Containment Sump to Waste Holdup	10
23. DCR-610	Ice Condenser Drain to Drain Hdr.	10
24. DCR-611	Ice Condenser Drain to Drain Hdr.	10
25. DCR-620	Continuous Ventilation Drain to Holdup	10
26. DCR-621	Continuous Ventilation Drain to Holdup	10

Delete

TABLE 3.6-1 (Continued)

VALVE NUMBER	FUNCTION	ISOLATION TIME IN SECONDS
A. PHASE "A" ISOLATION (Continued)		
27. ECR-10	Cont. H_2 Sample Return	10
28. ECR-11	Cont. H_2 Sample - Air to Rec. E	10
29. ECR-12	Cont. H_2 Sample - Air from Rec. E	10
30. ECR-13	Cont. H_2 Sample - Low. Cont. Vol.	10
31. ECR-14	Cont. H_2 Sample - Low. Cont. Vol.	10
32. ECR-15	Cont. H_2 Sample - Up Cont. Vol.	10
33. ECR-16	Cont. H_2 Sample - Up Cont. Vol.	10
34. ECR-17	Cont. H_2 Sample - Air to Rec. W	10
35. ECR-18	Cont. H_2 Sample - Air from Rec. W	10
36. ECR-19	Cont. H_2 Sample - Cont. Dome Vol.	10
37. ECR-20	Cont. H_2 Sample - Return	10
38. ECR-21	Cont. H_2 Sample - Air to Rec. E.	10
39. ECR-22	Cont. H_2 Sample - Air fr. Rec. E	10
40. ECR-23	Cont. H_2 Sample - Low Cont. Vol	10
41. ECR-24	Cont. H_2 Sample - Low Cont. Vol.	10
42. ECR-25	Cont. H_2 Sample - Up Cont. Vol.	10
43. ECR-26	Cont. H_2 Sample - Up Cont. Vol.	10
44. ECR-27	Cont. H_2 Sample - Air to Rec. W.	10
45. ECR-28	Cont. H_2 Sample - Air Fr. Rec. W.	10
46. ECR-29	Cont. H_2 Sample - Cont. Dome Vol.	10
47. ECR-416	PAS Containment Sump Sample	10
48. ECR-417	PAS Containment Sump Sample	10
49. ECR-496	PAS Waste Liquid and Gas Return	10
50. ECR-497	PAS Waste Liquid and Gas Return	10
51. ECR-535	PAS Containment Gas Sample	10
52. ECR-536	PAS Containment Gas Sample	10
53. GCR-301	N_2 Supply to Pressurizer Relief Tank	10
54. GCR-314	N_2 Supply to Accumulators	10
55. ICR-5	Accumulators Sample	10
56. ICR-6	Accumulators Sample	10
57. HCR-251	Sample Line from Steam Gen. Outlet #1	10
58. HCR-252	Sample Line from Steam Gen. Outlet #2	10
59. HCR-253	Sample Line from Steam Gen. Outlet #3	10
60. HCR-254	Sample Line form Steam Gen. Outlet #4	10
61. HCR-105	Hot Leg Sample	10
62. HCR-106	Hot Leg Sample	10

Delete

TABLE 3.6-1 (Continued)

VALVE NUMBER	FUNCTION	ISOLATION TIME IN SECONDS
A. PHASE "A" ISOLATION (Continued)		
63. NCR-107	PRZ Liquid Sample	10
64. NCR-108	PRZ Liquid Sample	10
65. NCR-109	PRZ Steam Sample	10
66. NCR-110	PRZ Steam Sample	10
67. NCR-252	Primary Water to Pressure Relief Tank	10
68. PCR-40	Containment Service Air	10
69. QCM-250	RCP Seal Water Discharge	15
70. QCM-350	RCP Seal Water Discharge	15
71. QCR-300	Letdown to Letdown Hx.	10
72. QCR-301	Letdown to Letdown Hx.	10
73. QCR-919	Demineralized Water Supply for Refueling Cavity	10
74. QCR-920	Demineralized Water Supply for Refueling Cavity	10
75. RCR-100	PRZ Relief Tank to Gas Anal	10
76. RCR-101	PRZ Relief Tank to Gas Anal.	10
77. VCR-10	Glycol Supply to Fan Cooler	10
78. VCR-11	Glycol Supply to Fan Cooler	10
79. VCR-20	Glycol Supply from Fan Cooler	10
80. VCR-21	Glycol Supply from Fan Cooler	10
81. XCR-100	Control Air to Containment	10
82. XCR-101	Control Air to Containment Isolation	10
83. XCR-102	Control Air to Containment Isolation	10
84. XCR-103	Control Air to Containment	10
B. PHASE "B" ISOLATION		
1. CCM-451	CCW from RCP Oil Coolers	60
2. CCM-452	CCW from RCP Oil Coolers	60
3. CCM-453	CCW from RCP Thermal Barrier	30
4. CCM-454	CCW from RCP Thermal Barrier	30
5. CCM-458	CCW to RCP Oil Coolers & Thermal Barrier	60
6. CCM-459	CCW to RCP Oil Coolers & Thermal Barrier	60
7. ECR-31	Containment Airborne Radiation Monitor	10
8. ECR-32	Containment Airborne Radiation Monitor	10
9. ECR-33	Containment Airborne Radiation Monitor	10
10. ECR-35	Containment Airborne Radiation Monitor	10
11. ECR-36	Containment Airborne Radiation Monitor	10

Delete

TABLE 3.6-1 (Continued)

VALVE NUMBER	FUNCTION	ISOLATION TIME IN SECONDS
B. PHASE "B" ISOLATION (Continued)		
12. HCR-901	NESW to Low Containment Vent #1	10
13. HCR-903	NESW from Low Containment Vent #1	10
14. HCR-905	NESW to Low Containment Vent #2	10
15. HCR-907	NESW from Low Containment Vent #2	10
16. HCR-909	NESW to Low Containment Vent #3	10
17. HCR-911	NESW from Low Containment Vent #3	10
18. HCR-913	NESW to Low Containment Vent #4	10
19. HCR-915	NESW from Low Containment Vent #4	10
20. HCR-921	NESW to Up Containment Vent #1	10
21. HCR-923	NESW from Up Containment Vent #1	10
22. HCR-925	NESW to Up Containment Vent #2	10
23. HCR-927	NESW from Up Containment Vent #2	10
24. HCR-929	NESW to Up Containment Vent #3	10
25. HCR-931	NESW from Up Containment Vent #3	10
26. HCR-933	NESW to Up Containment Vent #4	10
27. HCR-935	NESW from Up Containment Vent #4	10
28. HCR-941	NESW to RCP Motor Air Cooler	10
29. HCR-942	NESW to RCP Motor Air Cooler	10
30. HCR-943	NESW to RCP Motor Air Cooler	10
31. HCR-944	NESW to RCP Motor Air Cooler	10
32. HCR-945	NESW from RCP Motor Air Cooler	10
33. HCR-946	NESW from RCP Motor Air Cooler	10
34. HCR-947	NESW from RCP Motor Air Cooler	10
35. HCR-948	NESW from RCP Motor Air Cooler	10
36. HCR-951	NESW to RCP Motor Air Cooler Vent #1	10
37. HCR-952	NESW to RCP Motor Air Cooler Vent #2	10
38. HCR-953	NESW to RCP Motor Air Cooler Vent #3	10
39. HCR-954	NESW to RCP Motor Air Cooler Vent #4	10
40. HCR-955	NESW from RCP Motor Air Cooler Vent #1	10
41. HCR-956	NESW from RCP Motor Air Cooler Vent #2	10
42. HCR-957	NESW from RCP Motor Air Cooler Vent #3	10
43. HCR-958	NESW from RCP Motor Air Cooler Vent #4	10

Delete

TABLE 3.6-1 (Continued)

VALVE NUMBER	FUNCTION	ISOLATION TIME IN SECONDS
D. PHASE "B" ISOLATION (Continued)		
44. WCR-961	NESW to Instr. Rm. East Vent	10
45. WCR-963	NESW from Instr. Rm. West Vent	10
46. WCR-965	NESW to Instr. Rm. East Vent	10
47. WCR-967	NESW from Instr. Rm. West Vent	10
48. WCR-900	NESW to RCP Lower Containment Vent #1	10
49. WCR-902	NESW from Lower Containment Vent #1	10
50. WCR-904	NESW to RCP Lower Containment Vent #2	10
51. WCR-906	NESW from Lower Containment Vent #2	10
52. WCR-908	NESW to RCP Lower Containment Vent #3	10
53. WCR-910	NESW from Lower Containment Vent #3	10
54. WCR-912	NESW to RCP Lower Containment Vent #4	10
55. WCR-914	NESW from Lower Containment Vent #4	10
56. WCR-920	NESW to RCP Upper Containment Vent #1	10
57. WCR-922	NESW from Upper Containment Vent #1	10
58. WCR-924	NESW to RCP Upper Containment Vent #2	10
59. WCR-926	NESW from Upper Containment Vent #2	10
60. WCR-928	NESW to RCP Upper Containment Vent #3	10
61. WCR-930	NESW from Upper Containment Vent #3	10
62. WCR-932	NESW to RCP Upper Containment Vent #4	10
63. WCR-934	NESW from Upper Containment Vent #4	10
64. WCR-960	NESW to Instrument Room East Vent	10
65. WCR-962	NESW from Instrument Room East Vent	10
66. WCR-964	NESW to Instrument Room West Vent	10
67. WCR-966	NESW from Instrument Room West Vent	10
C. CONTAINMENT PURGE AND EXHAUST **		
1. VCR-101	Instr. Room Purge Air Inlet	5
2. VCR-102	Instr. Room Purge Air Outlet	5
3. VCR-103	Lower Comp. Purge Air Inlet	5
4. VCR-104	Lower Comp. Purge Air Outlet	5
5. VCR-105	Upper Comp. Purge Air Inlet	5
6. VCR-106	Upper Comp. Purge Air Outlet	5
7. VCR-107*	Cont. Press. Relief Fan Isolation	5
8. VCR-201	Instr. Room Purge Air Inlet	5
9. VCR-202	Instr. Room Purge Air Outlet	5
VCR-203	Lower Comp. Purge Air Inlet	5

Delete

TABLE 3.6-1 (Continued)

VALVE NUMBER	FUNCTION	ISOLATION TIME IN SECONDS
C. CONTAINMENT PURGE EXHAUST (Continued)**		
12. VCR-205	Upper Comp. Purge Air Inlet	5
13. VCR-206	Upper Comp. Purge Air Outlet	5
14. VCR-207*	Cont. Press Relief Fan Isolation	5
D. MANUAL ISOLATION VALVES(1)		
1. ICM-111	RHR to RC Cold Legs	NA
2. ICM-129	RHR Inlet to Pumps	NA
3. ICM-250	Boron Injection Inlet	NA
4. ICM-251	Boron Injection Inlet	NA
5. ICM-260	Safety Injection Inlet	NA
6. ICM-265	Safety Injection Inlet	NA
7. ICM-305	RHR Suction from Sump	NA
8. ICM-306	RHR Suction from Sump	NA
9. ICM-311	RHR to RC Hot Legs	NA
10. ICM-321	RHR to RC Hot Legs	NA
11. NPX 151 VI	Dead Weight Tester	NA
12. PA-343	Containment Service Air	NA
13. SF-151	Refueling Water Supply	NA
14. SF-153	Refueling Water Supply	NA
15. SF-159	Refueling Cavity Drain to Purification System	NA
16. SF-160	Refueling Cavity Drain to Purification System	NA
17. SI-171	Safety Injection Test Line	NA
18. SI-172	Accumulator Test Line	NA

Delete

TABLE 3.6-1 (Continued)

VALVE NUMBER	FUNCTION	ISOLATION TIME IN SECONDS
D. MANUAL ISOLATION VALVES (1) (Continued)		
19. CCR-440	CCW from Main Steam Penetration	NA
20. CCR-441	CCW from Main Steam Penetration	NA
21. MCM-221	Main Steam to Auxiliary Feed Pump	NA
22. MCM-231	Main Steam to Auxiliary Feed Pump	NA
23. CCM-430	CCW to East Pressure Equalization Fan	NA
24. CCM-431	CCW from East Pressure Equalization Fan	NA
25. CCM-432	CCW to West Pressure Equalization Fan	NA
26. CCM-433	CCW from West Pressure Equalization Fan	NA
27. SM-8^	Upper Containment Sample	NA
28. SM-10^	Upper Containment Sample	NA
29. SM-4^	Instrument Room Sample	NA
30. SM-6^	Instrument Room Sample	NA

Delete

NA - Manual Valve-Isolation time not applicable.
(1) - Includes motor operated valves which do not isolate automatically.
^ - May be opened on an intermittent basis under administrative control.
^^ - Containment purge supply and exhaust isolation valves (VCR-101 through 106 and VCR-201 through 206) may be opened under Technical Specification 3/4.6.1.7.

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

3/4.6.2.1 CONTAINMENT SPRAY SYSTEM

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

3/4.6.2.2 SPRAY ADDITIVE SYSTEM

The OPERABILITY of the spray additive system ensures that sufficient NaOH is added to the containment spray in the event of a LOCA. The limits on NaOH minimum volume and concentration, ensure that 1) the iodine removal efficiency of the spray water is maintained because of the increase in pH value, and 2) corrosion effects on components within containment are minimized. These assumptions are consistent with the iodine removal efficiency assumed in the accident analyses.

3/4.6.3 CONTAINMENT ISOLATION VALVES

The OPERABILITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment. Containment isolation within the time limits specified ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

3/4.6.4 COMBUSTIBLE GAS CONTROL

The OPERABILITY of the equipment and systems required for the detection and control of hydrogen gas ensures that this equipment will be available to maintain the hydrogen concentration within containment below its flammable limit during post-LOCA conditions. Either recombiner unit is capable of controlling the expected hydrogen generation associated with 1) zirconium-water reactions, 2) radiolytic decomposition of water and 3) corrosion of metals within containment.

Insert A

Insert A:

The opening of containment purge and exhaust valves and locked or sealed closed containment isolation valves on an intermittent basis under administrative control includes the following considerations: (1) stationing a qualified individual, who is in constant communication with control room, at the valve controls, (2) instructing this individual to close these valves in an accident situation, and (3) assuring that environmental conditions will not preclude access to close the valves and that this action will prevent the release of radioactivity outside the containment.

DEFINITIONS

REPORTABLE EVENT

1.7 A REPORTABLE EVENT shall be any of those conditions specified in 10 CFR 50.73.

CONTAINMENT INTEGRITY

1.8 CONTAINMENT INTEGRITY shall exist when:

1.8.1 All penetrations required to be closed during accident conditions are either:

a. Capable of being closed by an OPERABLE containment automatic isolation valve system, or

b. Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions, ~~except as provided in Table 3.6-1 of Specification 3.6.3.1.~~ except for valves that are open under administrative control as permitted by Specification 3.6.3.1.

1.8.2 All equipment hatches are closed and sealed,

1.8.3 Each air lock is in compliance with the requirements of Specification 3.6.1.3,

1.8.4 The containment leakage rates are within the limits of Specification 3.6.1.2, and

1.8.5 The sealing mechanism associated with each penetration (e.g., welds, bellows or O-rings) is OPERABLE.

CHANNEL CALIBRATION

1.9 A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds with the necessary range and accuracy to known values of the parameter which the channel monitors. The CHANNEL CALIBRATION shall encompass the entire channel including the sensor and alarm and/or trip functions, and shall include the CHANNEL FUNCTIONAL TEST. The CHANNEL CALIBRATION may be performed by any series of sequential, overlapping or total channel steps such that the entire channel is calibrated.

CHANNEL CHECK

1.10 A CHANNEL CHECK shall be the qualitative assessment of channel behavior during operation by observation. This determination shall include, where possible, comparison of the channel indication and/or status with other indications and/or status derived from independent instrument channels measuring the same parameter.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENT

CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

a. At least once per 31 days by verifying that:

1. All penetrations* not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their positions, except ~~as provided in Table 3.6-1 of Specification 3.6.3.1,~~ and for valves that are open under administrative control as permitted by Specification 3.6.3.1, and

2. All equipment hatches are closed and sealed,

b. By verifying that each containment air lock is in compliance with the requirements of Specification 3.6.1.3.

*Except valves, blind flanges, and deactivated automatic valves which are located inside the containment and are locked, sealed or otherwise secured in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except that such verification need not be performed more often than once per 92 days.

3/4.6.3 CONTAINMENT ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.3.1 ~~The~~ Each containment isolation valves ~~specified in Table 3.6-1~~ shall be OPERABLE ~~with isolation times as shown in Table 3.6-1.~~ The ACTION statement of Technical Specification 3/4.6.3.1 is not applicable to the containment purge and exhaust isolation valves, ~~VCR-101 through 106 and VCR-201 through 206, listed in Table 3.6-1.~~ The Limiting Condition for Operation and its associated ACTION statement for these valves ~~is~~ are given in Technical Specification 3/4.6.1.7.

APPLICABILITY: Modes 1, 2, 3 and 4.

ACTION:

With one or more of the containment isolation valves(s) ~~specified in Table 3.6-1~~ inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and either:

a. Restore the inoperable valve(s) to OPERABLE status within 4 hours, or

b. Isolate each affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the isolation position, or

c. Isolate each affected penetration within 4 hours by use of at least one closed manual valve or blind flange; or

d. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

The provisions of Specifications 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

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

Containment purge valves and locked and sealed closed valves may be opened on an intermittent basis under administrative control.

SURVEILLANCE REQUIREMENTS (Continued)

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

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

b. Verifying that on a Phase B containment isolation test signal, each Phase B isolation valve actuates to its isolation position.

c. Verifying that on a Containment Purge and Exhaust isolation signal, each Purge and Exhaust valve actuates to its isolation position.

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

Pages 3/4 6-16 through 3/4 6-32 deleted

TABLE 3.6-1

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	ISOLATION TIME IN SECONDS
A. PHASE "A" ISOLATION		
1. CCR-455	CCW to Reactor Supports	≤ 10
2. CCR-456	CCW from Reactor Supports	≤ 10
3. CCR-457	CCW from Reactor Supports	≤ 10
4. CCR-460	CCW from Excess ltdn. Hx.	≤ 10
5. CCR-462	CCW to Fxcess ltdn. Hx.	≤ 10
6. DCR-201	R. C. Drain Tank to Vent. Hdr.	≤ 10
7. DCR-202	R. C. Drain Tank to Gas Analyzer	≤ 10
8. DCR-203	R. C. Drain to Vent Hdr.	≤ 10
9. DCR-204	R. C. Drain Tank to Gas Analyzer	≤ 10
10. DCR-205	R. C. Drain Pump Suction Isolation	≤ 10
11. DCR-206	R. C. Drain Pump Suction Isolation	≤ 10
12. DCR-207	N_2 Supply to R. C. Drain Tank	≤ 10

TABLE 3.6-1

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	ISOLATION TIME IN SECONDS
A. PHASE "A" ISOLATION		
1. CCR-455	CCW to Reactor Supports	≤ 10
2. CCR-456	CCW from Reactor Supports	≤ 10
3. CCR-457	CCW from Reactor Supports	≤ 10
4. CCR-460	CCW from Excess Ltdn. Hx.	≤ 10
5. CCR-462	CCW to Excess Ltdn. Hx.	≤ 10
6. DCR-201	R. C. Drain Tank to Vent. Hdr.	≤ 10
7. DCR-202	R. C. Drain Tank to Gas Analyzer	≤ 10
8. DCR-203	R. C. Drain to Vent Hdr.	≤ 10
9. DCR-204	R. C. Drain Tank to Gas Analyzer	≤ 10
10. DCR-205	R. C. Drain Pump Suction Isolation	≤ 10
11. DCR-206	R. C. Drain Pump Suction Isolation	≤ 10
12. DCR-207	N_2 Supply to R. C. Drain Tank	≤ 10

Delete

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	ISOLATION TIME IN SECONDS
A. PHASE "A" ISOLATION (Continued)		
13. DCR-301#	Steam Generator Blowdown Sample #1	≤ 10
14. DCR-302#	Steam Generator Blowdown Sample #2	≤ 10
15. DCR-303#	Steam Generator Blowdown Sample #3	≤ 10
16. DCR-304#	Steam Generator Blowdown Sample #4	≤ 10
17. DCR-310#	Steam Generator Blowdown Lines #1	≤ 10
18. DCR-320#	Steam Generator Blowdown Lines #2	≤ 10
19. DCR-330#	Steam Generator Blowdown Lines #3	≤ 10
20. DCR-340#	Steam Generator Blowdown Lines #4	≤ 10
21. DCR-600	Containment Sump to Waste Holdup	≤ 10
22. DCR-601	Containment Sump to Waste Holdup	≤ 10
23. DCR-610	Ice Condenser Drain to Drain Hdr.	≤ 10
24. DCR-611	Ice Condenser Drain to Drain Hdr.	≤ 10

Delete

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	ISOLATION TIME IN SECONDS
A. PHASE "A" ISOLATION (Continued)		
25. DCR-620	Continuous Ventilation Drain to Holdup	≤ 10
26. DCR-621	Continuous Ventilation Drain to Holdup	≤ 10
27. ECR-10	Cont. H_2 Sample Return	≤ 10
28. ECR-11	Cont. H_2 Sample - Air to Rec. E	≤ 10
29. ECR-12	Cont. H_2 Sample - Air From Rec. E	≤ 10
30. ECR-13	Cont. H_2 Sample - Low. Cont. Vol.	≤ 10
31. ECR-14	Cont. H_2 Sample - Low. Cont. Vol.	≤ 10
32. ECR-15	Cont. H_2 Sample - Up. Cont. Vol.	≤ 10
33. ECR-16	Cont. H_2 Sample - Up. Cont. Vol.	≤ 10
34. ECR-17	Cont. H_2 Sample - Air to Rec. W	≤ 10
35. ECR-18	Cont. H_2 Sample - Air from Rec. W	≤ 10
36. ECR-19	Cont. H_2 Sample - Cont. Dome Vol.	≤ 10

Delete

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

VALVE NUMBER		FUNCTION	ISOLATION TIME IN SECONDS
A.	PHASE "A" ISOLATION (Continued)		
37.	ECR-20	Cont. H_2 Sample-Return	≤10
38.	ECR-21	Cont. H_2 Sample - Air to Rec. E.	≤10
39.	ECR-22	Cont. H_2 Sample - Air Fr. Rec. E.	≤10
40.	ECR-23	Cont. H_2 Sample - Low. Cont. Vol.	≤10
41.	ECR-24	Cont. H_2 Sample - Low. Cont. Vol.	≤10
42.	ECR-25	Cont. H_2 Sample - Up. Cont. Vol.	≤10
43.	ECR-26	Cont. H_2 Sample - Up. Cont. Vol.	≤10
44.	ECR-27	Cont. H_2 Sample - Air to Rec. H.	≤10
45.	ECR-28	Cont. H_2 Sample - Air Fr. Rec. H.	≤10
46.	ECR-29	Cont. H_2 Sample - Cont. Dome Vol.	≤10
47.	ECR-416	PAS Containment Sump Sample	≤10
48.	ECR-417	PAS Containment Sump Sample	≤10
49.	ECR-496	PAS Waste Liquid and Gas Return	≤10
50.	ECR-497	PAS Waste Liquid and Gas Return	≤10
51.	ECR-535	PAS Containment Gas Sample	≤10
52.	ECR-536	PAS Containment Gas Sample	≤10
53.	GCR-301	H_2 Supply to Pressurizer Relief Tank	≤10
54.	GCR-314	H_2 Supply to Accumulators	≤10

Delete

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	ISOLATION TIME IN SECONDS
A. PHASE "A" ISOLATION (Continued)		
55. 1CR-5	Accumulators Sample	≤ 10
56. 1CR-6	Accumulators Sample	≤ 10
57. HCR-251/	Sample Line from Steam Gen. Outlet #1	≤ 10
58. HCR-252/	Sample Line from Steam Gen. Outlet #1	≤ 10
59. HCR-253/	Sample Line from Steam Gen. Outlet #3	≤ 10
60. HCR-254/	Sample Line from Steam Gen. Outlet #4	≤ 10
61. HCR-105	Hot Leg Sample	≤ 10
62. HCR-106	Hot Leg Sample	≤ 10
63. HCR-107	PRZ Liquid Sample	≤ 10
64. HCR-108	PRZ Liquid Sample	≤ 10
65. HCR-109	PRZ Steam Sample	≤ 10
66. HCR-110	PRZ Steam Sample	≤ 10

Delete

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	ISOLATION TIME IN SECONDS
A. PHASE "A" ISOLATION (Continued)		
67. HCR-252	Primary Water to Pressurizer Relief Tank	≤ 10
68. QCH-250	RCP Seal Water Discharge	≤ 15
69. QCH-350	RCP Seal Water Discharge	≤ 15
70. QCR-300	Letdown to Letdown Hx.	≤ 10
71. QCR-301	Letdown to Letdown Hx.	≤ 10
72. QCR-919	Demin Wtr. Supply for Refueling Cavity	≤ 10
73. QCR-920	Demin Wtr. Supply for Refueling Cavity	≤ 10
74. PCR-40	Containment Service Air	≤ 10
75. RCR-100	PRZ Relief Tank to Gas Anal.	≤ 10
76. RCR-101	PRZ Relief Tank to Gas Anal.	≤ 10
77. VCR-10	Glycol Supply to Fan Cooler	≤ 10
78. VCR-11	Glycol Supply to Fan Cooler	≤ 10
79. VCR-20	Glycol Supply from Fan Cooler	≤ 10
80. VCR-21	Glycol Supply from Fan Cooler	≤ 10
81. XCR-100	Control Air to Containment	≤ 10
XCR-101	Control Air to Containment Isol[illegible]	≤ 10

Delete

TABLE 3.6-1 (Continued)
CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	ISOLATION TIME IN SECONDS
A. PHASE "A" ISOLATION (Continued)		
83. XCR-102	Control Air to Containment Isolation	≤ 10
84. XCR-103	Control Air to Containment	≤ 10
B. PHASE "B" ISOLATION		
1. CCH-451	CCW from RCP Oil Coolers	≤ 60
2. CCH-452	CCW from RCP Oil Coolers	≤ 60
3. CCH-453	CCW from RCP Thermal Barrier	≤ 30
4. CCH-454	CCW from RCP Thermal Barrier	≤ 30
5. CCH-458	CCW to RCP Oil Coolers & Thermal Barrier	≤ 60
6. CCH-459	CCW to RCP Oil Coolers & Thermal Barrier	≤ 60
7. ECR-31	Containment Airborne Rad Monitor	≤ 10
8. ECR-32	Containment Airborne Rad Monitor	≤ 10
9. ECR-33	Containment Airborne Rad Monitor	≤ 10
10. ECR-35	Containment Airborne Rad Monitor	≤ 10
11. ECR-36	Containment Airborne Rad Monitor	≤ 10

Delete

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	ISOLATION TIME IN SECONDS
B. PHASE "B" ISOLATION (Continued)		
12. WCR-901	NESW to Low. Containment Vent #1	≤10
13. WCR-903	NESW from Low. Containment Vent #1	≤10
14. WCR-905	NESW to Low. Containment Vent #2	≤10
15. WCR-907	NESW from Low. Containment Vent #2	≤10
16. WCR-909	NESW to Low. Containment Vent #3	≤10
17. WCR-911	NESW from Low. Containment Vent #3	≤10
18. WCR-913	NESW to Low. Containment Vent #4	≤10
19. WCR-915	NESW from Low Containment Vent #4	≤10
20. WCR-921	NESW to Up. Containment Vent #1	≤10
21. WCR-923	NESW from Up. Containment Vent #1	≤10
22. WCR-925	NESW to Up. to Containment Vent #2	≤10
23. WCR-927	NESW from Up. Containment Vent #2	≤10

Delete

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	ISOLATION TIME IN SECONDS
B. PHASE "B" ISOLATION (Continued)		
24. WCR-929	NESW to Up. Containment Vent #3	≤10
25. WCR-931	NESW from Up. Containment Vent #3	≤10
26. WCR-933	NESW to Up. Containment Vent #4	≤10
27. WCR-935	NESW from Up. Containment Vent #4	≤10
28. WCR-941	NESW to RCP Motor Air Cooler	≤10
29. WCR-942	NESW to RCP Motor Air Cooler	≤10
30. WCR-943	NESW to RCP Motor Air Cooler	≤10
31. WCR-944	NESW to RCP Motor Air Cooler	≤10
32. WCR-945	NESW from RCP Motor Air Cooler	≤10
33. WCR-946	NESW from RCP Motor Air Cooler	≤10
34. WCR-947	NESW from RCP Motor Air Cooler	≤10
35. WCR-948	NESW From RCP Motor Air Cooler	≤10
36. WCR-951	NESW to RCP Motor Air Cooler Vent #1	≤10
37. WCR-952	NESW to RCP Motor Air Cooler Vent #2	≤10
38. WCR-953	NESW to RCP Motor Air Cooler Vent #3	≤10
39. WCR-954	NESW to RCP Motor Air Cooler Vent #4	≤10

Delete

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	ISOLATION TIME IN SECONDS
B. PHASE "B" ISOLATION (Continued)		
40. HCR-955	NESW from RCP Motor Air Cooler Vent #1	≤10
41. HCR-956	NESW from RCP Motor Air Cooler Vent #2	≤10
42. HCR-957	NESW from RCP Motor Air Cooler Vent #3	≤10
43. HCR-958	NESW from RCP Motor Air Cooler Vent #4	≤10
44. HCR-961	NESW to Instr. Rm. East Vent	≤10
45. HCR-963	NESW from Instr. Rm. West Vent	≤10
46. HCR-965	NESW to Instr. Rm. East Vent	≤10
47. HCR-967	NESW from Instr. Rm. West Vent	≤10
48. HCR-900	NESW to RCP Lower Containment Vent #1	≤10
49. HCR-902	NESW from Lower Containment Vent #1	≤10
50. HCR-904	NESW to RCP Lower Containment Vent #2	≤10
51. HCR-906	NESW from Lower Containment Vent #2	≤10
52. HCR-908	NESW to RCP Lower Containment Vent #3	≤10
53. HCR-910	NESW from Lower Containment Vent #3	≤10
54. HCR-912	NESW to RCP Lower Containment Vent #4	≤10
55. HCR-914	NESW from Lower Containment Vent #4	≤10

Delete

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	ISOLATION TIME IN SECOND
B. PHASE "B" ISOLATION (Continued)		
56. WCR-920	NESW to RCP Upper Containment Vent #1	≤10
57. WCR-922	NESW from Upper Containment Vent #1	≤10
58. WCR-924	NESW to RCP Upper Containment Vent #2	≤10
59. WCR-926	NESW from Upper Containment Vent #2	≤10
60. WCR-928	NESW to RCP Upper Containment Vent #3	≤10
61. WCR-930	NESW from Upper Containment Vent #3	≤10
62. WCR-932	NESW to RCP Upper Containment Vent #4	≤10
63. WCR-934	NESW from Upper Containment Vent #4	≤10
64. WCR-960	NESW to Instrument Room East Vent	≤10
65. WCR-962	NESW from Instrument Room East Vent	≤10
66. WCR-964	NESW to Instrument Room West Vent	≤10
67. WCR-966	NESW from Instrument Room West Vent	≤10
C. CONTAINMENT PURGE AND EXHAUST **		
1. VCR-101	Instr. Room Purge Air Inlet	≤5
2. VCR-102	Instr. Room Purge Air Outlet	≤5
3. VCR-103	Lower Comp. Purge Air Inlet	≤5
VCR-104	Lower Comp. Purge Air Outlet	≤5
5. VCR-105	Upper Comp.	

Delete

1

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	ISOLATION TIME IN SECONDS
C. CONTAINMENT PURGE AND EXHAUST (Continued) **		
6. VCR-106	Upper Comp. Purge Air Outlet	≤ 5
7. VCR-107*	Cont. Press. Relief Fan Isolation	≤ 5
8. VCR-201	Instr. Room Purge Air Inlet	≤ 5
9. VCR-202	Instr. Room Purge Air Outlet	≤ 5
10. VCR-203	Lower Comp. Purge Air Inlet	≤ 5
11. VCR-204	Lower Comp. Purge Air Outlet	≤ 5
12. VCR-205	Upper Comp. Purge Air Outlet	≤ 5
13. VCR-206	Upper Comp. Purge Air Outlet	≤ 5
14. VCR-207*	Cont. Press Relief Fan Isolation	≤ 5
D. MANUAL ISOLATION VALVES (1)		
1. ICM-111*	RHR to RC Cold Legs	NA
2. ICM-129	RHR Inlet to Pumps	NA

Delete

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	ISOLATION TIME IN SECONDS
D. MANUAL ISOLATION VALVES(1) (Continued)		
3. 1CM-250	Boron Injection Inlet	NA
4. 1CM-251	Boron Injection Inlet	NA
5. 1CM-260	Safety Injection Inlet	NA
6. 1CM-265	Safety Injection Inlet	NA
7. 1CM-305	RHR Suction From Sump	NA
8. 1CM-306	RHR Suction From Sump	NA
9. 1CM-311#	RHR to RC Hot Legs	NA
10. 1CM-321#	RHR to RC Hot Legs	NA
E. OTHER		
1. CS-442-1	Seal Wtr. to RCP #1	NA
2. CS-442-2	Seal Wtr. to RCP #2	NA
3. CS-442-3	Seal Wtr. to RCP #3	NA
4. CS-442-4	Seal Wtr. to RCP #4	NA

Delete

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TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	ISOLATION TIME IN SECONDS
E. OTHER (Continued)		
5. SI-189	R. C. Relief Valve Vent Hole	NA
6. PA-342	Service Air to Containment	NA
7. NPX-151 VI	Dead Weight Calibrator	NA
8. N-160	N_2 to R. C. Drain Tank	NA
9. SM-1	Air Particle/Radio Gas Detect Return	NA
10. N-102	N_2 To Accumulators	NA
11. SI-171	Safety Injection Test Line	NA
12. SI-172	Safety Injection Test Line	NA
13. SI-194	Safety Injection Test Line	NA
14. PW-275	Primary Wtr. to Pre. Relief Tank	NA
15. CS-321	R.C.S. Charging	NA

Delete

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	ISOLATION TIME IN SECONDS
E. OTHER (Continued)		
16. SF-152	Refueling Wtr. to Refuel Cavity	NA
17. SF-154	Refueling Wtr. to Refuel Cavity	NA
18. SF-159	Refueling Cavity Drain	NA
19. SF-160	Refueling Cavity Drain	NA
20. N-159	N_2 to Prz. Relief Tank	NA
21. CCW-135	CCW to Reactor Supports	NA
22. CA-181-N	Weld Channel Supply Air	NA
23. CA-181-S	Weld Channel Supply Air	NA
24. SM-8*	Upper Cont. Grab Sample	NA
25. SM-10*	Upper Cont. Grab Sample	NA

Delete

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	ISOLATION TIME IN SECONDS
E. OTHER (Continued)		
26. PPP-300	Instrument Penetration	NA
27. PPP-301	Instrument Penetration	NA
28. PPP-302	Instrument Penetration	NA
29. PPP-303	Instrument Penetration	NA
30. PPA-310 and PPA-311	Instrument Penetration	NA
31. PPA-312 and PPA-313	Instrument Penetration	NA
32. Blind Flange	Fuel Transfer Penetration	NA
33. Blind Flange	Ice Condenser Ice Supply	NA
34. Blind Flange	Ice Condenser Ice Return	NA
35. Blind Flange	In-Core Flux Thimble Access	NA

Delete

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

TABLE NOTATION

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

\# Not subject to Type "B" or "C" Leak Tests.

NA Check valves, blind flanges on normally closed valves which do not receive containment isolation signals; isolation time not applicable.

(1) Includes motor operated valves which do not isolate automatically.

** Containment purge supply and exhaust isolation valves (VCR-101 through 106 and VCR-201 through 206) may be opened under Technical Specification 3/4.6.1.7.

Delete

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

3/4.6.2.1 CONTAINMENT SPRAY SYSTEM

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

3/4.6.2.2 SPRAY ADDITIVE SYSTEM

The OPERABILITY of the spray additive system ensures that sufficient NaOH is added to the containment spray in the event of a LOCA. The limits on NaOH volume and concentration ensure a pH value of between 8.5 and 11.0 for the solution recirculated within containment after a LOCA. This pH band minimizes the evolution of iodine and minimizes the effect of chloride and caustic stress corrosion on mechanical systems and components. These assumptions are consistent with the iodine removal efficiency assumed in the accident analyses.

The contained water volume limit includes an allowance for water not usable because of tank discharge location or other physical characteristics.

3/4.6.3 CONTAINMENT ISOLATION VALVES

The OPERABILITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment. Containment isolation within the time limits specified ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

Insert A

Insert A:

The opening of containment purge and exhaust valves and locked or sealed closed containment isolation valves on an intermittent basis under administrative control includes the following considerations: (1) stationing a qualified individual, who is in constant communication with control room, at the valve controls, (2) instructing this individual to close these valves in an accident situation, and (3) assuring that environmental conditions will not preclude access to close the valves and that this action will prevent the release of radioactivity outside the containment.

Attachment 3 to AEP:NRC:1178
Proposed Technical Specifications Pages

DEFINITIONS

REPORTABLE EVENT

1.7 A REPORTABLE EVENT shall be any of those conditions specified in 10 CFR 50.73.

CONTAINMENT INTEGRITY

1.8 CONTAINMENT INTEGRITY shall exist when:

1.8.1 All penetrations required to be closed during accident conditions are either:

a. Capable of being closed by an OPERABLE containment automatic isolation valve system, or

b. Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions, except for valves that are open under administrative control as permitted by Specification 3.6.3.1.

1.8.2 All equipment hatches are closed and sealed.

1.8.3 Each air lock is in compliance with the requirements of Specification 3.6.1.3.

1.8.4 The containment leakage rates are within the limits of Specification 3.6.1.2

CHANNEL CALIBRATION

1.9 A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds with the necessary range and accuracy to known values of the parameter which the channel monitors. The CHANNEL CALIBRATION shall encompass the entire channel including the sensor and alarm and/or trip functions, and shall include the CHANNEL FUNCTIONAL TEST. The CHANNEL CALIBRATION may be performed by any series of sequential, overlapping or total channel steps such that the entire channel is calibrated.

CHANNEL CHECK

1.10 A CHANNEL CHECK shall be the qualitative assessment of channel behavior during operation by observation. This determination shall include, where possible, comparison of the channel indication and/or status with other indications and/or status derived from independent instrument channels measuring the same parameter.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENT

CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

a. At least once per 31 days by verifying that:

1. All penetrations* not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their positions, except for valves that are open under administrative control as permitted by Specification 3.6.3.1, and

2. All equipment hatches are closed and sealed.

b. By verifying that each containment air lock is in compliance with the requirements of Specification 3.6.1.3.

*Except valves, blind flanges, and deactivated automatic valves which are located inside the containment and are locked, sealed or otherwise secured in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except that such verification need not be performed more often than once per 92 days.

3/4.6.3 CONTAINMENT ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.3.1 Each containment isolation valve shall be OPERABLE. Containment purge valves and locked or sealed closed valves may be opened on an intermittent basis under administrative control. The ACTION statement of T/S 3/4.6.3.1 is not applicable to the containment purge supply and exhaust isolation valves. The Limiting Condition for Operation and its associated ACTION statement for these valves is given in Technical Specification 3/4.6.1.7.

APPLICABILITY: MODES 1,2,3 and 4.

ACTION:

With one or more of the containment isolation valve(s) inoperable, either:

a. Restore the inoperable valve(s) to OPERABLE status within 4 hours, or

b. Isolate each affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the isolation position, or

c. Isolate each affected penetration within 4 hours by use of at least one closed manual valve or blind flange, or

d. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.6.3.1.1 Each containment isolation valve shall be demonstrated OPERABLE prior to returning the valve to service after maintenance, repair or replacement work is performed on the valve or its associated actuator, control or power circuit by performance of a cycling test and verification of isolation time.

SURVEILLANCE REQUIREMENTS (Continued)

4.6.3.1.2 Each containment isolation valve shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once per 18 months by:

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

b. Verifying that on a Phase B containment isolation test signal, each Phase B isolation valve actuates to its isolation position.

c. Verifying that on a Containment Purge and Exhaust isolation signal, each Purge and Exhaust valve actuates to its isolation position.

4.6.3.1.3 The isolation time of each power operated or automatic containment isolation valve shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

Pages 3/4 6-17 through 3/4 6-22
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BASES

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

3/4.6.2.1 CONTAINMENT SPRAY SYSTEM

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

3/4.6.2.2 SPRAY ADDITIVE SYSTEM

The OPERABILITY of the spray additive system ensures that sufficient NaOH is added to the containment spray in the event of a LOCA. The limits on NaOH minimum volume and concentration, ensure that 1) the iodine removal efficiency of the spray water is maintained because of the increase in pH value, and 2) corrosion effects on components within containment are minimized. These assumptions are consistent with the iodine removal efficiency assumed in the accident analyses.

3/4.6.3 CONTAINMENT ISOLATION VALVES

The OPERABILITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment. Containment isolation within the time limits specified ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

The opening of containment purge and exhaust valves and locked or sealed closed containment isolation valves on an intermittent basis under administrative control includes the following considerations: (1) stationing a qualified individual, who is in constant communication with control room, at the valve controls, (2) instructing this individual to close these valves in an accident situation, and (3) assuring that environmental conditions will not preclude access to close the valves and that this action will prevent the release of radioactivity outside the containment.

3/4.6.4 COMBUSTIBLE GAS CONTROL

The OPERABILITY of the equipment and systems required for the detection and control of hydrogen gas ensures that this equipment will be available to maintain the hydrogen concentration within containment below its flammable limit during post-LOCA conditions. Either recombiner unit is capable of controlling the expected hydrogen generation associated with 1) zirconium-water reactions, 2) radiolytic decomposition of water and 3) corrosion of metals within containment.

DEFINITIONS

REPORTABLE EVENT

1.7 A REPORTABLE EVENT shall be any of those conditions specified in 10 CFR 50.73.

CONTAINMENT INTEGRITY

1.8 CONTAINMENT INTEGRITY shall exist when:

1.8.1 All penetrations required to be closed during accident conditions are either:

a. Capable of being closed by an OPERABLE containment automatic isolation valve system, or

b. Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions, except for valves that are open under administrative control as permitted by Specification 3.6.3.1.

1.8.2 All equipment hatches are closed and sealed,

1.8.3 Each air lock is in compliance with the requirements of Specification 3.6.1.3,

1.8.4 The containment leakage rates are within the limits of Specification 3.6.1.2, and

1.8.5 The sealing mechanism associated with each penetration (e.g., welds, bellows or O-rings) is OPERABLE.

CHANNEL CALIBRATION

1.9 A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds with the necessary range and accuracy to known values of the parameter which the channel monitors. The CHANNEL CALIBRATION shall encompass the entire channel including the sensor and alarm and/or trip functions, and shall include the CHANNEL FUNCTIONAL TEST. The CHANNEL CALIBRATION may be performed by any series of sequential, overlapping or total channel steps such that the entire channel is calibrated.

CHANNEL CHECK

1.10 A CHANNEL CHECK shall be the qualitative assessment of channel behavior during operation by observation. This determination shall include, where possible, comparison of the channel indication and/or status with other indications and/or status derived from independent instrument channels measuring the same parameter.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENT

CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

a. At least once per 31 days by verifying that:

1. All penetrations* not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their positions, except for valves that are open under administrative control as permitted by Specification 3.6.3.1, and

2. All equipment hatches are closed and sealed.

b. By verifying that each containment air lock is in compliance with the requirements of Specification 3.6.1.3.

*Except valves, blind flanges, and deactivated automatic valves which are located inside the containment and are locked, sealed or otherwise secured in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except that such verification need not be performed more often than once per 92 days.

3/4.6.3 CONTAINMENT ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.3.1 Each containment isolation valve shall be OPERABLE. Containment purge valves and locked or sealed closed valves may be opened on an intermittent basis under administrative control. The ACTION statement of Technical Specification 3/4.6.3.1 is not applicable to the containment purge and exhaust isolation valves. The Limiting Condition for Operation and its associated ACTION statement for these valves are given in Technical Specification 3/4.6.1.7.

APPLICABILITY: MODES 1,2,3 and 4.

ACTION:

With one or more of the containment isolation valve(s) inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and either:

a. Restore the inoperable valve(s) to OPERABLE status within 4 hours, or

b. Isolate each affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the isolation position, or

c. Isolate each affected penetration within 4 hours by use of at least one closed manual valve or blind flange; or

d. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

The provisions of Specifications 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.6.3.1.1 Each containment isolation valve shall be demonstrated OPERABLE prior to returning the valve to service after maintenance, repair or replacement work is performed on the valve or its associated actuator, control or power circuit by performance of a cycling test and verification of isolation time.

SURVEILLANCE REQUIREMENTS (Continued)

4.6.3.1.2 Each containment isolation valve shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once per 18 months by:

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

b. Verifying that on a Phase B containment isolation test signal, each Phase B isolation valve actuates to its isolation position.

c. Verifying that on a Containment Purge and Exhaust isolation signal, each Purge and Exhaust valve actuates to its isolation position.

4.6.3.1.3 The isolation time of each power operated or automatic containment isolation valve shall be determined to be within its limit when tested pursuant to Specification 4.0.5

Page 3/4 6-16 through 3/4 6-32
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BASES

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

3/4.6.2.1 CONTAINMENT SPRAY SYSTEM

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

3/4.6.2.2 SPRAY ADDITIVE SYSTEM

The OPERABILITY of the spray additive system ensures that sufficient NaOH is added to the containment spray in the event of a LOCA. The limits on NaOH volume and concentration ensure a pH value of between 8.5 and 11.0 for the solution recirculated within containment after a LOCA. This pH band minimizes the evolution of iodine and minimizes the effect of chloride and caustic stress corrosion on mechanical systems and components. These assumptions are consistent with the iodine removal efficiency assumed in the accident analyses.

The contained water volume limit includes an allowance for water not usable because of tank discharge location or other physical characteristics.

3/4.6.3 CONTAINMENT ISOLATION VALVES

The OPERABILITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment. Containment isolation within the time limits specified ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

The opening of containment purge and exhaust valves and locked or sealed closed containment isolation valves on an intermittent basis under administrative control includes the following considerations: (1) stationing a qualified individual, who is in constant communication with control room, at the valve controls, (2) instructing this individual to close these valves in an accident situation, and (3) assuring that environmental conditions will not preclude access to close the valves and that this action will prevent the release of radioactivity outside the containment.

Attachment 1 to AEP:NRC:1143

10 CFR 50.92 Analysis for Changes to
The Donald C. Cook Nuclear Plant
Units 1 and 2
Technical Specifications

1.0 Sections to be Changed

A. Unit 1

1. T/S 3/4.7.8 - page 3/4.7-28
2. T/S 3/4.7.8.a - page 3/4.7-28
3. T/S 3/4.7.8.b - page 3/4.7-29
4. T/S 3/4.7.8.c - page 3/4.7-29
5. T/S 3/4.7.8 e - page 3/4.7-30
6. T/S Table 3.7-4 - pages 3/4.7-31 through -40a
7. T/S 3/4.7.8 Bases - page B 3/4.7-6
8. T/S 6.10.2.n Administrative Control - page 6-20
9. T/S 3/4.7.9 - 3/4.7.10; pages 3/4.7-41 through -52
10. T/S Index - page IX

B. Unit 2

1. T/S 3/4.7.7 - page 3/4.7-20
2. T/S 3/4.7.7.1.a - page 3/4.7-20
3. T/S 3/4.7.7.1.b - page 3/4.7-21
4. T/S 3/4.7.7.1.c - page 3/4.7-21
5. T/S 3/4.7.7.1.e - page 3/4.7-22
6. T/S Table 3.7.9 - page 3/4.7-23 through -33
7. T/S 3/4.7.7 Bases - page B 3/4.7-5 and -6
8. T/S 6.10.2.n Administrative Control - page 6-20
9. T/S 3/4.7.9 - 3/4.7.10; pages 3/4.7-27 through -40
10. T/S Index - page IX

2.0 Extent of Change

This license amendment request proposes to revise Technical Specifications (T/Ss) 3/4.7.8 and 3/4.7.7 for Units 1 and 2, respectively, and their associated bases to be consistent with the guidance provided in NRC Generic Letters 84-13 and 90-09. The changes to the T/Ss include replacing the current T/S requirements for snubber visual inspection intervals with the alternative requirements for snubber visual inspection intervals that are provided in NRC Generic Letter 90-09. Also, the snubber component list tables associated with the T/Ss mentioned above will be removed based on the guidance set forth in NRC Generic Letter 84-13.

3.0 Specific Changes Requested

(The change numbers in the following discussion refer to those in Section 1.0, above.)

1. We propose to modify the LCO in both units to say, "All safety-related snubbers shall be operable."

2. A new paragraph is being proposed to replace T/Ss 3.7.8. and 3.7.7.1 "Visual Inspections," for Units 1 and 2, respectively, as recommended by Generic Letter 90-09. Generic Letter 90-09 discusses the use of Table 3.7.4 and Table 3.7.9 in determining inspection intervals, inspection of groups independently from each other, and commencement of the start of the first inspection interval.

Unit 1 T/S 4.7.8.a and Unit 2 T/S 4.7.7.1.a currently read as follows:

a. Visual Inspections

The first inservice visual inspection of snubbers shall be performed after four months but within 10 months of commencing POWER OPERATION and shall include all snubbers listed in Table 3.7-4. If less than two (2) snubbers are found inoperable during the first inservice visual inspection, the second inservice visual inspection shall be performed 12 months plus or minus 25% from the date of the first inspection. Otherwise, subsequent visual inspections shall be performed in accordance with the following schedule:

No. Inoperable Snubbers per Inspection Period	Subsequent Visual Inspection Period*#,##
0	18 months plus or minus 25%
1	12 months plus or minus 25%
2	6 months plus or minus 25%
3,4	124 days plus or minus 25%
5,6,7	62 days plus or minus 25%
8 or more	31 days plus or minus 25%

The snubbers may be categorized into two groups: Those accessible and those inaccessible during reactor operation. Each group may be inspected independently in accordance with the above schedule.

* The inspection interval shall not be lengthened more than one step at a time.
# The provisions of Specification 4.0.2 are not applicable.
##The visual inspection of inaccessible snubbers may be delayed until the end of the Cycle 11 refueling outage.

We are proposing to modify these T/Ss to read as follows:

a. Visual Inspections

Snubbers are categorized as inaccessible or accessible during reactor operation. Each of

these categories (inaccessible and accessible) may be inspected independently according to the schedule determined by Table 3.7-4. The visual inspection interval for each type of snubber shall be determined based upon the criteria provided in Table 3.7-4 and the first inspection interval determined using this criteria shall be based upon the previous inspection interval as established by the requirements in effect before Amendment No. ____.

3. This section is being revised to incorporate the wording provided in Generic Letter 90-09. Currently, Unit 1 T/S 4.7.8.b and Unit 2 T/S 4.7.7.1.b read as follows:

b. Visual Inspection Acceptance Criteria

Visual inspections shall verify (1) that there are no visible indications of damage or impaired OPERABILITY, (2) attachments to the foundation or supporting structure are secure, and (3) in those locations where snubber movement can be manually induced without disconnecting the snubber, that the snubber has freedom of movement and is not frozen up. Snubbers which appear inoperable as a result of visual inspections may be determined OPERABLE for the purpose of establishing the next visual inspection interval, providing that (1) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers that may be generically susceptible; and (2) the affected snubber is functionally tested in the as found condition and determined OPERABLE per Specification 4.7.8.d (Unit 1) or 4.7.7.1.d (Unit 2) as applicable. However, when the fluid port of a hydraulic snubber is found to be uncovered, the snubber shall be determined inoperable and cannot be determined OPERABLE via functional testing for the purpose of establishing the next visual inspection interval. All snubbers connected to an inoperable common hydraulic fluid reservoir shall be counted as inoperable snubbers.

We are proposing to modify these T/Ss to read as follows:

b. Visual Inspection Acceptance Criteria

Visual inspections shall verify (1) that there are no visible indications of damage or impaired

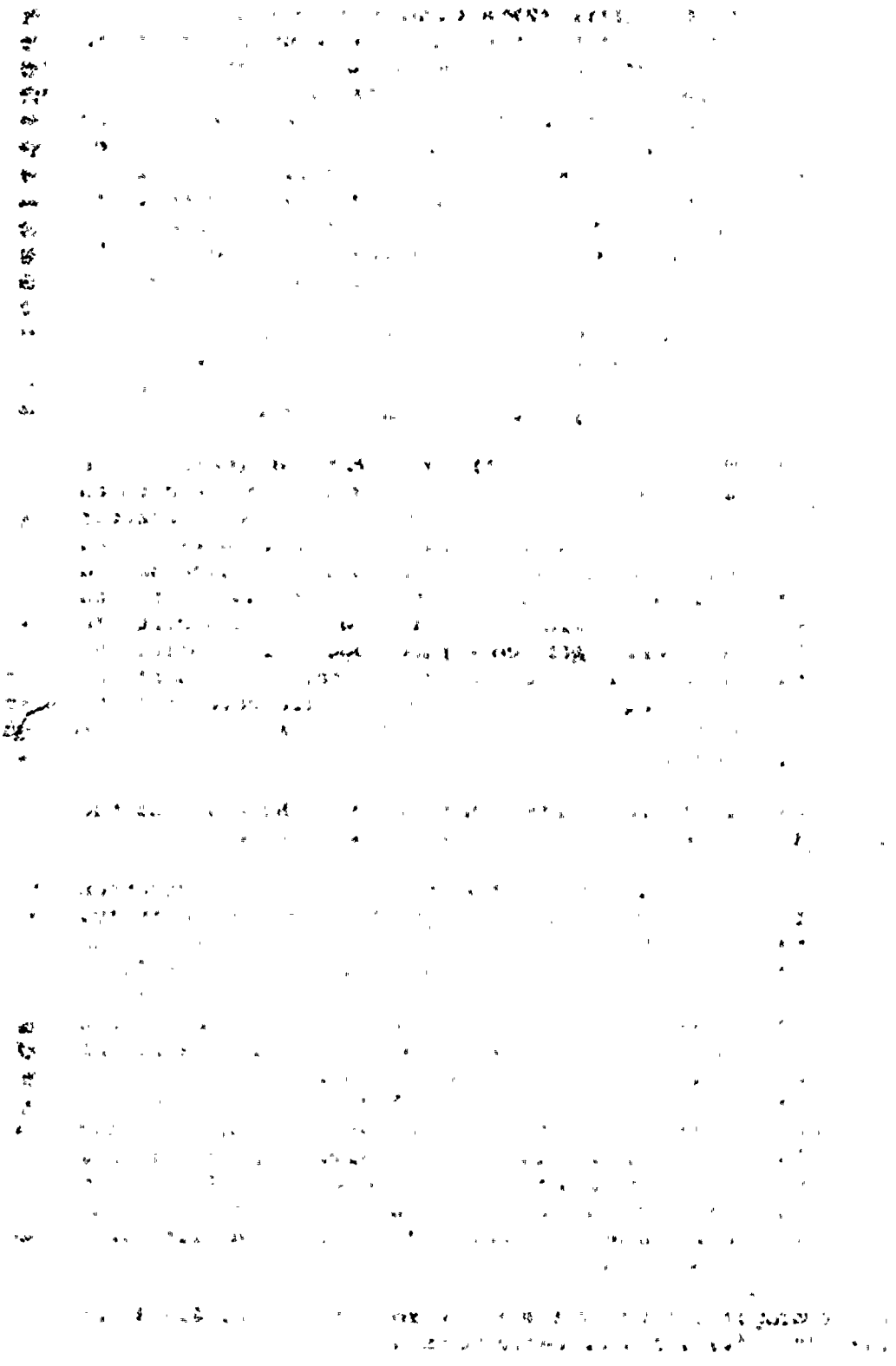
OPERABILITY, (2) attachments to the foundation or supporting structure are secure, and (3) in those locations where snubber movement can be manually induced without disconnecting the snubber, that the snubber has freedom of movement and is not frozen up. Snubbers which appear inoperable as a result of visual inspections shall be classified as unacceptable and may be reclassified as acceptable for the purpose of establishing the next visual inspection interval, providing that (1) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers that may be generically susceptible; and (2) the affected snubber is functionally tested in the as found condition and determined OPERABLE per Specification 4.7.8.1.d (Unit 1) or 4.7.7.1.d (Unit 2) as applicable. All snubbers found connected to an inoperable common hydraulic fluid reservoir shall be counted as unacceptable for determining the next inspection interval. A review and evaluation shall be performed and documented to justify continued operation with an unacceptable snubber. If continued operation cannot be justified, the snubber shall be declared inoperable and the ACTION requirements shall be met.

4, 5. We are proposing to modify the surveillance to remove the reference to Tables 3.7-4 and 3.7-9, "Safety Related Hydraulic Snubber," in Units 1 and 2, respectively.

6. We are proposing to add Tables 3.7-4 and 3.7-9, "Snubber Visual Inspection Interval," in Units 1 and 2, respectively. These tables provide limits for determining the next inspection interval. Footnotes to Tables 3.7-4 and 3.7-9 provide further guidance on interpolation, determining inspection intervals, and the applicability of T/S 4.0.2 (extending surveillance intervals) consistent with the guidance provided in Generic Letter 90-09.

7. We are proposing to modify Bases Sections 3/4.7.8 and 3/4.7.7, in Units 1 and 2, respectively. Paragraphs are being inserted to explain the visual inspection interval and the acceptance criteria described in Generic Letter 90-09 and the control being placed on the snubber component list that is proposed to be removed from the T/S.

The second paragraph of the bases for Unit 1 T/S 4.7.8 and Unit 2 T/S 4.7.7.1, currently reads as follows:



> The visual inspection frequency is based upon maintaining a constant level of snubber protection to systems. Therefore, the required inspection interval varies inversely with the observed snubber failures and is determined by the number of inoperable snubbers found during an inspection. Inspections performed before that interval has elapsed may be used as a new reference point to determine the next inspection. However, the results of such early inspections performed before the original required time interval has elapsed (nominal time less 25%) may not be used to lengthen the required inspection interval. Any inspection whose results required a shorter inspection interval will override the previous schedule.

This paragraph is being revised to read as follows:

> The visual inspection frequency is based upon maintaining a constant level of snubber protection to systems. The method for determining the next interval for the visual inspection of snubbers is provided based upon the number of unacceptable snubbers found during the previous inspection, the category size for each snubber type, and the previous inspection interval per NRC Generic Letter 90-09. A snubber is considered unacceptable if it fails to satisfy the acceptance criteria of the visual inspection. Any inspection whose results required a shorter inspection interval will override the previous schedule.

Additionally, the following paragraph is being added to the bases for both units:

> A list of individual snubbers with detailed information of snubber location and size and of system affected shall be available at the plant in accordance with Section 50.71(c) of 10 CFR Part 50. The accessibility of each snubber shall be determined and approved by the Plant Nuclear Safety Review Committee. The determination shall be based upon the existing radiation levels and the expected time to perform a visual inspection in each snubber location as well as other factors associated with accessibility during plant operations (e.g., temperature, atmosphere, location, etc.), and recommendations of Regulatory Guides 8.8 and 8.10. The addition or deletion of any snubber shall be made in accordance with Section 50.59 of 10 CFR Part 50.

8. We are proposing to remove the reference to Tables 3.7-4 and 3.7-9 in Units 1 and 2, respectively.

9,10. We are proposing to renumber the pages in T/S Sections 3/4.7.9 and 3/4.7.10 for both units as a result of removing the snubber component tables. The T/S index will also be revised to reflect the page number changes.

4.0 Discussion

System Description and Safety Function

Snubbers ensure that the structural integrity of the reactor coolant system and other safety-related systems is maintained during and following a dynamic event. Snubbers, or dynamic restraints, are used to restrain piping or equipment during dynamic events or transient loads while allowing relatively unrestrained movement of the piping/component during normal heatup or cooldown operations.

The Technical Specifications (T/S 4.7.8c and T/S 4.7.7.1c for Units 1 and 2, respectively) that typically involve removing the snubber and testing it on a specially-designed test stand impose surveillance requirements for visual inspection and functional testing of safety-related snubbers. The NRC defines "visual inspection" in Generic Letter 90-09 as the observation of the condition of the installed snubbers to identify those that are damaged, degraded, or inoperable as caused by physical means, leakage, corrosion, or environmental exposure, which typically involves removing the snubber and testing it on a specially-designed test stand. In this manner the structural integrity of safety-related equipment is maintained. Functional testing, which typically involves removing the snubber and testing it on a specially-designed test stand, provides a high confidence level that the snubbers will operate within the specified acceptance limits. In this manner the structural integrity of safety-related equipment is maintained. The performance of visual examinations is a separate process that complements the functional testing program in ensuring snubber operability.

The current T/Ss specify a schedule for snubber visual inspection that is based on the number of inoperable snubbers found during the previous visual inspection. Consequently, irrespective of the size of the snubber population or group the visual inspection schedule can be excessively restrictive, requiring inspections as frequently as once every 31 days. This has resulted in plant personnel being subjected to unnecessary radiological exposure to comply with the visual examination requirements.

To alleviate this situation, the NRC staff developed an alternate schedule for visual inspections. In Generic Letter 90-09, the NRC staff states that this alternate schedule establishes an acceptable visual inspection confidence for snubber operability for nuclear power stations. Furthermore, this alternate schedule generally

allows for the performance of visual inspections and corrective actions during plant outages, which should reduce associated potential radiological exposures.

The NRC staff, in Generic Letter 84-13, "Technical Specification for Snubbers," reassessed the inclusion of snubber listings within the T/Ss. The generic letter concluded that such listings are not necessary, provided the snubber T/S is modified to specify which snubbers are required to be operable. The proposed change incorporates into Cook Nuclear Plant T/S wording from Generic Letter 84-13 and removes the snubber list contained in Tables 3.7-4 and 3.7-9, Units 1 and 2, respectively. This snubber list will now be contained in a Cook Nuclear Plant procedure. The population of snubbers that will be included in the proposed administrative procedure will be those listed in the current T/S tables.

Justification

Periodic visual inspection of snubbers complements the existing functional testing program, and provides additional confidence in the snubbers' operability. The existing T/S surveillance schedule is based on the number of inoperable snubbers found during the previous inspection. Since Cook Nuclear Plant's existing schedule for snubber visual inspection is based solely on the number of inoperable snubbers found during the previous visual inspection, irrespective of the size of the snubber population or group, the visual inspection schedule can be excessively restrictive. Consequently, plant personnel may be subjected to unnecessary radiological exposure in order to comply with the visual examination requirements.

The proposed change to the T/Ss alleviates this situation by incorporating the alternative inspection schedule provided by the NRC in Generic Letter 90-09, dated December 11, 1990. The alternative inspection schedule is based on the number of unacceptable snubbers found during the previous inspection in proportion to the size of the various snubber populations and may be as long as 48 months with good overall visual inspection results. As determined by the NRC, the alternate schedule for visual inspections maintains the same confidence level in snubber operability as the existing schedule. Furthermore, the NRC determined that since this line item T/S improvement will reduce future occupational radiation exposure, and since it is highly cost effective, the alternate inspection schedule proposed in Generic Letter 90-09 is consistent with the NRC's policy statement on T/S improvement.

The NRC, in Generic Letter 84-13, "Technical Specification for Snubbers," reassessed the inclusion of snubber listings within the T/Ss. The letter concluded that such listings are not necessary, provided the snubber T/S is modified to specify which snubbers are

required to be operable. The generic letter noted that this modification did not alter the T/S requirements for record keeping or the need for 10 CFR 50.59 evaluations for changes in snubber quantities, types, or location. The changes that we are proposing to make to the Cook Nuclear Plant's T/Ss are consistent with the guidance provided in Generic Letter 84-13.

5.0 No Significant Hazards Determination

We have evaluated the proposed T/S changes and have determined that the changes should involve no significant hazards consideration based on the criteria established in 10CFR 50.92(c). Operation of the Cook Nuclear Plant in accordance with the proposed amendment will not:

(1) Involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated. The proposed changes do not result in any physical change to the facility which could cause an increase in the probability or consequences of any previously evaluated accident. The requested changes incorporate the alternative inspection schedule provided by the NRC in Generic Letter 90-09, dated December 11, 1990, and remove the snubber component lists from the T/Ss in accordance with the guidance set forth in Generic Letter 84-13, dated May 3, 1984.

As determined by the NRC, the alternative schedule for visual inspections maintains the same confidence level as the existing schedule and, therefore, does not affect the probability or consequences of an accident previously evaluated.

The removal of the snubber component lists from the T/S will not alter the existing T/S requirements nor change the components to which they apply. The lists being removed from the T/Ss will be placed under administrative control and a 10 CFR 50.59 evaluation will be required for changes in snubber quantities, types, or location. The editorial changes to the T/S will not affect the probability or consequences of an accident in any way, they merely reflect the shifting of page numbers. Therefore, the proposed amendment does not involve a change in the probability or consequences of an accident previously evaluated.

(2) Create the possibility of a new or different kind of accident from any previously analyzed.

The proposed amendment does not create the possibility of a

[illegible]

new or different kind of accident previously evaluated. The proposed amendment does not result in any physical change to the plant or method of operating the plant from that allowed by the T/Ss. No new failure modes have been defined for any system or component nor has any new limiting single failure been identified.

The NRC has generically reviewed the proposed changes and has determined that the alternative snubber visual inspection interval maintains the same confidence level in snubber operability. Therefore, the proposed change does not create the possibility of a new or different kind of accident.

The removal of snubber component lists will not alter existing T/Ss requirements or those components to which they apply. No physical changes are being made to the facility as a result or in support of the removal of the component lists. Since the requirements for the components will remain the same, this proposed amendment will not affect the outcome of previously evaluated accidents. A 10 CFR 50.59 review will be performed for changes to the administrative snubber list to ensure that an unreviewed safety question, such as a new accident, does not result from future changes in the list. The editorial changes to the T/Ss will not affect the previously evaluated accidents since they do not change the meaning of any T/Ss. Therefore, the proposed amendment does not create the possibility of a new or different kind of accident from any previously evaluated.

(3) Involve a significant reduction in a margin of safety.

The proposed amendment does not involve a significant reduction in the margin of safety. As stated above, the proposed amendment incorporates the alternative T/S requirements for visual inspections of snubbers provided by the NRC in Generic Letter 90-09 and removes the snubber component lists from the T/Ss in accordance with the guidance set forth in Generic Letter 84-13.

The NRC has previously reviewed these changes and determined that the alternative visual inspection interval maintains the same confidence level in snubber operability. The removal of the component lists from the T/Ss will not alter the existing T/S requirements nor change the components to which they apply. The component lists will be incorporated into plant procedures that are subject to the change control provisions for plant procedures specified in the administrative controls section of the T/S. Since neither the list of components nor the requirements that those components are required to meet are changing, the margin of safety is not affected.

[illegible]

[illegible]

The editorial changes made to refine the T/Ss will not affect the margin of safety. Consequently, the proposed amendment, including both changes, does not involve a significant reduction in the margin of safety.

6.0 Pending T/Ss Proposals Impacting This Submittal

Changes to page B 3/4 7-5 were also submitted in AEP:NRC:0398R, dated June 29, 1989, and AEP:NRC:0398U, dated September 10, 1990. The changes proposed in this letter are in addition to those changes and do not supersede them.

Our letter AEP:NRC:0692CC dated February 14, 1992 contains proposed changes to pages that are also contained in this submittal. However, the pages affected are included in this submittal only due to repagination; no actual T/Ss are impacted.

Attachment 2 to AEP:NRC:1143

Existing Technical Specifications

Pages Marked to Reflect Proposed Changes

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

PLANT SYSTEMS

3/4.7.8 SNUBBERS

LIMITING CONDITION FOR OPERATION

3.7.8.1 All safety-related snubbers ~~listed in Table 3.7-4~~ shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4. (MODES 5 and 6 for snubbers located on systems required OPERABLE in those MODES).

ACTION:

With one or more snubbers inoperable, within 72 hours replace or restore the inoperable snubber(s) to OPERABLE status and perform an engineering evaluation per Specification 4.7.8.1.c on the supported component or declare the supported system inoperable and follow the appropriate ACTION statement for that system.

SURVEILLANCE REQUIREMENTS

4.7.8.1 Each snubber shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program and the requirements of Specification 4.0.5.

Insert A →

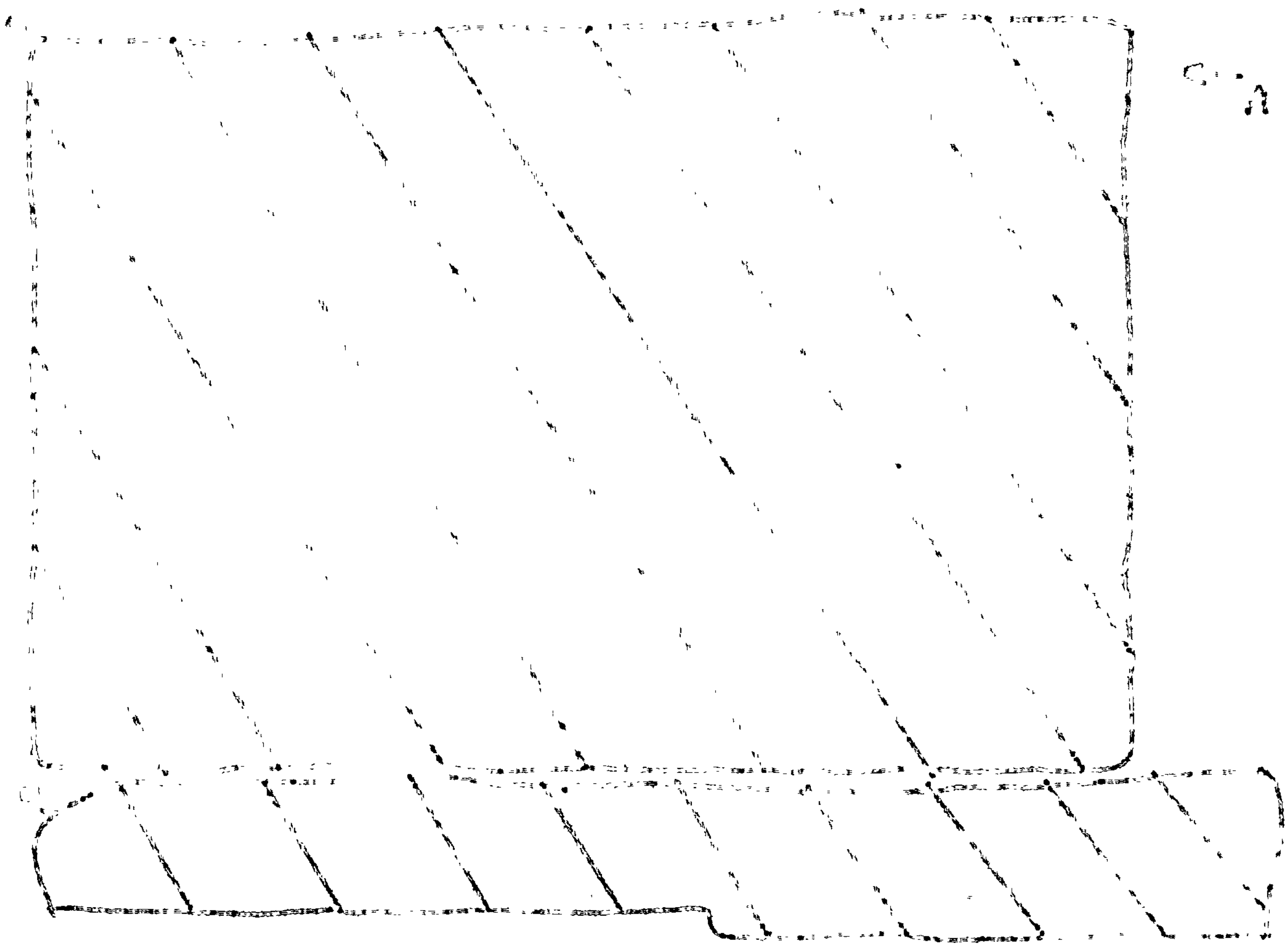
a. Visual Inspections

The first inservice visual inspection of snubbers shall be performed after four months but within 10 months of commencing POWER OPERATION and shall include all snubbers listed in Table 3.7-4. If less than two (2) snubbers are found inoperable during the first inservice visual inspection, the second inservice visual inspection shall be performed 12 months plus or minus 25% from the date of the first inspection. Otherwise, subsequent visual inspections shall be performed in accordance with the following schedule:

No. Inoperable Snubbers per Inspection Period	Subsequent Visual Inspection Period*#,##
0	18 months plus or minus 25%
1	12 months plus or minus 25%
2	6 months plus or minus 25%
3,4	124 days plus or minus 25%
5,6,7	62 days plus or minus 25%
8 or more	31 days plus or minus 25%

The snubbers may be categorized into two groups: Those accessible and those inaccessible during reactor operation. Each group may be inspected independently in accordance with the above schedule.

* The inspection interval shall not be lengthened more than one step at a time.
# The provisions of Specification 4.0.2 are not applicable.
##The visual inspection of inaccessible snubbers may be delayed until the end of the Cycle 11 refueling outage.



Insert A (Page 3/4 7-28)

Snubbers are categorized as inaccessible or accessible during reactor operation. Each of these categories (inaccessible and accessible) may be inspected independently according to the schedule determined by Table 3.7-4. The visual inspection interval for each type of snubber shall be determined based upon the criteria provided in Table 3.7-4 and the first inspection interval determined using this criteria shall be based upon the previous inspection interval as established by the requirements in effect before Amendment No. ____.

SURVEILLANCE REQUIREMENTS (Continued)

b. Visual Inspection Acceptance Criteria

Visual inspections shall verify (1) that there are no visible indications of damage or impaired OPERABILITY, (2) attachments to the foundation or supporting structure are secure, and (3) in those locations where snubber movement can be manually induced without disconnecting the snubber, that the snubber has freedom of movement and is not frozen up. Snubbers which appear inoperable as a result of visual inspections ~~may be determined OPERABLE~~ for the purpose of establishing the next visual inspection interval, providing that (1) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers that may be generically susceptible; and (2) the affected snubber is functionally tested in the as found condition and determined OPERABLE per Specification 4.7.8.d. ~~However, when the fluid port of a hydraulic snubber is found to be uncovered, the snubber shall be determined inoperable and cannot be determined OPERABLE via functional testing for the purpose of establishing the next visual inspection interval.~~ All snubbers found connected to an inoperable common hydraulic fluid reservoir shall be counted as ~~inoperable snubbers.~~

Shall be classified as unacceptable and may be reclassified as acceptable

Insert 3/4 7-29B

c. Functional Tests

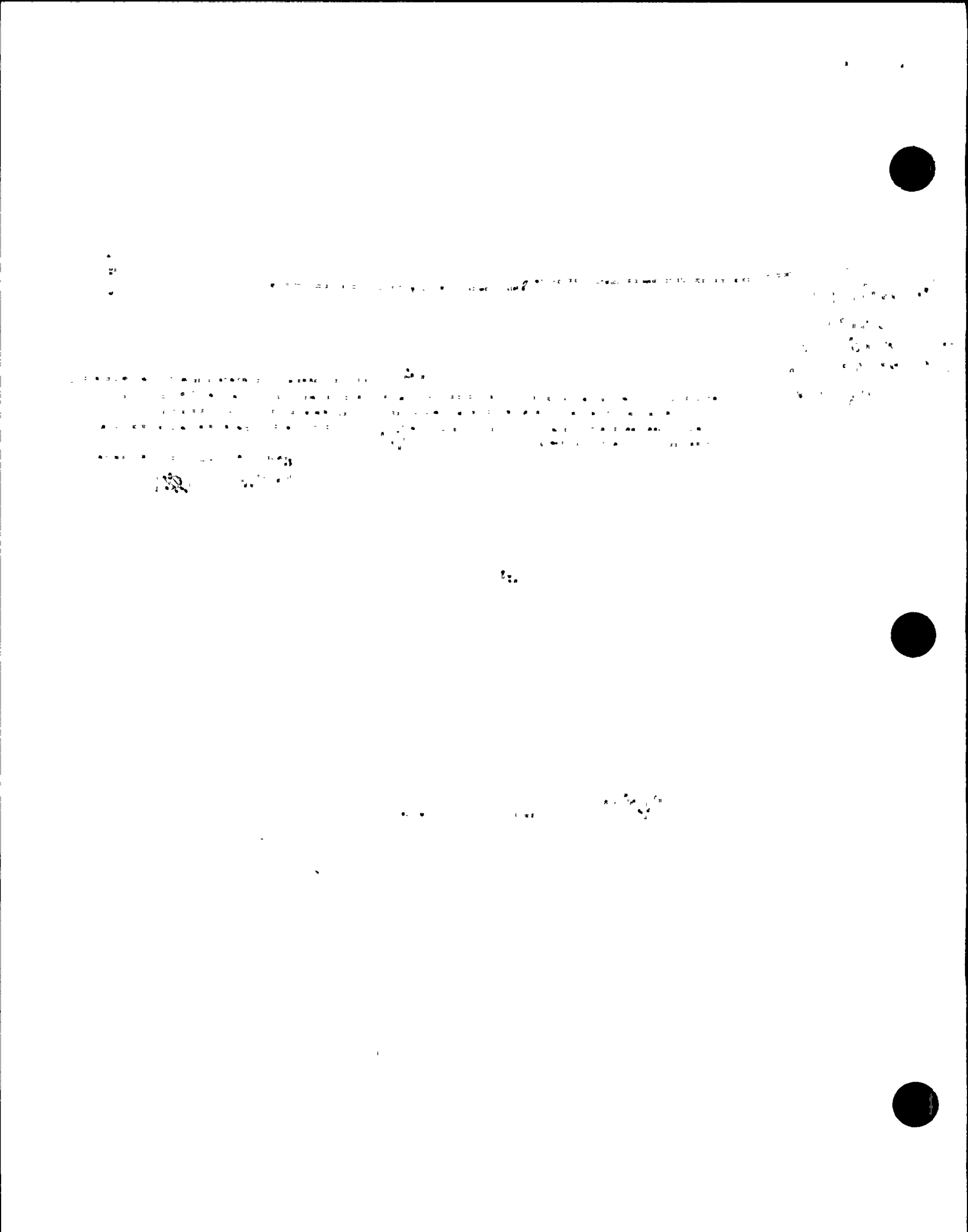
At least once per 24 months during shutdown, a representative sample (14%) of the total of each type of snubber in use in the plant shall be functionally tested either in place or in a bench test. For each snubber that does not meet the functional test acceptance criteria of Specification 4.7.8.d an additional 10% of that type of Snubber shall be functionally tested.

The representative sample selected for functional testing shall include the various configurations, operating environments and the range of size and capacity of snubbers. At least 25% of the snubbers in the representative sample shall include snubbers from the following three categories:

1. The first snubber away from each reactor vessel nozzle
2. Snubbers within 5 feet of heavy equipment (valve, pump, turbine, motor, etc.)
3. Snubbers within 10 feet of the discharge from a safety relief valve

Snubbers that are identified ~~in Table 3.7-4~~ as "Especially Difficult to Remove" or in "High Radiation Zones During Shutdown" shall also be included in the representative sample.*

* Permanent or other exemptions from functional testing for individual snubbers in these categories may be granted by the Commission only if a justifiable basis for exemption is presented and/or snubber life destructive testing was performed to qualify snubber operability for all design conditions at either the completion of their fabrication or at a subsequent date.



Insert B (Page 3/4 7-29)

unacceptable for determining the next inspection interval. A review and evaluation shall be performed and documented to justify continued operation with an unacceptable snubber. If continued operation cannot be justified, the snubber shall be declared inoperable and the ACTION requirements shall be met.

SURVEILLANCE REQUIREMENTS (Continued)

In addition to the regular sample, snubbers which failed the previous functional test shall be retested during the next test period. If a spare snubber has been installed in place of a failed snubber, then both the failed snubber (if it is repaired and installed in another position) and the spare snubber shall be retested. Test results of these snubbers may not be included for the re-sampling.

If any snubber selected for functional testing either fails to lockup or fails to move, i.e., frozen in place, the cause will be evaluated and if caused by manufacturer or design efficiency all snubbers of the same design subject to the same defect shall be functionally tested. This testing requirement shall be independent of the requirements stated above the snubbers not meeting the functional test acceptance criteria.

For the snubber(s) found inoperable, an engineering evaluation shall be performed on the components which are supported by the snubber(s). The purpose of this engineering evaluation shall be to determine if the components supported by the snubber(s) were adversely affected by the inoperability of the snubber(s) in order to ensure that the supported component remains capable of meeting the designed service.

d. Hydraulic Snubbers Functional Test Acceptance Criteria

The hydraulic snubber functional test shall verify that:

1. Activation (restraining action) is achieved within the specified range of velocity or acceleration in both tension and compression.

2. Snubber bleed, or release rate, where required, is within the specified range in compression or tension. For snubbers specifically required to not displace under continuous load, the ability of the snubber to withstand load without displacement shall be verified.

e. Snubber Service Life Monitoring

A record of the service life of each snubber, the date at which the designated service life commences and the installation and maintenance records on which the designated service life is based shall be maintained as required by Specification 6.10.2.

Concurrent with the first inservice visual inspection and at least once per 18 months thereafter, the installation and maintenance records for ~~each~~ snubbers ~~listed in Table 3.7-4~~ shall be reviewed to verify that the indicated service life has not been exceeded or will not be exceeded prior to the next scheduled snubber service life review. If the indicated service life will be exceeded prior to the next scheduled snubber service life review, the snubber service life shall be reevaluated or the snubber shall be replaced or reconditioned so as to extend its service life beyond the date of the next scheduled service life review. This reevaluation, replacement or reconditioning shall be indicated in the records.

All safety-related

Add to Unit 1 T/s Insert Table from GL 90-09

TABLE 4.7-2

SNUBBER VISUAL INSPECTION INTERVAL

Population or Category (Notes 1 and 2)	NUMBER OF UNACCEPTABLE SNUBBERS		
	Column A Extend Interval (Notes 3 and 6)	Column B Repeat Interval (Notes 4 and 6)	Column C Reduce Interval (Notes 5 and 6)
1	0	0	1
80	0	0	2
100	0	1	4
150	0	3	8
200	2	5	13
300	5	12	25
400	8	18	36
500	12	24	48
750	20	40	78
1000 or greater	29	56	109

Note 1: The next visual inspection interval for a snubber population or category size shall be determined based upon the previous inspection interval and the number of unacceptable snubbers found during that interval. Snubbers may be categorized, based upon their accessibility during power operation, as accessible or inaccessible. These categories may be examined separately or jointly. However, the licensee must make and document that decision before any inspection and shall use that decision as the basis upon which to determine the next inspection interval for that category.

Note 2: Interpolation between population or category sizes and the number of unacceptable snubbers is permissible. Use next lower integer for the value of the limit for Columns A, B, or C if that integer includes a fractional value of unacceptable snubbers as determined by interpolation.

Note 3: If the number of unacceptable snubbers is equal to or less than the number in Column A, the next inspection interval may be twice the previous interval but not greater than 48 months.

Note 4: If the number of unacceptable snubbers is equal to or less than the number in Column B but greater that the number in Column A, the next inspection interval shall be the same as the previous interval.

Add to Unit 1 TLs

Insert Table from GL 90-09

Table 3.7-4

Note 5: If the number of unacceptable snubbers is equal to or greater than the number in Column C, the next inspection interval shall be two-thirds of the previous interval. However, if the number of unacceptable snubbers is less than the number in Column C but greater than the number in Column B, the next interval shall be reduced proportionally by interpolation, that is, the previous interval shall be reduced by a factor that is one-third of the ratio of the difference between the number of unacceptable snubbers found during the previous interval and the number in Column B to the difference in the numbers in Columns B and C.

Note 6: The provisions of Specification 4.0.2 are applicable for all inspection intervals up to and including 48 months.

TABLE 3.7-4

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	HANGER MARK NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE	HIGH RADIATION ZONE	ESPECIALLY DIFFICULT TO REMOVE
* 1	1-GRC-S519	REACTOR COOLANT ELEV. 683'-5 1/2" IN PRESSURIZER ENCLOSURE	I	NO	NO
2	1-GRC-S537	REACTOR COOLANT AZ 25° ELEV 610'-5" BETWEEN STEM. GEN. NO. 1 AND RC PUMP NO. 1	I	YES	NO
3	1-GRC-S538	REACTOR COOLANT Az 41° ELEV. 614'-10" BELOW STM. GEN. NO. 1	I	NO	NO
4	1-GRC-S555	REACTOR COOLANT Az 141° ELEV. 614'-2" BELOW STM. GEN. NO. 2	I	NO	NO
5	1-GRC-S562	REACTOR COOLANT Az 154° ELEV. 610'-5" BETWEEN STM. GEN. NO. 2 AND RC PUMP NO. 2	I	YES	NO
6	1-GRC-S564	REACTOR COOLANT Az 313° ELEV. 614'-10 1/8" BELOW STM. GEN. NO. 4	I	NO	NO
7	1-GRC-S566	REACTOR COOLANT Az 332° ELEV 610'-5" BETWEEN STM. GEN. NO. 4 AND RC PUMP NO. 4	I	YES	NO
8	1-GRC-S573	REACTOR COOLANT Az 223° ELEV 614'-10 1/8" BELOW STM. GEN. NO. 3	I	NO	NO

* Functional testing of this snubber may be delayed until the first time the unit enters Mode 5 after September 4, 1989, or in conjunction with the scheduled ice condenser ice basket surveillance, whichever occurs first.

TABLE 3.7-4

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	HANGER MARK NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE	HIGH RADIATION ZONE	ESPECIALLY DIFFICULT TO REMOVE
9	1-GRC-S575	REACTOR COOLANT Az 208° ELEV. 610'-5" BETWEEN STM. GEN. NO. 3 AND RC PUMP NO. 3	I	YES	NO
10	1-GRC-S582	REACTOR COOLANT Az 212° ELEV 617'-4" NEAR REACTOR CAVITY WALL, ACROSS FROM STM.GEN. NO. 3	I	YES	NO
11	1-GRC-S587	REACTOR COOLANT Az 260° ELEV 622'-4 1/4" IN CONTAINMENT	I	NO	NO
12	1-GRC-S592	REACTOR COOLANT Az 292° ELEV 683'-6 3/4" IN PRESSURIZER ENCLOSURE.	I	NO	NO
13	1-GRC-S594	REACTOR COOLANT Az 292° ELEV 691'-9" IN PRESSURIZER ENCLOSURE.	I	NO	NO
14	1-GRC-S596	REACTOR COOLANT Az 285° ELEV 691-9" IN PRESSURIZER ENCLOSURE.	I	NO	NO
15	1-GRC-S598	REACTOR COOLANT Az 292° ELEV 670'-3 3/4" IN PRESSURIZER ENCLOSURE.	I	NO	YES
16	1-GRC-S599	REACTOR COOLANT Az 287° ELEV 672'-4" IN PRESSURIZER ENCLOSURE.	I	NO	NO

TABLE 3.7-4

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	HANGER MARK NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE	HIGH RADIATION ZONE	ESPECIALLY DIFFICULT TO REMOVE
17	1-GRC-S604	REACTOR COOLANT Az 286° ELEV 688'-10" IN PRESSURIZER ENCLOSURE.	I	NO	NO
18	1-GRC-S608	REACTOR COOLANT Az 286° ELEV 683'-0" IN PRESSURIZER ENCLOSURE.	I	NO	NO
19	1-GRC-S614	REACTOR COOLANT Az 282° ELEV 681'-0" IN PRESSURIZER ENCLOSURE.	I	NO	NO
20	1-FW-S1	FEEDWATER Az 31° ELEV 634'-9" BEHIND STM GEN NO. 1	I	NO	NO
21	1-FW-S2(L)	FEEDWATER Az 26° ELEV 633'-6" BEHIND STM GEN NO. 1	I	NO	NO
22	1-FW-S2(U)	FEEDWATER Az 26° ELEV 636'-0" BEHIND STM GEN NO. 1	I	NO	NO
23	1-FW-S3	FEEDWATER Az 20° ELEV 629'-9" BEHIND STM. GEN NO. 1	I	NO	NO
24	1-FW-S4(L)	FEEDWATER Az 154° ELEV 636'-8 3/8" BEHIND STM GEN NO. 2	I	NO	NO

TABLE 3.7-4

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	HANGER MARK NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE	HIGH RADIATION ZONE	ESPECIALLY DIFFICULT TO REMOVE
25	1-FW-S4(U)	FEEDWATER Az 154° ELEV 640'-8 3/8" BEHIND STM GEN NO. 2	I	NO	NO
26	1-FW-S5	FEEDWATER Az 163° ELEV 634'-9" BEHIND STM. GEN NO. 2	I	NO	NO
27	1-FW-S6	FEEDWATER Az 157° ELEV 629'-9" BEHIND STM. GEN NO. 2	I	NO	NO
28	1-FW-S7	FEEDWATER Az 204° ELEV 634'-9" BEHIND STM. GEN NO. 3	I	NO	NO
29	1-FW-S8(L)	FEEDWATER Az ELEV 633'-6" BEHIND STM. GEN NO. 3	I	NO	NO
30	1-FW-S8(U)	FEEDWATER Az 200° ELEV 636'-0" BEHIND STM. GEN NO. 3	I	NO	NO
31	1-FW-S9	FEEDWATER Az 194° ELEV 629'-9" BEHIND STM. GEN NO. 3	I	NO	NO
32	1-FW-S10(L)	FEEDWATER Az 334° ELEV 633'-6" BEHIND STM. GEN NO. 4	I	NO	NO

TABLE 3.7-4

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	HANGER MARK NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE	HIGH RADIATION ZONE	ESPECIALLY DIFFICULT TO REMOVE
33	1-FW-S10(U)	FEEDWATER Az 334° ELEV 636'-0" BEHIND STM. GEN NO. 4	I	NO	NO
34	1-FW-S11	FEEDWATER Az 330° ELEV 634'-9" BEHIND STM. GEN NO. 4	I	NO	NO
35	1-FW-S12	FEEDWATER Az 343° ELEV 629'-9" BEHIND STM. GEN NO. 4	I	NO	NO
36	1-GCS-S634	CHEM&VOL CONTROL Az 292° ELEV 613' IN CONTAINMENT	I	YES	NO
37	1-GCS-S637	CHEM&VOL, CONTROL Az 71° ELEV 608'-10" IN ANNULUS.	A	NO	NO
38	1-GCS-S757	RC PUMP SEAL WATER SUPPLY, BETWEEN RC PUMP NO. 2 AND CRANE WALL, IMMEDIATELY UNDER GRATING Az 128° ELEV.612'-7 1/8"	I	NO	NO
39	1-MSS-1	MAIN STEAM Az 8° ELEV 639'-1 1/4" BETWEEN STM GEN NO. 1 AND NO. 4	I	NO	NO
40	1-MSS-2	MAIN STEAM Az 17° ELEV 635' BETWEEN STM. GEN NO. 1 AND NO. 4	I	NO	NO
41	1-MSS-3	MAIN STEAM Az 172° ELEV 639'-1 1/4" BEHIND STM. GEN NO. 1	I	NO	NO

TABLE 3.7-4

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	HANGER MARK NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE	HIGH RADIATION ZONE	ESPECIALLY DIFFICULT TO REMOVE
42	1-MSS-4	Main Steam Az 165o Elev. 635' Between Stm. Gen. No. 2 and No. 3	I	NO	NO
43	1-MSS-5	Main Steam Az 191° Elev. 635' Between Stm. Gen. No. 2 and No. 3	I	NO	NO
44	1-MSS-6	Main Steam Az 184° Elev. 639'-1 1/4" Between Stm. Gen. No. 2 and No. 3	I	NO	NO
45	1-MSS-7	Main Steam Az 349° Elev. 635' Behind Stm. Gen. No. 1 and No.4	I	NO	NO
46	1-MSS-8	Main Steam Az 356° Elev. 639'-1 1/4" Between Stm. Gen. No. 1 and No. 4	I	NO	NO
47	1-GCCW-S278	Component Cooling Water Elev. 609' In CCW Pump Area	A	NO	NO
48	1-GCCW-S309	Component Cooling Water Elev. 597'-1 5/8" In Passageway Near Sampling Room Aux. Bldg.	A	NO	YES
49	1-GCCW-S837	Component Cooling Water Elev. 621'-0" In CCW Pump Area	A	NO	NO
50	1-GCCW-S838	Component Cooling Water Elev. 621'-0" In CCW Pump Area	A	NO	NO
51	1-GCCW-S839	Component Cooling Water Elev. 621'-0" In CCW Pump Area	A	NO	NO

TABLE 3.7-4

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	HANGER MARK NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE	HIGH RADIATION ZONE	ESPECIALLY DIFFICULT TO REMOVE
52	1-GCCW-S840	COMPONENT COOLING WATER ELEV. 621'-0" IN CCW PUMP AREA	A	NO	NO
53	1-GCCW-S841	COMPONENT COOLING WATER ELEV. 621'-0" IN CCW PUMP AREA	A	NO	NO
54	1-GCCW-S842	COMPONENT COOLING WATER ELEV. 621'-0" IN CCW PUMP AREA	A	NO	NO
55	1-GCCW-S844	COMPONENT COOLING WATER ELEV. 609'-0" IN CCW PUMP AREA	A	NO	NO
56	1-GBD-S563	STM. GEN. BLOWDOWN Az 277° ELEV. 608'-6 1/2" IN ANNULUS	A	NO	NO
57	1-GBD-S569	STM. GEN. BLOWDOWN Az 278° ELEV. 608'-6 1/2" IN ANNULUS	A	NO	NO
58	1-GBD-S573	STM. GEN. BLOWDOWN Az 181° ELEV. 607'-10 1/2" IN ANNULUS	A	NO	NO
59	1-GBD-S574	STM. GEN. BLOWDOWN Az 181° ELEV. 607'-10 1/2" IN ANNULUS	A	NO	NO
60	1-GRH-S7A	RESIDUAL HEAT REMOVAL ELEV. 581'-8 1/2" IN I-E RHR PUMP ROOM	A	NO	NO
61	1-GRH-S7B	RESIDUAL HEAT REMOVAL ELEV. 581'-4" IN I-E RHR PUMP ROOM	A	NO	NO

TABLE 3.7-4

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	HANGER MARK NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE	HIGH RADIATION ZONE	ESPECIALLY DIFFICULT TO REMOVE
62	1-GRH-S47	Residual Heat Removal Elev. 581' In 1-W RHR Pump Room	A	NO	NO
63	1-GRH-S48	Residual Heat Removal Elev. 580'-6" In 1-W RHR Pump Room	A	NO	NO
64	1-GDG-S13	1-AB Emerg. Diesel Exhaust Elev. 596'-7 3/8"	A	NO	NO
65	1-GDG-S14	1-AB Emerg. Diesel Exhaust Elev. 603'-6"	A	NO	NO
66	1-GSI-S103	Safety Injection Elev. 573' In 1-E RHR Pump Room	A	NO	YES
67	1-GSI-S128	Safety Injection Elev. 573' In 1-W RHR Pump Room	A	NO	YES
68	1-GSI-S575	Safety Injection Elev. 598'-9 3/8" Az 66° In Annulus	A	NO	NO
69	1-GSI-S657	Safety Injection Az 185° Elev. 610'-0" In Annulus	A	NO	NO
70	1-GSI-S707	Safety Injection Az 228° Elev. 608'-4 7/8" Behind RC Pump No. 3	I	NO	NO

TABLE 3.7-4

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	HANGER MARK NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE	HIGH RADIATION ZONE	ESPECIALLY DIFFICULT TO REMOVE
71	1-GCTS-S73(E)	CONTAINMENT SPRAY ELEV. 582'-0" IN I-E CONTAINMENT SPRAY PUMP ROOM	A	NO	NO
72	1-GCTS-S73(W)	CONTAINMENT SPRAY ELEV. 582'-0" IN I-E CONTAINMENT SPRAY PUMP ROOM	A	NO	NO
73	1-GCTS-S76(B)	CONTAINMENT SPRAY ELEV. 579'-6" INSIDE LEAK DETECTOR BOX, PIPE CHASE	A	NO	NO
74	1-GCTS-S76(A)	CONTAINMENT SPRAY ELEV. 579'-6" INSIDE LEAK DETECTOR BOX, PIPE CHASE	A	NO	NO
75	1-GCTS-S160A (N)	CONTAINMENT SPRAY ELEV. 582'-0" INSIDE LEAK DETECTOR BOX, PIPE CHASE	A	NO	NO
76	1-GCTS-S160A (S)	CONTAINMENT SPRAY ELEV. 582'-0" INSIDE LEAK DETECTOR BOX, PIPE CHASE	A	NO	NO
77	1-GCTS-S161 (E)	CONTAINMENT SPRAY ELEV. 579'-6" IN I-W CONTAINMENT SPRAY PUMP ROOM	A	NO	NO
78	1-GCTS-S161 (W)	CONTAINMENT SPRAY ELEV. 579'6" IN I-W CONTAINMENT SPRAY PUMP ROOM	A	NO	NO

TABLE 3.7-4

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	HANGER MARK NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE	HIGH RADIATION ZONE	ESPECIALLY DIFFICULT TO REMOVE
79	N/A	STEAM GENERATOR NO. 1 ELEV. 665'	I	NO	YES
80	N/A	STEAM GENERATOR NO. 1 ELEV. 665'	I	NO	YES
81	N/A	STEAM GENERATOR NO. 1 ELEV. 665'	I	NO	YES
82	N/A	STEAM GENERATOR NO. 1 ELEV. 665'	I	NO	YES
83	N/A	STEAM GENERATOR NO. 2 ELEV. 665'	I	NO	YES
84	N/A	STEAM GENERATOR NO. 2 ELEV. 665'	I	NO	YES
85	N/A	STEAM GENERATOR NO. 2 ELEV. 665'	I	NO	YES
86	N/A	STEAM GENERATOR NO. 2 ELEV. 665'	I	NO	YES
87	N/A	STEAM GENERATOR NO. 3 ELEV. 665'	I	NO	YES
88	N/A	STEAM GENERATOR NO. 3 ELEV. 665'	I	NO	YES
89	N/A	STEAM GENERATOR NO. 3 ELEV. 665'	I	NO	YES

TABLE 3.7-4

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	HANGER MARK NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE	HIGH RADIATION ZONE	ESPECIALLY DIFFICULT TO REMOVE
90	N/A	STEAM GENERATOR NO. 3 ELEV. 665'	I	NO	YES
91	N/A	STEAM GENERATOR NO. 4 ELEV. 665'	I	NO	YES
92	N/A	STEAM GENERATOR NO. 4 ELEV. 665'	I	NO	YES
93	N/A	STEAM GENERATOR NO. 4 ELEV. 665'	I	NO	YES
94	N/A	STEAM GENERATOR NO. 4 ELEV. 665'	I	NO	YES

* Snubbers may be added to safety related systems without prior License Amendment to Table 3.7-4 provided that a revision to Table 3.7-4 is included with the next License Amendment request.

Modifications to the "High Radiation Zone" column due to changes in high radiation areas may be made without prior License Amendment provided that a revision to Table 3.7-4 is included with the next License Amendment.

BASES (Continued)

Insert #C

The visual inspection frequency is based upon maintaining a constant level of snubber protection to systems. Therefore, the required inspection interval varies inversely with the observed snubber failures and is determined by the number of inoperable snubbers found during an inspection. Inspections performed before that interval has elapsed may be used as a new reference point to determine the next inspection. However, the results of such early inspection performed before the original required time interval has elapsed (nominal time less 25%) may not be used to lengthen the required inspection interval. Any inspection whose results required a shorter inspection interval will override the previous schedule.

When the cause of the rejection of a snubber is clearly established and remedied for that snubber and for any other snubbers that may be generically susceptible, and verified by inservice functional testing, that snubber may be exempted from being counted as inoperable. Generically susceptible snubbers are those which are of a specific make or model and have the same design features directly related to rejection of the snubber by visual inspection, or are similarly located or exposed to the same environmental conditions such as temperature, radiation, and vibration.

When a snubber is found inoperable, an engineering evaluation is performed, in addition to the determination of the snubber mode of failure, in order to determine if any safety-related component or system has been adversely affected by the inoperability of the snubber. The engineering evaluation shall determine whether or not the snubber mode of failure has imparted a significant effect or degradation on the supported component or system.

To provide assurance of snubber functional reliability, a representative sample of the installed snubbers will be functionally tested during plant shutdowns at 24 month intervals. Observed failures of these sample snubbers shall require functional testing of additional units.

The service life of a snubber is evaluated via manufacturer's input and information through consideration of the snubber service conditions and associated installation and maintenance records (newly installed snubber, seal replaced, spring replaced, in high radiation area, in high temperature area, etc...). The requirement to monitor the snubber service life is included to ensure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records will provide statistical bases for future consideration of snubber service life. The requirements for the maintenance of records and the snubber service life review are not intended to affect plant operation.

The number of snubbers to be functionally tested during each surveillance is based on calculations performed to allow extension of the surveillance interval from 18 months to 24 months, and therefore, the number of snubbers functionally tested deviates from the number required by the Westinghouse Standard Technical Specifications (NUREG-0452, Revision 4).

Insert #D →

Insert C (Page B 3/4 7-6)

The method for determining the next interval for the visual inspection of snubbers is provided based upon the number of unacceptable snubbers found during the previous inspection, the category size for each snubber type, and the previous inspection interval per NRC Generic Letter 90-09. A snubber is considered unacceptable if it fails to satisfy the acceptance criteria of the visual inspection.

Insert D (Page B 3/4 7-6)

A list of individual snubbers with detailed information of snubber location and size and of system affected shall be available at the plant in accordance with Section 50.71(c) of 10 CFR Part 50. The accessibility of each snubber shall be determined and approved by the Plant Nuclear Safety Review Committee. The determination shall be based upon the existing radiation levels and the expected time to perform a visual inspection in each snubber location as well as other factors associated with accessibility during plant operations (e.g., temperature, atmosphere, location, etc.), and the recommendations of Regulatory Guides 8.8 and 8.10. The addition or deletion of any snubber shall be made in accordance with Section 50.59 of 10 CFR Part 50.

6.10.2 The following records shall be retained for the duration of the Facility Operating License:

a. Records and drawing changes reflecting unit design modifications made to systems and equipment described in the Final Safety Analysis Report.

b. Records of new an irradiated fuel inventory, fuel transfers and assembly burnup histories.

c. Records of radiation exposure for all individuals entering radiation control areas.

d. Records of gaseous and liquid radioactive material released to the environment.

e. Records of transient or operational cycles for those facility components identified in Table 5.9-1.

f. Records of reactor tests and experiments.

g. Records of training and qualification for current members of the Plant Staff.

h. Records of in-service inspections performed pursuant to these Technical Specifications.

i. Records of Quality Assurance activities required by the QA Manual.

j. Records of reviews performed for changes made to procedures or equipment or review of tests and experiments pursuant to 10 CFR 50.59.

k. Records of meetings of the PNSRC and the NSDRC.

l. Records of radioactive shipments.

m. Records of the service lives of hydraulic snubbers ~~listed on Table 3.7-4~~ including the date at which service life commences and associated installation and maintenance records.

6.11 RADIATION PROTECTION PROGRAM

Procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR Part 20 and shall be approved, maintained and adhered to for all operations involving personnel radiation exposure.

6.12 HIGH RADIATION AREA

6.12.1 In lieu of the "control device" or "alarm signal" required by paragraph 20.203(c)(2) of 10 CFR 20, each high radiation area in which the intensity of radiation is 1000 mrem/hr or less shall be barricaded and

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

BASES

The service life of a snubber is evaluated via manufacture's input and information through consideration of the snubber service conditions and associated installation and maintenance records (newly installed snubber, seal replaced, spring replaced, in high radiation area, in high temperature area, etc...). The requirement to monitor the snubber service life is included to ensure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records will provide statistical bases for future consideration of snubber service life. The requirements for the maintenance of records and the snubber service life review are not intended to affect plant operation.

The number of snubbers to be functionally tested during each surveillance is based on calculations performed to allow extension of the surveillance interval from 18 months to 24 months, and therefore, the number of snubbers functionally tested deviates from the number required by the Westinghouse Standard Technical Specifications (NUREG-0452, Revision 4).

Insert H →

3/4.7.8 SEALED SOURCE CONTAMINATION

The limitations on removable contamination for sources requiring leak testing, including alpha emitters, is based on 10 CFR 70.39(c) limits for plutonium. This limitation will ensure that leakage from byproduct, source and special nuclear material sources will not exceed allowable intake values.

3/4.7.9 FIRE SUPPRESSION SYSTEMS

The OPERABILITY of the fire suppression systems ensures that adequate fire suppression capability is available to confine and extinguish fires occurring in any portion of the facility where safety related equipment is located. The fire suppression system consists of the water system, spray and/or sprinklers, CO_2, Halon and fire hose stations. The collective capability of the fire suppression systems is adequate to minimize potential damage to safety related equipment and is a major element in the facility fire protection program.

In the event that one or more CO2 Suppression System requiring automatic actuation must be isolated for personal protection to permit entry for routine tours, maintenance, construction, or surveillance testing in the protected area, the fire detection system(s) required to be operable by Specification 3.3.3.7 shall be verified to be operable. Isolation of an automatic CO2 suppression system temporarily puts this system in a manual actuation mode. Reliance on the fire detection system, in conjunction with the ability to manually discharge the CO2 suppression system will provide adequate fire protection for periods when personnel are required to work in these areas.

Insert H (Page B 3/4 7-6)

A list of individual snubbers with detailed information of snubber location and size and of system affected shall be available at the plant in accordance with Section 50.71(c) of 10 CFR Part 50. The accessibility of each snubber shall be determined and approved by the Plant Nuclear Safety Review Committee. The determination shall be based upon the existing radiation levels and the expected time to perform a visual inspection in each snubber location as well as other factors associated with accessibility during plant operations (e.g., temperature, atmosphere, location, etc.), and the recommendations of Regulatory Guides 8.8 and 8.10. The addition or deletion of any snubber shall be made in accordance with Section 50.59 of 10 CFR Part 50.

PLANT SYSTEMS

3/4.7.7 SNUBBERS

LIMITING CONDITION FOR OPERATION

3.7.7.1 All safety-related snubbers ~~listed in Table 3.7-9~~ shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4. (MODES 5 and 6 for snubbers located on systems required OPERABLE in those MODES).

ACTION:

With one or more snubbers inoperable, within 72 hours replace or restore the inoperable snubber(s) to OPERABLE status and perform an engineering evaluation per Specification 4.7.7.1.c on the supported component or declare the supported system inoperable and follow the appropriate ACTION statement for that system.

SURVEILLANCE REQUIREMENTS

4.7.7.1 Each snubber shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program and the requirements of Specification 4.0.5.

Insert E

a. Visual Inspection

The first inservice visual inspection of snubbers shall be performed after four months but with 10 months of commencing POWER OPERATION and shall include all snubbers listed in Table 3.7-9. If less than two (2) snubbers are found inoperable during the first inservice visual inspection, the second inservice visual inspection shall be performed 12 months plus or minus 25% from the date of the first inspection. Otherwise, subsequent visual inspections shall be performed in accordance with the following schedule:

No. Inoperable Snubbers per Inspection Period	Subsequent Visual Inspection Period*#
0	18 months plus or minus 25%
1	12 months plus or minus 25%
2	6 months plus or minus 25%
3,4	124 days plus or minus 25%
5,6,7	62 days plus or minus 25%
8 or more	31 days plus or minus 25%

The snubbers may be categorized into two groups: Those accessible and those inaccessible during reactor operation. Each group may be inspected independently in accordance with the above schedule.

* The inspection interval shall not be lengthened more than one step at a time.
# The provisions of Specification 4.0.2 are not applicable.

Insert E (Page 3/4 7-20)

Snubbers are categorized as inaccessible or accessible during reactor operation. Each of these categories (inaccessible and accessible) may be inspected independently according to the schedule determined by Table 3.7-9. The visual inspection interval for each type of snubber shall be determined based upon the criteria provided in Table 3.7-9 and the first inspection interval determined using this criteria shall be based upon the previous inspection interval as established by the requirements in effect before Amendment No. ____.

SURVEILLANCE REQUIREMENTS (Continued)

b. Visual Inspection Acceptance Criteria

Visual inspections shall verify (1) that there are no visible indications of damage or impaired OPERABILITY, (2) attachments to the foundation or supporting structure are secure, and (3) in those locations where snubber movement can be manually induced without disconnecting the snubber, that the snubber has freedom of movement and is not frozen up. Snubbers which appear inoperable as a result of visual inspections ~~may be determined OPERABLE~~ shall be classified as unacceptable and may be reclassified as acceptable for the purpose of establishing the next visual inspection interval, providing that (1) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers that may be generically susceptible; and (2) the affected snubber is functionally tested in the as found condition and determined OPERABLE per Specifications 4.7.7.1.d ~~as applicable. However, when the fluid port of a hydraulic snubber is found to be uncovered, the snubber shall be determined inoperable and cannot be determined OPERABLE via functional testing for the purpose of establishing the next visual inspection interval.~~ All snubbers found connected to an inoperable common hydraulic fluid reservoir shall be counted as ~~inoperable snubbers.~~ Insert F

c. Functional Tests

At least once per 24 months during shutdown, a representative sample (14%) of the total of each type of snubber in use in the plant shall be functionally tested either in place or in a bench test. For each snubber that does not meet the functional test acceptance criteria of Specification 4.7.7.1.d an additional 10% of that type of snubber shall be functionally tested.

The representative sample selected for functional testing shall include the various configurations, operating environments and the range of size and capacity of snubbers. At least 25% of the snubbers in the representative sample shall include snubbers from the following three categories:

1. The first snubber away from each reactor vessel nozzle
2. Snubbers within 5 feet of heavy equipment (valve, pump, turbine, motor, etc.)
3. Snubbers within 10 feet of the discharge from a safety relief valve

Snubbers that are identified ~~in Table 3.7-9~~ as "Especially Difficult to Remove" or in "High Radiation Zones During Shutdown" shall also be included in the representative sample.

* Permanent or other exemptions from functional testing for individual snubbers in these categories may be granted by the Commission only if a justifiable basis for exemption is presented and/or snubber life destructive testing was performed to qualify snubber operability for all design conditions at either the completion of their fabrication or at a subsequent date.

Insert F (Page 3/4 7-21)

unacceptable for determining the next inspection interval. A review and evaluation shall be performed and documented to justify continued operation with an unacceptable snubber. If continued operation cannot be justified, the snubber shall be declared inoperable and the ACTION requirements shall be met.

SURVEILLANCE REQUIREMENTS (Continued)

In addition to the regular sample, snubbers which failed the previous functional test shall be retested during the next test period. If a spare snubber has been installed in place of a failed snubber, then both the failed snubber (if it is repaired and installed in another position) and the spare snubber shall be retested. Test results of these snubbers may not be included for the re-sampling.

If any snubber selected for functional testing either fails to lockup or fails to move, i.e., frozen in place, the cause will be evaluated and if caused by manufacturer or design deficiency all snubbers of the same design subject to the same defect shall be functionally tested. This testing requirement shall be independent of the requirements stated above for snubbers not meeting the functional test acceptance criteria.

For the snubber(s) found inoperable, an engineering evaluation shall be performed on the components which are supported by the snubber(s). The purpose of this engineering evaluation shall be to determine if the components supported by the snubber(s) were adversely affected by the inoperability of the snubber(s) in order to ensure that the supported component remains capable of meeting the designed service.

d. Hydraulic Snubbers Functional Test Acceptance Criteria

The hydraulic snubber functional test shall verify that:

1. Activation (restraining action) is achieved within the specified range of velocity or acceleration in both tension and compression.

2. Snubber bleed, or release rate, where required, is within the specified range in compression or tension. For snubbers specifically required to not displace under continuous load, the ability of the snubber to withstand load without displacement shall be verified.

e. Snubber Service Life Monitoring

A record of the service life of each snubber, the date at which the designated service life commences and the installation and maintenance records on which the designated service life is based shall be maintained as required by Specification 6.10.2.

Concurrent with the first inservice visual inspection and at least once per 18 months thereafter, the installation and maintenance records for all safety-related ~~each snubber listed in Table 3.7-9~~ shall be reviewed to verify that the indicated service life has not been exceeded or will not be exceeded prior to the next scheduled snubber service life review. If the indicated service life will be exceeded prior to the next scheduled snubber service life review, the snubber service life shall be reevaluated or the snubber shall be replaced or reconditioned so as to extend its service life beyond the date of the next scheduled service life review. This reevaluation, replacement or reconditioning shall be indicated in the records.

Add to Unit 2 T/S

Insert Table From GL 90-09

TABLE 3/4.7-2?
SNUBBER VISUAL INSPECTION INTERVAL

Population or Category (Notes 1 and 2)	NUMBER OF UNACCEPTABLE SNUBBERS Column A Extend Interval (Notes 3 and 6)	Column B Repeat Interval (Notes 4 and 6)	Column C Reduce Interval (Notes 5 and 6)
1	0	0	1
80	0	0	2
100	0	1	4
150	0	3	8
200	2	5	13
300	5	12	25
400	8	18	36
500	12	24	48
750	20	40	78
1000 or greater	29	56	109

Note 1: The next visual inspection interval for a snubber population or category size shall be determined based upon the previous inspection interval and the number of unacceptable snubbers found during that interval. Snubbers may be categorized, based upon their accessibility during power operation, as accessible or inaccessible. These categories may be examined separately or jointly. However, the licensee must make and document that decision before any inspection and shall use that decision as the basis upon which to determine the next inspection interval for that category.

Note 2: Interpolation between population or category sizes and the number of unacceptable snubbers is permissible. Use next lower integer for the value of the limit for Columns A, B, or C if that integer includes a fractional value of unacceptable snubbers as determined by interpolation.

Note 3: If the number of unacceptable snubbers is equal to or less than the number in Column A, the next inspection interval may be twice the previous interval but not greater than 48 months.

Note 4: If the number of unacceptable snubbers is equal to or less than the number in Column B but greater that the number in Column A, the next inspection interval shall be the same as the previous interval.

Add to Unit 2. T/S

Insert Table from GL 90-09

Table #3 7-9

Note 5: If the number of unacceptable snubbers is equal to or greater than the number in Column C, the next inspection interval shall be two-thirds of the previous interval. However, if the number of unacceptable snubbers is less than the number in Column C but greater than the number in Column B, the next interval shall be reduced proportionally by interpolation, that is, the previous interval shall be reduced by a factor that is one-third of the ratio of the difference between the number of unacceptable snubbers found during the previous interval and the number in Column B to the difference in the numbers in Columns B and C.

Note 6: The provisions of Specification 4.0.2 are applicable for all inspection intervals up to and including 48 months.

TABLE 3.7-9

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	HANGER MARK NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE	HIGH RADIATION ZONE	ESPECIALLY DIFFICULT TO REMOVE
1	2-GRC-S537	REACTOR COOLANT AZ 25° ELEV 610'-5" STM. GEN. NO. 1	I	NO	NO
2	2-GRC-S538	REACTOR COOLANT AZ 41° ELEV 614'-10" RC PUMP NO. 1	I	YES	NO
3	2-GRC-S555	REACTOR COOLANT AZ 141° ELEV 614'-10" 1/8" RC PUMP NO.2	I	YES	NO
4	2-GRC-S562	REACTOR COOLANT AZ 154° ELEV 610'-5" STM GEN. NO. 2	I	NO	NO
5	2-GRC-S564	REACTOR COOLANT AZ 317° ELEV 614'-10" 1/8" RC PUMP NO. 4	I	NO	NO
6	2-GRC-S566	REACTOR COOLANT AZ 331° ELEV 610'-5" STM GEN. NO. 4	I	NO	NO
7	2-GRC-S573	REACTOR COOLANT AZ 223° ELEV 614'-10" 1/8" RC PUMP NO. 3	I	YES	NO
8	2-GRC-S575	REACTOR COOLANT AZ 208° ELEV 610'-5" STM GEN. NO. 3	I	NO	NO
9	2-GRC-S582	REACTOR COOLANT AZ 208° ELEV 617'-4" 7/8" STM. GEN. NO. 3	I	YES	NO
10	2-GRC-S592	REACTOR COOLANT AZ 282° ELEV 683'-3 1/8" IN PRESSURIZER ENCLOSURE	I	NO	NO

TABLE 3.7-9

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	HANGER MARK NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE	HIGH RADIATION ZONE	ESPECIALLY DIFFICULT TO REMOVE
11	2-GRC-S594	REACTOR COOLANT AZ 291° ELEV. 683'-3 9/16" IN PRESSURIZER ENCLOSURE	I	NO	NO
12	2-GRC-S596	REACTOR COOLANT AZ 292° ELEV. 682'-11 1/8" IN PRESSURIZER ENCLOSURE	I	NO	NO
13	2-GRC-S598	REACTOR COOLANT AZ 279° ELEV. 671'-5 1/4" IN PRESSURIZER ENCLOSURE	I	NO	YES
14	2-GRC-S599	REACTOR COOLANT AZ 289° ELEV. 672'-4 1/2" IN PRESSURIZER ENCLOSURE	I	NO	NO
15	2-GRC-S609	REACTOR COOLANT AZ 283° ELEV. 689'-5/16" IN PRESSURIZER ENCLOSURE	I	NO	NO
16	2-GRC-S611	REACTOR COOLANT AZ 294° ELEV. 681'-8 7/8" IN PRESSURIZER ENCLOSURE	I	NO	NO
17	2-GRC-S623	REACTOR COOLANT AZ 277° ELEV. 682'-9 1/16" IN PRESSURIZER ENCLOSURE	I	NO	NO
18	2-GRC-S624	REACTOR COOLANT AZ 247° ELEV. 615'-6" ABOVE RELIEF TANK	I	NO	NO

TABLE 3.7-9

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	HANGER MARK NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE	HIGH RADIATION ZONE	ESPECIALLY DIFFICULT TO REMOVE
19	2-GRC-S626	REACTOR COOLANT AZ 284° ELEV. 692'-3/16" IN PRESSURIZER ENCLOSURE	I	NO	NO
20	2-GRC-S629	REACTOR COOLANT AZ 283° ELEV. 687-4 1/16" IN PRESSURIZER ENCLOSURE	I	NO	NO
21	2-GRC-S630	REACTOR COOLANT AZ 291° ELEV. 672'-7 11/16" IN PRESSURIZER ENCLOSURE	I	NO	NO
22	2-GRC-S632	REACTOR COOLANT AZ 291° ELEV. 669'-3 11/16" IN PRESSURIZER ENCLOSURE	I	NO	NO
23	2-GRC-S631	REACTOR COOLANT AZ 291° ELEV. 670'-11 11/16" IN PRESSURIZER ENCLOSURE	I	NO	NO
24	2-GRC-S587	REACTOR COOLANT AZ 260° ELEV. 622'-4 1/4" BY RELIEF TANK	I	NO	NO
25	2-FW-S1	FEEDWATER AZ 31° ELEV. 634'-9" NEAR STM. GEN. NO. 1	I	NO	NO
26	2-FW-S2(L)	FEEDWATER AZ 26° ELEV. 633'-6" NEAR STM. GEN. NO. 1	I	NO	NO

TABLE 3.7-9

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	HANGER MARK NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE	HIGH RADIATION ZONE	ESPECIALLY DIFFICULT TO REMOVE
27	2-FW-S2(U)	FEEDWATER AZ 26° ELEV. 636'-0" NEAR STM. GEN. NO. 1	I	NO	NO
28	2-FW-S3	FEEDWATER AZ 20° ELEV. 629'-9" NEAR STM. GEN. NO. 1	I	NO	NO
29	2-FW-S4(L)	FEEDWATER AZ 155° ELEV. 637'-0" NEAR STM. GEN. NO. 2	I	NO	NO
30	2-FW-S4(U)	FEEDWATER AZ 155° ELEV. 641'-0" NEAR STM. GEN. NO. 2	I	NO	NO
31	2-FW-S5	FEEDWATER AZ 163° ELEV. 634'-9" NEAR STM. GEN. NO. 2	I	NO	NO
32	2-FW-S6	FEEDWATER AZ 157° ELEV. 629'-9" NEAR STM. GEN. NO. 2	I	NO	NO
33	2-FW-S7	FEEDWATER AZ 204° ELEV. 634'-9" NEAR STM. GEN. NO. 3	I	NO	NO
34	2-FW-S8(L)	FEEDWATER AZ 200° ELEV. 633'-6" NEAR STM. GEN. NO. 3	I	NO	NO
35	2-FW-S8(U)	FEEDWATER AZ 200° ELEV. 636'-0" NEAR STM. GEN. NO. 3	I	NO	NO

TABLE 3.7-9

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	HANGER MARK NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE	HIGH RADIATION ZONE	ESPECIALLY DIFFICULT TO REMOVE
36	2-FW-S9	Feedwater Az 194° Elev. 629'-9" near Stm. Gen. No. 3	I	NO	NO
37	2-FW-S10(L)	Feedwater Az 334° Elev. 634'-0" near Stm. Gen. No. 4	I	NO	NO
38	2-FW-S10(U)	Feedwater Az 334° Elev. 636'-7" near Stm. Gen. No. 4	I	NO	NO
39	2-FW-S11	Feedwater Az 330° Elev. 634'-9" near Stm. Gen. No. 4	I	NO	NO
40	2-FW-S12	Feedwater Az 343° Elev. 629'-9" near Stm. Gen. No. 4	I	NO	NO
41	2-GBD-S563(L)	Stm. Gen. Blowdown Az 275° Elev. 607'-11" In Annulus	A	NO	NO
42	2-GBD-S563(U)	Stm. Gen. Blowdown Az 275° Elev. 608'-6" In Annulus	A	NO	NO
43	2-GBD-S569(L)	Stm. Gen. Blowdown Az 275° Elev. 607'-11" In Annulus	A	NO	NO
44	2-GBD-S569(U)	Stm. Gen. Blowdown Az 275° Elev. 608'-6" In Annulus	A	NO	NO
45	2-GBD-S568	Stm. Gen. Blowdown Az 264° Elev. 608'-1" In Annulus	A	NO	NO

TABLE 3.7-9

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	HANGER MARK NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE	HIGH RADIATION ZONE	ESPECIALLY DIFFICULT TO REMOVE
46	2-GRH-S6	Residual Heat Removal Elev. 581'-6" RHR Pump Room 2E	A	NO	NO
47	2-GRH-S7	Residual Heat Removal Elev. 581'-3" RHR Pump Room 2E	A	NO	NO
48	2-GRH-S24	Residual Heat Removal Elev. 581'-0" RHR Pump Room 2W	A	NO	NO
49	2-GRH-S25	Residual Heat Removal Elev. 580'-6" RHR Pump Room 2W	A	NO	NO
50	2-GCCW-S274	Component Cooling Water Elev. 621'-0" CCW Pump Area	A	NO	NO
51	2-GCCW-S308	Component Cooling Water Elev. 610'-1/2" CCW Pump Area	A	NO	NO
52	2-GCCW-S317	Component Cooling Water Elev. 621'-0" CCW Pump Area	A	NO	NO
53	2-GCCW-S320	Component Cooling Water Elev. 610'-6" CCW Pump Area	A	NO	NO
54	2-GCCW-S519	Component Cooling Water Az 132° Elev. 623'-4" RC Pump Area	I	NO	NO
55	2-GCCW-S521	Component Cooling Water Az 132° Elev. 624'-9" RC Pump Area	I	NO	NO
56	2-GCCW-S550	Component Cooling Water Az 308° Elev. 619'-3" RC Pump Area	I	NO	NO

TABLE 3.7-9

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	HANGER MARK NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE	HIGH RADIATION ZONE	ESPECIALLY DIFFICULT TO REMOVE
57	2-GCCW-S838	Component Cooling Water Elev. 621'-0" CCW Pump Area	A	NO	NO
58	2-GCCW-S839	Component Cooling Water Elev. 621'-0" CCW Pump Area	A	NO	NO
59	2-GCCW-S840	Component Cooling Water Elev. 620'-0" CCW Pump Area	A	NO	NO
60	2-GCCW-S843	Component Cooling Water Elev. 620'-5" CCW Pump Area	A	NO	NO
61	2-GCCW-S306	Component Cooling Water Elev. 596'-2 3/8" CCW Pump Area	A	NO	NO
62	2-GCS-S634	Chem&Vol. Control Az 299° Elev. 613'-1" Inside crane wall by No. 4 RC Pump	I	NO	NO
63	2-GCS-S637	Chem&Vol. Control Az 72° Elev. 608"-10" In Annulus	A	NO	NO
64	2-GCS-S729	Chem&Vol. Control Az 234° Elev. 617"-0" RC Pump Area	I	NO	NO
65	2-MSS-1	Main Steam Az 8° Elev. 639'-1 1/4" Between Stm. Gen. No. 1 and 4	I	NO	NO
66	2-MSS-2	Main Steam Az 17° Elev. 635'-0" Between Stm. Gen. No. 1 and 4	I	NO	NO

TABLE 3.7-9

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	HANGER MARK NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE	HIGH RADIATION ZONE	ESPECIALLY DIFFICULT TO REMOVE
67	2-MSS-3	MAIN STEAM AZ 172° ELEV. 639'-1 1/4" BETWEEN STM. GEN. NO. 2 AND 3	I	NO	NO
68	2-MSS-4	MAIN STEAM AZ 165° ELEV. 635'-0 BETWEEN STM. GEN. NO. 2 AND 3	I	NO	NO
69	2-MSS-5	MAIN STEAM AZ 191° ELEV. 635'-0 BETWEEN STM. GEN. NO. 2 AND 3	I	NO	NO
70	2-MSS-6	MAIN STEAM AZ 184° ELEV. 639'-1 1/4" BETWEEN STM. GEN. NO. 2 AND 3	I	NO	NO
71	2-MSS-7	MAIN STEAM AZ 349° ELEV. 635'-0 BETWEEN STM. GEN. NO. 1 AND 4	I	NO	NO
72	2-MSS-8	MAIN STEAM AZ 356° ELEV. 639'-1 1/4" BETWEEN STM. GEN. NO. 1 AND 4	I	NO	NO
73	2-GSI-S47	SAFETY INJECTION SYSTEM ELEV. 573'-0"	A	NO	YES
74	2-GSI-S51	SAFETY INJECTION SYSTEM ELEV. 573'-0"	A	NO	YES
75	2-GSI-S575	SAFETY INJECTION SYSTEM AZ 65° ELEV. 598'-9 3/8" IN ANNULUS	A	NO	NO

TABLE 3.7-9

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	HANGER MARK NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE	HIGH RADIATION ZONE	ESPECIALLY DIFFICULT TO REMOVE
76	2-GSI-S657	SAFETY INJECTION SYSTEM AZ 185° ELEV. 610'-0" IN ANNULUS	A	NO	NO
77	2-GSI-S707	SAFETY INJECTION SYSTEM AZ 221° ELEV. 608'-7" NEAR RC PUMP NO. 3	I	NO	NO
78	2-GCTS-S61	CONTAINMENT SPRAY ELEV. 579'-3" CTS PUMP AREA	A	NO	NO
79	2-GCTS-S113(E)	CONTAINMENT SPRAY ELEV. 582'-0" CTS PUMP AREA	A	NO	NO
80	2-GCTS-S113)W)	CONTAINMENT SPRAY ELEV. 582'-0" CTS PUMP AREA	A	NO	NO
81	2-GCTS-S114(N)	CONTAINMENT SPRAY ELEV. 582'-0" INSIDE LEAK DETECTOR BOX PIPE CHASE	A	NO	NO
82	2-GCTS-S114(S)	CONTAINMENT SPRAY ELEV. 582'-0"INSIDE LEAK DETECTOR BOX PIPE CHASE	A	NO	NO
83	2-GCTS-S115(N)	CONTAINMENT SPRAY ELEV. 579'-6" INSIDE LEAK DETECTOR BOX PIPE CHASE	A	NO	NO
84	2-GCTS-S115(S)	CONTAINMENT SPRAY ELEV. 579'-6" INSIDE LEAK DETECTOR BOX PIPE CHASE	A	NO	NO

TABLE 3.7-9

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	HANGER MARK NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE	HIGH RADIATION ZONE	ESPECIALLY DIFFICULT TO REMOVE
85	2-GCTS-S116(E)	CONTAINMENT SPRAY ELEV. 579'-6" 2W CTS Pump Room Suction Pipe	A	NO	NO
86	2-GCTS-S116(W)	CONTAINMENT SPRAY ELEV. 579'-6" 2W CTS Pump Room Suction Pipe	A	NO	NO
87	N/A	STEAM GENERATOR NO. 1 ELEV. 665'	I	NO	YES
88	N/A	STEAM GENERATOR NO. 1 ELEV. 665'	I	NO	YES
89	N/A	STEAM GENERATOR NO. 1 ELEV. 665'	I	NO	YES
90	N/A	STEAM GENERATOR NO. 1 ELEV. 665'	I	NO	YES
91	N/A	STEAM GENERATOR NO. 2 ELEV. 665'	I	NO	YES
92	N/A	STEAM GENERATOR NO. 2 ELEV. 665'	I	NO	YES
93	N/A	STEAM GENERATOR NO. 2 ELEV. 665'	I	NO	YES
94	N/A	STEAM GENERATOR NO. 2 ELEV. 665'	I	NO	YES
95	N/A	STEAM GENERATOR NO. 3 ELEV. 665'	I	NO	YES

TABLE 3.7-9

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	HANGER MARK NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE	HIGH RADIATION ZONE	ESPECIALLY DIFFICULT TO REMOVE
96	N/A	STEAM GENERATOR NO. 3 ELEV. 665'	I	NO	YES
97	N/A	STEAM GENERATOR NO. 3 ELEV. 665'	I	NO	YES
98	N/A	STEAM GENERATOR NO. 3 ELEV. 665'	I	NO	YES
99	N/A	STEAM GENERATOR NO. 4 ELEV. 665'	I	NO	YES
100	N/A	STEAM GENERATOR NO. 4 ELEV. 665'	I	NO	YES
101	N/A	STEAM GENERATOR NO. 4 ELEV. 665'	I	NO	YES
102	N/A	STEAM GENERATOR NO. 4 ELEV. 665'	I	NO	YES

* Snubbers may be added to safety related systems without prior License Amendment to Table 3.7-9 provided that a revision to Table 3.7-9 is included with the next License Amendment request.

Modifications to the "High Radiation Zone" column due to changes in high radiation areas may be made without prior License Amendment provided that a revision to Table 3.7-9 is included with the next License Amendment request.

3/4.7.6 ESF VENTILATION SYSTEM

The OPERABILITY of the ESF ventilation system ensures that adequate cooling is provided for ECCS equipment and that radioactive materials leaking from the ECCS equipment within the pump rooms following a LOCA are filtered prior to reaching the environment. The operation of this system and the resultant effect on offsite dosage calculations were assumed in the accident analyses.

The 1980 version of ANSI N510 is used as a testing guide. This standard, however, is intended to be rigorously applied only to systems which, unlike the ESF ventilation system, are designed to ANSI N509 standards. For the specific case of the air-aerosol mixing uniformity test required by ANSI N510 as a prerequisite to in-place leak testing of charcoal and HEPA filters, the air-aerosol uniform mixing test acceptance criteria were not rigorously met. For this reason, a statistical correction factor will be applied to applicable surveillance test results where required.

3/4.7.7 HYDRAULIC SNUBBERS

All snubbers are required OPERABLE to ensure that the structural integrity of the reactor coolant system and all other safety related systems is maintained during and following a seismic or other event initiating dynamic loads. Snubbers excluded from this inspection program are those installed on nonsafety-related systems and then only if their failure or failure of the system on which they are installed, would have no adverse effect on any safety-related system.

Insert G

The visual inspection frequency is based upon maintaining a constant level of snubber protection to systems. Therefore, the required inspection interval varies inversely with the observed snubber failures and is determined by the number of inoperable snubbers found during an inspection. Inspections performed before that interval has elapsed may be used as a new reference point to determine the next inspection. However, the results of such early inspections performed before the original required time interval has elapsed (nominal time less 25%) may not be used to lengthen the required inspection interval. Any inspection whose results required a shorter inspection interval will override the previous schedule.

When the cause of the rejection of a snubber is clearly established and remedied for that snubber and for any other snubbers that may be generically susceptible, and verified by inservice functional testing, that snubber may be exempted from being counted as inoperable. Generically susceptible snubbers are those which are of a specific make or model and have the same design features directly related to rejection of the snubber by visual inspection, or are similarly located or exposed to the same environmental conditions such as temperature, radiation, and vibration.

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The method for determining the next interval for the visual inspection of snubbers is provided based upon the number of unacceptable snubbers found during the previous inspection, the category size for each snubber type, and the previous inspection interval per NRC Generic Letter 90-09. A snubber is considered unacceptable if it fails to satisfy the acceptance criteria of the visual inspection.