Attachment 1

REACTIVITY CONTROL SYSTEMS

3/4.1.3 MOVABLE CONTROL ASSEMBLIES

FULL LENGTH CEA POSITION

LIMITING CONDITION FOR OPERATION

3.1.3.1 The CEA Motion Inhibit and all full length (shutdown and regulating) CEAs shall be OPERABLE with each CEA of a given group positioned within 7.5 inches (indicated position) of all other CEAs in its group.

APPLICABILITY: MODES 1* and 2*.

ACTION:

a. With one or more full length CEAs inoperable due to being immovable as a result of excessive friction or mechanical interference or known to be untrippable, be in at least HOT STANDBY within 6 hours.

b. With the CEA Motion Inhibit inoperable, within 6 hours either:

1. Restore the CEA Motion Inhibit to OPERABLE status, or

2. Place and maintain the CEA drive system mode switch in either the "Off" or any "Manual Mode" position and fully withdraw all CEAs in groups 3 and 4 and withdraw the CEAs in group 5 to less than 5% insertion. ~~or~~ While this CEA position limitation is maintained, the provisions of Specification 3.0.4 are not applicable, until the next refueling outage, or

3. Be in at least HOT STANDBY.

c. With one full length CEA inoperable due to causes other than addressed by ACTION a, above, and inserted beyond the Long Term Steady State Insertion Limits but within its above specified alignment requirements, operation in MODES 1 and 2 may continue for up to 7 days per occurrence with a total accumulated time of $\leq$ 14 days per calendar year.

d. With one full length CEA inoperable due to causes other than addressed by ACTION a, above, but within its above specified alignment requirements and either fully withdrawn or within the Long Term Steady State Insertion Limits if in CEA group 5, operation in MODES 1 and 2 may continue.

*See Special Test Exceptions 3.10.2 and 3.10.4.

TABLE 3.3-10

POST-ACCIDENT MONITORING INSTRUMENTATION

INSTRUMENT		MINIMUM CHANNELS OPERABLE
1.	Deleted	
2.	Containment Pressure	2
3.	Wide Range Logarithmic Neutron Flux Monitor	2
4.	Reactor Coolant Outlet Temperature	2
5.	Deleted	
6.	Pressurizer Pressure	2
7.	Pressurizer Level	2
8.	Steam Generator Pressure	2/steam generator
9.	Steam Generator Level (Wide Range)	2/steam generator
10.	Feedwater Flow	2
11.	Auxiliary Feedwater Flow Rate	2/steam generator
12.	RCS Subcooled Margin Monitor	1
13.	PORV/Safety Valve Acoustic Flow Monitoring	1/valve
14.	PORV Solenoid Power Indication	1/valve
15.	Containment Water Level (Wide Range)	1

TABLE 4.3-10

POST-ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION
1. Deleted		
2. Containment Pressure	M	R
3. Wide Range Logarithmic Neutron Flux Monitor	M	N.A.
4. Reactor Coolant Outlet Temperature	M	R
5. Deleted		
6. Pressurizer Pressure	M	R
7. Pressurizer Level	M	R
8. Steam Generator Pressure	M	R
9. Steam Generator Level (Wide Range)	M	R
10. Feedwater Flow	M	R
11. Auxiliary Feedwater Flow Rate	M	R
12. RCS Subcooled Margin Monitor	M	R
13. PORV/Safety Valve Acoustic Monitor	N.A.	R
14. PORV Solenoid Power Indication	N.A.	N.A.
15 Containment Water Level (Wide Range)	M	R

REACTOR COOLANT SYSTEM

3/4.4.6 REACTOR COOLANT SYSTEM LEAKAGE

LEAKAGE DETECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.4.6.1 The following Reactor Coolant System leakage detection systems shall be OPERABLE:

a. A containment atmosphere particulate radioactivity monitoring system,

b. The containment sump level alarm system, and

c. A containment atmosphere gaseous radioactivity monitoring system.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With only two of the above required leakage detection systems OPERABLE, operation may continue for up to 30 days provided grab samples of the containment atmosphere are obtained and analyzed at least once per 24 hours when either the required gaseous ~~and/~~or particulate radioactivity monitoring system is inoperable, ~~otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.~~

b. and c. -- (See attached sheet)

SURVEILLANCE REQUIREMENTS

4.4.6.1 The leakage detection systems shall be demonstrated OPERABLE by:

a. Containment atmosphere gaseous and particulate monitoring systems-performance of CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST at the frequencies specified in Table 4.3-3, and

b. Containment sump level alarm system-performance of CHANNEL CALIBRATION at least once per 18 months.

b. With only one of the above required leakage detection systems OPERABLE, operation may continue for up to 30 days provided that at least once per 24 hours:

(1) grab samples of the containment atmosphere are obtained and analyzed, and

(2) the Reactor Coolant System water inventory balance of SURVEILLANCE REQUIREMENT 4.4.6.2.c is performed.

c. With all three required leakage detection systems inoperable, restore at least one leakage detection system to OPERABLE status within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

INSERT ACTIONS b. and c. above on page 3/4 4-13

REACTOR COOLANT SYSTEM

REACTOR COOLANT SYSTEM LEAKAGE

LIMITING CONDITION FOR OPERATION

3.4.6.2 Reactor Coolant System leakage shall be limited to:

a. No PRESSURE BOUNDARY LEAKAGE,

b. 1 GPM UNIDENTIFIED LEAKAGE,

c. 1 GPM total primary-to-secondary leakage through steam generators, and

d. 10 GPM IDENTIFIED LEAKAGE from the Reactor Coolant System.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With any PRESSURE BOUNDARY LEAKAGE, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With any Reactor Coolant System leakage greater than any one of the above limits, excluding PRESSURE BOUNDARY LEAKAGE, reduce the leakage rate to within limits within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.4.6.2 Reactor Coolant System leakages shall be demonstrated to be within each of the above limits by:

a. Either (1) Monitoring the containment atmosphere particulate or gaseous radioactivity at least once per 12 hours, or,
(2) With the gaseous and particulate monitors inoperable, conducting the containment atmosphere grab sample analysis in accordance with the ACTION requirements of T.S.3.4.6.1.

b. Monitoring the containment sump discharge frequency at least once per 12 hours, when the containment sump level alarm is OPERABLE,

c. Performance of a Reactor Coolant System water inventory balance at least once per 72 hours during steady state operation and at least once per 24 hours when required by ACTION 3.4.6.1.b, except when operating in the shutdown cooling mode, and

TABLE 3.6-1

CONTAINMENT ISOLATION VALVES

PENETRATION NO.	ISOLATION CHANNEL	ISOLATION VALVE IDENTIFICATION NO.	FUNCTION	ISOLATION TIME (SECONDS)
1A	SIAS A	~~CV-5465~~ PS-5465-CV	R.C. and Pressurizer Sampling	≤7
	SIAS A	~~CV-5466~~ PS-5466-CV		≤7
	SIAS A	~~CV-5467~~ PS-5467-CV		≤7
	SIAS B	~~CV-5464~~ PS-5464-CV		≤7
1B	SIAS A	~~CV-2180~~ WGS-2180-CV	Containment Vent Header to Waste	≤7
	SIAS B	~~CV-2181~~ WGS-2181-CV	Gas	≤7
1C	SIAS A	~~CV-506~~ CVC-506-CV	RCP Seals Controlled Bleedoff	≤7
	SIAS B	~~CV-505~~ CVC-505-CV		≤7
1D	NA	~~SV-6529~~ PS-6529-SV*	Post Accident Sampling Liquid Return to RC Drain Tank	NA
2A	SIAS A	~~CV-515~~ CVC-515-CV	Letdown Line	≤13
	SIAS B	~~CV-516~~ CVC-516-CV		≤13
	NA	~~7H3-1~~ CVC-105		NA
	NA	~~7H3-1~~ CVC-103		NA
2B	NA	~~CV-517~~ CVC-517-CV	Charging Line	NA
	NA	~~CV-518~~ CVC-518-CV		NA
	NA	~~CV-519~~ CVC-519-CV		NA
	NA	~~SP-210H3-2~~ CVC-435-RV		NA
	NA	~~210H3-2~~ CVC-184		NA

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

PENETRATION NO.	ISOLATION CHANNELS	ISOLATION VALVE IDENTIFICATION NO.	FUNCTION	ISOLATION TIME (SECONDS)
7A	NA	Blind Flange	ILRT	NA
	NA	~~19-1~~ ILRT-1		NA
7B	NA	Blind Flange	ILRT	NA
	NA	~~19-1~~ ILRT-2		NA
8	SIAS A	EAD-5462-MOV ~~MOV-5462~~	Containment Normal Sump	≤13
	SIAS B	~~MOV-5463~~ EAD-5463-MOV		≤13
9	NA	~~238M3-1~~ SI-340	Containment Spray	NA
	NA	~~238M3-2~~ SI-326		NA
10	NA	~~238M3-1~~ SI-330	Containment Spray	NA
	NA	~~238M3-2~~ SI-316		NA
13	SIAS A, CRS A	CPA-1410-CV(3) ~~CV-1410 (3)~~	Purge Air Inlet	≤7**
	SIAS B, CRS B	~~CV-1411 (3)~~ CPA-1411-CV (3)		≤7**

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

PENETRATION NO.	ISOLATION CHANNELS	ISOLATION VALVE IDENTIFICATION NO.	FUNCTION	ISOLATION TIME (SECONDS)
14	SIAS A, CRS A SIAS B, CRS B	CPA-1412-CV(3) ~~CV-1412 (3)~~ ~~CV-1413 (3)~~ CPA-1413-CV(3)	Purge Air Outlet	≤7** ≤7**
15	SIAS A SIAS B	~~CV-5291~~ RE-5291-CV ~~CV-5292~~ RE-5292-CV	Purge Air Monitor	≤7 ≤7
16	CIS A	~~CV-3832~~ CC-3832-CV	Component Cooling Water Inlet	≤18
18	CIS B	~~CV-3833~~ CC-3833-CV	Component Cooling Water Outlet	≤18
19A	NA CIS A	~~223-1~~ IA-337 ~~HOV-2080~~ IA-2080-MOV	Instrument Air	NA ≤13
19B	NA NA	~~19-2*~~ PA-1040* ~~130-1*~~ PA-1044*	Plant Air	NA NA
20A	NA NA NA NA NA	~~223-1~~ N_2-344 ~~CV-612*~~ N_2-612-CV* ~~CV-622*~~ N_2-622-CV* ~~CV-632*~~ N_2-632-CV* ~~CV-642*~~ N_2-642-CV*	Nitrogen Supply	NA NA NA NA NA

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

PENETRATION NO.	ISOLATION CHANNEL	ISOLATION VALVE IDENTIFICATION NO.	FUNCTION	ISOLATION TIME (SECONDS)
20B	NA NA	~~223-1~~ N_2-389 ~~223-2~~ N_2-345	Nitrogen Supply	NA NA
20C	NA NA	~~223-1~~ N_2-346 ~~223-2~~ N_2-392	Nitrogen Supply	NA NA
23	SIAS A	~~CV-4260~~ RCW-4260-CV	R.C. Drain Tank Drains	≤7
24	SIAS B	~~SV-6531~~ PS-6531-SV	Oxygen Sample Line	≤7
37	NA NA	~~29-1~~ PSW-1019 ~~142-1~~ PSW-1008	Plant Water	NA NA
38	NA	~~CV-5460 *~~ DW-5460-CV *	Demineralized Water	NA
39	NA NA	~~130M3-1~~ SI-463 ~~130M3-2~~ SI-455	Safety Injection Tank Test Line	NA NA
41	NA NA	SI-652-MOV (2) ~~MOV-652 (2)~~ ~~MOV-651 (2)~~ SI-651-MOV (2)	Shutdown Cooling	NA NA

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

PENETRATION NO.	ISOLATION CHANNEL	ISOLATION VALVE IDENTIFICATION NO.	FUNCTION	ISOLATION TIME (SECONDS)	
44	NA	~~238-1~~ FP-141-A	Fire Protection	NA	
	NA	~~238-1~~ FP-141-B		NA	
	NA	~~MOV-6200~~ * FP-6200-MOV *		NA	
47A	NA	PS-6540A-SV *	Hydrogen Sample Outlet	NA	‡
	NA	~~SV-6540A~~ *		NA	
		~~SV-6507A~~ *			
		PS-6507A-SV *			
47b	NA	PS-6540E-SV *	Hydrogen Sample Outlet	NA	‡
	NA	~~SV-6540E~~ *		NA	
		~~SV-6507E~~ *			
		PS-6507E-SV *			
47C	NA	PS-6540F-SV *	Hydrogen Sample Outlet	NA	‡
	NA	~~SV-6540F~~ *		NA	
		~~SV-6507F~~ *			
		PS-6507F-SV *			
47D	NA	PS-6540G-SV *	Hydrogen Sample Return	NA	‡
	NA	~~SV-6540G~~ *		NA	
		~~SV-6507G~~ *			
		PS-6507G-SV *			
48A	SIAS-B	HP-6900-MOV	Containment Vent Isolation	<20**	
	SIAS-A	~~MOV-6900~~		<20**	
		~~MOV-6901~~			
		HP-6901-MOV			

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TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

PENETRATION NO.	ISOLATION CHANNEL	ISOLATION VALVE IDENTIFICATION NO.	FUNCTION	ISOLATION TIME (SECONDS)	
48B	NA NA	~~238-1~~ HP-104 ~~MOV-6903~~ HP-6903-MOV	Hydrogen Purge Inlet	NA NA	
49A	NA NA	PS-6540B-SV * ~~SV-6540B*~~ ~~SV-6507B*~~ PS-6507B-SV *	Hydrogen Sample	NA NA	⋕
49B	NA NA	PS-6540C-SV * ~~SV-6540C*~~ ~~SV-6507C*~~ PS-6507C-SV *	Hydrogen Sample	NA NA	⋕
49C	NA NA	PS-6540D-SV * ~~SV-6540B*~~ ~~SV-6507B*~~ PS-6507D-SV *	Hydrogen Sample	NA NA	⋕
50	NA NA	Blind Flange Blind Flange	ILRT	NA NA	
59	NA NA	~~29M3-1~~ SFP-170 ~~29M3-1~~ SFP-171	Refueling Pool Inlet	NA NA	
60	NA NA	~~130-2~~ ES-143 ~~19-1~~ ES-142	Steam to Reactor Head Laydown	NA NA	

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

PENETRATION NO.	ISOLATION CHANNEL	ISOLATION VALVE IDENTIFICATION NO.	FUNCTION	ISOLATION TIME (SECONDS)
61	NA	~~76Y-1~~ SFP-176	Refueling Pool Outlet	NA
	NA	~~293H-1~~ SFP-174		NA
	NA	~~293H-1~~ SFP-172		NA
	NA	~~293H-1~~ SFP-189		NA
62	SIAS A	~~MOV-6579~~ PH-6579-MOV	Containment Heating Outlet	≤13
64	NA	~~238-1~~ PH-376	Containment Heating Inlet	NA

(1) Manual or remote manual valve which is closed during plant operation.

(2) May be opened below 300°F to establish shutdown cooling flow.

(3) Containment purge and containment vent isolation valves will be shut in MODES 1, 2, 3 and 4 per TS 3/4 6.1.7 and TS 3/4 6.1.8, respectively.

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

** Containment purge isolation valves isolation times will only apply for MODES 5 and 6 during which time these valves may be opened. Isolation time for containment purge and containment vent isolation valves is NA for MODES 1, 2, 3 and 4 per TS 3/4 6.1.7 and TS 3/4 6.1.8, respectively, during which time these valves must remain closed.

SURVEILLANCE REQUIREMENTS (Continued)

b. Visual Inspection Acceptance Criteria

Visual inspections shall verify (1) that there are no visible indications of damage or impaired OPERABILITY, and (2) that the snubber installation exhibits no visual indications of detachment from foundations or supporting structures. 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/or (2) the affected snubber is functionally tested in the as found condition and determined OPERABLE per Specification 4.7.8.d, as applicable. When the fluid port of a hydraulic snubber* is found to be uncovered, the snubber shall be determined inoperable unless it can be determined OPERABLE via functional testing for the purpose of establishing the next visual inspection interval.

For the snubber(s) found inoperable, an engineering evaluation shall be performed on the component(s) which are supported by the snubber(s). The scope of this engineering evaluation shall be consistent with the licensee's engineering judgment and may be limited to a visual inspection of the supported component(s). The purpose of this engineering evaluation shall be to determine if the component(s) 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.

c. Functional Tests

At least once per 18 months during shutdown, a representative sample of 10% of the snubbers 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 5% of the snubbers shall be functionally tested until no more failures are found or until all snubbers have been functionally tested.

~~* This requirement is also applicable to snubbers served by a common hydraulic reservoir.~~

** The Steam Generator snubbers 1-63-13 through 1-63-28 need not be functionally tested until the refueling outage following June 30, 1985.

SURVEILLANCE REQUIREMENTS (Continued)

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.m.

At least once per 18 months, the installation and maintenance records for each snubber 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 re-evaluated 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.

f. Snubbers Served by a Common Hydraulic Reservoir

Snubbers served by a common hydraulic reservoir are indicated by a bracket in Table 3.7-4. All reservoirs serving more than one snubber shall be inspected to ensure adequate hydraulic level:

1. Within 7 days after reactor startup following a major outage or following any maintenance in the immediate vicinity of these snubbers, reservoirs, or associated hydraulic piping; and

2. Every 31 days. ± 25%.

* The Snubber Service Life Program shall be fully implemented by January 1, 1983.

**The provisions of Specification 4.0.2 are applicable.

TABLE 3.7-4

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE (A or I)	HIGH RADIATION ZONE** (Yes or No)	ESPECIALLY DIFFICULT TO REMOVE (Yes or No)
1-11-1	SERVICE WATER PUMP #13 SUCTION 5'	A	No	No
1-11-2	SERVICE WATER PUMP #13 SUCTION 5'	A	No	No
~~1-11-3~~	~~SERVICE WATER PUMP #13 SUCTION 5'~~	~~A~~	~~No~~	~~No~~
1-11-4	SERVICE WATER PUMP #12 SUCTION 5'	A	No	No
1-11-5	SERVICE WATER PUMP #12 SUCTION 5'	A	No	No
~~1-11-6~~	~~SERVICE WATER PUMP #11 SUCTION 5'~~	~~A~~	~~No~~	~~No~~
1-11-7	SERVICE WATER PUMP #11 SUCTION 5'	A	No	No
1-11-8	SERVICE WATER PUMP #11 SUCTION 5'	A	No	No
1-11-9	SERVICE WATER PUMP #11 SUCTION 5'	A	No	No
1-11-10	SERVICE WATER HEADER FROM TURBINE BLDG. 5'	A	No	No

TABLE 3.7-4

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE (A or I)	HIGH RADIATION ZONE** (Yes or No)	ESPECIALLY DIFFICULT TO REMOVE (Yes or No)	
1-11-11	SERVICE WATER FROM CONTAINMENT COOLERS 5'	A	No	Yes	
1-11-11A	SERVICE WATER PUMP SUCTION HDR 5'	A	No	Yes	
~~1-11-12~~	~~SERVICE WATER FROM CONTAINMENT COOLERS 5'~~	~~A~~	~~No~~	~~Yes~~	
1-11-13	SERVICE WATER FROM CONTAINMENT COOLERS 5'	A	No	No	
1-11-14	SERVICE WATER FROM CONTAINMENT COOLERS 5'	A	No	No	
1-11-16	SERVICE WATER PUMP DISCHARGE HEADER 5'	A	No	No	
~~1-11-17~~	~~SERVICE WATER PUMP DISCHARGE HEADER 5'~~	~~A~~	~~No~~	~~No~~	
1-11-18	SERVICE WATER PUMP DISCHARGE HEADER 5'	A	No	No	
1-11-18A	SERVICE WATER PUMP DISCHARGE HEADER 5'	A	No	No	
~~1-11-19~~	~~SERVICE WATER PUMP DISCHARGE HEADER 5'~~	~~A~~	~~No~~	~~No~~	

TABLE 3.7-4

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE (A or I)	HIGH RADIATION ZONE** (Yes or No)	ESPECIALLY DIFFICULT TO REMOVE (Yes or No)
~~1-11-20~~	~~SERVICE WATER PUMP #12 DISCHARGE 5'~~	~~A~~	~~No~~	~~No~~
1-11-21	SERVICE WATER PUMP #12 SUCTION 5'	A	No	No
1-11-22	SERVICE WATER PUMP #13 DISCHARGE 5'	A	No	No
1-12-1	DISCHARGE #12 COMPONENT COOLING HX 15'	A	No	No
1-12-2	DISCHARGE #12 SERVICE WATER HX 15'	A	No	No
1-12-3	DISCHARGE #11 SERVICE WATER HX 15'	A	No	No
1-12-4	INLET #11 COMPONENT COOLING HX 15'	A	No	No
1-12-5	INLET #12 COMPONENT COOLING HEAT EXCHANGER 15'	A	No	No
1-12-5A	INLET #12 COMPONENT COOLING HEAT EXCHANGER 15'	A	No	No
1-15-1	SUCTION HEADER COMPONENT COOLING PUMPS 5'	A	No	No

TABLE 3.7-4

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE (A or I)	HIGH RADIATION ZONE** (Yes or No)	ESPECIALLY DIFFICULT TO REMOVE (Yes or No)
1-15-2	SUCTION HEADER COMPONENT COOLING PUMPS 5'	A	No	No
1-15-3	COMPONENT COOLING PUMP SUCTION FROM COMPONENT COOLING HEAD TANK 5'	A	No	No
1-15-4	COMPONENT COOLING PUMP DISCHARGE HEADER 5'	A	No	No
1-15-5	COMPONENT COOLING PUMP #12 DISCHARGE 5'	A	No	No
1-15-6	COMPONENT COOLING PUMP DISCHARGE HEADER 5'	A	No	No
1-15-6A	COMPONENT COOLING PUMP DISCHARGE HEADER 5'	A	No	No
~~1-15-7~~	~~COMPONENT COOLING INLET #11 LETDOWN HX 5'~~	~~A~~	~~No~~	~~No~~
1-15-8	COMPONENT COOLING FROM WASTE EVAPS. 45'	A	No	No
1-15-9	COMPONENT COOLING WATER FROM MISC. -10'	A	No	No
1-15-11	WASTE PROCESSING SYSEM -10'	A	No	No

TABLE 3.7-4

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE (A or I)	HIGH RADIATION ZONE** (Yes or No)	ESPECIALLY DIFFI TO REMOVE (Yes or No)
~~1-36-1~~	~~SUCTION #11 AUX. FEED PUMP 12'~~	~~A~~	~~No~~	~~No~~
~~1-36-1A~~	~~SUCTION #11 AUX. FEED PUMP 12'~~	~~A~~	~~No~~	~~No~~
1-38-5	PRESSURIZER SAMPLE LINES 24'	I	Yes	No
1-38-6	PRESSURIZER SAMPLE LINES 37'	I	Yes	No
1-24-1	DIESEL GENERATOR #12 EXHAUST 92'	A	No	No
1-24-2	DIESEL GENERATOR #11 EXHAUST 92'	A	No	No

TABLE 3.7-4

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE (A or I)	HIGH RADIATION ZONE** (Yes or No)	ESPECIALLY DIFFICULT TO REMOVE (Yes or No)
~~1-52-23~~	~~SI SUCTION FROM RWT 34'~~	~~I~~	~~Yes~~	~~No~~
1-52-24	SD COOLING UPSTREAM ISOLATION VALVE 25'	I	Yes	No
1-52-25	SD COOLING UPSTREAM ISOLATION VALVE 20'	I	Yes	No
1-52-25A	SD COOLING UPSTREAM ISOLATION VALVE 20'	I	Yes	No
1-52-25B	SD COOLING UPSTREAM ISOLATION VALVE 20'	I	Yes	No
1-52-26	SD COOLING UPSTREAM ISOLATION VALVE 31'	I	Yes	No
1-52-26A	SD COOLING UPSTREAM ISOLATION VALVE 31'	I	Yes	No
1-52-27	SD COOLING UPSTREAM ISOLATION VALVE 31'	I	Yes	No
1-52-28	SD COOLING UPSTREAM ISOLATION VALVE 31'	I	Yes	No
1-52-28A	SD COOLING UPSTREAM ISOLATION VALVE 31'	I	Yes	No

TABLE 3.7-4

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE (A or I)	HIGH RADIATION ZONE** (Yes or No)	ESPECIALLY DIFFICULT TO REMOVE (Yes or No)
~~1-60-1~~	~~SERVICE WATER TO CONTAINMENT COOLER #12 42'~~	~~I~~	~~Yes~~	~~No~~
~~1-60-2~~	~~SERVICE WATER TO CONTAINMENT COOLER #12 43'~~	~~I~~	~~Yes~~	~~No~~
1-60-3	SERVICE WATER TO CONTAINMENT COOLER #12, 65'	I	Yes	No
1-60-4	SERVICE WATER TO CONTAINMENT COOLER #14 66'	I	Yes	No
~~1-60-4A~~	~~SERVICE WATER FROM CONTAINMENT COOLER #14 66'~~	~~I~~	~~Yes~~	~~No~~
~~1-60-5~~	~~SERVICE WATER FROM CONTAINMENT COOLER #14, 68'~~	~~I~~	~~Yes~~	~~No~~
~~1-60-5A~~	~~SERVICE WATER FROM CONTAINMENT COOLER #14 68'~~	~~I~~	~~Yes~~	~~No~~
1-60-6	SERVICE WATER FROM CONTAINMENT COOLER #12, 53'	I	Yes	No

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Amendment No

TABLE 3.7-4

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE (A or I)	HIGH RADIATION ZONE** (Yes or No)	ESPECIALLY DIFFICULT TO REMOVE (Yes or No)
1-60 8	SERVICE WATER FROM CONTAINMENT COOLER #13 66'	I	Yes	No
~~1-60-8A~~	~~SERVICE WATER FROM CONTAINMENT COOLER #13 66'~~	~~I~~	~~Yes~~	~~No~~
1-60-9	SERVICE WATER TO CONTAINMENT COOLER #11 44'	I	Yes	No
~~1-60-9A~~	~~SERVICE WATER TO CONTAINMENT COOLER #11 44'~~	~~I~~	~~Yes~~	~~No~~
1-60-10	SERVICE WATER TO CONTAINMENT COOLER #11 44'	I	Yes	No
1-60-10A	SERVICE WATER TO CONTAINMENT COOLER #11 43'	I	Yes	No
1-60-11	SERVICE WATER FROM CONTAINMENT COOLER #11 43'	I	Yes	No
1-60-11A	SERVICE WATER FROM CONTAINMENT COOLER #11 43'	I	Yes	No
1-60-12	SERVICE WATER FROM CONTAINMENT COOLER #11 43'	I	Yes	No
1-60-12A	SERVICE WATER FROM CONTAINMENT COOLER #11 43'	I	Yes	No

Amendment No.

TABLE 3.7-4

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE (A or I)	HIGH RADIATION ZONE** (Yes or No)	ESPECIALLY DIFFICULT TO REMOVE (Yes or No)
1-61-17	CONTAINMENT SPRAY D/STRM S/D H/X -15'	A	No	No
1-63-9	S.G. #11 BLOWDOWN ORIFICE LINE 70'	I	Yes	No
1-63-10	S.G. #11 BLOWDOWN ORIFICE BYPASS 78'	I	Yes	No
1-63-11	NITROGEN to S.G. #12 74'	I	Yes	No
1-63-12	NITROGEN to S.G. #12 69'	I	Yes	No
1-63-13	STEAM GENERATORS 75'	I	Yes	No
1-63-14	STEAM GENERATORS 75'	I	Yes	No
1-63-15	STEAM GENERATORS 75'	I	Yes	No
1-63-16	STEAM GENERATORS 75'	I	Yes	No
1-63-17	STEAM GENERATORS 75'	I	Yes	No

TABLE 3.7-4

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE (A or I)	HIGH RADIATION ZONE** (Yes or No)	ESPECIALLY DIFFICULT TO REMOVE (Yes or No)
1-63-18	STEAM GENERATORS 75'	I	Yes	No
1-63-19	STEAM GENERATORS 75'	I	Yes	No
1-63-20	STEAM GENERATORS 75'	I	Yes	No
1-63-21	STEAM GENERATORS 75'	I	Yes	No
1-63-22	STEAM GENERATORS 75'	I	Yes	No
1-63-23	STEAM GENERATORS 75'	I	Yes	No
1-63-24	STEAM GENERATORS 75'	I	Yes	No
1-63-25	STEAM GENERATORS 75'	I	Yes	No
1-63-26	STEAM GENERATORS 75'	I	Yes	No
1-63-27	STEAM GENERATORS 75'	I	Yes	No
1-63-28	STEAM GENERATORS 75'	I	Yes	No
1-64-1	LINE TO PRESS. RELIEF MOV-403 81'	I	Yes	No

TABLE 3.7-4

SAFETY RELATED HYDRAULIC SNUBBERS*

SNUBBER NO.	SYSTEM SNUBBER INSTALLED ON, LOCATION AND ELEVATION	ACCESSIBLE OR INACCESSIBLE (A or I)	HIGH RADIATION ZONE** (Yes or No)	ESPECIALLY DIFFICULT TO REMOVE (Yes or No)
1-83-38	MS FROM S.G. #12 TO AUX. FEED PUMP 27'	A	No	No
1-83-40	MS FROM S.G. #12 TO AUX. FEED PUMP 27'	A	No	No
1-83-40A	MS FROM S.G. #12 TO AUX. FEED PUMP 27'	A	No	No
~~1-83-41~~	~~AUX. FEED PUMP ISO. VALVE BYPASS 27'~~	~~A~~	~~No~~	~~No~~
1-83-44	STEAM SUPPLY TO AUX. FEED PUMP 27'	A	No	No
1-83-47	AUX. FEED PUMP ISO. VALVE BYPASS 27'	A	No	No
1-83-48	AUX. FEED PUMP ISO. VALVE BYPASS 27'	A	No	No
1-83-49	MAIN STEAM LINE ENCAPSULATION 27'	A	No	Yes
1-83-50	MAIN STEAM LINE ENCAPSULATION 27'	A	No	Yes
1-83-51	MAIN STEAM LINE ENCAPSULATION 27'	A	No	Yes
1-83-52	MAIN STEAM LINE ENCAPSULATION 27'	A	No	Yes
1-83-53	MAIN STEAM LINE ENCAPSULATION 27'	A	No	Yes
1-83-54	MAIN STEAM LINE ENCAPSULATION 27'	A	No	No

REFUELING OPERATIONS

SHUTDOWN COOLING AND COOLANT CIRCULATION

LIMITING CONDITION FOR OPERATION

3.9.8.2 Two (2) ~~independent~~ shutdown cooling loops shall be OPERABLE*#.

APPLICABILITY: Mode 6 when the water level above the top of the irradiated fuel assemblies seated within the reactor pressure vessel is less than 23 feet.

ACTION:

a. With less than the required shutdown cooling loops OPERABLE, initiate corrective action to return loops to OPERABLE status within one hour.

b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.8.2 No additional Surveillance Requirements other than those required by Specification 4.0.5.

*Normal or emergency power source may be inoperable for each shutdown cooling loop.

#One shutdown cooling loop may be replaced by one spent fuel pool cooling loop when it is lined up to provide cooling flow to the irradiated fuel in the reactor core and the heat generation rate of the core is below the heat removal capacity of the spent fuel pool cooling loop.

BASES

3/4.5.1 SAFETY INJECTION TANKS

The OPERABILITY of each of the RCS safety injection tanks ensures that a sufficient volume of borated water will be immediately forced into the reactor core through each of the cold legs in the event the RCS pressure falls below the pressure of the safety injection tanks. This initial surge of water into the core provides the initial cooling mechanism during large RCS pipe ruptures.

The limits on safety injection tank volume, boron concentration and pressure ensure that the assumptions used for safety injection tank injection in the accident analysis are met.

The safety injection tank power operated isolation valves are considered to be "operating bypasses" in the context of IEEE Std. 279-1971, which requires that bypasses of a protective function be removed automatically whenever permissive conditions are not met. In addition, as these safety injection tank isolation valves fail to meet single failure criteria, removal of power to the valves is required.

The limits for operation with a safety injection tank inoperable for any reason except an isolation valve closed minimizes the time exposure of the plant to a LOCA event occuring concurrent with failure of an additional safety injection tank which may result in unacceptable peak cladding temperatures. If a closed isolation valve cannot be immediately opened, the full capability of one safety injection tank is not available and prompt action is required to place the reactor in a mode where this capability is not required.

3/4.5.2 and 3/4.5.3 ECCS SUBSYSTEMS

The OPERABILITY of two separate ECCS subsystems ensures that sufficient emergency core cooling capability will be available in the event of a LOCA assuming the loss of one subsystem through any single failure consideration. Either subsystem operating in conjunction with the safety injection tanks is capable of supplying sufficient core cooling to limit the peak cladding temperatures within acceptable limits for all postulated break sizes ranging from the double ended break of the largest RCS cold leg pipe downward. In addition, each ECCS subsystem provides long term core cooling capability in the recirculation mode during the accident recovery period.

See Attached

. Portions of the low pressure safety injection (LPSI) system flowpath are common to both subsystems. This includes the low pressure safety injection flow control valve, CV-306, the flow orifice downstream of CV-306, and the four low pressure safety injection loop isolation valves. Although the portions of the flowpath are common, the system design is adequate to ensure reliable ECCS operation due to the short period of LPSI system operation following a design Basis Loss of Coolant Incident prior to recirculation. The LPSI system design ~~and operation are~~ is consistent with the assumptions in the safety analysis.

The trisodium phosphate dodecahydrate (TSP) stored in dissolving baskets located in the containment basement is provided to minimize the possibility of corrosion cracking of certain metal components during operation of the ECCS following a LOCA. The TSP provides this protection by dissolving in the sump water and causing its final pH to be raised to $\geq$ 7.0.

The Surveillance Requirements provided to ensure OPERABILITY of each component ensures that at a minimum, the assumptions used in the safety analyses are met and that subsystem OPERABILITY is maintained. Surveillance requirements for throttle valve position stops and flow balance testing provide assurance that proper ECCS flows will be maintained in the event of a LOCA. Maintenance of proper flow resistance and pressure drop in the piping system to each injection point is necessary to: (1) prevent total pump flow from exceeding runout conditions when the system is in its minimum resistance configuration, (2) provide the proper flow split between injection points in accordance with the assumptions used in the ECCS-LOCA analyses, and (3) provide an acceptable level of total ECCS flow to all injection points equal to or above that assumed in the ECCS-LOCA analyses. The requirement to dissolve a representative sample of TSP in a sample of RWT water provides assurance that the stored TSP will dissolve in borated water at the postulated post LOCA temperatures.

3/4.5.4 REFUELING WATER TANK (RWT)

The OPERABILITY of the RWT as part of the ECCS ensures that a sufficient supply of borated water is available for injection by the ECCS in the event of a LOCA. The limits on RWT minimum volume and boron concentration ensure that 1) sufficient water is available within containment to permit recirculation cooling flow to the core, and 2) the reactor will remain subcritical in the cold condition following mixing of the RWT and the RCS water volumes with all control rods inserted except for the most reactive control assembly. These assumptions are consistent with the LOCA analyses.

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

Attachment 2

REACTIVITY CONTROL SYSTEMS

3/4.1.3 MOVABLE CONTROL ASSEMBLIES

FULL LENGTH CEA POSITION

LIMITING CONDITION FOR OPERATION

3.1.3.1 The CEA Motion Inhibit and all full length (shutdown and regulating) CEAs shall be OPERABLE with each CEA of a given group positioned within 7.5 inches (indicated position) of all other CEAs in its group.

APPLICABILITY: MODES 1* and 2*.

ACTION:

a. With one or more full length CEAs inoperable due to being immovable as a result of excessive friction or mechanical interference or known to be untrippable, be in at least HOT STANDBY within 6 hours.

b. With the CEA Motion Inhibit inoperable, within 6 hours either:

1. Restore the CEA Motion Inhibit to OPERABLE status, or

2. Place and maintain the CEA drive system mode switch in either the "Off" or any "Manual Mode" position and fully withdraw all CEAs in groups 3 and 4 and withdraw the CEAs in group 5 to less than 5% insertion. While this CEA position limitation is maintained, the provisions of Specification 3.0.4 are not applicable, or

3. Be in at least HOT STANDBY.

c. With one full length CEA inoperable due to causes other than addressed by ACTION a, above, and inserted beyond the Long Term Steady State Insertion Limits but within its above specified alignment requirements, operation in MODES 1 and 2 may continue for up to 7 days per occurrence with a total accumulated time of ≤ 14 days per calendar year.

d. With one full length CEA inoperable due to causes other than addressed by ACTION a, above, but within its above specified alignment requirements and either fully withdrawn or within the Long Term Steady State Insertion Limits if in CEA group 5, operation in MODES 1 and 2 may continue.

*See Special Test Exceptions 3.10.2 and 3.10.4.

Amendment No.

AUG 1

TABLE 3.3-10

POST-ACCIDENT MONITORING INSTRUMENTATION

	INSTRUMENT	MINIMUM CHANNELS OPERABLE
1.	Containment Pressure	2
2.	Wide Range Logarithmic Neutron Flux Monitor	2
3.	Reactor Coolant Outlet Temperature	2
4.	Pressurizer Pressure	2
5.	Pressurizer Level	2
6.	Steam Generator Pressure	2/steam generator
7.	Steam Generator Level (Wide Range)	2/steam generator
8.	Auxiliary Feedwater Flow Rate	2/steam generator
9.	RCS Subcooled Margin Monitor	1
10.	PORV/Safety Valve Acoustic Flow Monitoring	1/valve
11.	PORV Solenoid Power Indication	1/valve
12.	Feedwater Flow	2
13.	Containment Water Level (Wide Range)	1

TABLE 4.3-10

POST-ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT		CHANNEL CHECK	CHANNEL CALIBRATION
1.	Containment Pressure	M	R
2.	Wide Range Logarithmic Neutron Flux Monitor	M	N.A.
3.	Reactor Coolant Outlet Temperature	M	R
4.	Pressurizer Pressure	M	R
5.	Pressurizer Level	M	R
6.	Steam Generator Pressure	M	R
7.	Steam Generator Level (Wide Range)	M	R
8.	Auxiliary Feedwater Flow Rate	M	R
9.	RCS Subcooled Margin Monitor	M	R
10.	PORV/Safety Valve Acoustic Monitor	N.A.	R
11.	PORV Solenoid Power Indication	N.A.	N.A.
12.	Feedwater Flow	M	R
13	Containment Water Level (Wide Range)	M	R

REACTOR COOLANT SYSTEM

3/4.4.6 REACTOR COOLANT SYSTEM LEAKAGE

LEAKAGE DETECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.4.6.1 The following Reactor Coolant System leakage detection systems shall be OPERABLE:

a. A containment atmosphere particulate radioactivity monitoring system,

b. The containment sump level alarm system, and

c. A containment atmosphere gaseous radioactivity monitoring system.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a.
With only two of the above required leakage detection systems OPERABLE, operation may continue for up to 30 days provided grab samples of the containment atmosphere are obtained and analyzed at least once per 24 hours when the required gaseous ~~and/~~or particulate radioactivity monitoring system is inoperable, ~~otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.~~
b. and c. -- (see attached sheet)

SURVEILLANCE REQUIREMENTS

4.4.6.1 The leakage detection systems shall be demonstrated OPERABLE by:

a. Containment atmosphere gaseous and particulate monitoring systems-performance of CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST at the frequencies specified in Table 4.3-3, and

b. Containment sump level alarm system-performance of CHANNEL CALIBRATION at least once per 18 months.

b. With only one of the above required leakage detection systems OPERABLE, operation may continue for up to 30 days provided that at least once per 24 hours:

(1) grab samples of the containment atmosphere are obtained and analyzed, and

(2) the Reactor Coolant System water inventory balance of SURVEILLANCE REQUIREMENT 4.4.6.2.c is performed.

c. With all three required leakage detection systems inoperable, restore at least one leakage detection system to OPERABLE status within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

INSERT ACTIONS b. and c. above on page 3/4 4-13

REACTOR COOLANT SYSTEM

REACTOR COOLANT SYSTEM LEAKAGE

LIMITING CONDITION FOR OPERATION

3.4.6.2 Reactor Coolant System leakage shall be limited to:

a. No PRESSURE BOUNDARY LEAKAGE,

b. 1 GPM UNIDENTIFIED LEAKAGE,

c. 1 GPM total primary-to-secondary leakage through steam generators, and

d. 10 GPM IDENTIFIED LEAKAGE from the Reactor Coolant System.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With any PRESSURE BOUNDARY LEAKAGE, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With any Reactor Coolant System leakage greater than any one of the above limits, excluding PRESSURE BOUNDARY LEAKAGE, reduce the leakage rate to within limits within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.4.6.2 Reactor Coolant System leakages shall be demonstrated to be within each of the above limits by:

a. Either (1) Monitoring the containment atmosphere particulate or gaseous radioactivity at least once per 12 hours, or (2) With the gaseous and particulate monitors inoperable, conducting the containment atmosphere grab sample analysis in accordance with the ACTION requirements of T.S.3.4.6.1.

b. Monitoring the containment sump discharge frequency at least once per 12 hours, when the containment sump level alarm is OPERABLE,

c. Performance of a Reactor Coolant System water inventory balance at least once per 72 hours during steady state operation and at least once per 24 hours when required by ACTION 3.4.6.1.b, except when operating in the shutdown cooling mode, and

TABLE 3.6-1

CONTAINMENT ISOLATION VALVES

PENETRATION NO.	ISOLATION CHANNEL	ISOLATION VALVE IDENTIFICATION NO.	FUNCTION	ISOLATION TIME (SECONDS)
1A	SIAS A	~~CV-5465~~ PS-5465-CV	R.C. and Pressurizer Sampling	≤7
	SIAS A	~~CV-5466~~ PS-5466-CV		
	SIAS A	~~CV-5467~~ PS-5467-CV		
	SIAS B	~~CV-5464~~ PS-5464-CV		
1B	SIAS A	~~CV-2180~~ WGS-2180-CV	Containment Vent Header to Waste	≤7
	SIAS B	~~CV-2181~~ WGS-2181-CV	Gas	≤7
1C	SIAS A	~~CV-506~~ CVC-506-CV	RCP Seals Controlled Bleedoff	≤7
	SIAS B	~~CV-505~~ CVC-505-CV		≤7
1D	NA	~~SV-6529~~ PS-6529-SV	Post Accident Sampling Liquid Return to RC Drain Tank	NA
2A	SIAS A	~~CV-515~~ CVC-515-CV	Letdown Line	≤13
	SIAS B	~~CV-516~~ CVC-516-CV		≤13
	NA	~~7H3-1~~ CVC-105		NA
	NA	~~7M3-1~~ CVC-103		NA
2B	NA	~~CV-517~~ CVC-517-CV	Charging Line	NA
	NA	~~CV-518~~ CVC-518-CV		NA
	NA	~~CV-519~~ CVC-519-CV		NA
	NA	~~SP-210M3-2~~ CVC-435-RV		NA
	NA	~~210M3-2~~ CVC-184		NA

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

PENETRATION NO.	ISOLATION CHANNELS	ISOLATION VALVE IDENTIFICATION NO.	FUNCTION	ISOLATION TIME (SECONDS)
7A	NA NA	Blind Flange ~~19-1~~ ILRT-1	ILRT	NA NA
7B	NA NA	Blind Flange ~~19-1~~ ILRT-2	ILRT	NA NA
8	SIAS A SIAS B	~~MOV-5462~~ EAD-5462-MOV ~~MOV-5463~~ EAD-5463-MOV	Containment Normal Sump	≤13 ≤13
9	NA NA	~~238M3-1~~ SI-340 ~~238M3-2~~ SI-326	Containment Spray	NA NA
10	NA NA	~~238M3-1~~ SI-330 ~~238M3-2~~ SI-316	Containment Spray	NA NA
13	SIAS A, CRS A SIAS B, CRS B	CPA-1410-CV(3) ~~CV-1410 (3)~~ ~~CV-1411 (3)~~ CPA-1411-CV(3)	Purge Air Inlet	≤7** ≤7**

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

PENETRATION NO.	ISOLATION CHANNELS	ISOLATION VALVE IDENTIFICATION NO.	FUNCTION	ISOLATION TIME (SECONDS)
14	SIAS A, CRS A	~~CV-1412-(3)~~ CPA-1412-CV(3)	Purge Air Outlet	≤7**
	SIAS B, CRS B	~~CV-1413-(3)~~ CPA-1413-CV(3)		≤7**
15	SIAS A	~~CV-5291~~ RE-5291-CV	Purge Air Monitor	≤7
	SIAS B	~~CV-5292~~ RE-5292-CV		≤7
16	CIS A	~~CV-3832~~ CC-3832-CV	Component Cooling Water Inlet	≤18
18	CIS B	~~CV-3833~~ CC-3833-CV	Component Cooling Water Outlet	≤18
19A	NA	~~223-1~~ IA-175	Instrument Air	NA
	CIS A	~~MOV-2080~~ IA-2080-MOV		≤13
19B	NA	~~19-2~~ → PA-137*	Plant Air	NA
	NA	~~138-1~~ → PA-1044*		NA
20A	NA	~~223-1~~ N_2-347	Nitrogen Supply	NA
	NA	~~CV-612~~ → N_2-612-CV*		NA
	NA	~~CV-622~~ → N_2-622-CV*		NA
	NA	~~CV-632~~ → N_2-632-CV*		NA
	NA	~~CV-642~~ → N_2-642-CV*		NA

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

PENETRATION NO.	ISOLATION CHANNEL	ISOLATION VALVE IDENTIFICATION NO.	FUNCTION	ISOLATION TIME (SECONDS)
20B	NA NA	~~223-1~~ N_2-348 ~~223-2~~ N_2-395	Nitrogen Supply	NA NA
20C	NA NA	~~223-1~~ N_2-349 ~~223-2~~ N_2-398	Nitrogen Supply	NA NA
23	SIAS A	~~CV-4260~~ RCW-4260-CV	R.C. Drain Tank Drains	≤7
24	SIAS B	~~SV-6531~~ ~~PS-6531-SV~~	Oxygen Sample Line	≤7
37	NA NA	~~29-1~~ PSW-1020 ~~142-1~~ PSW-1009	Plant Water	NA NA
38	NA	~~CV-5460~~ * DW-5460-CV*	Demineralized Water	NA
39	NA NA	~~130M3-1~~ SI-463 ~~130M3-2~~ SI-455	Safety Injection Tank Test Line	NA NA
41	NA NA	~~MOV-652 (2)~~ SI-652-MOV(2) ~~MOV-651 (2)~~ SI-651-MOV(2)	Shutdown Cooling	NA NA

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

PENETRATION NO.	ISOLATION CHANNEL	ISOLATION VALVE IDENTIFICATION NO.	FUNCTION	ISOLATION TIME (SECONDS)
44	NA	~~238-1~~ FP-145-A	Fire Protection	NA
	NA	~~238-1~~ FP-145-B		NA
	NA	~~MOV-6200~~ FP-6200-MOV*		NA
47A	NA	~~SV-6540A~~ PS-6540A-SV*	Hydrogen Sample Outlet	NA
	NA	~~SV-6507A~~ PS-6507A-SV*		NA
47B	NA	~~SV-6540E~~ PS-6540E-SV*	Hydrogen Sample Outlet	NA
	NA	~~SV-6507E~~ PS-6507E-SV*		NA
47C	NA	~~SV-6540F~~ PS-6540F-SV*	Hydrogen Sample Outlet	NA
	NA	~~SV-6507F~~ PS-6507F-SV*		NA
47D	NA	~~SV-6540G~~ PS-6540G-SV*	Hydrogen Sample Return	NA
	NA	~~SV-6507G~~ PS-6507G-SV*		NA
48A	SIAS A	~~MOV-6900~~ HP-6900-MOV	Containment Vent Isolation	$\leq$ 20**
	SIAS B	~~MOV-6901~~ HP-6901-MOV		$\leq$ 20**

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

PENETRATION NO.	ISOLATION CHANNEL	ISOLATION VALVE IDENTIFICATION NO.	FUNCTION	ISOLATION TIME (SECONDS)	
48B	NA	~~238-1~~ HP-104	Hydrogen Purge Inlet	NA	
	NA	~~MOV-6903~~ HP-6903-MOV		NA	
49A	NA	~~SV-6540B*~~ PS-6540B-SV*	Hydrogen Sample	NA	A
	NA	~~SV-6507B*~~ PS-6507B-SV*		NA	
49B	NA	~~SV-6540C*~~ PS-6540C-SV*	Hydrogen Sample	NA	A
	NA	~~SV-6507C*~~ PS-6507C-SV*		NA	
49C	NA	~~SV-6540D*~~ PS-6540D-SV*	Hydrogen Sample	NA	A
	NA	~~SV-6507D*~~ PS-6507D-SV*		NA	
50	NA	Blind Flange	ILRT	NA	
	NA	Blind Flange		NA	
59	NA	~~29M3-1~~ SFP-178	Refueling Pool Inlet	NA	
	NA	~~29M3-1~~ SFP-179		NA	
60	NA	~~130-2~~ ES-143	Steam to Reactor Head Laydown	NA	
	NA	~~19-1~~ ES-142		NA	

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

PENETRATION NO.	ISOLATION CHANNEL	ISOLATION VALVE IDENTIFICATION NO.	FUNCTION	ISOLATION TIME (SECONDS)
61	NA	~~76Y-1~~ SFP-184	Refueling Pool Outlet	NA
	NA	~~293M-1~~ SFP-182		NA
	NA	~~293M-1~~ SFP-180		NA
	NA	~~293H-1~~ SFP-186		NA
62	SIAS A	~~HOV-6579~~ PH-6579-MOV	Containment Heating Outlet	≤13
64	NA	~~238-1~~ PH-387	Containment Heating Inlet	NA

(1) Manual or remote manual valve which is closed during plant operation.

(2) May be opened below 300°F to establish shutdown cooling flow.

(3) Containment purge and containment vent isolation valves will be shut in MODES 1, 2, 3 and 4 per TS 3/4 6.1.7 and TS 3/4 6.1.8, respectively.

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

** Containment purge isolation valves isolation times will only apply for MODES 5 and 6 during which time these valves may be opened. Isolation time for containment purge and containment vent isolation valves is NA for MODES 1, 2, 3 and 4 per TS 3/4 6.1.7 and TS 3/4 6.1.8, respectively, during which time these valves must remain closed.

REFUELING OPERATIONS

SHUTDOWN COOLING AND COOLANT CIRCULATION

LIMITING CONDITION FOR OPERATION

3.9.8.2 Two (2) ~~independent~~ shutdown cooling loops shall be OPERABLE*#. 1

APPLICABILITY: Mode 6 when the water level above the top of the irradiated fuel assemblies seated within the reactor pressure vessel is less than 23 feet.

ACTION:

a. With less than the required shutdown cooling loops OPERABLE, initiate corrective action to return loops to OPERABLE status within one hour.

b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.8.2 No additional Surveillance Requirements other than those required by Specification 4.0.5.

*Normal or emergency power source may be inoperable for each shutdown cooling loop.

#One shutdown cooling loop may be replaced by one spent fuel pool cooling loop when it is lined up to provide cooling flow to the irradiated fuel in the reactor core and the heat generation rate of the core is below the heat removal capacity of the spent fuel pool cooling loop.

3/4.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

BASES

3/4.5.1 SAFETY INJECTION TANKS

The OPERABILITY of each of the RCS safety injection tanks ensures that a sufficient volume of borated water will be immediately forced into the reactor core through each of the cold legs in the event the RCS pressure falls below the pressure of the safety injection tanks. This initial surge of water into the core provides the initial cooling mechanism during large RCS pipe ruptures.

The limits on safety injection tank volume, boron concentration and pressure ensure that the assumptions used for safety injection tank injection in the accident analysis are met.

The safety injection tank power operated isolation valves are considered to be "operating bypasses" in the context of IEEE Std. 279-1971, which requires that bypasses of a protective function be removed automatically whenever permissive conditions are not met. In addition, as these safety injection tank isolation valves fail to meet single failure criteria, removal of power to the valves is required.

The limits for operation with a safety injection tank inoperable for any reason except an isolation valve closed minimizes the time exposure of the plant to a LOCA event occuring concurrent with failure of an additional safety injection tank which may result in unacceptable peak cladding temperatures. If a closed isolation valve cannot be immediately opened, the full capability of one safety injection tank is not available and prompt action is required to place the reactor in a mode where this capability is not required.

3/4.5.2 and 3/4.5.3 ECCS SUBSYSTEMS

The OPERABILITY of two separate ECCS subsystems ensures that sufficient emergency core cooling capability will be available in the event of a LOCA assuming the loss of one subsystem through any single failure consideration. Either subsystem operating in conjunction with the safety injection tanks is capable of supplying sufficient core cooling to limit the peak cladding temperatures within acceptable limits for all postulated break sizes ranging from the double ended break of the largest RCS cold leg pipe downward. In addition, each ECCS subsystem provides long term core cooling capability in the recirculation mode during the accident recovery period.

See Attached

"Portions of the low pressure safety injection (LPSI) system flowpath are common to both subsystems. This includes the low pressure safety injection flow control valve, CV-306, the flow orifice downstream of CV-306, and the four low pressure safety injection loop isolation valves. Although the portions of the flowpath are common, the system design is adequate to ensure reliable ECCS operation due to the short period of LPSI system operation following a Design Basis Loss of Coolant Incident prior to recirculation. The LPSI system design ~~and operation are~~ is consistent with the assumptions in the safety analysis.