Specification 3.3.6.1. (A1)

TABLE ~~3.2-1~~ 3.3.6.1-1

PRIMARY CONTAINMENT ISOLATION ~~SYSTEM~~ INSTRUMENTATION
~~TEST AND CALIBRATION REQUIREMENTS~~

SR 3.3.6.1.1.3, SR 3.3.6.1.1.4, SR 3.3.6.1.1.5, SR 3.3.6.1.1.6

	Instrument Channel (~~Note 5~~) (A12)	Instrument Functional Test (SR 3.3.6.1.1.2) Channel	Calibration Frequency Channel	Instrument Check (~~Note 4~~) (SR 3.3.6.1.1) Channel (A9)
[6.a]	1) Reactor High Pressure (Shutdown Cooling Isolation)	~~2~~ (A8) (AB)	3 Q	NA
[2.e 1.a]	2) Reactor Low-Low-Low Water Level	2 – Q (~~Note 5~~)	5 – R (Note 15) – 4	D – 1 (M9) 12 hours
[1.e]	3) Main Steam High Temperature	2 – Q (~~Note 5~~) (A10)	5 – R (Note 15) – 4	D – 1
[1.c]	4) Main Steam High Flow	2 – Q (~~Note 5~~)	5 – R (Note 15) – 4	D – 1
[1.b]	5) Main Steam Low Pressure	2 – Q (~~Note 5~~)	5 – R (Note 15) – 4	D – 1
[5.a, 5.b, 5.c]	6) RWCU Area High Temperature	~~Q~~ (AB)	3 – Q (~~Note 16~~) (A10)	NA
[1.d]	7) Condenser Low Vacuum	2 – Q (Note 5)	5 – R (Note 15) – 4	D – 1 (M9)
[2.f, 1.f]	8) Main Steam Line (Tunnel) High Radiation	(AB) Q (~~Note 5~~) (A10)	3 – Q (Note 11) 6	D – 1 12 hours
[3.a] [4.a]	9) HPCI & RCIC Steam Line High Flow	2 – Q (Note 5)	5 – R (Note 15) – 4	D – 1
[3.d → 3.f] [4.d → 4.f]	10) HPCI & RCIC Steam Line/ Area High Temperature	2 – Q (~~Note 5~~)	5 – R (Note 15) – 4	D – 1
[3.b] [4.b]	11) HPCI & RCIC Steam Line Low Pressure	2 – Q (Note 5)	5 – R (Note 15) – 4	D – 1
[3.g] [4.c]	12) HPCI & RCIC High Exhaust Diaphragm Pressure	~~2~~ (AB)	3 – Q	NA

~~NOTE: See notes following Table 4.2-5.~~ (A1)

add SRs associated with Functions 5.d (M11)

Specification 3.3.7.2

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TABLE 4.2.1

PRIMARY CONTAINMENT ISOLATION SYSTEM INSTRUMENTATION
TEST AND CALIBRATION REQUIREMENTS

See ITS: 3.3.6.1

	Instrument Channel (Note 8)	Instrument Functional Test [SR 3.3.7.2.2]	Calibration Frequency SR 3.3.7.2.3	Instrument Check (Note 4) SR 3.3.7.2.1
1)	Reactor High Pressure (Shutdown Cooling Isolation)	Q	Q	NA
2)	Reactor Low-Low-Low Water Level	Q (Note 5)	R (Note 15)	D
3)	Main Steam High Temperature	Q (Note 5)	R (Note 15)	D
4)	Main Steam High Flow	Q (Note 5)	R (Note 15)	D
5)	Main Steam Low Pressure	Q (Note 5)	R (Note 15)	D
6)	RWCU Area High Temperature	Q	Q (Note 16)	NA
7)	Condenser Low Vacuum	Q (Note 5)	R (Note 15)	D
8)	Main Steam Line High Radiation	A8 Q (Note 5) [SR 3.3.7.2.2]	Q R (Note 11) [SR 3.3.7.2.3]	D [SR 3.3.7.2.1] M1 12 hours
9)	HPCI & RCIC Steam Line High Flow	Q (Note 5)	R (Note 15)	D
10)	HPCI & RCIC Steam Line/ Area High Temperature	Q (Note 5)	R (Note 15)	D
11)	HPCI & RCIC Steam Line Low Pressure	Q (Note 5)	R (Note 15)	D
12)	HPCI & RCIC High Exhaust Diaphragm Pressure	Q	Q	NA

See ITS: 3.3.6.1

See ITS: 3.3.6.1

~~NOTE: See notes following Table 4.2.5.~~

Specification 3.3.6.1

A1

3.3.6.1-1

~~TABLE 4.2.1 (Cont'd)~~

PRIMARY CONTAINMENT ISOLATION SYSTEM INSTRUMENTATION
TEST AND CALIBRATION REQUIREMENTS

[SR 3.3.6.1.7]

See ITS: 3.5.1, 3.6.1.3, 3.6.4.2, 3.6.4.3

	Logic System Functional Test (Notes 7 & 9) A11	Frequency	
[1] 1)	Main Steam Line Isolation Valves Main Steam Line Drain Valves	(R) 24 months	LAS
[2]	Reactor Water Sample Valves		
[6] 2)	RHR - Isolation Valve Control Shutdown Cooling Valves	(R) 24 months	
[5] 3)	Reactor Water Cleanup Isolation	(R) 24 months	
[2] 4)	Drywell Isolation Valves TIP Withdrawal Atmospheric Control Valves	(R) 24 months	
5)	Standby Gas Treatment System Reactor Building Isolation	R	see ITS: 3.3.6.2
[3] 6)	HPCI Subsystem Auto Isolation	(R) 24 months	LAS
[4] 7)	RCIC Subsystem Auto Isolation	(R) 24 months	

NOTE: See notes following Table 4.2-5.

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Specification 3.3.6.2

Secondary Containment Isolation Instrumentation

JAFNPP 3.3.6.2-1

TABLE 4.2-P1control

A1

PRIMARY CONTAINMENT ISOLATION SYSTEM INSTRUMENTATION TEST AND CALIBRATION REQUIREMENTS

TSR 3.3.6.2.6

See ITS: 3.6.2.3, 3.6.1.2, 3.6.4.3

Logic System Functional Test (Notes 7 & 9) A7	Frequency
1) Main Steam Line Isolation Valves Main Steam Line Drain Valves Reactor Water Sample Valves	R
2) RHR - Isolation Valve Control Shutdown Cooling Valves	R
3) Reactor Water Cleanup Isolation	R
4) Drywell Isolation Valves TIP Withdrawal Atmospheric Control Valves	R
[1, 2] 5) Standby Gas Treatment System Reactor Building Isolation	24 months
6) HPCI Subsystem Auto Isolation	R
7) RCIC Subsystem Auto Isolation	R

See ITS: 3.3.6.1

NOTE: See notes following Table 4.2-5. A1

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See ITS: 3.3.6.1

Specification 3.6.1.3

[SR 3.6.1.3.7]

A1

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TABLE 4.2-1 (Cont'd)

PRIMARY CONTAINMENT ISOLATION SYSTEM INSTRUMENTATION
TEST AND CALIBRATION REQUIREMENTS

	Logic System Functional Test (Notes 7) & (9) — see ITS: 3.3.5.1	Frequency
1)	Main Steam Line Isolation Valves Main Steam Line Drain Valves Reactor Water Sample Valves	R
2)	RHR - Isolation Valve Control Shutdown Cooling Valves	R
3)	Reactor Water Cleanup Isolation	R
4)	Drywell Isolation Valves TIP Withdrawal Atmospheric Control Valves	R
5)	Standby Gas Treatment System Reactor Building Isolation	R
6)	HPCI Subsystem Auto Isolation	R
7)	RCIC Subsystem Auto Isolation	R

Actual or Simulated automatic actuation

see ITS: 3.3.6.1

see ITS: 3.3.6.2

see ITS: 3.3.6.1

NOTE: See notes following Table 4.2-5.

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Specification 3.6.4.2

A1

TABLE 4.2-1 (Cont'd)

PRIMARY CONTAINMENT ISOLATION SYSTEM INSTRUMENTATION
TEST AND CALIBRATION REQUIREMENTS

[SR 3.6.4.2.3]

See ITS 3.3.6.1, 3.3.6.2

Logic System Functional Test (Notes 7 & 9)	Frequency	
1) Main Steam Line Isolation Valves Main Steam Line Drain Valves Reactor Water Sample Valves	R	See ITS 3.3.6.1
2) RHR - Isolation Valve Control Shutdown Cooling Valves	R	
3) Reactor Water Cleanup Isolation	R	
4) Drywell Isolation Valves TIP Withdrawal Atmospheric Control Valves	R	
5) Standby Gas Treatment System Reactor Building Isolation	R	See ITS 3.3.6.2
6) HPCI Subsystem Auto Isolation	R	See ITS 3.3.6.1
7) RCIC Subsystem Auto Isolation	R	

NOTE: See notes following Table 4.2-5.

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Specification 3.6.4.3

A1

TABLE 4.2-1 (Cont'd)

PRIMARY CONTAINMENT ISOLATION SYSTEM INSTRUMENTATION
TEST AND CALIBRATION REQUIREMENTS

[SR 3.6.4.3.3]

See ITS: 3.3.6.1
3.3.6.2

	Logic System Functional Test (Notes 7 & 9)	Frequency
1)	Main Steam Line Isolation Valves Main Steam Line Drain Valves Reactor Water Sample Valves	R
2)	RHR - Isolation Valve Control Shutdown Cooling Valves	R
3)	Reactor Water Cleanup Isolation	R
4)	Drywell Isolation Valves TIP Withdrawal Atmospheric Control Valves	R
5)	Standby Gas Treatment System Reactor Building Isolation	R
6)	HPCI Subsystem Auto Isolation	R
7)	RCIC Subsystem Auto Isolation	R

See ITS: 3.3.6.1

See ITS: 3.3.6.2

See ITS: 3.3.6.1

NOTE: See notes following Table 4.2-5.

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Specification 3.3.5.1 (A1)

Table 3.3.5.1 Emergency Core Cooling System Instrumentation

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TABLE 4.2-2

CORE AND CONTAINMENT COOLING SYSTEM INSTRUMENTATION
TEST AND CALIBRATION REQUIREMENTS

ITS Function 2.h

ITS Functions 1.a, 2.a, 2.e, 3.a, 3.c, 4.a, 4.c, 5.a, 5.c

SR 3.3.5.1.3
SR 3.3.5.1.4
SR 3.3.5.1.5

SR 3.3.5.1.1

Function	Instrument Channel	3.3.5.1.2 Instrument Functional Test (Channel)	Calibration Frequency (Channel)	Channel Check (Note 4) (Instrument)
1)	Reactor Water Level	2- Q (Note 5) (A13, A14, A5)	4- SA / R (Note 15) 5	1- D (12 hours) (M3)
2a)	Drywell Pressure (non-ATTS)	Q (A13, A5)	3- Q	NA
2b)	Drywell Pressure (ATTS)	2- Q (Note 5) (A5)	4- SA / R (Note 15) 5	1- D (12 hours) (M3)
3a)	Reactor Pressure (non-ATTS)	Q	Q	NA (See ITS 3.3.6.1)
3b)	Reactor Pressure (ATTS)	2- Q (Note 5) (A14, A5)	4- SA / R (Note 15) 5	1- D (12 hours) (M3)
4)	Auto Sequencing Timers	NA	5- R	NA
5)	ADS - LPCI or CS Pump Disch.	Q (A13)	3- Q	NA
6)	HPCI & RCIC Suction Source Levels	Q (A13)	3- Q	NA
7)	4kV Emergency Bus Under-Voltage (Loss-of-Voltage, Degraded Voltage LOCA and non-LOCA) Relays and Timers.	R (See ITS 3.3.8.1)	R	NA

ITS Functions 1.a, 2.a, 2.e, 3.a

ITS Functions 1.b, 2.b, 3.b

ITS Functions 1.c, 2.c, 2.d

ITS Functions 1.d, 2.f, 4.b, 5.b

ITS Functions 1.e, 1.f, 2.g, 3.f, 3.g

ITS Functions 4.d, 4.e, 5.d, 5.e

NOTE: See notes following Table 4.2-5.

(M2) add SR 3.3.5.1.3, SR 3.3.5.1.6 for Functions 1.e, 1.f, 2.g, 3.f, 3.g

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Specification 3.3.5.2

Table 3.3.5.2-1
RCIC System
Instrumentation

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TABLE 4.2-2

CORE AND CONTAINMENT COOLING SYSTEM INSTRUMENTATION
TEST AND CALIBRATION REQUIREMENTS

Function / Instrument Channel		Instrument Functional Test	Calibration Frequency	Instrument Check (A5 / Note 4)
[1][2] 1)	Reactor Water Level	[SR 3.3.5.2.2] (A6) 92 days Q (Note 5)	[SR 3.3.5.2.4] 184 days SA / R (Note 15) [SR 3.3.5.2.5] 24 months	[SR 3.3.5.2.1] Q 12 hours M1
2a)	Drywell Pressure (non-ATTS)	Q	Q	NA
2b)	Drywell Pressure (ATTS)	Q (Note 5)	SA / R (Note 15)	D
3a)	Reactor Pressure (non-ATTS)	Q	Q	NA
3b)	Reactor Pressure (ATTS)	Q (Note 5)	SA / R (Note 15)	D
4)	Auto Sequencing Timers	NA	R	NA
5)	ADS - LPCI or CS Pump Disch.	Q	Q	NA
[3] 6)	HPCI & RCIC Suction Source Levels	Q (A7)	[SR 3.3.5.2.3] 92 days	NA
7)	4kV Emergency Bus Under-Voltage (Loss-of-Voltage, Degraded Voltage LOCA and non-LOCA) Relays and Timers.	R	R	NA

See ITS 3.3.5.1

See ITS 3.3.8.1

NOTE: See notes following Table 4.2-5. (A1)

add Function 4 (M2)

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Specification 3.3.6.1 (A1)

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TABLE 4.2-2

See ITS 3.3.5.1

CORE AND CONTAINMENT COOLING SYSTEM INSTRUMENTATION TEST AND CALIBRATION REQUIREMENTS

	Instrument Channel	Instrument Functional Test	Calibration Frequency	Instrument Check (Note 4)
1)	Reactor Water Level	Q (Note 5)	SA / R (Note 15)	D
2a)	Drywell Pressure (non-ATTS)	Q	Q	NA
2b)	Drywell Pressure (ATTS)	Q (Note 5)	SA / R (Note 15)	D
3a)	Reactor Pressure (non-ATTS)	Q	Q	NA
3b)	Reactor Pressure (ATTS)	Q (Note 5)	SA / R (Note 15)	D
4)	Auto Sequencing Timers	NA	R	NA
5)	ADS - LPCI or CS Pump Disch.	Q	Q	NA
6)	HPCI & RCIC Suction Source Levels	Q	Q	NA
7)	4kV Emergency Bus Under-Voltage (Loss-of-Voltage, Degraded Voltage LOCA and non-LOCA) Relays and Timers.	R	R	NA

LAB

See ITS 3.3.8.1

See ITS 3.3.5.1

NOTE: See notes following Table 4.2-5.

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Table 3.3.8.1-1 Loss of Power Instrumentation

Specification 3.3.8.1

A5

Add SR Note 1

A1

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TABLE 4.2-2

CORE AND CONTAINMENT COOLING SYSTEM INSTRUMENTATION
TEST AND CALIBRATION REQUIREMENTS

See ITS 3.3.5.1 ~~3.3.5.2~~

Instrument Channel	A6 Instrument Functional Test	[3.3.8.1] Calibration Frequency	Instrument Check (Note 4)
1) Reactor Water Level	Q (Note 5)	SA / R (Note 15)	D
2a) Drywell Pressure (non-ATTS)	Q	Q	NA
2b) Drywell Pressure (ATTS)	Q (Note 5)	SA / R (Note 15)	D
3a) Reactor Pressure (non-ATTS)	Q	Q	NA
3b) Reactor Pressure (ATTS)	Q (Note 5)	SA / R (Note 15)	D
4) Auto Sequencing Timers	NA	R	NA
5) ADS - LPCI or CS Pump Disch.	Q	Q	NA
6) HPCI & RCIC Suction Source Levels	Q	Q	NA
[1.a, 1.b] [2.a, 2.b, 2.c] 7) 4kV Emergency Bus Under-Voltage (Loss-of-Voltage, Degraded Voltage LOCA and non-LOCA) Relays and Timers.	(A) A6	(R) -1	NA

See ITS 3.3.5.1

See ITS 3.3.5.1 3.3.5.2

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add SR 3.3.8.1.2 M1

NOTE: See notes following Table 4.2-5.

Specification 3.3.5.1 (A1)

Table 3.3.5.1-1 Emergency Core Cooling System Instrumentation

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TABLE 4.2-2 (Cont'd)

CORE AND CONTAINMENT COOLING SYSTEM INSTRUMENTATION
TEST AND CALIBRATION REQUIREMENTS

			[SR 3.3.5.1.6] Logic System Functional Test	[SR 3.3.5.1.6] Frequency
[1]	1)		Core Spray Subsystem	R (Notes 7 & 9) — AIS
[2]	2)	[2.a, 2.b, 2.c, 2.d, 2.f, 2.g]	Low Pressure Coolant Injection Subsystem	R (Notes 7 & 9) — AIS
[2]	3)	[2.a, 2.h]	Containment Cooling Subsystem	R — 24 months
[3]	4)		HPCI Subsystem	R (Notes 7 & 9) — AIS
[4,5]	5)		ADS Subsystem	R (Notes 7 & 9)

See ITS! 3.5.1

See ITS; 3.5.1

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NOTE: See notes following Table 4.2-5.

Specification 3.5.1 (A1)

TABLE 4.2-2 (Cont'd)

CORE AND CONTAINMENT COOLING SYSTEM INSTRUMENTATION
TEST AND CALIBRATION REQUIREMENTS

see ITS: 3.3.5.1

	Logic System Functional Test	Frequency
[SR 3.5.1.10] 1)	Core Spray Subsystem	SA (Notes 7 & 9)
2)	Low Pressure Coolant Injection Subsystem	SA (Notes 7 & 9)
3)	Containment Cooling Subsystem (M13)	R
4)	HPCI Subsystem	R (Notes 7 & 9)
[SR 3.5.1.11] 5)	ADS Subsystem	SA (Notes 7 & 9)

24 months (A1)

see ITS: 3.3.5.1

see ITS: 3.3.5.1

24 months (A1)

see ITS: 3.3.5.1

see ITS: 3.3.5.1

M13 — add SR 3.5.1.10

NOTE: See notes following Table 4.2-5.

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Specification 3.5.2 (A1)

TABLE 4.2-2 (Cont'd)

CORE AND CONTAINMENT COOLING SYSTEM INSTRUMENTATION
TEST AND CALIBRATION REQUIREMENTS

	Logic System Functional Test	Frequency
[SR 3.5.2.6] 1)	Core Spray Subsystem	SA (Notes 7 & 9)
2)	Low Pressure Coolant Injection Subsystem	SA (Notes 7 & 9)
3)	Containment Cooling Subsystem	R
4)	HPCI Subsystem	R (Notes 7 & 9)
5)	ADS Subsystem	SA (Notes 7 & 9)

see ITS: 3.3.5.1

see ITS: 3.3.5.1

NOTE: See notes following Table 4.2-5.

Specification 3.3.2.1

TABLE ~~4.2-3~~

CONTROL ROD BLOCK INSTRUMENTATION TEST AND CALIBRATION REQUIREMENTS

	Instrument Channel	Instrument Functional Test (Note 5)	Calibration	Instrument Check (Note 4)
1)	APRM - Downscale	Q	Q	D
2)	APRM - Upscale	Q	Q	D
3)	IRM - Upscale	S/U (Note 2)	Q (Notes 3 & 6)	D
4)	IRM - Downscale	S/U (Note 2)	Q (Notes 3 & 6)	D
5)	IRM - Detector Not in Startup Position	S/U (Note 2)	NA	NA
6)	RBM - Upscale	Q	SR 3.3.2.1.5 Q	D
7)	RBM - Downscale	Q	SR 3.3.2.1.5 Q	D
8)	SRM - Upscale	S/U (Note 2)	Q (Notes 3 & 6)	D
9)	SRM - Detector Not in Startup Position	S/U (Note 2)	NA	NA
10)	Scram Discharge Instrument Volume - High Water Level (Group B Instruments)	Q	Q	D

NOTE: ~~See notes following Table 4.2-5.~~

add SR 3.3.2.1.1 for Function 1.b

add. Function 2 "Rod Worth Minimizer" surveillances

add SR 3.3.2.1.7 for RNS - Shutdown Position

JAFNPP

TABLE 4.2-5

MINIMUM TEST AND CALIBRATION FREQUENCY FOR DRYWELL LEAK DETECTION

ITS → [SR 3.4.5.2] [SR 3.4.5.3]

	Instrument Channel	Instrument Functional Test	Calibration Frequency	Instrument Check (Note 4)
1)	Equipment Drain Sump Flow Integrator	(Note 1)	Q	D
2)	Floor Drain Sump Flow Integrator	(Note 1)	Q	D

NOTE: See notes following Table 4.2-5.

Specification 3.4.5 (A1)

A2 A4 L5 LA1 L4

Amendment No. ~~36, 89, 181,~~ 233

Specification 3.3.2.1 (A1)

~~NOTES FOR TABLES 4.2-1 THROUGH 4.2-5~~

1. Initially once every month until acceptance failure rate data are available; thereafter, a request may be made to the NRC to change the test frequency. The compilation of instrument failure rate data may include data obtained from other boiling water reactors for which the same design instruments operate in a environment similar to that of JAFNPP.

See ITS 3.4.5

2. Functional tests are not required when these instruments are not required to be operable or are tripped. Functional tests shall be performed within seven (7) days prior to each startup. (R1)

3. Calibrations are not required when these instruments are not required to be operable or are tripped. Calibration tests shall be performed within seven (7) days prior to each startup or prior to a pre-planned shutdown.

4. Instrument checks are not required when these instruments are not required to be operable or are tripped. (A5)

5. This instrumentation is exempt from the functional test definition. The functional test will consist of injecting a simulated electrical signal into the measurement channel. (A4)

6. These instrument channels will be calibrated using simulated electrical signals once every three months. (R1)

7. Simulated automatic actuation shall be performed once per 24 months.

See ITS: 3.5.1, 3.6.1.3, 3.6.4.2, 3.6.4.3

8. Reactor low water level, and high drywell pressure are not included on Table 4.2-1 since they are listed on Table 4.1-2.

See ITS 3.3.6.1

9. The logic system functional tests shall include a calibration of time delay relays and timers necessary for proper functioning of the trip systems.

See ITS: 3.3.5.1, 3.3.6.1, 3.3.6.2

10. ~~(Deleted)~~

11. Perform a calibration once per 24 months using a radiation source. Perform an instrument channel alignment once every 3 months using a current source.

See ITS 3.3.6.1, 3.3.7.2

12. ~~(Deleted)~~

13. ~~(Deleted)~~

14. ~~(Deleted)~~

15. Sensor calibration once per 24 months. Master/slave trip unit calibration once per 6 months.

See ITS: 3.3.5.1, 3.3.5.2, 3.3.6.1

16. The quarterly calibration of the temperature sensor consists of comparing the active temperature signal with a redundant temperature signal.

See ITS 3.3.6.1

Specification 3.3.5.1

A.1

JAFNPP

~~NOTES FOR TABLES 4.2-1 THROUGH 4.2-9~~

See ITS: 3.4.5

1. Initially once every month until acceptance failure rate data are available; thereafter, a request may be made to the NRC to change the test frequency. The compilation of instrument failure rate data may include data obtained from other boiling water reactors for which the same design instruments operate in a environment similar to that of JAFNPP.

See ITS: 3.3.2.1

2. Functional tests are not required when these instruments are not required to be operable or are tripped. Functional tests shall be performed within seven (7) days prior to each startup.

3. Calibrations are not required when these instruments are not required to be operable or are tripped. Calibration tests shall be performed within seven (7) days prior to each startup or prior to a pre-planned shutdown.

A6

4. Instrument checks are not required when these instruments are not required to be operable or are tripped.

A5

5. This instrumentation is exempt from the functional test definition. The functional test will consist of injecting a simulated electrical signal into the measurement channel.

See ITS: 3.3.2.1

6. These instrument channels will be calibrated using simulated electrical signals once every three months.

7. Simulated automatic actuation shall be performed once per 24 months.

See ITS: 3.5.1, 3.6.1.3, 3.6.4.2, 3.6.4.3

8. Reactor low water level, and high drywell pressure are not included on Table 4.2-1 since they are listed on Table 4.1-2.

See ITS: 3.3.6.1

9. The logic system functional tests shall include a calibration of time delay relays and timers necessary for proper functioning of the trip systems.

A15

10. (Deleted)

11. Perform a calibration once per 24 months using a radiation source. Perform an instrument channel alignment once every 3 months using a current source.

See ITS: 3.3.6.1, 3.3.7.2

12. ~~(Deleted)~~

13. ~~(Deleted)~~

14. (Deleted)

[SR 3.3.5.1.5]

15. Sensor calibration once per 24 months. Master/slave trip unit calibration once per 6 months.

[SR 3.3.5.1.4]

16. The quarterly calibration of the temperature sensor consists of comparing the active temperature signal with a redundant temperature signal.

See ITS: 3.3.6.1

Specification 3.3.5.2

JAFNPP

A1

~~NOTES FOR TABLES 4.2-1 THROUGH 4.2-5~~

See ITS: 3.4.5

1. Initially once every month until acceptance failure rate data are available; thereafter, a request may be made to the NRC to change the test frequency. The compilation of instrument failure rate data may include data obtained from other boiling water reactors for which the same design instruments operate in a environment similar to that of JAFNPP.

See ITS: 3.3.2.1

2. Functional tests are not required when these instruments are not required to be operable or are tripped. Functional tests shall be performed within seven (7) days prior to each startup.

3. Calibrations are not required when these instruments are not required to be operable or are tripped. Calibration tests shall be performed within seven (7) days prior to each startup or prior to a pre-planned shutdown.

4. Instrument checks are not required when these instruments are not required to be operable or are tripped. A5

5. This instrumentation is exempt from the functional test definition. The functional test will consist of injecting a simulated electrical signal into the measurement channel. A6

See ITS: 3.3.2.1

6. These instrument channels will be calibrated using simulated electrical signals once every three months.

7. Simulated automatic actuation shall be performed once per 24 months.

See ITS: 3.5.1, 3.6.1.3, 3.6.4.2, 3.6.4.3

8. Reactor low water level, and high drywell pressure are not included on Table 4.2-1 since they are listed on Table 4.1-2.

See ITS: 3.3.6.1

9. The logic system functional tests shall include a calibration of time delay relays and timers necessary for proper functioning of the trip systems.

See ITS: 3.3.5.1, 3.3.6.1, 3.3.6.2

10. (Deleted)

11. Perform a calibration once per 24 months using a radiation source. Perform an instrument channel alignment once every 3 months using a current source.

See ITS 3.3.6.1, 3.3.7.2

~~12. (Deleted)~~

~~13. (Deleted)~~

~~14. (Deleted)~~

[SR 3.3.5.2.5]

15. Sensor calibration once per 24 months. Master/slave trip unit calibration once per (6 months) (184 days) [SR 3.3.5.2.4]

16. The quarterly calibration of the temperature sensor consists of comparing the active temperature signal with a redundant temperature signal.

See ITS: 3.3.6.1

Specification 3.3.6.1 (A1)

~~NOTES FOR TABLES 4.2-1 THROUGH 4.2-5~~

1. Initially once every month until acceptance failure rate data are available; thereafter, a request may be made to the NRC to change the test frequency. The compilation of instrument failure rate data may include data obtained from other boiling water reactors for which the same design instruments operate in a environment similar to that of JAFNPP.

See ITS: 3.4.5

2. Functional tests are not required when these instruments are not required to be operable or are tripped. Functional tests shall be performed within seven (7) days prior to each startup.

See ITS: 3.3.2.1

3. Calibrations are not required when these instruments are not required to be operable or are tripped. Calibration tests shall be performed within seven (7) days prior to each startup or prior to a pre-planned shutdown.

[SR 3.3.6.1.3]

(A9) 4. Instrument checks are not required when these instruments are not required to be operable or are tripped.

(A10) 5. This instrumentation is exempt from the functional test definition. The functional test will consist of injecting a simulated electrical signal into the measurement channel.

See ITS 3.3.2.1 6. These instrument channels will be calibrated using simulated electrical signals once every three months.

7. Simulated automatic actuation shall be performed once per 24 months.

See ITS: 3.5.1, 3.6.1.3, 3.6.4.2, 3.6.4.3

(A12) 8. Reactor low water level, and high drywell pressure are not included on Table 4.2-1 since they are listed on Table 4.1-2.

(A11) 9. The logic system functional tests shall include a calibration of time delay relays and timers necessary for proper functioning of the trip systems.

[SR 3.3.6.1.6]

10. (Deleted).

11. Perform a calibration once per 24 months using a radiation source. Perform an instrument channel calibration once every 3 months using a current source.

detector

(LA7) a02 Note for Function 1.f and 2.f

(LA7) CALIBRATION

12. ~~(Deleted)~~

13. ~~(Deleted)~~

14. ~~(Deleted)~~

[SR 3.3.6.1.5]

[SR 3.3.6.1.4]

15. Sensor calibration once per 24 months. Master/slave trip unit calibration once per 6 months.

16. The quarterly calibration of the temperature sensor consists of comparing the active temperature signal with a redundant temperature signal.

(A10)

Specification 3.3.6.2

JAFNPP

A1

~~NOTES FOR TABLES 4.2-1 THROUGH 4.2-5~~

1. Initially once every month until acceptance failure rate data are available; thereafter, a request may be made to the NRC to change the test frequency. The compilation of instrument failure rate data may include data obtained from other boiling water reactors for which the same design instruments operate in a environment similar to that of JAFNPP.

See ITS: 3.4.5

2. Functional tests are not required when these instruments are not required to be operable or are tripped. Functional tests shall be performed within seven (7) days prior to each startup.

3. Calibrations are not required when these instruments are not required to be operable or are tripped. Calibration tests shall be performed within seven (7) days prior to each startup or prior to a pre-planned shutdown.

See ITS: 3.3.2.1

See ITS: 3.3.2.1 3.3.5.1 3.3.5.2 3.3.6.1

4. Instrument checks are not required when these instruments are not required to be operable or are tripped.

5. This instrumentation is exempt from the functional test definition. The functional test will consist of injecting a simulated electrical signal into the measurement channel.

See ITS: 3.3.2.1

6. These instrument channels will be calibrated using simulated electrical signals once every three months.

7. Simulated automatic actuation shall be performed once per 24 months.

See ITS: 3.5.1 3.5.2 3.6.1.3 3.6.4.2 3.6.4.3

8. Reactor low water level, and high drywell pressure are not included on Table 4.2-1 since they are listed on Table 4.1-2.

See ITS: 3.3.6.1

9. The logic system functional tests shall include a calibration of time delay relays and timers necessary for proper functioning of the trip systems.

A7

10. ~~(Deleted)~~

11. Perform a calibration once per 24 months using a radiation source. Perform an instrument channel alignment once every 3 months using a current source.

See ITS: 3.3.6.1 3.3.7.2

12. ~~(Deleted)~~

13. ~~(Deleted)~~

14. ~~(Deleted)~~

15. Sensor calibration once per 24 months. Master/slave trip unit calibration once per 6 months.

See ITS 3.3.6.1 3.3.5.1

16. The quarterly calibration of the temperature sensor consists of comparing the active temperature signal with a redundant temperature signal.

See ITS: 3.3.6.1

See ITS: 3.3.2.1 3.3.5.1 3.3.6.1 3.3.5.2 3.3.7.2

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A057

Specification 3.3.7.2 (A1)

~~NOTES FOR TABLES 4.2-1 THROUGH 4.2-5~~

See ITS: 3.4.5

1. Initially once every month until acceptance failure rate data are available; thereafter, a request may be made to the NRC to change the test frequency. The compilation of instrument failure rate data may include data obtained from other boiling water reactors for which the same design instruments operate in a environment similar to that of JAFNPP.

See ITS: 3.3.2.1

2. Functional tests are not required when these instruments are not required to be operable or are tripped. Functional tests shall be performed within seven (7) days prior to each startup.

See ITS: 3.3.6.1, 3.3.5.2, 3.3.5.1, 3.3.2.1

3. Calibrations are not required when these instruments are not required to be operable or are tripped. Calibration tests shall be performed within seven (7) days prior to each startup or prior to a pre-planned shutdown.

4. Instrument checks are not required when these instruments are not required to be operable or are tripped.

A9

5. This instrumentation is exempt from the functional test definition. The functional test will consist of injecting a simulated electrical signal into the measurement channel.

See ITS: 3.3.2.1

6. These instrument channels will be calibrated using simulated electrical signals once every three months.

7. Simulated automatic actuation shall be performed once per 24 months.

See ITS: 3.5.1, 3.6.1.3, 3.6.4.2, 3.6.4.3

See ITS: 3.3.5.1, 3.3.5.2, 3.3.6.1

See ITS: 3.3.6.1

8. Reactor low water level, and high drywell pressure are not included on Table 4.2-1 since they are listed on Table 4.1-2.

See ITS: 3.3.5.1, 3.3.6.1, 3.3.6.2

9. The logic system functional tests shall include a calibration of time delay relays and timers necessary for proper functioning of the trip systems.

10. ~~(Deleted)~~.

SR 3.3.7.2.3

LA2

11. Perform a calibration once per 24 months using a radiation source. Perform an instrument channel alignment once every 3 months using a current source.

LA2

12. ~~(Deleted)~~

SR 3.3.7.2.2

13. ~~(Deleted)~~

14. ~~(Deleted)~~

15. Sensor calibration once per 24 months. Master/slave trip unit calibration once per 6 months.

16. The quarterly calibration of the temperature sensor consists of comparing the active temperature signal with a redundant temperature signal.

A15

SR 3.3.7.2.2 --- NOTE --- Radiation detectors are excluded --- Perform CHANNEL CALIBRATION

See ITS: 3.3.6.1

Specification 3.4.5

ITS

A1

A5

[SR 3.4.5.2]

NOTES FOR TABLES 4.2-1 THROUGH 4.2-5

1. Initially once every month until acceptance failure rate data are available; thereafter, a request may be made to the NRC to change the test frequency. The compilation of instrument failure rate data may include data obtained from other boiling water reactors for which the same design instruments operate in a environment similar to that of JAFNPP.
2. Functional tests are not required when these instruments are not required to be operable or are tripped. Functional tests shall be performed within seven (7) days prior to each startup.
3. Calibrations are not required when these instruments are not required to be operable or are tripped. Calibration tests shall be performed within seven (7) days prior to each startup or prior to a pre-planned shutdown.

A4

4. Instrument checks are not required when these instruments are not required to be operable or are tripped.
5. This instrumentation is exempt from the functional test definition. The functional test will consist of injecting a simulated electrical signal into the measurement channel.
6. These instrument channels will be calibrated using simulated electrical signals once every three months.
7. Simulated automatic actuation shall be performed once per 24 months.
8. Reactor low water level, and high drywell pressure are not included on Table 4.2-1 since they are listed on Table 4.1-2.
9. The logic system functional tests shall include a calibration of time delay relays and timers necessary for proper functioning of the trip systems.

See 3.3

10. (Deleted)
11. Perform a calibration once per 24 months using a radiation source. Perform an instrument channel alignment once every 3 months using a current source.
12. (Deleted)
13. (Deleted)
14. (Deleted)
15. Sensor calibration once per 24 months. Master/slave trip unit calibration once per 6 months.
16. The quarterly calibration of the temperature sensor consists of comparing the active temperature signal with a redundant temperature signal.

Specification 3.5.1

(A1)

NOTES FOR TABLES 4.2-1 THROUGH 4.2-5

See ITS: 3.4.5

1. Initially once every month until acceptance failure rate data are available; thereafter, a request may be made to the NRC to change the test frequency. The compilation of instrument failure rate data may include data obtained from other boiling water reactors for which the same design instruments operate in a environment similar to that of JAFNPP.

See ITS: 3.2.1

2. Functional tests are not required when these instruments are not required to be operable or are tripped. Functional tests shall be performed within seven (7) days prior to each startup.

3. Calibrations are not required when these instruments are not required to be operable or are tripped. Calibration tests shall be performed within seven (7) days prior to each startup or prior to a pre-planned shutdown.

See ITS: 3.3.2.1 3.3.5.1 3.3.5.2 3.3.6.1

4. Instrument checks are not required when these instruments are not required to be operable or are tripped.

5. This instrumentation is exempt from the functional test definition. The functional test will consist of injecting a simulated electrical signal into the measurement channel.

See ITS: 3.3.2.1

6. These instrument channels will be calibrated using simulated electrical signals once every three months.

7. Simulated automatic actuation shall be performed once per 24 months.

actual or LI

[SR 3.5.1.10] for ECCS

[SR 3.5.1.11] for ADS

8. Reactor low water level, and high drywell pressure are not included on Table 4.2-1 since they are listed on Table 4.1-2.

See ITS: 3.3.6.1

9. The logic system functional tests shall include a calibration of time delay relays and timers necessary for proper functioning of the trip systems.

See ITS 3.3.5.1 3.3.6.1 3.3.6.2

10. (Deleted)

11. Perform a calibration once per 24 months using a radiation source. Perform an instrument channel alignment once every 3 months using a current source.

See ITS 3.3.6.1 3.3.7.2

12. ~~(Deleted)~~

13. ~~(Deleted)~~

14. (Deleted)

15. Sensor calibration once per 24 months. Master/slave trip unit calibration once per 6 months.

See ITS: 3.3.5.1 3.3.6.1

16. The quarterly calibration of the temperature sensor consists of comparing the active temperature signal with a redundant temperature signal.

See ITS: 3.3.6.1

See ITS: 3.3.2.1 3.3.5.1 3.3.5.2 3.3.6.1 3.3.7.2

A1

See ITS: 3.4.5

NOTES FOR TABLES 4.2-1 THROUGH 4.2-5

1. Initially once every month until acceptance failure rate data are available; thereafter, a request may be made to the NRC to change the test frequency. The compilation of instrument failure rate data may include data obtained from other boiling water reactors for which the same design instruments operate in a environment similar to that of JAFNPP.

See ITS: 3.3.2.1

2. Functional tests are not required when these instruments are not required to be operable or are tripped. Functional tests shall be performed within seven (7) days prior to each startup.

3. Calibrations are not required when these instruments are not required to be operable or are tripped. Calibration tests shall be performed within seven (7) days prior to each startup or prior to a pre-planned shutdown.

See ITS: 3.3.2.1, 3.3.5.1, 3.3.5.2, 3.3.6.1

4. Instrument checks are not required when these instruments are not required to be operable or are tripped.

See ITS: 3.3.2.1, 3.3.5.1, 3.3.6.1, 3.3.5.2

5. This instrumentation is exempt from the functional test definition. The functional test will consist of injecting a simulated electrical signal into the measurement channel.

6. These instrument channels will be calibrated using simulated electrical signals once every three months.

[SR 3.5.2.6]

7. Simulated automatic actuation shall be performed once per 24 months.

or actual — L4

add Note to SR 3.5.2.6 — A7

See ITS: 3.3.2.1

See ITS: 3.3.6.1

8. Reactor low water level, and high drywell pressure are not included on Table 4.2-1 since they are listed on Table 4.1-2.

See ITS: 3.3.5.1, 3.3.6.1

9. The logic system functional tests shall include a calibration of time delay relays and timers necessary for proper functioning of the trip systems.

10. ~~(Deleted)~~

See ITS: 3.3.6.1, 3.3.7.2

11. Perform a calibration once per 24 months using a radiation source. Perform an instrument channel alignment once every 3 months using a current source.

12. ~~(Deleted)~~

13. ~~(Deleted)~~

14. ~~(Deleted)~~

See ITS: 3.3.5.1, 3.3.6.1

15. Sensor calibration once per 24 months. Master/slave trip unit calibration once per 6 months.

16. The quarterly calibration of the temperature sensor consists of comparing the active temperature signal with a redundant temperature signal.

See ITS: 3.3.6.1

Specification 3.6.1.3

NOTES FOR TABLES 4.2-1 THROUGH 4.2-5

See ITS: 3.4.5

1. Initially once every month until acceptance failure rate data are available; thereafter, a request may be made to the NRC to change the test frequency. The compilation of instrument failure rate data may include data obtained from other boiling water reactors for which the same design instruments operate in a environment similar to that of JAFNPP.

See ITS: 3.3.2.1

2. Functional tests are not required when these instruments are not required to be operable or are tripped. Functional tests shall be performed within seven (7) days prior to each startup.

See ITS: 3.3.2.1, 3.3.5.1, 3.3.6.1, 3.3.5.2

3. Calibrations are not required when these instruments are not required to be operable or are tripped. Calibration tests shall be performed within seven (7) days prior to each startup or prior to a pre-planned shutdown.

4. Instrument checks are not required when these instruments are not required to be operable or are tripped.

See ITS 3.3.2.1, 3.3.5.1, 3.3.6.1, 3.3.5.2, 3.3.3.2

5. This instrumentation is exempt from the functional test definition. The functional test will consist of injecting a simulated electrical signal into the measurement channel.

6. These instrument channels will be calibrated using simulated electrical signals once every three months.

[SR 3.6.1.3]

7. Simulated automatic actuation shall be performed once per 24 months.

"actual" or (LI)

See ITS: 3.3.2.1

See ITS 3.3.6.1

8. Reactor low water level, and high drywell pressure are not included on Table 4.2-1 since they are listed on Table 4.1-2.

See ITS 3.3.5.1, 3.3.6.1

9. The logic system functional tests shall include a calibration of time delay relays and timers necessary for proper functioning of the trip systems.

10. ~~(Deleted).~~

See ITS: 3.3.6.1, 3.3.7.2

11. Perform a calibration once per 24 months using a radiation source. Perform an instrument channel alignment once every 3 months using a current source.

12. ~~(Deleted)~~

13. ~~(Deleted)~~

14. ~~(Deleted)~~

See ITS 3.3.5.1, 3.3.6.1

15. Sensor calibration once per 24 months. Master/slave trip unit calibration once per 6 months.

16. The quarterly calibration of the temperature sensor consists of comparing the active temperature signal with a redundant temperature signal.

See ITS: 3.3.6.1

Specification 3.6.4.2

A1

ITS: 3.3.6.1
See ITS 3.3.6.2

NOTES FOR TABLES 4.2-1 THROUGH 4.2-5

1. Initially once every month until acceptance failure rate data are available; thereafter, a request may be made to the NRC to change the test frequency. The compilation of instrument failure rate data may include data obtained from other boiling water reactors for which the same design instruments operate in a environment similar to that of JAFNPP.
2. Functional tests are not required when these instruments are not required to be operable or are tripped. Functional tests shall be performed within seven (7) days prior to each startup.
3. Calibrations are not required when these instruments are not required to be operable or are tripped. Calibration tests shall be performed within seven (7) days prior to each startup or prior to a pre-planned shutdown.
4. Instrument checks are not required when these instruments are not required to be operable or are tripped.
5. This instrumentation is exempt from the functional test definition. The functional test will consist of injecting a simulated electrical signal into the measurement channel.
6. These instrument channels will be calibrated using simulated electrical signals once every three months.
7. Simulated automatic actuation shall be performed once per 24 months.

SR 3.6.4.2.3

or actual

L7

8. Reactor low water level, and high drywell pressure are not included on Table 4.2-1 since they are listed on Table 4.1-2.
9. The logic system functional tests shall include a calibration of time delay relays and timers necessary for proper functioning of the trip systems.
10. (Deleted)
11. Perform a calibration once per 24 months using a radiation source. Perform an instrument channel alignment once every 3 months using a current source.
12. (Deleted)
13. (Deleted)
14. (Deleted)
15. Sensor calibration once per 24 months. Master/slave trip unit calibration once per 6 months.
16. The quarterly calibration of the temperature sensor consists of comparing the active temperature signal with a redundant temperature signal.

Specification 3.6.4.3 (A1)

NOTES FOR TABLES 4.2-1 THROUGH 4.2-5

1. Initially once every month until acceptance failure rate data are available; thereafter, a request may be made to the NRC to change the test frequency. The compilation of instrument failure rate data may include data obtained from other boiling water reactors for which the same design instruments operate in a environment similar to that of JAFNPP.

2. Functional tests are not required when these instruments are not required to be operable or are tripped. Functional tests shall be performed within seven (7) days prior to each startup.

3. Calibrations are not required when these instruments are not required to be operable or are tripped. Calibration tests shall be performed within seven (7) days prior to each startup or prior to a pre-planned shutdown.

4. Instrument checks are not required when these instruments are not required to be operable or are tripped.

5. This instrumentation is exempt from the functional test definition. The functional test will consist of injecting a simulated electrical signal into the measurement channel.

6. These instrument channels will be calibrated using simulated electrical signals once every three months.

7. Simulated automatic actuation shall be performed once per 24 months.

8. Reactor low water level, and high drywell pressure are not included on Table 4.2-1 since they are listed on Table 4.1-2.

9. The logic system functional tests shall include a calibration of time delay relays and timers necessary for proper functioning of the trip systems.

10. ~~(Deleted)~~

11. Perform a calibration once per 24 months using a radiation source. Perform an instrument channel alignment once every 3 months using a current source.

12. ~~(Deleted)~~

13. ~~(Deleted)~~

14. ~~(Deleted)~~

15. Sensor calibration once per 24 months. Master/slave trip unit calibration once per 6 months.

16. The quarterly calibration of the temperature sensor consists of comparing the active temperature signal with a redundant temperature signal.

see ITS: 3.4.5

see ITS: 3.3.2.1

see ITS: 3.3.2.1, 3.3.5.1, 3.3.5.2, 3.3.6.1

see ITS: 3.3.2.1

[SR 3.6.4.3.3]

or actual

L4

see ITS: 3.3.6.1

see ITS: 3.3.5.1, 3.3.6.1, 3.3.6.2

see ITS: 3.3.6.1, 3.3.7.2

see ITS: 3.3.6.1, 3.3.5.2, 3.3.5.1

see ITS: 3.3.6.1

see ITS: 3.3.2.1, 3.3.5.1, 3.3.5.2, 3.3.6.1, 3.3.7.2

Specification 3.3.2.2

A1

VPP

TABLE 4.2-6

FEEDWATER PUMP TURBINE AND MAIN TURBINE TRIP INSTRUMENTATION
TEST AND CALIBRATION REQUIREMENTS

A5

Instrument Channel	Instrument Functional Test Frequency (Note 2)	Logic System Functional Test Frequency	Calibration Frequency	Instrument Check Frequency
[LCO 3.3.2.2] Reactor Vessel Water Level - High	[SR 3.3.2.2.2] Note 1	[SR 3.3.2.2.4] R	[SR 3.3.2.2.3] R	[SR 3.3.2.2.1] D

24 months

24 hours

NOTES FOR TABLE 4.2-6

A1

1. Perform the instrument functional test:

[SR 3.3.2.2.2]

a. Once per 24 months during each refueling outage, and

Note to SR 3.3.2.2.2 and SR FREQ

b. Each time the plant is in cold shutdown for a period of more than 24 hours, unless performed in the previous 92 days.

2. This instrumentation is exempt from the instrument channel functional test definition. The functional test will consist of injecting a simulated electrical signal into the instrument channel as close to the sensor as practicable.

A4

Specification 3.3.4.1

A1

JAFNPP

TABLE 4.2-7

A8

ATWS RECIRCULATION PUMP TRIP INSTRUMENTATION
TEST AND CALIBRATION REQUIREMENTS

FUNCTION	CHANNEL CHECK [SR 3.3.4.1.1]	CHANNEL FUNCTIONAL TEST [SR 3.3.4.1.2]	TRIP UNIT CALIBRATION [SR 3.3.4.1.3]	CHANNEL CALIBRATION [SR 3.3.4.1.4]	SIMULATED AUTO ACTUATION & LOGIC FUNCTIONAL TEST (including breaker actuation) [SR 3.3.4.1.5]
Reactor Pressure-High	D	Q 92 days Q	SA 184 days SA	R 24 months R	R 24 months R
Reactor Water Level-Low Low	D 12 hours M1				

Specifications 3.3.3.1 A1

JAFNPP

[3.3.3.1-1]

TABLE 4.2-8

MINIMUM TEST AND CALIBRATION FREQUENCY FOR ACCIDENT MONITORING INSTRUMENTATION

Post

	Function	Instrument	Instrument Functional Test	Calibration Frequency	Instrument Check
	1.	Stack High Range Effluent Monitor	18M	18M	D
	2.	Turbine Building Vent High Range Effluent Monitor	18M	18M	D
	3.	Radwaste Building Vent High Range Effluent Monitor	18M	18M	D
[5]	4.	Containment High Range Radiation Monitor	R (See ITS: 3.3.6.1)	R [SR 3.3.3.1.3] 24 months	D [SR 3.3.3.1.1]
[4.a]	5.	Drywell Pressure (narrow range)	N/A	R	D
[4.b]	6.	Drywell Pressure (wide range)	N/A	R	D
[6]	7.	Drywell Temperature	N/A	R	D
[3]	8.	Torus Water Level (wide range)	N/A	R	D
[10]	9.	Torus Bulk Water Temperature	N/A	R	D
[9]	10.	Torus Pressure	N/A	R	D
[8]	11.	Primary Containment Hydrogen/Oxygen Concentration Analyzer	N/A	Q [SR 3.3.3.1.2]	D
[1]	12.	Reactor Vessel Pressure	N/A	R	D
[2.a]	13.	Reactor Water Level (fuel zone)	N/A	R	D
[2.b]	14.	Reactor Water Level (wide range)	N/A	R	D

A6 (Instrument Functional Test)

A6 (Reactor Vessel Pressure)

K1

Channel

31 days

L 6

RAI 3.3.3.1-10 & BSI 21

Amendment No. ~~3, 173, 181, 221~~, 233

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REVISION F

Specification 3.3.6.1 (A1)

JAFNPP

(M10) add SR Note 2 for Function 2.c

Table 3.3.6.1-1 Primary Containment Isolation Instrumen t

TABLE 4.2.6

MINIMUM TEST AND CALIBRATION FREQUENCY FOR ACCIDENT MONITORING INSTRUMENTATION

	Function	[SR 3.3.6.1.2] Channel Instrument Functional Test	[SR 3.3.6.1.6] Channel Calibration Frequency	[SR 3.3.6.1.1] Channel Instrument Check
1.	Stack High Range Effluent Monitor	18M	18M	D
2.	Turbine Building Vent High Range Effluent Monitor	18M	18M	D
3.	Radwaste Building Vent High Range Effluent Monitor	18M	18M	D
4.	Containment High Range Radiation Monitor	[SR 3.3.6.1.2] R 92 days (M1)	R [E 5]	D [-1] (M9) 12 hours
5.	Drywell Pressure (narrow range)	N/A	R	D
6.	Drywell Pressure (wide range)	N/A	R	D
7.	Drywell Temperature	N/A	R	D
8.	Torus Water Level (wide range)	N/A	R	D
9.	Torus Bulk Water Temperature	N/A	R	D
10.	Torus Pressure	N/A	R	D
11.	Primary Containment Hydrogen/Oxygen Concentration Analyzer	N/A	Q	D
12.	Reactor Vessel Pressure	N/A	R	D
13.	Reactor Water Level (fuel zone)	N/A	R	D
14.	Reactor Water Level (wide range)	N/A	R	D

[(Function 2c)]

See ITS: 3.3.3.1

See ITS: 3.3.3.1

Amendment No. ~~3, 173, 181, 224~~, 233

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SR 3.3.6.1.7 (M1)

Amp 257

REVISION F

Specification 3.6.2.1

A1

TABLE 4.2-8

MINIMUM TEST AND CALIBRATION FREQUENCY FOR ACCIDENT MONITORING INSTRUMENTATION

	Instrument	Instrument Functional Test	Calibration Frequency	Instrument Check
1.	Stack High Range Effluent Monitor	18M	18M	D
2.	Turbine Building Vent High Range Effluent Monitor	18M	18M	D
3.	Radwaste Building Vent High Range Effluent Monitor	18M	18M	D
4.	Containment High Range Radiation Monitor	R	R	D
5.	Drywell Pressure (narrow range)	N/A	R	D
6.	Drywell Pressure (wide range)	N/A	R	D
7.	Drywell Temperature	N/A	R	D
8.	Torus Water Level (wide range)	N/A	R	D
9.	Torus Bulk Water Temperature	N/A	R	D
10.	Torus Pressure	N/A	R	D
11.	Primary Containment Hydrogen/Oxygen Concentration Analyzer	N/A	Q	D
12.	Reactor Vessel Pressure	N/A	R	D
13.	Reactor Water Level (fuel zone)	N/A	R	D
14.	Reactor Water Level (wide range)	N/A	R	D

A3

D

See ITS 3.3.3.1

Specifications 3.3.3.1

A1

JAFNPP

[3.3.3.1-1]

Post Accident Monitoring Instrumentation

TABLE 4.2-8 (cont'd)

MINIMUM TEST AND CALIBRATION FREQUENCY FOR ACCIDENT MONITORING INSTRUMENTATION

[SR 3.3.3.1.1]

RAI 3.3.3.1-9 & BSI 2.0

Function / Instrument	A6 Instrument Functional Test	[SR 3.3.3.1.3] Calibration Frequency	Instrument Check (Channel)	R2
15. Core Spray Flow	N/A	R	D	
16. Core Spray Discharge Pressure	N/A	R	D	
17. LPCI (RHR) Flow	N/A	R	D	
18. RHR Service Water Flow	N/A	R	D	
19. Safety/Relief Valve Position Indicator (Primary and Secondary)	R	N/A	M	R1
20. Torus Water Level (narrow range)	N/A	R	D	
21. Drywell/Torus Differential Pressure	N/A	R	D	

RAI 3.3.3.1-10 BSI 1.1

add SR 3.3.3.1.1 for Function 7
SR 3.3.3.1.3

M3

add SR 3.3.3.1 and SR 3.3.3.3 for Function 11

M4

Amendment No. ~~130, 181, 220~~, 233

86a

Page 7 of 7

REVISION F

Specification 3.6.2.2

A1

TABLE 4.2-8 (cont'd)

MINIMUM TEST AND CALIBRATION FREQUENCY FOR ACCIDENT MONITORING INSTRUMENTATION

	Instrument	Instrument Functional Test	Calibration Frequency	Instrument Check
15.	Core Spray Flow	N/A	R	D
16.	Core Spray Discharge Pressure	N/A	R	D
17.	LPCI (RHR) Flow	N/A	R	D
18.	RHR Service Water Flow	N/A	R	D
19.	Safety/Relief Valve Position Indicator (Primary and Secondary)	R	N/A	M
20.	Torus Water Level (narrow range)	N/A	R	D A2
21.	Drywell-Torus Differential Pressure	N/A	R	D

See ITS: 3.3.3.1

Specification 3.6.2.4 (A1)

TABLE 4.2-8 (cont'd)

MINIMUM TEST AND CALIBRATION FREQUENCY FOR
ACCIDENT MONITORING INSTRUMENTATION

	Instrument	Instrument Functional Test	Calibration Frequency	Instrument Check
15.	Core Spray Flow	N/A	R	D
16.	Core Spray Discharge Pressure	N/A	R	D
17.	LPCI (RHR) Flow	N/A	R	D
18.	RHR Service Water Flow	N/A	R	D
19.	Safety/Relief Valve Position Indicator (Primary and Secondary)	R	N/A	M
20.	Torus Water Level (narrow range)	N/A	R	D
21.	Drywell-Torus Differential Pressure	N/A	R	D (A2)

See ITS: 3.3.3.1

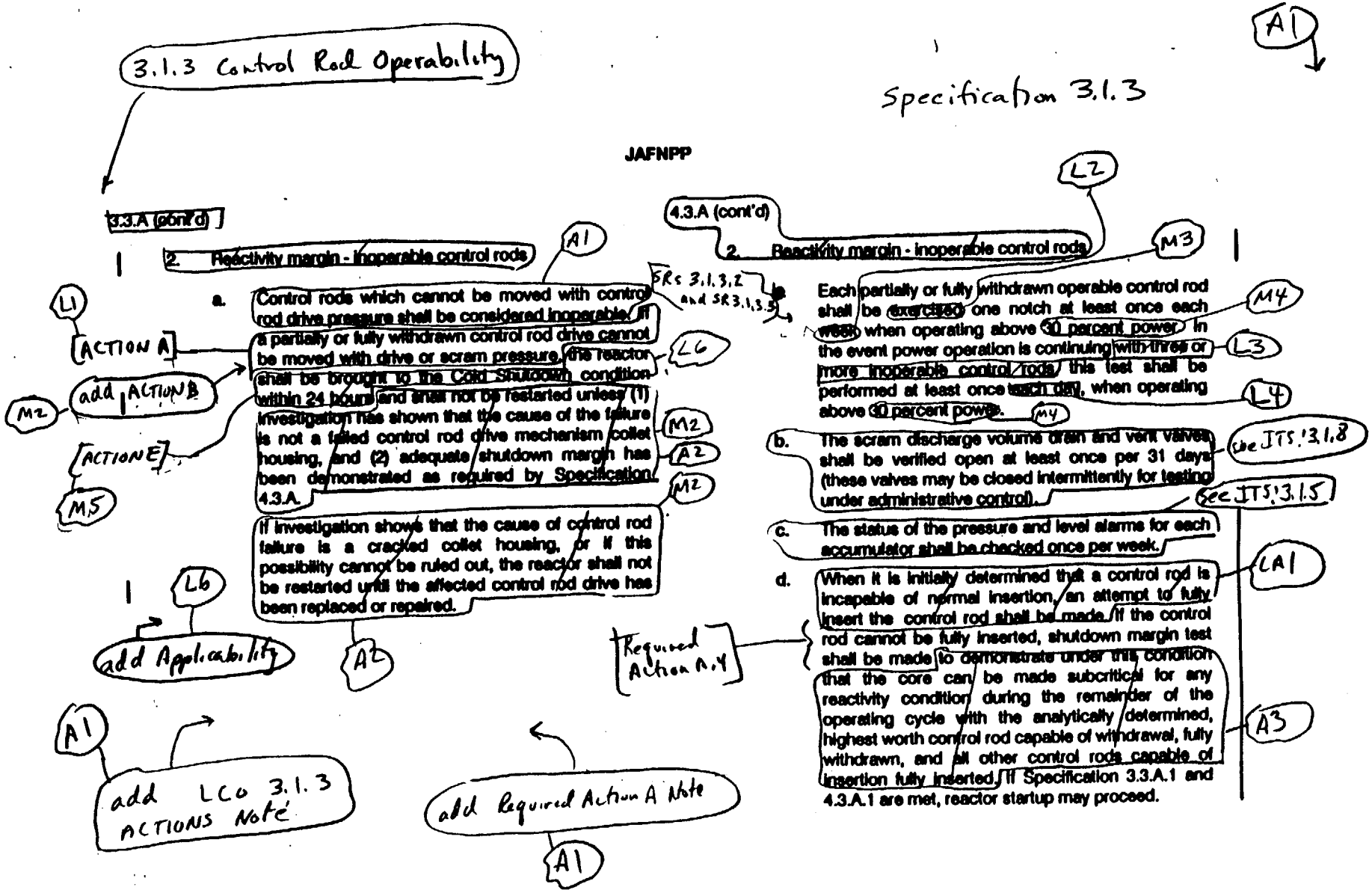
Specification 3.1.1

A1

3.3 LIMITING CONDITION FOR OPERATION	4.3 SURVEILLANCE REQUIREMENT
3.1 → ~~3.3~~ REACTIVITY CONTROL (SYSTEMS)	4.3 REACTIVITY CONTROL
Applicability: (MODES 1, 2, 3, 4 and 5)	**Applicability:**
Applies to the operational status of the Control Rod System.	Applies to the surveillance requirements of the Control Rod System.
Objective:	**Objective:**
To assure the ability of the Control Rod System to control reactivity.	To verify the ability of the Control Rod System to control reactivity.
Specification:	**Specification:**
3.1.1 ~~A.~~ Reactivity Limitations (Shutdown Margin (SDM))	A. Reactivity Limitations
1. Reactivity margin - core loading (add LCO and limits) A2	1. Reactivity margin - core loading LA1
[LCO 3.1.1] A sufficient number of control rods shall be operable so that the core could be made subcritical in the most reactive conditions during the operating cycle with the strongest control rod fully withdrawn and all other operable control rods fully inserted. LA1	[SR 3.1.1.1] Sufficient control rods shall be withdrawn following a refueling outage when core alterations were performed to demonstrate with a margin of 0.38 percent Δk/k the core can be made subcritical at any time in the subsequent fuel cycle with the analytically determined strongest control rod fully withdrawn and all other operable rods fully inserted. LA1
	add proposed SR 3.1.1.1 first frequency
	add proposed second frequency
	M2

add ACTIONS A, B, C, D and E

M1


3.1.3 Control Rod Operability
Specification 3.1.3
A1
JAFNPP
3.3.A (cont'd)
2. Reactivity margin - inoperable control rods
a. Control rods which cannot be moved with control rod drive pressure shall be considered inoperable. If a partially or fully withdrawn control rod drive cannot be moved with drive or scram pressure, the reactor shall be brought to the Cold Shutdown condition within 24 hours and shall not be restarted unless (1) investigation has shown that the cause of the failure is not a failed control rod drive mechanism collet housing, and (2) adequate shutdown margin has been demonstrated as required by Specification 4.3.A.
If investigation shows that the cause of control rod failure is a cracked collet housing, or if this possibility cannot be ruled out, the reactor shall not be restarted until the affected control rod drive has been replaced or repaired.
4.3.A (cont'd)
2. Reactivity margin - inoperable control rods
Each partially or fully withdrawn operable control rod shall be exercised one notch at least once each week when operating above 30 percent power. In the event power operation is continuing with three or more inoperable control rods this test shall be performed at least once each day, when operating above 30 percent power.
b. The scram discharge volume drain and vent valves shall be verified open at least once per 31 days (these valves may be closed intermittently for testing under administrative control).
c. The status of the pressure and level alarms for each accumulator shall be checked once per week.
d. When it is initially determined that a control rod is incapable of normal insertion, an attempt to fully insert the control rod shall be made. If the control rod cannot be fully inserted, shutdown margin test shall be made to demonstrate under this condition that the core can be made subcritical for any reactivity condition during the remainder of the operating cycle with the analytically determined, highest worth control rod capable of withdrawal, fully withdrawn, and all other control rods capable of insertion fully inserted. If Specification 3.3.A.1 and 4.3.A.1 are met, reactor startup may proceed.
SRs 3.1.3.2 and SR 3.1.3.5
L1
ACTION A
add ACTION B
M2
ACTION E
M5
L6
add Applicability
A2
L2
M3
M4
L3
L4
M4
M2
A2
M2
see JTS 3.1.8
see JTS 3.1.5
LA1
A3
Required Action A.4
A1
add LCO 3.1.3 ACTIONS Note
A1
add Required Action A Note
A1

Specification 3.1.5

(A1)

See ITS: 3.1.3

3.3.A (cont'd)	4.3.A (cont'd)
2. Reactivity margin - inoperable control rods	2. Reactivity margin - inoperable control rods
a. Control rods which cannot be moved with control rod drive pressure shall be considered inoperable. If a partially or fully withdrawn control rod drive cannot be moved with drive or scram pressure, the reactor shall be brought to the Cold Shutdown condition within 24 hours and shall not be restarted unless (1) investigation has shown that the cause of the failure is not a failed control rod drive mechanism collet housing, and (2) adequate shutdown margin has been demonstrated as required by Specification 4.3.A. If investigation shows that the cause of control rod failure is a cracked collet housing, or if this possibility cannot be ruled out, the reactor shall not be restarted until the affected control rod drive has been replaced or repaired.	a. Each partially or fully withdrawn operable control rod shall be exercised one notch at least once each week when operating above 30 percent power. In the event power operation is continuing with three or more inoperable control rods, this test shall be performed at least once each day, when operating above 30 percent power. b. The scram discharge volume drain and vent valves shall be verified open at least once per 31 days (these valves may be closed intermittently for testing under administrative control). [SR 3.1.5.1] c. The status of the pressure and level alarms for each accumulator shall be checked once per week. d. When it is initially determined that a control rod is incapable of normal insertion, an attempt to fully insert the control rod shall be made. If the control rod cannot be fully inserted, shutdown margin test shall be made to demonstrate under this condition that the core can be made subcritical for any reactivity condition during the remainder of the operating cycle with the analytically determined, highest worth control rod capable of withdrawal, fully withdrawn, and all other control rods capable of insertion fully inserted. If Specification 3.3.A.1 and 4.3.A.1 are met, reactor startup may proceed.

(A2)

SEE ITS: 3.1.8

Verify each control rod scram accumulator pressure is ≥ 940 psig

(M1)

Specification 3.18

A1

3.3.A (cont'd)	4.3.A (cont'd)
2. Reactivity margin - inoperable control rods	2. Reactivity margin - inoperable control rods
a. Control rods which cannot be moved with control rod drive pressure shall be considered inoperable. If a partially or fully withdrawn control rod drive cannot be moved with drive or scram pressure, the reactor shall be brought to the Cold Shutdown condition within 24 hours and shall not be restarted unless (1) investigation has shown that the cause of the failure is not a failed control rod drive mechanism collet housing, and (2) adequate shutdown margin has been demonstrated as required by Specification 4.3.A. If investigation shows that the cause of control rod failure is a cracked collet housing, or if this possibility cannot be ruled out, the reactor shall not be restarted until the affected control rod drive has been replaced or repaired.	a. Each partially or fully withdrawn operable control rod shall be exercised one notch at least once each week when operating above 30 percent power. In the event power operation is continuing with three or more inoperable control rods, this test shall be performed at least once each day, when operating above 30 percent power.
	[SR 3.1.4.1] b. The scram discharge volume drain and vent valves shall be verified open at least once per 31 days [SR 3.1.4.1 NOTE] (these valves may be closed intermittently for testing under administrative control).
	c. The status of the pressure and level alarms for each accumulator shall be checked once per week.
	d. When it is initially determined that a control rod is incapable of normal insertion, an attempt to fully insert the control rod shall be made. If the control rod cannot be fully inserted, shutdown margin test shall be made to demonstrate under this condition that the core can be made subcritical for any reactivity condition during the remainder of the operating cycle with the analytically determined, highest worth control rod capable of withdrawal, fully withdrawn, and all other control rods capable of insertion fully inserted. If Specification 3.3.A.1 and 4.3.A.1 are met, reactor startup may proceed.

See ITS 3.1.3

See ITS 3.1.5

See ITS 3.1.3

Add: LCO 3.1.8 — L1

add Applicability — L1

add ACTIONS A, B, C, ACTIONS Notes — L2

Page 1 of 4

~~3.3.A.2 (cont'd)~~

b. The control rod directional control valves for inoperable control rods shall be disarmed electrically.

<See ITS 3.1.3>

c. Control rods with scram times greater than those permitted by Specification 3.3.C.3 are inoperable, but if they can be inserted with control rod drive pressure they need not be disarmed electrically.

<see ITS 3.1.3>

d. Control rods with inoperable accumulators or those whose position cannot be positively determined shall be considered inoperable.

<see ITS 3.1.3; 3.1.5>

[ACTION A]

e. ~~Inoperable control rods shall be positioned such that Specification 3.3.A.1 is met.~~

Restore SDM to within limits in 6 hours

M1

(1) When operating with two or more inoperable control rods in the Startup/Hot Standby or Run modes at ≤ 10% rated thermal power, control rod patterns shall be equivalent to those prescribed by the Banked Position Withdrawal Sequence (BPWS) or else the inoperable control rods shall be separated by two or more operable control rods. If this condition is not met, restore compliance with the condition within 4 hours. Otherwise be in hot shutdown within the following 12 hours.

<ADD ACTION B> M1

(2) If nine or more control rods are inoperable, be in hot shutdown within 12 hours.

<see ITS 3.1.3>

~~4.3.A.2 (cont'd)~~

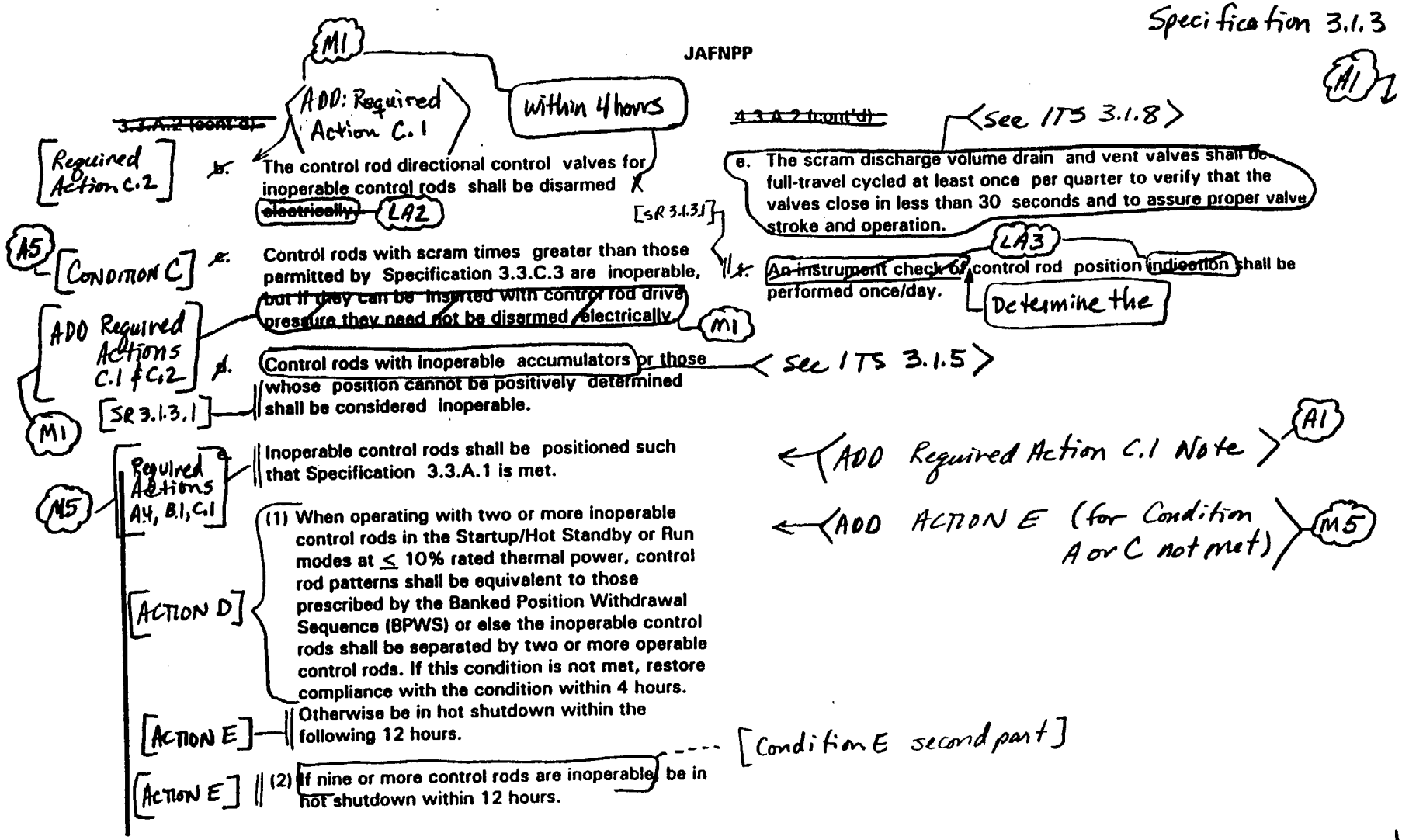
<See ITS 3.1.8>

e. The scram discharge volume drain and vent valves shall be full-travel cycled at least once per quarter to verify that the valves close in less than 30 seconds and to assure proper valve stroke and operation.

f. An instrument check of control rod position indication shall be performed once/day.

<See ITS 3.1.3>

Specification 3.1.3



SPECIFICATION 3.1.5 (A1)

~~3.3.A.2 (cont'd)~~ (See ITS 3.1.3)

b. The control rod directional control valves for inoperable control rods shall be disarmed electrically.

c. Control rods with scram times greater than those permitted by Specification 3.3.C.3 are inoperable but if they can be inserted with control rod drive pressure they need not be disarmed electrically.

~~4.3.A.2 (cont'd)~~ (See ITS 3.1.8)

e. The scram discharge volume drain and vent valves shall be full-travel cycled at least once per quarter to verify that the valves close in less than 30 seconds and to assure proper valve stroke and operation.

f. An instrument check of control rod position indication shall be performed once/day. (See ITS 3.1.3)

LCO 3.1.5 #. Control rods with inoperable accumulators or those whose position cannot be positively determined (See ITS 3.1.3) shall be considered inoperable.

[Required Actions A.2, B.2.2, C.2]

e. Inoperable control rods shall be positioned such that Specification 3.3.A.1 is met. (See ITS 3.1.1)

(1) When operating with two or more inoperable control rods in the Startup/Hot Standby or Run modes at ≤ 10% rated thermal power, control rod patterns shall be equivalent to those prescribed by the Banked Position Withdrawal Sequence (BPWS) or else the inoperable control rods shall be separated by two or more operable control rods. If this condition is not met, restore compliance with the condition within 4 hours. Otherwise be in hot shutdown within the following 12 hours. (See ITS 3.1.3)

(2) If nine or more control rods are inoperable, be in hot shutdown within 12 hours.

<ADD: ACTIONS Table Note> (A3)

<ADD: ACTIONS A, B, C, & D> (L1)

<ADD: Applicability> (A2)

Specification 3.1.8

A1

~~3.3.A.2 (cont'd)~~ <See ITS 3.1.3>

b. The control rod directional control valves for inoperable control rods shall be disarmed electrically.

c. Control rods with scram times greater than those permitted by Specification 3.3.C.3 are inoperable but if they can be inserted with control rod drive pressure they need not be disarmed electrically.

~~4.3.A.2 (cont'd)~~

e. The scram discharge volume drain and vent valves shall be full-travel cycled at least ~~once per quarter to verify that the valves close in less than 30 seconds and~~ to assure proper valve stroke and operation.

In accordance with the Inservice Test Program

A2

[SR 3.1.8.2]

LA1

f. An instrument check of control rod position indication shall be performed once/day.

<see ITS 3.1.3>

d. Control rods with inoperable accumulators or those whose position cannot be positively determined shall be considered inoperable.

<See ITS 3.1.3; 3.1.5>

e. ~~Inoperable control rods shall be positioned such~~ that Specification 3.3.A.1 is met.

(1) When operating with two or more inoperable control rods in the Startup/Hot Standby or Run modes at ≤ 10% rated thermal power, control rod patterns shall be equivalent to those prescribed by the Banked Position Withdrawal Sequence (BPWS) or else the inoperable control rods shall be separated by two or more operable control rods. If this condition is not met, restore compliance with the condition within 4 hours. Otherwise be in hot shutdown within the following 12 hours.

<See ITS 3.1.1; 3.1.3>

[ACTION C]

(2) If nine or more control rods are inoperable, be in hot shutdown within 12 hours.

Specification 3.1.3

A1

3.3 (cont'd)	4.3 (cont'd)
B. Control Rods	B. Control Rods
1. Each control rod shall be coupled to its drive or completely inserted and the control rod directional control valves disarmed electrically. This requirement does not apply in the refuel condition when the reactor is vented. Two control rod drives may be removed as long as Specification 3.3.A.1 is met.	☑ Demonstrate that each control rod drive does not go to the overtravel position: (SR 3.1.3.5) a. Each time a control rod is withdrawn to the "full out" position. b. Prior to declaring a control rod OPERABLE; after work on a control rod or the CRD System that could affect coupling.
2. The control rod drive housing support system shall be in place during reactor power operation or when the reactor coolant system is pressurized above atmospheric pressure with fuel in the reactor vessel, unless all control rods are fully inserted and Specification 3.3.A.1 is met.	2. The control rod drive housing support system shall be inspected after reassembly and the results of the inspection recorded.

A4 LA2 ACTION C M1 AC L5

A1

add RA c.1 Note

Specification 3.3.2.1

[Applicability]

JAFNPP

A1

3.3.B (cont'd)

[LCO 3.3.2.1]
[Table 3.3.2.1-1 Function 2]

3. Whenever the reactor is below 10% rated thermal power, the Rod Worth Minimizer (RWM) shall be operable except as follows:

[RA C.2.1.1]
[RA C.2.2]
[ACTION D]

a. Should the RWM become inoperable during a reactor startup after the first twelve control rods have been withdrawn, or during a reactor shutdown, control rod movement may continue provided that a second licensed reactor operator, licensed senior operator, or reactor engineer independently verifies that the control rods are being positioned in accordance with the RWM program sequence.

[Required Action C.2.1.2]
[RA C.2.2]

b. Should the RWM be inoperable before a startup is begun, or become inoperable during the withdrawal of the first twelve control rods, the startup may continue provided that a reactor engineer independently verifies that the control rods are being positioned in accordance with the RWM program sequence. After twelve control rods have been fully withdrawn, startup may continue in accordance with Specification 3.3.B.3.a above.

4.3.B (cont'd)

L4

3. The capability of the Rod Worth Minimizer to properly fulfill its function shall be demonstrated by the following checks:

L4

a. During startup, prior to the start of control rod withdrawal:

[SR 3.3.2.1.8]

(1) The correctness of the RWM program sequence shall be verified.

(2) The RWM computer on line diagnostic test shall be successfully performed.

(3) Proper annunciation of the selection error of at least one out-of-sequence control rod in each fully inserted group shall be demonstrated.

LA2

L3

add SR 3.3.2.1.2 Note

[SR 3.3.2.1.2]

(4) The rod block function of the RWM shall be demonstrated by withdrawing an out-of-sequence control rod no more than to the block point, then reinserting the subject rod.

LA3

every 92 days

L3

L4

b. During shutdown, prior to attaining 10% rated power during rod insertion, except by scram:

L4

[SR 3.3.2.1.8]

(1) The correctness of the RWM program sequence shall be verified.

(2) The RWM computer on line diagnostic test shall be successfully performed.

LA2

M5

add SR 3.3.2.1.3

M6

add proposed SR 3.3.2.1.6

Specification 3.1.6

A1

3.3.B.3 (cont'd)

4.3.B (cont'd)

c. When required by Specifications 3.3.B.3.a or b, the second licensed reactor operator, licensed senior operator, or the reactor engineer must be present at the reactor console during rod movements to verify compliance with the prescribed rod pattern. This individual shall have no other concurrent duties during the rod withdrawal or insertion.

See ITS: 3.3.2.1

d. Plant startup under Specification 3.3.B.3.b is only permitted once per calendar year. Any startup conducted without the RWM as described in Specification 3.3.B.3.b shall be reported to the NRC within 30 days of the startup. This special report shall state the reason for the RWM inoperability, the action taken to restore it, and the schedule for returning the RWM to an operable status.

See ITS: 3.3.2.1

LCO 3.1.6

e. Control rod patterns shall be equivalent to those prescribed by the Banked Position Withdrawal Sequence (BPWS) such that the drop of any in-sequence control rod would not result in a peak fuel enthalpy greater than 280 calories/gm.

LA1

See ITS: 3.3.2.1

L1

add ACTION A

A2

If Specifications 3.3.B.3.a through e cannot be met, the reactor shall not be restarted, or if the reactor is in the run or startup modes at less than 10% rated thermal power, no rod movement is permitted except by scram.

ACTION B

Applicability

Required Action B.1

add Required Action B,2 and associated Completion Time

L1

L1

or equal to

M1

add Required Action B.1 Note

L1

Add SR 3.1.6.1

M2

Specification 3.3.2.1

A1

RAI 3.3.2.1-4

3.3.B.3 (cont'd)	4.3.B (cont'd)

[C.2.2]

c. When required by Specifications 3.3.B.3.a or b, the second licensed reactor operator, licensed senior operator, or the reactor engineer must be present at the reactor console during rod movements to verify compliance with the prescribed rod pattern. This individual shall have no other concurrent duties during the rod withdrawal or insertion. — LA6

[Required Action C.2.1.2]

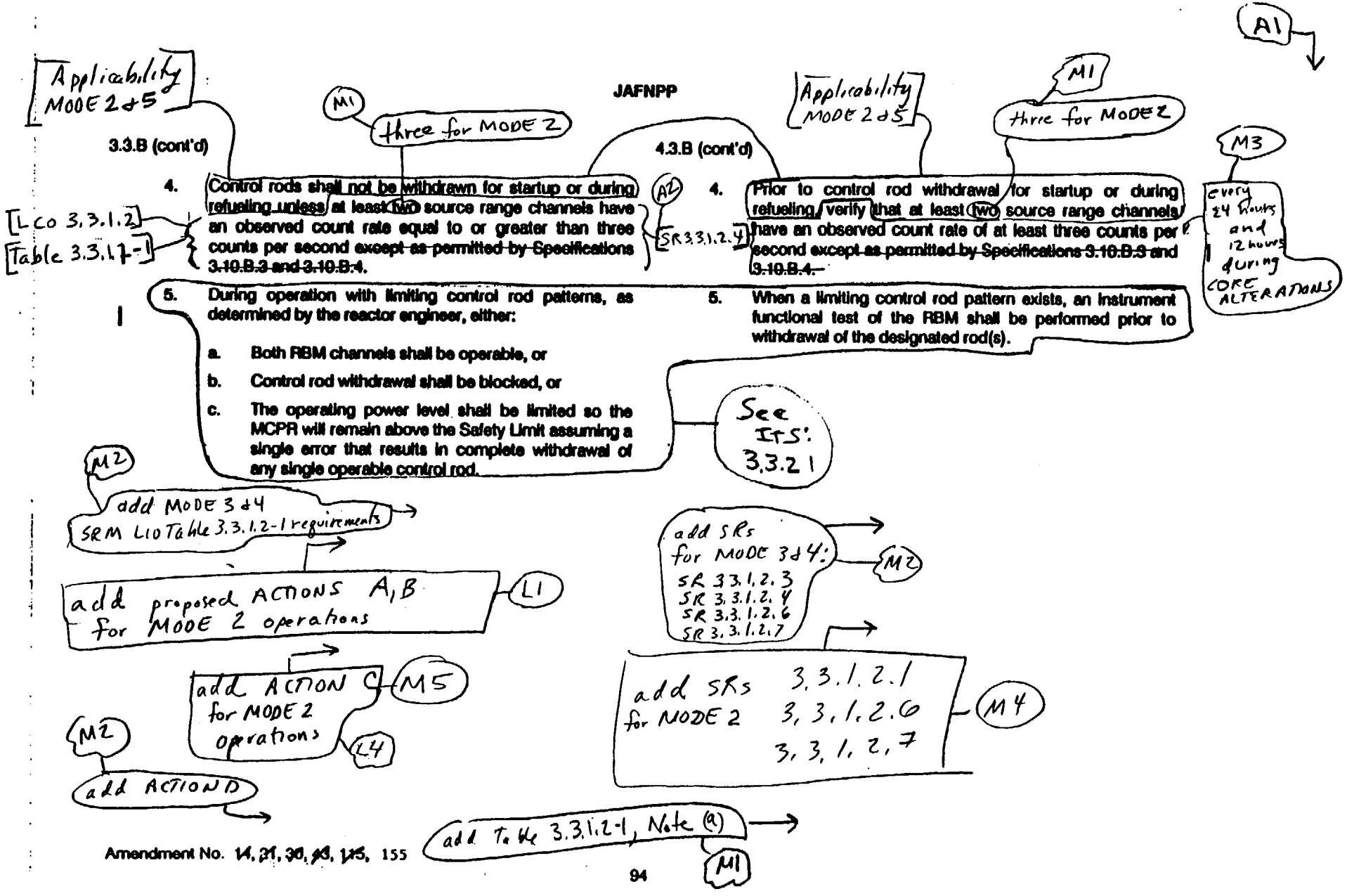
d. Plant startup under Specification 3.3.B.3.b is only permitted once per calendar year. Any startup conducted without the RWM as described in Specification 3.3.B.3.b shall be reported to the NRC within 30 days of the startup. This special report shall state the reason for the RWM inoperability, the action taken to restore it, and the schedule for returning the RWM to an operable status. — L8

e. Control rod patterns shall be equivalent to those prescribed by the Banked Position Withdrawal Sequence (BPWS) such that the drop of any in-sequence control rod would not result in a peak fuel enthalpy greater than 280 calories/gm. — See ITS: 3.1.6

[Required Action C.1]

f. If Specifications 3.3.B.3.a through e cannot be met, the reactor shall not be restarted, or if the reactor is in the run or startup modes at less than 10% rated thermal power, no rod movement is permitted except by scram.

Specification 3.3.1.2



Specification 3.3.2.1

A1

3.3.B (cont'd)	4.3.B (cont'd)
4. Control rods shall not be withdrawn for startup or during refueling unless at least two source range channels have an observed count rate equal to or greater than three counts per second except as permitted by Specifications 3.10.B.3 and 3.10.B.4.	4. Prior to control rod withdrawal for startup or during refueling, verify that at least two source range channels have an observed count rate of at least three counts per second except as permitted by Specifications 3.10.B.3 and 3.10.B.4.
5. During operation with limiting control rod patterns, as determined by the reactor engineer, either:	5. When a limiting control rod pattern exists, an instrument functional test of the RBM shall be performed prior to withdrawal of the designated rod(s).
a. Both RBM channels shall be operable, or	
b. Control rod withdrawal shall be blocked, or	
c. The operating power level shall be limited so the MCPR will remain above the Safety Limit assuming a single error that results in complete withdrawal of any single operable control rod.	

See: TS 3.3.12

LCO 3.3.2.1 Table 3.3.2.1-1 Function 1.a

L1

L6

add ACTION A and B

L1

Specification 3.1.4

3.3 (cont'd)

Control Rod

[3.1.4] ! E. Scram Insertion Times

1. The average scram insertion time, based on the de-energization of the scram pilot valve solenoids as time zero, of all operable control rods in the reactor power operation condition shall be no greater than:

[L(3.1.4)] M2

Control Rod Notch Position Observed	Average Scram Insertion Time (Seconds)
46	0.338
38	0.923
24	1.992
04	3.554

M2

Add: Applicability

M1

[3.1.4]

3.3 (cont'd)

Control Rod

D. Scram Insertion Times

Add SR Note1 M2

M6 ≥ 800

A1

D. After each refueling outage, all operable rods shall be scram time tested from the fully withdrawn position with the nuclear system pressure above 950 psig (with saturation temperature). This testing shall be completed prior to exceeding 40% power. During all scram time testing below 10% power, the RWM shall be operable.

A2

[SR 3.1.4.4 1ST FREQ]

L4

<ADD SR 3.1.4.1> M3

TSTF-222

Specification 3.1.3

A1

3.3.C (cont'd)

2. The average of the scram insertion times for the three fastest operable control rods of all groups of four control rods in a two-by-two array shall be no greater than:

Control Rod Notch Position Observed	Average Scram Insertion Time (Seconds)
46	0.361
38	0.977
24	2.112
04	3.764

3. The maximum scram insertion time for 90 percent insertion of any operable control rod shall not exceed 7.00 sec.

[SR 3.1.3.4]

Verify

add Surveillance Frequency

M6

4.3.C (cont'd)

2. At 16-week intervals, 10 percent of the operable control rod drives shall be scram timed above 950 psig. The same control rod drives should not be tested each interval. Whenever such scram time measurements are made, an evaluation shall be made to provide reasonable assurance that proper control rod drive performance is being maintained.

See ITS 3.1.4

See also ITS 3.1.4

3. All control rods shall be determined operable by demonstrating the scram discharge volume drain and vent valves are:

	Item	Frequency
a.	Verified Open	Once per 31 Days
b.	Cycled Fully Closed and Open	In accordance with the Inservice Testing Program
c.	Verified to close within 30 seconds after receipt of an actual or simulated scram signal and open when the actual or simulated scram signal is reset.	Once per 24 Months

See ITS 3.1.8

Specification 3.1.4

3.3.C (cont'd)

2. The average of the scram insertion times for the three fastest operable control rods of all groups of four control rods in a two-by-two array shall be no greater than:

Control Rod Notch Position Observed	Average Scram Insertion Time (Seconds)
46	0.361
38	0.977
24	2.112
04	3.764

Table 3.1.4-1 Note 2

The maximum scram insertion time for 90 percent insertion of any operable control rod shall not exceed 7.00 sec.

These control rods are inoperable in accordance with SR 3.1.3.4, and are not considered "slow"

add Table 3.1.4-1 Note 1, Footnote (a)

add Table 3.1.4-1 Footnote (b)

4.3.C (cont'd)

2. At 16-week intervals, 10 percent of the operable control rod drives shall be scram timed above 950 psig. The same control rod drives should not be tested each interval. Whenever such scram time measurements are made, an evaluation shall be made to provide reasonable assurance that proper control rod drive performance is being maintained. [SR 3.1.4.2]

120 days cumulative operation in Mode 1

representative samples

≥ 800

add SR 3.1.4.3
SR 3.1.4.4; 2ND FREQ

3. All control rods shall be determined operable by demonstrating the scram discharge volume drain and vent valves are:

	Item	Frequency
a.	Verified Open	Once per 31 Days
b.	Cycled Fully Closed and Open	In accordance with the Inservice Testing Program
c.	Verified to close within 30 seconds after receipt of an actual or simulated scram signal and open when the actual or simulated scram signal is reset.	Once per 24 Months

See ITS 3.1.8

TSF-222

Specification 3.1.8

A1

3.3.C (cont'd)

2. The average of the scram insertion times for the three fastest operable control rods of all groups of four control rods in a two-by-two array shall be no greater than:

Control Rod Notch Position Observed	Average Scram Insertion Time (Seconds)
46	0.361
38	0.977
24	2.112
04	3.764

3. The maximum scram insertion time for 90 percent insertion of any operable control rod shall not exceed 7.00 sec.

See ITS: 3.1.4 and 3.1.3

4.3.C (Cont'd)

2. At 16-week intervals, 10 percent of the operable control rod drives shall be scram timed above 950 psig. The same control rod drives should not be tested each interval. Whenever such scram time measurements are made, an evaluation shall be made to provide reasonable assurance that proper control rod drive performance is being maintained.

See ITS: 3.1.4

L1.

3. All control rods shall be determined operable by demonstrating the scram discharge volume drain and vent valves are:

	Item	Frequency
[SR 3.1.8.1] L2	Verified Open	Once per 31 Days
[SR 3.1.8.2] L3	Cycled Fully Closed and Open	In accordance with the Inservice Testing Program
[SR 3.1.8.3] L4	Verified to close within 30 seconds after receipt of an actual or simulated scram signal and open when the actual or simulated scram signal is reset.	Once per 24 Months

Specification 3.1.2

JAFNPP

[LCO 3.1.2] [3.1.2] 3.3 (cont'd)

Reactivity Anomalies

The reactivity equivalent of the difference between the actual critical rod configuration and the expected configuration during power operation shall not exceed 1 percent Δ k. If this limit is exceeded, the reactor will be shut down until the cause has been determined and corrective actions have been taken as appropriate. [SR 3.1.2.1]

See ITS 3.1.4

If Specifications 3.3.C and D above cannot be met, an orderly shutdown shall be initiated and the reactor shall be in the cold condition within 24 hr.

[3.1.2] 4.3 (cont'd)

Reactivity Anomalies

During the Startup test program and startup following refueling outages, the critical rod configurations will be compared to the expected configurations at selected operating conditions. These comparisons will be used as base data for reactivity monitoring during subsequent power operation throughout the fuel cycle. At specific power operating conditions, the critical rod configuration will be compared to the configuration expected based upon appropriately corrected past data. This comparison will be made at least every full power month.

or control rod replacement

L1 restore core reactivity difference to within the limits within 72 hours

M1 MODES 1 and 2

ACTION A

LCO 3.0.4 B

ACTION B

L2

A2

M2 MODE 3 within 12 hours

A1 Once within 24 hours after reaching equilibrium conditions following

M3

A3

A4

LA1

M3

RAI 3.1-01

Specification 3.14

A1

3.3 (cont'd)

D. Reactivity Anomalies

The reactivity equivalent of the difference between the actual critical rod configuration and the expected configuration during power operation shall not exceed 1 percent Δ k. If this limit is exceeded, the reactor will be shut down until the cause has been determined and corrective actions have been taken as appropriate.

E. If Specifications 3.3.C and D above cannot be met, an orderly shutdown shall be initiated and the reactor shall be in the cold condition within 24 hr.

[ACTION A]

L3

4.3 (cont'd)

D. Reactivity Anomalies

During the Startup test program and startup following refueling outages, the critical rod configurations will be compared to the expected configurations at selected operating conditions. These comparisons will be used as base data for reactivity monitoring during subsequent power operation throughout the fuel cycle. At specific power operating conditions, the critical rod configuration will be compared to the configuration expected based upon appropriately corrected past data. This comparison will be made at least every full power month.

See ITS: 3.1.2

add Required Action A1 and Completion Time

M5

Specification 3.1.8

A1

3.3 (cont'd)

D. Reactivity Anomalies

The reactivity equivalent of the difference between the actual critical rod configuration and the expected configuration during power operation shall not exceed 1 percent Δ k. If this limit is exceeded, the reactor will be shut down until the cause has been determined and corrective actions have been taken as appropriate.

E. If Specifications 3.3.C and D above cannot be met, an orderly shutdown shall be initiated and the reactor shall be in the cold condition within 24 hr.

L1

4.3 (cont'd)

D. Reactivity Anomalies

During the Startup test program and startup following refueling outages, the critical rod configurations will be compared to the expected configurations at selected operating conditions. These comparisons will be used as base data for reactivity monitoring during subsequent power operation throughout the fuel cycle. At specific power operating conditions, the critical rod configuration will be compared to the configuration expected based upon appropriately corrected past data. This comparison will be made at least every full power month.

See ITS: 3.1.2

Specification 3.1.7 A1

3.4 LIMITING CONDITIONS FOR OPERATION

3.4 STANDBY LIQUID CONTROL SYSTEM

Applicability:

Applies to the operating status of the Standby Liquid Control System.

Objective:

To assure the availability of a system with the capability to shut down the reactor and maintain the shutdown condition without control rods.

Specification:

A. Normal Operation

[LCO 3.1.7] During periods when fuel is in the reactor and prior to startup from a cold condition, the Standby Liquid Control System shall be operable except as specified in 3.4.B below. This system need not be operable when the reactor is in the cold condition, all rods are fully inserted and Specification 3.3.A is met.

Applicability: none/and 2 L1

[Condition A]

4.4 SURVEILLANCE REQUIREMENTS

4.4 STANDBY LIQUID CONTROL SYSTEM

Applicability:

Applies to the periodic testing requirements for the Standby Liquid Control System.

Objective

To verify the operability of the Standby Liquid Control System.

Specification:

A. Normal Operation

The operability of the Standby Liquid Control System shall be verified by performance of the following tests:

Item	Frequency
[SR 3.1.7.6] Verify each valve (manual, power operated, or automatic) in the system flowpath that is not locked, sealed or otherwise secured in position, is in the correct position. M1	Once per 31 Days
[SR 3.1.7.7] Pump minimum flow rate of 50 gpm shall be verified against a system head of ≥ 1,275 psig using demineralized water from the test tank. LA1	In accordance with the Inservice Testing Program

or can be aligned to the correct position L4

add SR 3.1.7.4 M1

Specification 3.1.7

A1

Verify all heat traced piping between storage tank and pump suction is unblocked

LA1

4.4 (cont'd)

Item		Frequency
3 [SR 3.1.7.9]	Manually initiate the system, except the explosive valves and pump solution in the recirculation path	Once per 24 Months
		add second Frequency
4 [SR 3.1.7.8]	Explode one of three primer assemblies manufactured in same batch to verify proper function. Then install the two remaining primer assemblies of the same batch in the explosive valves.	Once per 24 Months Staggered Test Basis
5 [SR 3.1.7.8]	Demineralized water shall be injected into the reactor vessel to test that valves (except explosive valves) not checked by the recirculation test are not clogged.	Once per 24 Months
6.	Test that the setting of the system pressure relief valves is between 1,400 and 1,490 psig.	In accordance with the Inservice Testing Program
7.	Disassemble and inspect one explosive valve so that it can be established that the valve is not clogged. Both valves shall be inspected within two test intervals.	In accordance with the Inservice Testing Program

M2

L5

RAI 3.1-08

LA2

A1

B. Operation with Inoperable Components

[ACTION A] From and after the date that a redundant component is made or found to be inoperable, Specification 3.4.A shall be considered fulfilled, and continued operation permitted, provided that:

1. The component is returned to an operable condition within 7 days.

add ACTION B

L2

B. Operation with Inoperable Components

When a component becomes inoperable its redundant component shall be verified to be operable immediately and daily thereafter.

L3

Specification 3.1.7

AL

Two SLC subsystems shall be operable

[SR 3.1.7.10]
JAFNPP
[SR 3.1.7.11]

3.4 (cont'd)

C. Sodium Pentaborate Solution

[LCO 3.1.7]

The standby liquid control solution tank shall contain a boron bearing solution with a minimum enrichment of 34.7 atom percent of B-10 that satisfies the volume- concentration requirements of Fig. 3.4-1 at all times when the Standby Liquid Control System is required to be operable and the solution temperature including that in the pump suction piping shall not be less than the temperature presented in Fig. 3.4-2. Tank heater and the heat tracing system shall be operable whenever the SLCS is required in order to maintain solution temperature in accordance with Fig. 3.4-2. If these requirements are not met, restore the system to the above limits within eight hours or take action in accordance with Specification 3.4.D.

[ACTION B]

[ACTION C]

4.4 (cont'd)

C. Sodium Pentaborate Solution

The availability of the proper boron bearing solution shall be verified by performance of the following tests:

LA3

1. At least once per month - within 24 hours M3

[SR 3.1.7.5]

Boron concentration shall be determined. In addition, the boron concentration shall be determined any time water or enriched sodium pentaborate is added or if the solution temperature drops below the limits specified by Figure 3.4-2. once it is restored within limits M3

2. At least once per day -

[SR3.1.7.1] Solution volume and the solution temperature shall be checked. A2

[SR3.1.7.2] including pump suction piping

[SR3.1.7.3] 3. At least once per 18 months - LB1

[SR3.1.7.10] The temperature and level elements shall be calibrated

[SR3.1.7.11] 4. Once per 24 months - Prior to addition to tank

Enrichment of B-10 (in atom percent) shall be checked M4

< NEW - SR3.1.7.11 >

[ACTION C]

D. If specifications 3.4.A through C are not met, the reactor shall be in at least hot shutdown within the following 12 hours.

D. Not Used

Page 3 of 5

A1

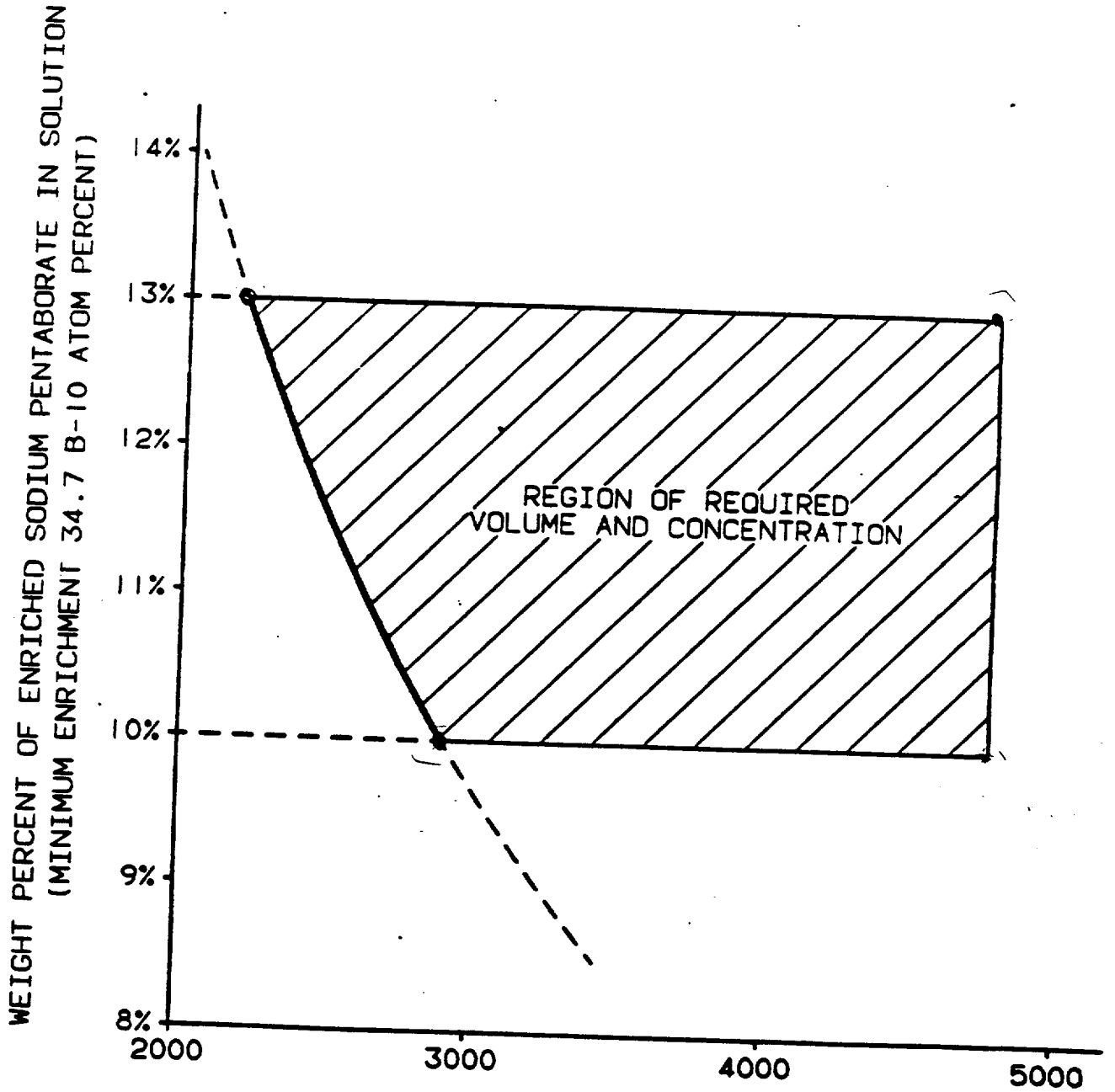


FIG ~~3.4-1~~ 3.1.7-1

SODIUM PENTABORATE SOLUTION (MINIMUM 34.7 B-10 ATOM% ENRICHED)
VOLUME CONCENTRATION REQUIREMENTS.

Page 4 of 5

A1

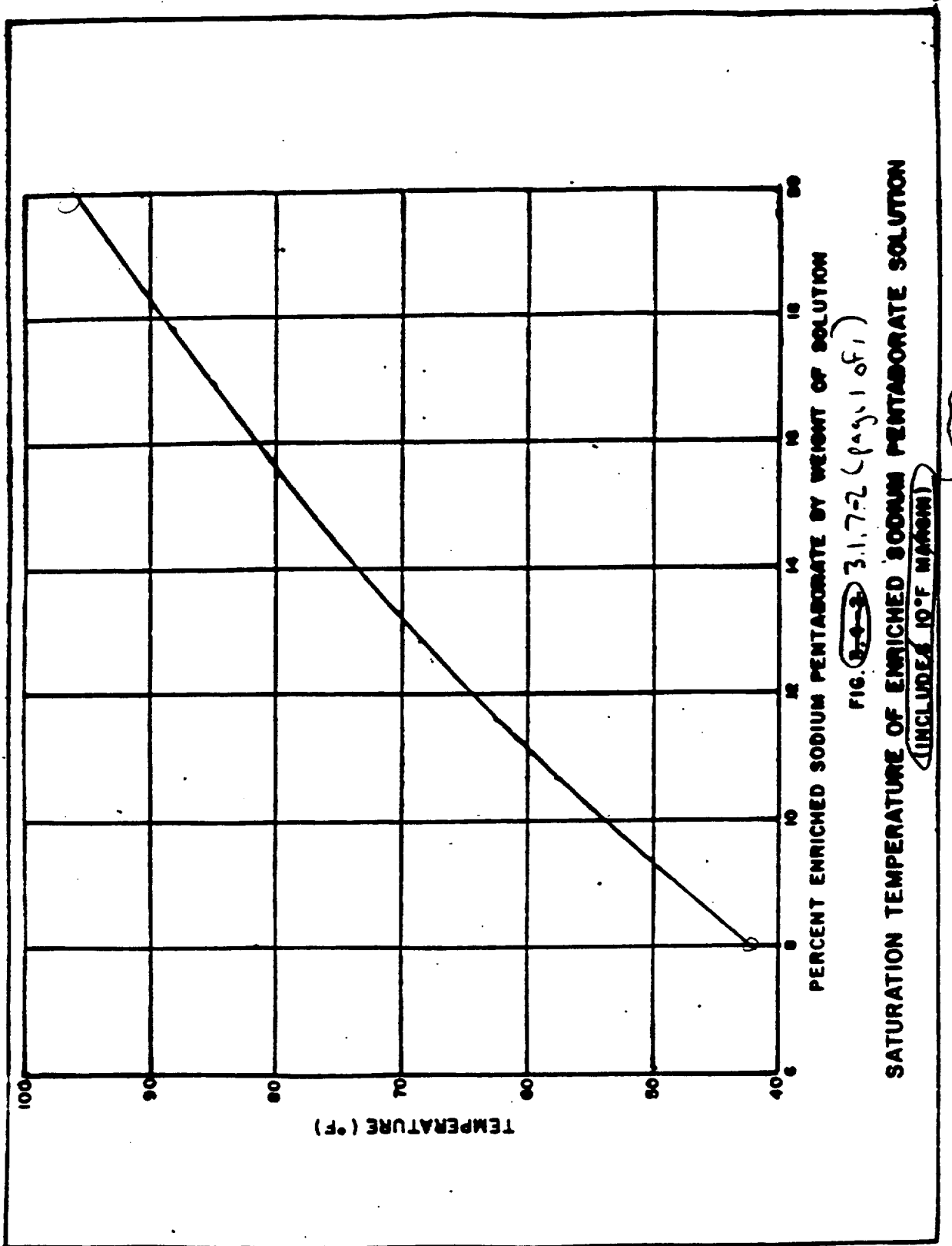


FIG. 3.1.7-2 (page 1 of 1)

LAH

111

3.5 ECCS and RCIC System

Specification 3.5.1

A1

J. PP

3.5 LIMITING CONDITIONS FOR OPERATION	4.5 SURVEILLANCE REQUIREMENTS
3.5 CORE AND CONTAINMENT COOLING SYSTEMS	**4.5 CORE AND CONTAINMENT COOLING SYSTEMS**
Applicability:	**Applicability:**
Applies to the operational status of the Emergency Core Cooling Systems, the suppression pool cooling, and containment spray modes of the Residual Heat Removal (RHR) System.	Applies to periodic testing of the Emergency Core Cooling Systems, the suppression pool cooling and containment spray mode of the Residual Heat Removal (RHR) System.
Objective:	**Objective:**
To assure operability of the Core and Containment Cooling Systems under all conditions for which this cooling capability is an essential response to plant abnormalities.	To verify the operability of the Core and Containment Cooling Systems under all conditions for which operability is essential.
Specification: ECCS - operating	**Specification:**
[3.5.1] A. Core Spray System and Low Pressure Coolant Injection (LPCI) Mode of the RHR System	[3.5.1] A. Core Spray System and Low Pressure Coolant Injection (LPCI) Mode of the (RHR) System
[LCO 3.5.1] 1. Both Core Spray Systems shall be operable (A2) when ever irradiated fuel is in the reactor vessel and prior to reactor startup from a cold condition, except as specified below:	1. Surveillance of the Core Spray System shall be performed as follows: (A1)
[Applicability] MODES 1, 2, and 3 (M12)	SURVEILLANCE / Item / Actual or (L1) / Frequency
[SR 3.5.1.10] 2. Simulated Automatic Actuation Test	Refer to Table 4.2-2 / 24 months (A1)
Add SR 3.5.1.10 Note (A3)	

Specification 3.3.5.1

3.5 (cont'd)

A1

4.5 (cont'd)

b.	Flow Rate Test - Core spray pumps shall deliver at least 4,265 gpm against a system head corresponding to a reactor vessel pressure greater than or equal to 113 psi above primary containment pressure.		In accordance with the Inservice Testing Program
c.	Verify that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed or otherwise secured in position, is in the correct position.		Once per 31 Days
d.	Motor operated valves.		In accordance with the Inservice Testing Program
e.	Core Spray Header Δp Instrumentation		
		Check	Once/day
		Calibrate	Once/3 months
		Test	Once/3 months
[SR 3.3.5.1.6] [1]	Logic System Functional Test		Refer to Table 4.2.2 {L5}
g.	Testable Check Valves		In accordance with the Inservice Testing Program

See ITS 3.5.1

See ITS 3.5.1

24 months

Specification 3.5.1 (A1)

3.5 (cont'd)

4.5 (cont'd)

[SR 3.5.1.7] b.	Flow Rate Test - Core spray pumps shall deliver at least 4,265 gpm against a system head corresponding to a reactor vessel pressure greater than or equal to 113 psi above primary containment pressure.	In accordance with the Inservice Testing Program
[SR 3.5.1.2] c.	Verify that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed or otherwise secured in position, is in the correct position.	Once per 31 Days
d.	Motor operated valves.	In accordance with the Inservice Testing Program (LA7)
e.	Core Spray Header Δp Instrumentation Check Calibrate Test	(LB2) Once/day Once/3 months Once/3 months
See ITS 3.3.5.1	f. Logic System Functional Test	Refer to Table 4.2-2
g.	Testable Check Valves	In accordance with the Inservice Testing Program (LA7)

Specification 3.3.5.1

A1

3.5 (cont'd)

2. From and after the date that one of the Core Spray Systems is made or found inoperable for any reason, continued reactor operation is permissible during the succeeding 7 days unless the system is made operable earlier, provided that during the 7 days all active components of the other Core Spray System and the LPCI System shall be operable.

3. Both LPCI subsystems of the RHR System shall be operable whenever irradiated fuel is in the reactor and prior to reactor startup from a cold condition, except as specified below.

   a. From the time that one of the LPCI subsystems is made or found to be inoperable for any reason, continued reactor operation is permissible during the succeeding 7 days unless that subsystem is made operable earlier provided that during these 7 days the operable LPCI subsystem and both Core Spray Systems shall be operable.

4.5 (cont'd)

2. When it is determined that one Core Spray System is inoperable, the operable Core Spray System, and both LPCI subsystems, shall be verified to be operable immediately. The remaining Core Spray System shall be verified to be operable daily thereafter.

[SR 3.3.5.1.6]

3. LPCI System testing shall be as specified in 4.5.A.1a, b, c, d, f and g except that each RHR pump shall deliver at least 8,910 gpm against a system head corresponding to a reactor vessel to primary containment differential pressure of greater than or equal to 20 psid.

   a. When it is determined that one LPCI subsystem is inoperable, the operable LPCI subsystem and both Core Spray Systems shall be verified to be operable immediately and daily thereafter.

See ITS: 3.5.1

See ITS: 3.5.1

A1

L8

Add SR 3.5.1.2 Note — L12

3.5 (cont'd)

4.5 (cont'd)

2. From and after the date that one of the Core Spray Systems is made or found inoperable for any reason, continued reactor operation is permissible during the succeeding 7 days unless the system is made operable earlier, provided that during the 7 days all active components of the other Core Spray System and the LPCI System shall be operable.

[ACTION A]

2. When it is determined that one Core Spray System is inoperable, the operable Core Spray System, and both LPCI subsystems, shall be verified to be operable immediately. The remaining Core Spray System shall be verified to be operable daily thereafter. — L2

3. Both LPCI subsystems of the RHR System shall be operable whenever irradiated fuel is in the reactor and prior to reactor startup from a cold condition, except as specified below. — A2

[LCO 3.5.1]

[Applicability]

MODES 1, 2 and 3 — M12

3. LPCI System testing shall be as specified in 4.5.A.1a, b, c, d, e and f except that each RHR pump shall deliver at least 8,910 gpm against a system head corresponding to a reactor vessel to primary containment differential pressure of greater than or equal to 20 psid. — A3, L1, LA17

[SR 3.5.1.2] [SR 3.5.1.7] [SR 3.5.1.10]

See ITS: 3.3.5.1

4. From the time that one of the LPCI subsystems is made or found to be inoperable for any reason, continued reactor operation is permissible during the succeeding 7 days unless that subsystem is made operable earlier provided that during these 7 days the operable LPCI subsystem and both Core Spray Systems shall be operable. — L8

[ACTION A]

a. When it is determined that one LPCI subsystem is inoperable the operable LPCI subsystem and both Core Spray Systems shall be verified to be operable immediately and daily thereafter. — L2

7700 — L7

add ACTION A 2nd part — L8

RAI 3.5.1-BSI

Specification 3.5.1

JAI

A1

3.5 (cont'd)

[Applicability]

[SR 3.5.1.4]

M12

MODES 1, 2, 3

b. When the reactor water temperature is greater than 212°F, the motor operator for the RHR cross-tie valve (10MOV-20) shall be maintained disconnected from its electric power source. It shall be maintained chain-locked in the closed position. The manually operated gate valve (10RHR-09) in the cross-tie line, in series with the motor operated valve, shall be maintained locked in the closed position.

LA4

4. a. The reactor shall not be started up with the RHR System supplying cooling to the fuel pool.

[LCO 3.0.4]

b. The RHR System shall not supply cooling to the spent fuel pool when the reactor coolant temperature is above 212°F.

A7

4.5 (cont'd)

b. [SR 3.5.1.4]

The power source disconnect and chain lock to motor operated RHR cross-tie valve (10MOV-20), and lock on manually operated gate valve (10RHR-09) shall be inspected once per month to verify that both valves are closed and locked.

LA4

LA4

A9

Verify the RHR cross tie valves are closed and power is removed from the electrical valve operator.

Specification 3.5.1

A1

[Applicability]

MODES 1, 2 and 3 — M12

M10

3.5 (cont'd)

de-energized

4.5 (cont'd)

Once each startup prior to exceeding 25% RTP — M5

[SR 3.5.1.6] 5. All recirculation pump discharge valves shall be operable prior to reactor startup (or closed if permitted elsewhere in these specifications).

5. All recirculation pump discharge valves shall be tested for operability any time the reactor is in the cold condition exceeding 48 hours, if operability tests have not been performed during the preceding 31 days. — M5

[SR 3.5.1.6]

RAI 3.5.1-BS1

[ACTION B] 6. If the requirements of 3.5.A cannot be met, the reactor shall be placed in the cold condition within 24 hrs.

MODE 3 in 12 hours — M4

36 — L4

B. Containment Cooling Mode (of the RHR System)

1. Both subsystems of the containment cooling mode, each including two RHR and two RHRSW pumps, shall be operable whenever there is irradiated fuel in the reactor vessel, prior to startup from a cold condition, and reactor coolant temperature ≥212°F except as specified below.

B. Containment Cooling Mode (of the RHR System)

1. Subsystems of the containment cooling mode shall be demonstrated operable by performing:

	Item	Frequency
a.	a pump operability and flow rate test on the RHR pumps.	Per Surveillance Requirement 4.5.A.3
b.	an operability test of the RHR containment cooling mode motor operated valves.	In accordance with the Inservice Testing Program
c.	an operability test on the RHRSW pumps and associated motor operated valves.	In accordance with the Inservice Testing Program
d.	a flow rate test verifying a flow rate of 4000 gpm for each RHRSW pump and a total flow rate of 8000 gpm for two RHRSW pumps operating in parallel.	In accordance with the Inservice Testing Program

RAI 3.5.1 BS1

add ACTION H — A8

See ITS: 3.6.1.9, 3.6.2.3, 3.7.1

Specification 3.6.1.9 A1

3.5 (cont'd)

5. All recirculation pump discharge valves shall be operable prior to reactor startup (or closed if permitted elsewhere in these specifications).

6. If the requirements of 3.5.A cannot be met, the reactor shall be placed in the cold condition within 24 hrs.

3.6.1.9 RHR Containment Spray Containment Cooling Mode of the RHR System LA1

Both subsystems of the containment cooling mode, each including two RHR and two RHRSW pumps, shall be operable whenever there is irradiated fuel in the reactor vessel, prior to startup from a cold condition, and reactor coolent temperature ≥212°F except as specified below. L4

Applicability

MODES 1, 2, 3

4.5 (cont'd)

5. All recirculation pump discharge valves shall be tested for operability any time the reactor is in the cold condition exceeding 48 hours, if operability tests have not been performed during the preceding 31 days.

B. Containment Cooling Mode of the RHR System A1

See ITS: 3.5.1

1. Subsystems of the containment cooling mode shall be demonstrated operable by performing:

IST Program

Item		Frequency
a.	a pump operability and flow rate test on the RHR pumps. (add specific flow rate and pathway) M2	Per Surveillance Requirement 4.5.A.3 A3
b.	an operability test of the RHR containment cooling mode motor operated valves.	In accordance with the Inservice Testing Program LA2
c.	an operability test on the RHRSW pumps and associated motor operated valves.	In accordance with the Inservice Testing Program
d.	a flow rate test verifying a flow rate of 4000 gpm for each RHRSW pump and a total flow rate of 8000 gpm for two RHRSW pumps operating in parallel.	In accordance with the Inservice Testing Program

SR 3.6.1.9.2

See ITS: 3.7.1

Specification 3.6.2.3

A1

See ITS: 3.5.1

3.5 (cont'd)	4.5 (cont'd)
5. All recirculation pump discharge valves shall be operable prior to reactor startup (or closed if permitted elsewhere in these specifications).	5. All recirculation pump discharge valves shall be tested for operability any time the reactor is in the cold condition exceeding 48 hours, if operability tests have not been performed during the preceding 31 days.
6. If the requirements of 3.5.A cannot be met, the reactor shall be placed in the cold condition within 24 hrs.	

B. Containment Cooling Mode (of the RHR System) (RHR Suppression Pool Cooling)

LA1

LCO 3.6.2.3 — M1

L2

Both subsystems of the containment cooling mode, each including two RHR and two RHRSW pumps, shall be operable whenever there is irradiated fuel in the reactor vessel, prior to startup from a cold condition, and reactor coolent temperature ≥212°F except as specified below.

Applicability

MODES 1, 2 and 3

B. Containment Cooling Mode (of the RHR System) — A1

1. Subsystems of the containment cooling mode shall be demonstrated operable by performing:

M1

Item	Frequency	
a. a pump operability and flow rate test on the RHR pumps.	Per Surveillance Requirement 4.5.A.3	SR 3.6.2.3.2
b. an operability test of the RHR containment cooling mode motor operated valves.	In accordance with the Inservice Testing Program	LA2
c. an operability test on the RHRSW pumps and associated motor operated valves.	In accordance with the Inservice Testing Program	
d. a flow rate test verifying a flow rate of 4000 gpm for each RHRSW pump and a total flow rate of 8000 gpm for two RHRSW pumps operating in parallel.	In accordance with the Inservice Testing Program	

See ITS: 3.7.1

Specification 3.7.1 A1

See ITS: 3.5.1

3.5 (cont'd)

5. All recirculation pump discharge valves shall be operable prior to reactor startup (or closed if permitted elsewhere in these specifications).

6. If the requirements of 3.5.A cannot be met, the reactor shall be placed in the cold condition within 24 hrs.

[3.7.1] 2.B. Containment Cooling Mode (of the RHR System) (Residual Heat Removal Service Water (RHRSW) System)

See ITS: 3.6.2.3 and 3.6.1.9

[L(03.7.1] Both subsystems of the containment cooling mode, each including two RHR and two RHRSW pumps, shall be operable whenever there is irradiated fuel in the reactor vessel, prior to startup from a cold condition, and reactor coolant temperature ≥212°F except as specified below.

[Applicability] MODES 1, 2, and 3

subsystems

LA1

4.5 (cont'd)

5. All recirculation pump discharge valves shall be tested for operability any time the reactor is in the cold condition exceeding 48 hours, if operability tests have not been performed during the preceding 31 days.

B. Containment Cooling Mode (of the RHR System)

1. Subsystems of the containment cooling mode shall be demonstrated operable by performing:

	Item	Frequency
a.	a pump operability and flow rate test on the RHR pumps.	Per Surveillance Requirement 4.5.A.3
b.	an operability test of the RHR containment cooling mode motor operated valves.	In accordance with the Inservice Testing Program
c.	an operability test on the RHRSW pumps and associated motor operated valves.	In accordance with the Inservice Testing Program
d.	a flow rate test verifying a flow rate of 4000 gpm for each RHRSW pump and a total flow rate of 8000 gpm for two RHRSW pumps operating in parallel.	In accordance with the Inservice Testing Program

See ITS: 3.6.2.3 3.6.1.9

LA2

Specification 3.10.8 (A1)

See ITS 3.5.1

3.5 (cont'd)

5. All recirculation pump discharge valves shall be operable prior to reactor startup (or closed if permitted elsewhere in these specifications).

6. If the requirements of 3.5.A cannot be met, the reactor shall be placed in the cold condition within 24 hrs.

B. Containment Cooling Mode (of the RHR System)

1. Both subsystems of the containment cooling mode, each including two RHR and two RHRSW pumps, shall be operable whenever there is irradiated fuel in the reactor vessel, prior to startup from a cold condition, and reactor coolant temperature ≥212°F except as specified below.

See ITS: 3.6.1.9
3.6.2.3
3.7.1

4.5 (cont'd)

5. All recirculation pump discharge valves shall be tested for operability any time the reactor is in the cold condition exceeding 48 hours, if operability tests have not been performed during the preceding 31 days.

B. Containment Cooling Mode (of the RHR System)

1. Subsystems of the containment cooling mode shall be demonstrated operable by performing:

	Item	Frequency
a.	a pump operability and flow rate test on the RHR pumps.	Per Surveillance Requirement 4.5.A.3
b.	an operability test of the RHR containment cooling mode motor operated valves.	In accordance with the Inservice Testing Program
c.	an operability test on the RHRSW pumps and associated motor operated valves.	In accordance with the Inservice Testing Program
d.	a flow rate test verifying a flow rate of 4000 gpm for each RHRSW pump and a total flow rate of 8000 gpm for two RHRSW pumps operating in parallel.	In accordance with the Inservice Testing Program

Specification 3.6.1.9 (A1)

3.5 (cont'd)

4.5 (cont'd)

Item	Surveillance (A1)	Frequency
e.	a verification that each valve (manual, power operated, or automatic) in the flowpath that is not locked, sealed or otherwise secured in position, is in the correct position	Once per 31 Days
f.	an air test shall be performed on the containment spray headers and nozzles	Once per 5 Years (10) (L3) (LA3)

[SR 3.6.1.9.1]

(A2) or can be aligned to the correct position

[SR 3.6.1.9.3]

is unobstructed

See ITS 3.7.1

2. Should one RHRSW pump of the components required in 3.5.B.1 above be made or found inoperable, continued reactor operation is permissible only during the succeeding 30 days provided that during such 30 days all remaining components of the containment cooling mode subsystems are operable.

2. When it is determined that one RHRSW pump of the components required in 3.5.B.1 above is inoperable, the remaining components of the containment cooling mode subsystems shall be verified to be operable immediately and daily thereafter.

3. When one containment cooling subsystem becomes inoperable, the redundant containment cooling subsystem shall be verified to be operable immediately and daily thereafter. When one RHRSW pump in each subsystem becomes inoperable, the remaining components of the containment cooling subsystems shall be verified to be operable immediately and daily thereafter.

(A4) RAI 3.6.1.9-5

[ACTION A] (A) Should one of the containment cooling subsystems become inoperable or should one RHRSW pump in each subsystem become inoperable, continued reactor operation is permissible for a period not to exceed 7 days* (L5)

See ITS 3.7.1

add ACTION B

[ACTION C] (A.) If the requirements of 3.5.B.2 or 3.5.B.3 cannot be met, the reactor shall be placed in a cold condition within (24) hr. (36) (L2)

MODE 3 in 12 hours (M1)

5. Low power physics testing and reactor operator training shall be permitted with reactor coolant temperature <212°F with an inoperable component(s) as specified in 3.5.B above.

See ITS 3.10.8

*During the installation of modification 99-095 to the "A" RHRSW strainer, continued reactor operation is permissible for a period not to exceed 11 days.

CTS Amend 259

See ITS 3.7.1

Specification 3.6.2.3

3.5 (cont'd)

4.5 (cont'd)

A1

	Item	Frequency
e. [SR 3.6.2.3.1]	a verification that each valve (manual, power operated, or automatic) in the flowpath that is not locked, sealed or otherwise secured in position, is in the correct position	Once per 31 Days (A2) or can be aligned to the correct position. See ITS 3.6.1.9
f.	an air test shall be performed on the containment spray headers and nozzles.	Once per 5 Years

See ITS 3.7.1

2. Should one RHRSW pump of the components required in 3.5.B.1 above be made or found inoperable, continued reactor operation is permissible only during the succeeding 30 days provided that during such 30 days all remaining components of the containment cooling mode subsystems are operable.

2. When it is determined that one RHRSW pump of the components required in 3.5.B.1 above is inoperable, the remaining components of the containment cooling mode subsystems shall be verified to be operable immediately and daily thereafter.

3. Should one of the containment cooling subsystems (RHR Suppression Pool) become inoperable or should one RHRSW pump in each subsystem become inoperable, continued reactor operation is permissible for a period not to exceed 7 days.* [ACTION A] See ITS 3.7.1 L4 add ACTION B

3. When one containment cooling subsystem becomes inoperable, the redundant containment cooling subsystem shall be verified to be operable immediately and daily thereafter. When one RHRSW pump in each subsystem becomes inoperable, the remaining components of the containment cooling subsystems shall be verified to be operable immediately and daily thereafter. (A3)

RAI 3.6.2.3-3

CTS Amend 259

*During the installation of modification 99-095 to the "A" RHRSW strainer, continued reactor operation is permissible for a period not to exceed 11 days.

See ITS 3.7.1

4. If the requirements of 3.5.B.2 or 3.5.B.3 cannot be met, the reactor shall be placed in a cold condition within (A) hr. [ACTION C] M2 MODE 3 within 12 hours 36

5. Low power physics testing and reactor operator training shall be permitted with reactor coolant temperature <212°F with an inoperable component(s) as specified in 3.5.B above. L3

See ITS 3.10.8

Specification 3.7.1 (A1)

3.5 (cont'd)

4.5 (cont'd)

	Item	Frequency
~~e.~~ [SR 3.7.1.1]	a verification that each valve (manual, power operated, or automatic) in the flowpath that is not locked, sealed or otherwise secured in position, is in the correct position.	Once per 31 Days
f.	an air test shall be performed on the containment spray headers and nozzles.	Once per 5 Years

L5 or can be aligned to the correct position

<See ITS 3.6.1.9>

L4

[ACTION A] ~~2.~~ Should one RHRSW pump of the components required in 3.5.B.1 above be made or found inoperable, continued reactor operation is permissible only during the succeeding 30 days provided that during such 30 days all remaining components of the containment cooling mode subsystems are operable.

M2

ADD: ACTION C NOTE

L1

[ACTION C] ~~3.~~ Should one of the containment cooling subsystems become inoperable or should one RHRSW pump in each subsystem become inoperable, continued reactor operation is permissible for a period not to exceed 7 days*

[ACTION B]

A2

[ACTION E] ~~4.~~ If the requirements of 3.5.B.2 or 3.5.B.3 cannot be met, the reactor shall be placed in a cold condition within 24 hr.

~~5.~~ Low power physics testing and reactor operator training shall be permitted with reactor coolant temperature <212°F with an inoperable component(s) as specified in 3.5.B above.

<See ITS 3.10.8>

2. When it is determined that one RHRSW pump of the components required in 3.5.B.1 above is inoperable, the remaining components of the containment cooling mode subsystems shall be verified to be operable immediately and daily thereafter.

3. When one containment cooling subsystem becomes inoperable, the redundant containment cooling subsystem shall be verified to be operable immediately and daily thereafter. When one RHRSW pump in each subsystem becomes inoperable, the remaining components of the containment cooling subsystems shall be verified to be operable immediately and daily thereafter.

*During the installation of modification 99-095 to the "A" RHRSW strainer, continued reactor operation is permissible for a period not to exceed 11 days.

<ADD: ACTION D>

A2

L2

AMD #259

Specification 3.10.8

(A1)

3.5 (cont'd)

2. Should one RHRSW pump of the components required in 3.5.B.1 above be made or found inoperable, continued reactor operation is permissible only during the succeeding 30 days provided that during such 30 days all remaining components of the containment cooling mode subsystems are operable.

3. Should one of the containment cooling subsystems become inoperable or should one RHRSW pump in each subsystem become inoperable, continued reactor operation is permissible for a period not to exceed 7 days.

4. If the requirements of 3.5.B.2 or 3.5.B.3 cannot be met, the reactor shall be placed in a cold condition within 24 hr.

(M3) SHUTDOWN MARGIN

5. Low power physics testing and reactor operator training shall be permitted with reactor coolant temperature <212°F with an inoperable component(s) as specified in 3.5.B above.

(M1)

[LCO 3.10.8] (A2) [Applicability]

MODE 5 with the reactor mode switch in startup/hot standby position (L1)

4.5 (cont'd)

	Item	Frequency
e.	a verification that each valve (manual, power operated, or automatic) in the flowpath that is not locked, sealed or otherwise secured in position, is in the correct position.	Once per 31 Days
f.	an air test shall be performed on the containment spray headers and nozzles.	Once per 5 Years

2. When it is determined that one RHRSW pump of the components required in 3.5.B.1 above is inoperable, the remaining components of the containment cooling mode subsystems shall be verified to be operable immediately and daily thereafter.

3. When one containment cooling subsystem becomes inoperable, the redundant containment cooling subsystem shall be verified to be operable immediately and daily thereafter. When one RHRSW pump in each subsystem becomes inoperable, the remaining components of the containment cooling subsystems shall be verified to be operable immediately and daily thereafter.

see ITS: 3.6.1.9
3.6.2.3
3.7.1

Specification 3.3.5.1 (A1)

JAFNPP

3.5 (cont'd)	4.5 (cont'd)
DELETED	
C. HIGH PRESSURE COOLANT INJECTION (HPCI SYSTEM)	C. HIGH PRESSURE COOLANT INJECTION (HPCI SYSTEM)
	Surveillance of HPCI System shall be performed as follows provided a reactor steam supply is available. If steam is not available at the time the surveillance test is scheduled to be performed, the test shall be performed within 10 days of continuous operation from the time steam becomes available.
1. The HPCI System shall be operable whenever the reactor pressure is greater than 150 psig and reactor coolant temperature is greater than 212°F and irradiated fuel is in the reactor vessel, except as specified below:	HPCI System testing shall be as specified in 4.5.A.1.a, b, c, d, f, and g except that the HPCI pump shall deliver at least 4,250 gpm against a system head corresponding to a reactor vessel pressure of 1,195 psig to 150 psig.

(L.D.) [SR 3.3.5.1.6]

See ITS: 3.5.1

See ITS: 3.5.1

Specification 3.5.1

A1

3.5.1 ECCS - Operating

JAFNPP

3.5 (cont'd)

DELETED

4.5 (cont'd)

[3.5.1.2.a] HIGH PRESSURE COOLANT INJECTION (HPCI SYSTEM)

[Note 1 to SR 3.5.1.10]

[SR 3.5.1.8 SR 3.5.1.9 Note]

c. HIGH PRESSURE COOLANT INJECTION (HPCI SYSTEM)

M1

Surveillance of HPCI System shall be performed as follows provided a reactor steam supply is available. If steam is not available at the time the surveillance test is scheduled to be performed, the test shall be performed within 12 hours 10 days of continuous operation from the time steam becomes available.

A3 L1

See ITS: 3.3.5.1

HPCI System testing shall be as specified in 4.5.A.1 a, b, c, d, f, and g except that the HPCI pump shall deliver at least 4,250 gpm against a system head corresponding to a reactor vessel pressure of 1,195 psig to 150 psig.

A7

3400

L7

[LCO 3.5.1]

1. The HPCI System shall be operable whenever the reactor pressure is greater than 150 psig and reactor coolant temperature is greater than 212°F and irradiated fuel is in the reactor vessel, except as specified below:

A2

[Applicability]

MODE 1 MODE 2 and 3 except HPCI not required to be OPERABLE with reactor steam dome ≤ 150 psig

[SR 3.5.1.2]

[SR 3.5.1.8]

[SR 3.5.1.10]

with reactor pressure ≥ 970 and ≤ 1040 psig

M2

[SR 3.5.1.9]

with reactor pressure ≤ 165 psig

Specification 3.5.1

~~3.5 (cont'd)~~

[ACTION C]

[Required Action C.1]

a. From and after the date that the HPCI System is made or found to be inoperable for any reason, continued reactor operation is permissible only during the succeeding 7 days unless such system is sooner made operable, provided that during such 7 days all active components of the Automatic Depressurization System, the Core Spray System, LPCI System, and Reactor Core Isolation Cooling System are operable.

[ACTION G]

b. If the requirements of 3.5.C.1 cannot be met, the reactor shall be placed in the cold condition and pressure less than 150 psig within 24 hrs.

2. Low power physics testing and reactor operator training shall be permitted with reactor coolant temperature ≤212°F with an inoperable component(s) as specified in 3.5.C.1 above.

~~4.5 (cont'd)~~

a. When it is determined that the HPCI System is inoperable the RCIC System, both LPCI subsystems, both core spray subsystems, and the ADS System actuation logic shall be verified to be operable immediately. The RCIC System and ADS System logic shall be verified to be operable daily thereafter.

MODE 3 within 12 hours and

<ADD: ACTION D>

A1 L5 L6 L2 M4 L4 36 L14 A4

RAI 3.5.1-BSI

TSTF 301

RAI 3.5.1-BSI

AMD 267

Specification 3.5.1

A1

3.5.1 ECCS Operating

A1

A2

JAFNPP

3.5 (cont'd)

D. Automatic Depressurization System (ADS)

6

M3

4.5 (cont'd)

D. Automatic Depressurization System (ADS)

A1

LCO 3.5.1

1. The ADS shall be operable with at least 5 of the 7 ADS valves operable:

Applicability

a. whenever the reactor pressure is greater than 150 psig and irradiated fuel is in the reactor vessel, and

b. prior to reactor startup from a cold condition.

SR 3.5.1.11 FREQ

1. Surveillance of the Automatic Depressurization System shall be performed at least once every 24 months as follows:

150

LB

An actuator

L1

L13

SR 3.5.1.11

a. A simulated automatic actuation which opens all pilot valves.

LA2

b. A simulated automatic actuation which is inhibited by the override switches.

LA1

RAI 3.5.1-3S1

M3

add ACTION E

add ACTION F

M3

Add SR 3.5.1.11 Note

A3

Specification 3.5.1 A1

~~3.5 (cont'd)~~

MODE 3 within 12 hours M4

2. If the requirements of 3.5.D.1 cannot be met, the reactor shall be placed in the cold condition and pressure ~~less than 100~~ ≤ 150 psig within ~~24~~ 36 hr. L4 L3

[ACTION G]

<ADD: ACTION H> A8

A4

3. Low power physics testing and reactor operator training shall be permitted with inoperable ADS components, provided that reactor coolant temperature is ≤212°F and the reactor vessel is vented or reactor vessel head is removed.

~~4.5 (cont'd)~~

2. A logic system functional test.

   a. When it is determined that two valves of the ADS are inoperable, the ADS System actuation logic for the operable ADS valves and the HPCI System shall be verified to be operable immediately and at least weekly thereafter.

   b. When it is determined that more than two relief/safety valves of the ADS are inoperable, the HPCI System shall be verified to be operable immediately.

L2

RAI 3.5.1-BSI

AMD #267

Specification 3.5.3 (A1)

~~3.5 (Cont'd)~~

[3.5.3] ~~E.~~ Reactor Core Isolation Cooling (RCIC) System

[LCO 3.5.3] ~~A.~~ The RCIC System shall be operable whenever there is irradiated fuel in the reactor vessel and the reactor pressure is greater than 150 psig and reactor coolant temperature is greater than 212°F except from the time that the RCIC System is made or found to be inoperable for any reason, continued reactor power operation is permissible during the succeeding 7 days unless the system is made operable earlier, provided that during these 7 days the HPCI System is operable.

[Applicability] [ACTION A] (M1) MODE 3 in 12 hours (14) (L1)

~~B.~~ If the requirements of 3.5.E cannot be met, the reactor shall be placed in the cold condition and pressure less than 150 psig within 24 hours. (36) (L2)

[ACTION B] (L) (L5)

~~3.~~ Low power physics testing and reactor operator training shall be permitted with inoperable components as specified in 3.5.E.2 above, provided that reactor coolant temperature is ≤212°F. (A5)

~~4.6 (Cont'd)~~

[3.5.3] ~~E.~~ Reactor Core Isolation Cooling (RCIC) System

[SR 3.5.3.4 NOTE] [SR 3.5.3.5 NOTE] [SR 3.5.3.6 NOTE 1]

1. RCIC System testing shall be performed as follows provided a reactor steam supply is available. If steam is not available at the time the surveillance test is scheduled to be performed, the test shall be performed within ten days of continuous operation from the time steam becomes available. (M2) 12 hours

~~Item~~	Surveillance	Frequency
[SR 3.5.3.6]	a. ~~Simulated~~ Automatic Actuation (and Restart*) Test (LA1) (actual or (3))	Once per 24 Months (ADD SR 3.5.3.6 NOTE 2) (A3)
[SR 3.5.3.2]	b. Verify that each valve (manual, power operated or automatic) in the system flowpath that is not locked, sealed or otherwise secured in position, is in the correct position.	Once per 31 Days
[SR 3.5.3.3]	c. Motor Operated Valve Operability (M5)	Once per 92 Days

* Automatic restart on a low water level signal which is subsequent to a high water level trip. (LA1)

RM 3.5.3-BS1

Specification 3.5.2 (A1)

JAFNPP

3.5 (cont'd)

4.5 (cont'd)

Item	Frequency
d. Flow Rate Test - The RCIC pump shall deliver at least 400 gpm against a system head corresponding to a reactor vessel pressure of 1195 psig to 150 psig.	Once per 92 Days
e. Testable Check Valves	Tested for operability any time the reactor is in the cold condition exceeding 48 hours, if operability tests have not been performed during the preceding 92 days.
f. Logic System Functional Test	Once per 24 Months

See ITS: 3.5.3

SR 3.3.5.2.6

See ITS: 3.5.3

2. When it is determined that the RCIC System is inoperable at a time when it is required to be operable, the HPCI System shall be verified to be operable immediately and daily thereafter.

Specification 3.5.3

JAFNPP

A1

3.5 (cont'd)

4.5 (cont'd)

with reactor pressure ≥ 970 psig and ≤ 1040 psig

M3

with reactor pressure ≤ 165 psig, every 24 months

[SR 3.5.3.4]

[SR 3.5.3.5]

Item	SURVEILLANCE	Frequency
d.	Flow Rate Test - The RCIC pump shall deliver at least 400 gpm against a system head corresponding to a reactor vessel pressure of 1195 psig to 150 psig.	Once per 92 Days

[SR 3.5.3.4]

RAI 3.5.3-BSI

RAI 3.5.3-1 (revised)

L.A4

e.	Testable Check Valves	Tested for operability any time the reactor is in the cold condition exceeding 48 hours, if operability tests have not been performed during the preceding 92 days.

RAI 3.5.3-BSI

See ITS! 3.3.5.2

f.	Logic System Functional Test	Once per 24 Months

[Required Action A.1]

2. When it is determined that the RCIC System is inoperable at a time when it is required to be operable, the HPCI System shall be verified to be operable immediately and daily thereafter.

L4

TSTF-301

Specification 3.5.2 (A1)

3.5 ECCS and RCIC (A1)

3.5 (cont'd)

[3.5.2] B. ECCS-Cold Condition (Shutdown)

[LCO 3.5.2] [Applicability] (A3)

1. A minimum of two low pressure Emergency Core Cooling subsystems shall be operable whenever irradiated fuel is in the reactor, the reactor is in the cold condition, and work is being performed with the potential for draining the reactor vessel. (L1) (add ACTION A)

[LCO 3.5.2] [Applicability] [ACTION B] (A3)

2. A minimum of one low pressure Emergency Core Cooling subsystem shall be operable whenever irradiated fuel is in the reactor, the reactor is in the cold condition, and no work is being performed with the potential for draining the reactor vessel. (A3)

[LCO 3.5.2] [Applicability]

3. Emergency Core Cooling subsystems are not required to be operable provided that the reactor vessel head is removed, the cavity is flooded, the spent fuel pool gates are removed, and the water level above the fuel is in accordance with Specification 3.10.C. (M3) (22 ft 2 inches above top of RPV flange)

[Required Action B.1] [Required Action C.1] [Required Action C.2] [Action D]

4. With the requirements of 3.5.F.1, 3.5.F.2, or 3.5.F.3 not satisfied, suspend Core alterations and all operations with the potential for draining the reactor vessel. Restore at least one system to operable status within 4 hours or establish Secondary Containment integrity within the next 8 hours. (L3) (M4) (A4) (M1) (Immediately initiate action to)

4.5 (cont'd)

[3.5.2] B. ECCS-Cold Condition

[SR 3.5.2.5] Surveillance of the low pressure ECCS systems required by 3.5.F.1 and 3.5.F.2 shall be as follows:

1. In accordance with the Inservice Testing Program, perform a flowrate test on the required Core Spray pump(s) and/or the RHR pump(s). Each Core Spray pump shall deliver at least 4,265 gpm against a system head corresponding to a reactor vessel pressure greater than or equal to 113 psi above primary containment pressure. Each RHR pump shall deliver at least 7700 gpm against a system head corresponding to a reactor vessel to primary containment differential pressure of ≥ 20 psid. (L5) (7700)

2. In accordance with the Inservice Testing Program, perform an operability test on the required Core Spray and/or LPCI motor operated valves. (LA1) (12) (L2)

3. [SR 3.5.2.1] Once per 8 hours verify the suppression pool water level is greater than or equal to 10.33 ft. whenever the low pressure ECCS subsystems are aligned to the suppression pool. [SR 3.5.2.2.a]

4. [SR 3.5.2.2.b] Once per 8 hours verify a minimum of 324 inches of water is available in the Condensate Storage Tanks (CST) whenever the Core Spray System(s) is aligned to the tanks. (12) (L2)

5. [SR 3.5.2.4] Once per 31 days, verify that each valve (manual, power operated, or automatic) in the flowpath that is not locked, sealed, or otherwise secured in position, is in the correct position for the required RHR and/or core spray system(s).

(add SR 3.5.2.4 Note) (A2)

(add SR 3.5.2.2.b Note) (M2)

Specification 3.5.1 A1

3.5 (cont'd)

4.5 (cont'd)

G. Maintenance of Filled Discharge Pipe

G. Maintenance of Filled Discharge Pipe

A2

SR 3.5.1.1

Whenever core spray subsystems, LPCI subsystems, HPCI, or RCIC are required to be operable, the discharge piping from the pump discharge of these systems to the last block valve shall be filled.

A1

The following surveillance requirements shall be adhered to, in order to assure that the discharge piping of the core spray subsystem, LPCI subsystem, HPCI, and RCIC are filled:

SR 3.5.1.1

1. From and after the time that the pump discharge piping of the HPCI, RCIC, LPCI, or Core Spray Systems cannot be maintained in a filled

See ITS; 3.5.3

A1

1. Every month prior to the testing of the LPCI subsystem and core spray subsystem, the discharge piping of these systems shall be vented from the high point, and water flow observed.

All

LA6

See ITS; 3.5.3

ACTION A, C, D, F

A10

RAI 3.5.1-BS1

Specification 3.5.2

A1

JAFNPP

See ITS: 3.5.3

See ITS: 3.5.1

3.5 (cont'd)

G. Maintenance of Filled Discharge Pipe

Whenever core spray subsystems, LPCI subsystems, HPCI, or RCIC are required to be operable, the discharge piping from the pump discharge of these systems to the last block valve shall be filled.

[SR 3.5.2.3]

1. From and after the time that the pump discharge piping of the HPCI, RCIC, LPCI, or Core Spray Systems cannot be maintained in a filled

See ITS: 3.5.3

[ACTION A] or [ACTION C] — A5

4.5 (cont'd)

G. Maintenance of Filled Discharge Pipe

See ITS: 3.5.1

See ITS: 3.5.3

The following surveillance requirements shall be adhered to, in order to assure that the discharge piping of the core spray subsystem, LPCI subsystem, HPCI and RCIC are filled:

Verify

SR 3.5.2.3

1. Every month prior to the testing of the LPCI subsystem and core spray subsystem, the discharge piping of these systems shall be vented from the high point, and water flow observed.

A6

LA2

to the injection valve

A1

Specification 3.5.3.

JAFNPP

3.5 (cont'd)

G. Maintenance of Filled Discharge Pipe

SR 3.5.3.1

Whenever core spray subsystems, LPCI subsystems, HPCI or RCIC are required to be operable, the discharge piping from the pump discharge of these systems to the last block valve shall be filled.

1. From and after the time that the pump discharge piping of the HPCI, RCIC, LPCI, or Core Spray Systems cannot be maintained in a filled

ACTION A → A.2

See ITS 3.5.1 3.5.2

4.5 (cont'd)

G. Maintenance of Filled Discharge Pipe

SR 3.5.3.1

The following surveillance requirements shall be adhered to, in order to assure that the discharge piping of the core spray subsystem, LPCI subsystem, HPCI, and RCIC are filled:

1. Every month prior to the testing of the LPCI subsystem and core spray subsystem, the discharge piping of these systems shall be vented from the high point, and water flow observed.

See ITS 3.5.1 3.5.2

A.1

See ITS: 3.5.1, 3.5.2

Specification 3.2.1

A1

3.5 (cont'd)

condition, that pump shall be considered inoperable for purposes of satisfying Specifications 3.5.A, 3.5.C, and 3.5.E.

4.5 (cont'd)

2. Following any period where the LPCI subsystems or core spray subsystems have not been maintained in a filled condition; the discharge piping of the affected subsystem shall be vented from the high point of the system and water flow observed.

3. Whenever the HPCI or RCIC System is lined up to take suction from the condensate storage tank, the discharge piping of the HPCI or RCIC shall be vented from the high point of the system, and water flow observed on a monthly basis.

4. The level switches located on the Core Spray and RHR System discharge piping high points which monitor these lines to ensure they are full shall be functionally tested each month.

See Trs: 3.5.1
3.5.2
3.5.3

A2

[3.2.1]

[3.2.1] H Average Planar Linear Heat Generation Rate (APLHGR)

[Applicability] During power operation the APLHGR for each type of fuel as a function of axial location and average planar exposure shall be within limits based on applicable APLHGR limit values which have been approved for the respective fuel and lattice types. These values are specified in the Core Operating Limits Report.

[LCO 3.2.1]

[Applicability]

[ACTION A] If at anytime during reactor power operation greater than 25% of rated power it is determined that the limiting value for APLHGR is being exceeded, action shall then be initiated within 15 minutes to restore operation to within the prescribed limits. If the APLHGR is not returned to within the prescribed limits within two (2) hours, the reactor power shall be reduced to less than 25% of rated power within the next four hours, or until the APLHGR is returned to within the prescribed limits.

[ACTION B]

LA1

LA2

A3

[3.2.1] H Average Planar Linear Heat Generation Rate (APLHGR)

SR 3.2.1.1 The APLHGR for each type of fuel as a function of average planar exposure shall be determined daily during reactor operation at ≥ 25% rated thermal power.

LA2

[Applicability]

A2

M1

less than or equal to the limits specified in the COLR once within 12 hours after ≥ 25% RTP AND 24 hours thereafter

Specification 3.5.1

A1

3.5 (cont'd)

condition, that pump shall be considered inoperable for purposes of satisfying Specifications ~~3.5.A, 3.5.C, and 2.5.F~~.

A10

4.5 (cont'd)

A6

2. Following any period where the LPCI subsystems or core spray subsystems have not been maintained in a filled condition, the discharge piping of the affected subsystem shall be vented from the high point of the system and water flow observed.

LA6

[SR 3.5.1.1]

See JTS 3.5.3

M11

3. Whenever the HPCI or RCIC System is lined up to take suction from the condensate storage tank, the discharge piping of the HPCI or RCIC shall be vented from the high point of the system, and water flow observed on a monthly basis.

LA6

4. The level switches ~~located on the Core Spray and RHR~~ System discharge piping high points which monitor these lines to ensure they are full shall be functionally tested each month.

LB1

H. Average Planar Linear Heat Generation Rate (APLHGR)

During power operation, the APLHGR for each type of fuel as a function of axial location and average planar exposure shall be within limits based on applicable APLHGR limit values which have been approved for the respective fuel and lattice types. These values are specified in the Core Operating Limits Report. If at anytime during reactor power operation greater than 25% of rated power it is determined that the limiting value for APLHGR is being exceeded, action shall then be initiated within 15 minutes to restore operation to within the prescribed limits. If the APLHGR is not returned to within the prescribed limits within two (2) hours, the reactor power shall be reduced to less than 25% of rated power within the next four hours, or until the APLHGR is returned to within the prescribed limits.

H. Average Planar Linear Heat Generation Rate (APLHGR)

The APLHGR for each type of fuel as a function of average planar exposure shall be determined daily during reactor operation at ≥ 25% rated thermal power.

See ITS 3.2.1

A1

Specification 3.5.2

JAFNPP

3.5 (cont'd)

[ACTION A] or [ACTION C] — A5

condition, that pump shall be considered inoperable for purposes of satisfying Specifications 3.5.A, 3.5.C, and 3.5.F.

4.5 (cont'd) — A8

2. Following any period where the LPCI subsystems or core spray subsystems have not been maintained in a filled condition, the discharge piping of the affected subsystem shall be vented from the high point of the system and water flow observed. — LA2

See ITS: 3.5.1

3. Whenever the HPCI or RCIC System is lined up to take suction from the condensate storage tank, the discharge piping of the HPCI or RCIC shall be vented from the high point of the system, and water flow observed on a monthly basis.

LB1

4. The level switches located on the Core Spray and RHR System discharge piping high points which monitor these lines to ensure they are full shall be functionally tested each month.

H. Average Planar Linear Heat Generation Rate (APLHGR)

During power operation, the APLHGR for each type of fuel as a function of axial location and average planar exposure shall be within limits based on applicable APLHGR limit values which have been approved for the respective fuel and lattice types. These values are specified in the Core Operating Limits Report. If at anytime during reactor power operation greater than 25% of rated power it is determined that the limiting value for APLHGR is being exceeded, action shall then be initiated within 15 minutes to restore operation to within the prescribed limits. If the APLHGR is not returned to within the prescribed limits within two (2) hours, the reactor power shall be reduced to less than 25% of rated power within the next four hours, or until the APLHGR is returned to within the prescribed limits.

H. Average Planar Linear Heat Generation Rate (APLHGR)

The APLHGR for each type of fuel as a function of average planar exposure shall be determined daily during reactor operation at ≥25% rated thermal power.

See ITS: 3.2.1

Specifcation 3.5.3

JAFNPP

3.5 (cont'd)

condition, that pump shall be considered inoperable for purposes of satisfying Specifications 3.5.A, 3.5.C, and 3.5.E.

see ITS: 3.5.1 3.5.2

4.5 (cont'd)

2. Following any period where the LPCI subsystems or core spray subsystems have not been maintained in a filled condition; the discharge piping of the affected subsystem shall be vented from the high point of the system and water flow observed.

see ITS 3.5.1 3.5.2

3. Whenever the HPCI or RCIC System is lined up to take suction from the condensate storage tank, the discharge piping of the HPCI or RCIC shall be vented from the high point of the system, and water flow observed on a monthly basis.

4. The level switches located on the Core Spray and RHR System discharge piping high points which monitor these lines to ensure they are full shall be functionally tested each month.

see ITS: 3.5.1 3.5.2

H. Average Planar Linear Heat Generation Rate (APLHGR)

During power operation, the APLHGR for each type of fuel as a function of axial location and average planar exposure shall be within limits based on applicable APLHGR limit values which have been approved for the respective fuel and lattice types. These values are specified in the Core Operating Limits Report. If at anytime during reactor power operation greater than 25% of rated power it is determined that the limiting value for APLHGR is being exceeded, action shall then be initiated within 15 minutes to restore operation to within the prescribed limits. If the APLHGR is not returned to within the prescribed limits within two (2) hours, the reactor power shall be reduced to less than 25% of rated power within the next four hours, or until the APLHGR is returned to within the prescribed limits.

H. Average Planar Linear Heat Generation Rate (APLHGR)

The APLHGR for each type of fuel as a function of average planar exposure shall be determined daily during reactor operation at ≥25% rated thermal power.

see ITS: 3.2.1

Amendment No. ~~48, 64, 74, 88, 98, 109, 117, 132, 134, 162, 180, 182~~, 123, 241

Page 4 of 4

REVISION D

Specification 3.2.3

3.5 (cont'd)

4. Linear Heat Generation Rate (LHGR)

The linear heat generation rate (LHGR) of any rod in any fuel assembly at any axial location shall not exceed the maximum allowable LHGR specified in the Core Operating Limits Report.

If anytime during reactor power operation greater than 25% of rated power it is determined that the limiting value for LHGR is being exceeded, action shall then be initiated within 15 minutes to restore operation to within the prescribed limits. If the LHGR is not returned to within the prescribed limits within two (2) hours, the reactor power shall be reduced to less than 25% of rated power within the next four hours, or until the LHGR is returned to within the prescribed limits.

4.5 (cont'd)

Verify

I. Linear Heat Generation Rate (LHGR)

The LHGR shall be determined daily during reactor operation at ≥25% rated thermal power.

are less than or equal to the limits specified in the COLR

once within 12 hours after ≥ 25% RTP AND 24 hours thereafter

Specific on 3.4.1

A1

~~3.5 (cont'd)~~

Recirculation Loops Operating

[3.4.1] ~~K. Thermal Hydraulic Stability~~

M1 MODES 1 and 2

M2 Two recirculation loops with matched flows

[APPLICABILITY] 1. When the reactor is in ~~the run mode:~~

One or two loops A2

[LCO 3.4.1] a. Under normal operating conditions the reactor shall not be intentionally operated within the Power/Flow Exclusion Region defined in the Core Operating Limits Report (COLR).

A2 One or two recirculation loops in operation

[ACTION A] b. If the reactor has entered the Power/Flow Exclusion Region, the operator shall immediately insert control rods and/or increase recirculation flow to establish operation outside the region.

add ACTIONS B & C for SR 3.4.1.2 not met M2

[3.4.1] ~~K.~~ Recirculation Loops Operating ~~Single Loop Operation~~

MODES 1 and 2

[Applicability] 1. The reactor may be started and operated, or reactor operation may continue, with a single Reactor Coolant System recirculation loop in operation. The requirements applicable to single-loop operation in Specifications ~~2.1.A~~ ~~2.1.A~~, 3.1.A, 3.1.B, ~~3.2.C~~ and 3.5.H shall be in effect within 8 hours, or

[LCO 3.4.1]

[ACTION B]

[ACTION C] the reactor shall be placed in at least the hot shutdown mode within the following 12 hours.

A3

24 L1

LA1 2. During resumption of two-loop operation following a period of single-loop operation, the discharge valve of the lower speed pump shall not be opened unless the speed of the faster pump is less than 50 percent of its rated speed.

[ACTION C] 3. With no Reactor Coolant System recirculation loop in service, the reactor shall be placed in at least the hot shutdown mode within 12 hours.

M3 Add SR 3.4.1.1

M2 Add SR 3.4.1.2

RAI 3.4.1-01

specification 3.4.9 (A1)

3.6 LIMITING CONDITIONS FOR OPERATION
3.6 REACTOR COOLANT SYSTEM

Applicability:

Applies to the operating status of the Reactor Coolant System.

Objective:

To assure the integrity and safe operation of the Reactor Coolant System.

Specification:

RCS

A. Pressurization and Thermal Limits (A1)

[LCO 3.4.9] 1. ~~Reactor Vessel Head Stud Tensioning~~

[SR 3.4.9.6] The reactor vessel head bolting studs shall not be under tension unless the temperatures of the reactor vessel flange and the reactor head flange are at least 90°F.

Add: Applicability: At all times (A2)

[LCO 3.4.9] [SR 3.4.9.1] (LA5)

~~2. In-Service Hydrostatic and Leak Tests~~ (A1) 3.4.9-1 or 3.4.9-2 (A1)

During in-service hydrostatic or leak testing the Reactor Coolant System pressure and temperature shall be on or to the right of curve A shown in Figure ~~3.6-1 Part 1 of 2~~ for the flange and the beltline region, and on or to the right of curve A_{NB} for the non-beltline regions, and on or to the right of curve A_{BH} for the bottom head region. The maximum temperature change during any one hour period shall be:

4.6 SURVEILLANCE REQUIREMENTS
4.6 REACTOR COOLANT SYSTEM

Applicability:

Applies to the periodic examination and testing requirements for the Reactor Coolant System.

Objective:

To determine the condition of the Reactor Coolant System and the operation of the safety devices related to it.

Specification:

RCS

A. Pressurization and Thermal Limits (A1)

1. ~~Reactor Vessel Head Stud Tensioning~~

[SR 3.4.9.6] [SR 3.4.9.7] [SR 3.4.9.8] When in the cold condition, the reactor vessel head flange and the reactor vessel flange temperatures shall be recorded (A6)

Add: SR 3.4.9.8 Note (A8)

[SR 3.4.9.8] a. Every 12 hours when the reactor vessel head flange is ≤120°F and the studs are tensioned.

Add: SR 3.4.9.7 Note

[SR 3.4.9.7] b. Every 30 minutes when the reactor vessel head flange is ≤100°F and the studs are tensioned.

[SR 3.4.9.6] c. Within 30 minutes prior to and every 30 minutes during tensioning of reactor vessel head bolting studs.

[SR 3.4.9.6 NOTE] verified within limits (A6)

2. In-Service Hydrostatic and Leak Tests

[SR3.4.9.1] During hydrostatic and leak testing the Reactor Coolant System pressure and temperature shall be recorded every 30 minutes until two consecutive temperature readings are within 5°F of each other. (LA1)

[SR3.4.9.1 NOTE]

AMD 250

RAI 3.4.9-6

AMD 258

Specification 3.4.9 (A1)

~~3.6 (cont'd)~~

~~4.6 (cont'd)~~

[SR 3.4.9.1]

a. ≤20°F when to the left of curve C.

b. ≤100°F when on or to the right of curve C.

AMD 267

~~3. Non-Nuclear Heatup and Cooldown~~ (A1)

[LCO 3.4.9]

(LA5)

During heatup by non-nuclear means (mechanical), cooldown following nuclear shutdown and low power physics tests the Reactor Coolant System pressure and temperature shall be on or to the right of the curve B shown in Figure 3.6-1 Part 1 or 2 for the flange, upper vessel and beltline regions, and on or to the right of curve B_{BH} for the bottom head region. The maximum temperature change during any one hour shall be ≤100°F.

[SR 3.4.9.1]

[SR 3.4.9.1]

[SR 3.4.9.1 NOTE]

~~3. Non-Nuclear Heatup and Cooldown~~ (A1)

During heatup by Non-Nuclear means, cooldown following nuclear shutdown and low power physics tests, the reactor coolant system pressure and temperature shall be recorded every 30 minutes until two consecutive temperature readings are within 5°F of each other.

(A6)

(LA1)

AMD 258

AMD 258

RAI 3.4.9-6

3.4.9-1 or 3.4.9-2

(A1)

~~4. Core Critical Operation~~ (A1)

[LCO 3.4.9]

(LA5)

During all modes of operation with a critical core (except for low power physics tests) the Reactor Coolant System pressure and temperature shall be at or to the right of the curve C shown in Figure 3.6-Y Part 1 or 2. The maximum temperature change during any one hour shall be ≤100°F.

[SR 3.4.9.1]

~~4. Core Critical Operation~~ (A1)

(A6)

(15) (M1)

During all modes of operation with a critical core (except for low power physics tests) the Reactor Coolant System pressure and temperature shall be recorded within 30 minutes prior to withdrawal of control rods to bring the reactor critical and every 30 minutes during heatup until two consecutive temperature readings are within 5°F of each other.

(LA1)

[SR 3.4.9.1]

[SR 3.4.9.2]

Page 2 of 5

AMD #267

Specification 3.4.9

A1

ITS

Add CONDITION A "NOTE" ← A3

3.6 (cont'd)	4.6 (cont'd)
[ACTION A] 5. With any of the limits of 3.6.A.1 through 3.6.A.4 above exceeded, either (the LCO) in MODES 1, 2, or 3 ← A4	5. Not Used
a. restore the temperature and/or pressure to within the limits within 30 minutes, perform an engineering evaluation to determine the effects of the out-of-limit condition on the structural integrity of the reactor coolant system, and determine that the reactor coolant system remains acceptable for continued operations, or in 72 hours ← M2 ← LA2	
[ACTION B] b. be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the following 24 hours.	
A1 → 6. Idle Recirculation Loop Startup (Only required to be met in MODES 1, 2, 3 and 4) ← L1	A1 → 6. Idle Recirculation Loop Startup
[SR 3.4.9.3 Note 1] [SR 3.4.9.5 Note 1] When Reactor Coolant System temperature is > 140°F, an idle recirculation loop shall not be started unless:	Within (15) 30 minutes prior to startup of an idle loop: ← M3
[SR 3.4.9.3] a. The temperature differential between the reactor coolant system and the reactor vessel bottom head drain line is ≤ 145°F, and	[SR 3.4.9.3] a. The differential temperature between the reactor coolant system and the reactor vessel bottom head drain line shall be recorded, and A6 ← LA3
[SR 3.4.9.5] b. When both loops are idle, the temperature difference between the reactor coolant system and the idle loop to be started is ≤ 50°F, or	[SR 3.4.9.5] b. When both loops are idle, the differential temperature between the reactor coolant system and the idle loop to be started shall be recorded, or
c. When only one loop is idle, the temperature difference between the idle loop and the operating loop is ≤ 50°F. (RPV) A7	[SR 3.4.9.5] c. When only one loop is idle, the temperature differential between the idle loop and the operating loop shall be recorded. A7 RPV A6
add SR 3.4.9.4 L2	add SR 3.4.9.4 L2
Add ACTION C ← M4	Add SR 3.4.9.3 "Note" SR 3.4.9.5 "Note" ← L1

Specification 3.4.6

A1

3.6 (cont'd)

B. Deleted

4.6 (cont'd)

B. Deleted

L3

add Applicability

L4

add ACTION A Note

[3.4.6]

C. Specific Activity

1. The reactor coolant system radioactivity concentration in water shall not exceed the equilibrium value of 0.2 μCi/gm of dose equivalent I-131. This limit may be exceeded, following a power transient, for a maximum of 48 hours. During this iodine activity transient the iodine concentrations shall not exceed the equilibrium limits by more than a factor of 10 whenever the main steamline isolation valves are open. The reactor shall not be operated more than 5 percent of its annual power operation under this exception to the equilibrium limits. If the iodine concentration exceeds the equilibrium limit by more than a factor of 10, the reactor shall be placed in a cold condition within 48 hours.

[LCO 3.4.6]

[ACTION A]

[ACTION B second part]

L1

6

L2

add MODE 3 within 12 hours

M2

add Required Action A.1

M1

add Required Action B.1

M1

add Required Action B.2.1

L3

[3.4.6]

C. Specific Activity

L5

L6

1. a. A sample of reactor coolant shall be taken at least every 96 hours and analyzed for gross gamma activity.

add SR 3.4.6.1 Note

A2

[SR 3.4.6.1] b. Isotopic analysis of a sample of reactor coolant shall be made at least once/month.

7 days

M3

c. A sample of reactor coolant shall be taken prior to startup and at 4 hour intervals during startup and analyzed for gross gamma activity.

d. During plant steady state operation and following an offgas activity increase (at the Steam Jet Air Ejectors) of 10,000 μCi/sec within a 48 hour period or a power level change of ≥ 20 percent of full rated power/hr reactor coolant samples shall be taken and analyzed for gross gamma activity. At least three samples will be taken at 4 hour intervals. These sampling requirements may be omitted whenever the equilibrium I-131 concentration in the reactor coolant is less than 0.002 μCi/ml.

L5

AMD 261

Specification 3.4.6 (A1)

4.6 (cont'd)

e. If the gross activity counts made in accordance with a, c, and d above indicate a total iodine concentration in excess of 0.002 μCi/ml, a quantative determination shall be made for I-131 and I-133. | Amd 261

(15)

Specification 3.4.4

A1

~~4.0 (cont'd)~~

[3.4.4] RCS OPERATIONAL

B. Coolant Leakage

MODES 1, 2 and 3 M3

[Appl. cab. 1.h] 1. Anytime irradiated fuel is in the reactor vessel and the reactor coolant temperature is above 212°F, the reactor coolant leakage into the primary containment shall be limited to:

[LCO 3.4.4]

[LCO 3.4.4.b] a. 5 gpm unidentified leakage

no pressure boundary leakage M1

[LCO 3.4.4.d] b. 2 gpm increase in unidentified leakage within any 24 hour period. (This limitation shall apply only after a period of 24 hours at operating pressure.)

in MODE 1 L1

[LCO 3.4.4.c] c. The total reactor coolant leakage into the primary containment shall not exceed 25 gpm.

averaged over the previous 24 hr period L2

[3.4.4] RCS OPERATIONAL

D. Coolant Leakage

[SR 3.4.4.1] 1. Reactor coolant leakage rate inside the primary containment shall be monitored and recorded once every 4 hours utilizing the Primary Containment Sump Monitoring System (equipment drain sump monitoring and floor drain sump monitoring).

A2

LA1

Specification 3.4.4

A1

3.6 (cont'd)	4.6 (cont'd)
2. With reactor coolant system leakage greater than the limits specified in 3.6.D.1.a or 3.6.D.1.c, the leakage rate shall be reduced to within these limits within 4 hours or the reactor shall be in at least the hot standby condition within the following 12 hours and in cold condition within the next 24 hours.	2. Not Used
3. With an increase in unidentified reactor coolant system leakage equal to or greater than the limit specified in 3.6.D.1.b, the source of the leakage shall be identified within 4 hours or the reactor shall be in at least hot standby condition within the next 12 hours and in cold condition within the following 24 hours.	3. Not Used
4. The Primary Containment Sump Monitoring System (Equipment Drain Sump Monitoring and Floor Drain Sump Monitoring) and the Continuous Atmosphere Monitoring System (Gaseous and Particulate) shall be operable when the reactor coolant leakage limits of Specification 3.6.D.1 are in effect.	4. The Primary Containment Sump Monitoring System (Equipment Drain Sump Monitoring and Floor Drain Sump Monitoring) instrumentation shall be calibrated and checked as specified in Surveillance Requirement 4.2.E. Continuous Atmosphere Monitoring System (Gaseous and Particulate) instrumentation shall be functionally tested and calibrated as specified in Table 4.6-2.

ACTION A

ACTION C

ACTION B

Required Action B.2

ACTION C

L3

add Required Action B.1

and verified not to be type 304 or 316 austenitic Stainless steel, or LEAKAGE increase reduced to within limits

M2

add 2nd condition in ACTION C

M1

see ITS 3.4.5

Specification 3.4.5

A1

3.6 (cont'd)

2. With reactor coolant system leakage greater than the limits specified in 3.6.D.1.a or 3.6.D.1.c, the leakage rate shall be reduced to within these limits within 4 hours or the reactor shall be in at least the hot standby condition within the following 12 hours and in cold condition within the next 24 hours.

3. With an increase in unidentified reactor coolant system leakage equal to or greater than the limit specified in 3.6.D.1.b, the source of the leakage shall be identified within 4 hours or the reactor shall be in at least hot standby condition within the next 12 hours and in cold condition within the following 24 hours.

4.6 (cont'd)

2. Not Used

See ITS 3.4.4

3. Not Used

L5

Drywell

[LCO 3.4.5]

Drywell

4. The Primary Containment Sump Monitoring System (Equipment Drain Sump Monitoring and Floor Drain Sump Monitoring) and the Continuous Atmosphere Monitoring System (Gaseous and Particulate) shall be operable when the reactor coolant leakage limits of Specification 3.6.D.1 are in effect.

[Applicability]

One channel of

MODES 1, 2, and 3

L1

[SR 3.4.5.1]
[SR 3.4.5.2]
[SR 3.4.5.3]

4. The Primary Containment Sump Monitoring System (Equipment Drain Sump Monitoring and Floor Drain Sump Monitoring) instrumentation shall be calibrated and checked as specified in Surveillance Requirement 4.2.E. Continuous Atmosphere Monitoring System (Gaseous and Particulate) instrumentation shall be functionally tested and calibrated as specified in Table 4.6-2.

A1

L5

~~3.6 (cont'd)~~

4.6 (cont'd)

add — NOTE — — —
LCO 3.0.4 is not applicable
L3

[ACTION A] 5. With the ~~Primary Containment Sump Monitoring System~~ (Equipment Drain Sump Monitoring or Floor Drain Sump Monitoring) inoperable, restore the system to operable status within ~~24 hours~~ 30 days L2 or be in at least hot shutdown within the next 12 hours and in the cold condition within the following 24 hours.

[ACTION C]

[ACTION B] ~~6.~~ With the Continuous Atmosphere Monitoring System (gaseous) or the Continuous Atmosphere Monitoring System (particulate) inoperable, 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. Otherwise be in at least hot shutdown within the next 12 hours and in cold shutdown within the following 24 hours.

L1

[ACTION C]

L3

add
----- Note - - -
LCO 3.0.4 is not applicable

Add ACTION D — M2

Specification 3.4.3

A1

JAFNPP

[3.4.3]

3.6 (cont'd)

F. Safety/Relief Valves

MODES 1, 2 and 3

A2

Applicability

A2

1. During reactor power operating conditions and prior to startup from a cold condition, or whenever reactor coolant pressure is greater than atmosphere and temperature greater than 212 F, the safety mode of at least 9 of 11 safety/relief valves shall be operable. The Automatic Depressurization System valves shall be operable as required by specification 3.5.D.

A3

[LCO 3.4.3]

[3.4.3]

4.6 (cont'd)

E. Safety/Relief Valves

In accordance with IST program

LA3

1. At least 5 of the 11 safety/relief valves shall be bench checked or replaced with bench checked valves every 24 months. All valves shall be tested every 48 months. The testing shall demonstrate that each valve tested actuates at 1145 psig ±3%. Following testing, lift settings shall be 1145 psig ±1%.

[SR 3.4.3.1]

Specification 3.10.8

A1

3.6 (cont'd)	4.6 (cont'd)
E. Safety/Relief Valves	E. Safety/Relief Valves
1. During reactor power operating conditions and prior to startup from a cold condition, or whenever reactor coolant pressure is greater than atmosphere and temperature greater than 212 F, the safety mode of at least 9 of 11 safety/relief valves shall be operable. The Automatic Depressurization System valves shall be operable as required by specification 3.5.D.	1. At least 5 of the 11 safety/relief valves shall be bench checked or replaced with bench checked valves every 24 months. All valves shall be tested every 48 months. The testing shall demonstrate that each valve tested actuates at 1146 psig ±3%. Following testing, lift settings shall be 1145 psig ±1%.

See ITS! 3.4.3

Specification 3.4.3

A1

JAFNPP

M1

Be in MODE 3 in 12 hours

~~3.6 (cont'd)~~

[ACTION A]

2. If Specification 3.6.E.1 is not met, the reactor shall be placed in a cold condition within ~~24~~ 36 hours. L1

3. Low power physics testing and reactor operator training shall be permitted with inoperable components as specified in Specification 3.6.E.1 above, provided that reactor coolant temperature is ≤212 °F and the reactor vessel is vented or the reactor vessel head is removed.

<See ITS 3.10.8>

4. The provisions of Specification 3.0.D are not applicable.

[SR 3.4.3.2]

[Note to SR 3.4.3.2]

~~4.6 (cont'd)~~

LA1

2. At least one safety/relief valve shall be disassembled and inspected every ~~24~~ months.

3. The integrity of the nitrogen system and components which provide manual and ADS actuation of the safety/relief valves shall be demonstrated at least once every 3 months.

<See ITS 3.5.1>

required A4

LA2

4. Manually open each safety/relief valve while bypassing steam to the condenser and observe a ≥10% closure of the turbine bypass valves, to verify that the safety/relief valve has opened. This test shall be performed at least every 24 months while in the RUN mode and within the first 12 hours after steam pressure and flow are adequate to perform the test.

LA2

M2

Add: STAGGERED TEST BASIS for each solenoid

Specification 3.5.1

A1

~~3.6 (cont'd)~~

2. If Specification 3.6.E.1 is not met, the reactor shall be placed in a cold condition within 24 hours.

3. Low power physics testing and reactor operator training shall be permitted with inoperable components as specified in Specification 3.6.E.1 above, provided that reactor coolant temperature is ≤212 °F and the reactor vessel is vented or the reactor vessel head is removed.

4. The provisions of Specification 3.0.D are not applicable.

<see ITS 3.10.8>

~~4.6 (cont'd)~~

<see ITS 3.4.3>

2. At least one safety/relief valve shall be disassembled and inspected every 24 months.

LA5

3. The integrity of the nitrogen system and components which provide manual and ADS actuation of the safety/relief valves shall be demonstrated at least once every 3 months.

required

ADS

LA3

4. Manually open each safety/relief valve while bypassing steam to the condenser and observe a ≥10% closure of the turbine bypass valves, to verify that the safety/relief valve has opened. This test shall be performed at least every 24 months while in the RUN mode and within the first 12 hours after steam pressure and flow are adequate to perform the test.

[SR 3.5.1.13]

LA3

[SR 3.5.1.13 Note]

M9

ADD: STAGGERED TEST FREQUENCY on each solenoid

<ADD SR 3.5.1.3>

M6

Specification 3.10.8

JAFNPP

3.6 (cont'd)

2. If Specification 3.6.E.1 is not met, the reactor shall be placed in a cold condition within 24 hours.

3. Low power physics testing and reactor operator training shall be permitted with inoperable components as specified in Specification 3.6.E.1 above, provided that reactor coolant temperature is <212°F and the reactor vessel is vented or the reactor vessel head is removed.

4. The provisions of Specification 3.0.D are not applicable.

4.6 (cont'd)

2. At least one safety/relief valve shall be disassembled and inspected every 24 months.

3. The integrity of the nitrogen system and components which provide manual and ADS actuation of the safety/relief valves shall be demonstrated at least once every 3 months.

4. Manually open each safety/relief valve while bypassing steam to the condenser and observe a ≥10% closure of the turbine bypass valves, to verify that the safety/relief valve has opened. This test shall be performed at least every 24 months while in the RUN mode and within the first 12 hours after steam pressure and flow are adequate to perform the test.

M3
SHUT DOWN MARGIN
See ITS: 3.4.3
A1
See ITS: 3.4.3
A2
M1
A2
LCO 3.10.8
M2
Applicability
A3
See ITS: 3.5.1
See ITS: 3.4.3
MODE 5 with the reactor mode switch in startup/hot stand by position
L1
add LCO 3.10.8, LCO 3.10.1.b, c, e and f APPLICABILITY
L2
add ACTIONS A, E
L2

Specification 3.4.2 (A1)

3.6 (cont'd)

F. Structural Integrity

The structural integrity of the Reactor Coolant System shall be maintained at the level required by the original acceptance standards throughout the life of the Plant.

See CTS: 3/4.6.F

4.6 (cont'd)

F. Structural Integrity

1. **Nondestructive inspections shall be performed on the ASME Boiler and Pressure Vessel Code Class 1, 2 and 3 components and supports in accordance with the requirements of the weld and support inservice inspection program. This inservice inspection program is based on an NRC approved edition of, and addenda to, Section XI of the ASME Boiler and Pressure Vessel Code which is in effect 12 months or less prior to the beginning of the inspection interval.**

2. **An augmented inservice inspection program is required for those high stressed circumferential piping joints in the main steam and feedwater lines larger than 4 inches in diameter, where no restraint against pipe whip is provided. The augmented in-service inspection program shall consist of 100 percent inspection of these welds per inspection interval.**

3. **An Inservice Inspection Program for piping identified in the NRC Generic Letter 88-01 shall be implemented in accordance with NRC staff positions on schedules, methods, personnel, and sample expansion included in this Generic Letter, or in accordance with alternate measures approved by the NRC staff.**

[Applicability]

[3.4.2]

Jet Pumps

[LCO 3.4.2]

Whenever the reactor is in the startup/hot standby or run modes, all jet pumps shall be operable. If it is determined that a jet pump is inoperable, the reactor shall be placed in a cold condition within 24 hours.

[ACTION A]

(L1) add SR 3.4.2.1 Notes

[3.4.2] **Jet Pumps** [SR 3.4.2.1]

SR 3.4.2.1 (A2)

Whenever there is recirculation flow with the reactor in the startup/hot standby or run modes, jet pump operability shall be checked daily by verifying that the following conditions do not occur simultaneously:

(12) (MODE 3) (M1)

Specification 3.4.2

M2

to speed ratio differs by ≤5% from the established patterns, and recirc loop jet pump flow to recirculation pump speed ratio differs by ≤5% from the established patterns

[SR 3.4.2.1.a]

4.6 (cont'd)

1. The two recirculation pump loops have a flow imbalance of 10 percent or more when the pumps are operated at the same speed.

2. The indicated value of core flow rate varies from the value derived from loop flow measurements by more than 10 percent.

3. The diffuser to lower plenum differential pressure reading on an individual jet pump varies from the average of all jet pump differential pressures by more than ~~10~~ 20 percent.

[SR 3.4.2.1]

from established patterns

A3

L2

A1

RM 3.4-GEN

A. Whenever the reactor is in the startup/hot standby or run modes, and there is one loop recirculation flow, jet pump operability shall be verified as follows.

LA1

a. Baseline readings will be taken and operating characteristics for the following parameters established:

1. Jet Pump Loop Flow and Recirculation Pump Speed for the operating loop.

2. Individual Jet Pump percent differential pressures for all jet pumps.

L1

add SR 3.4.2.1 Notes

[SR 3.4.2.1]

b. Initially, and daily thereafter, jet pump operability will be verified by assuring that the following do not occur simultaneously:

A2

SR 3.4.2.1

Specification 3.4.2

A1

M2

and recirculation pump flow

JAFNPP

4.6 (cont'd)

[SR 3.4.2.1.a]

1. The ratio of jet pump loop flow to recirculation pump speed for the operating loop does not vary from the initially established value by more than 10 percent.

M.2 5 λ

[SR 3.4.2.1.b]

2. The ratio of individual jet pump percent differential pressure to the loop's average jet pump percent differential pressure does not vary from the initially established value by more than 20 percent.

Specification 3.4.5

A1

JAFNPP

A2

Table 4.6-2

Minimum Test and Calibration Frequency for Continuous Atmosphere Monitoring System

ITS →

[SR 3.4.5.2] [SR 3.4.5.3] [SR 3.4.5.1]

Inst. Channel	Inst. Functional Test	Calibration	Channel Sensor Check
[LCO 3.4.5.b] 1. Air Particulate Analyzer	None / 31 days / None (M1)	Once / 3 mos.	once / day / 12 hours (M1)
2. Gaseous Activity Analyzer (L1)		Once / 3 mos.	once / day

A1

Specification 3.4.9

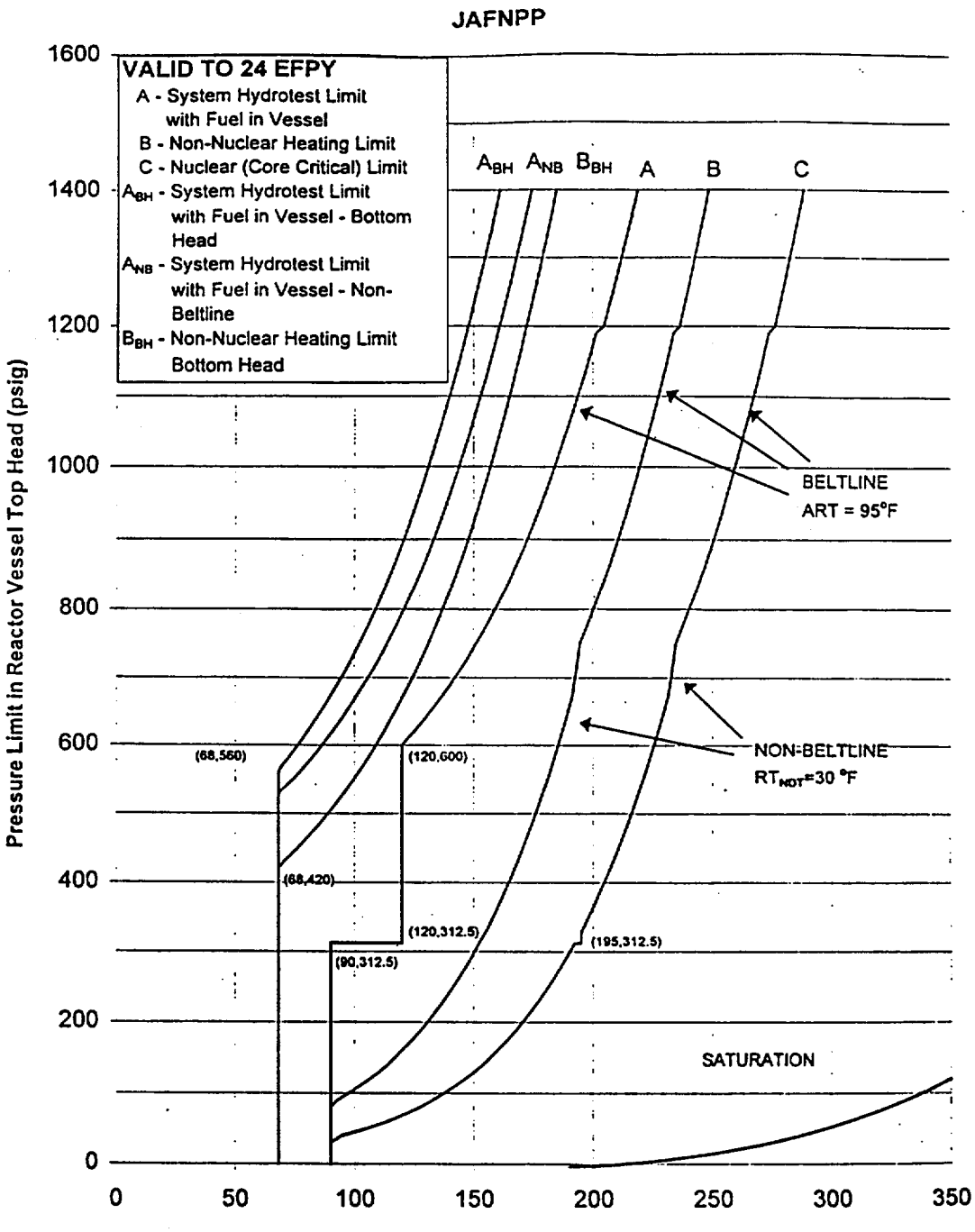


Figure ~~3.6-1~~ Part 1 Reactor Vessel Pressure-Temperature Limits Through 24 EFPY

3.4.9-1 A1

AMD 258

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Specification 3.4.9

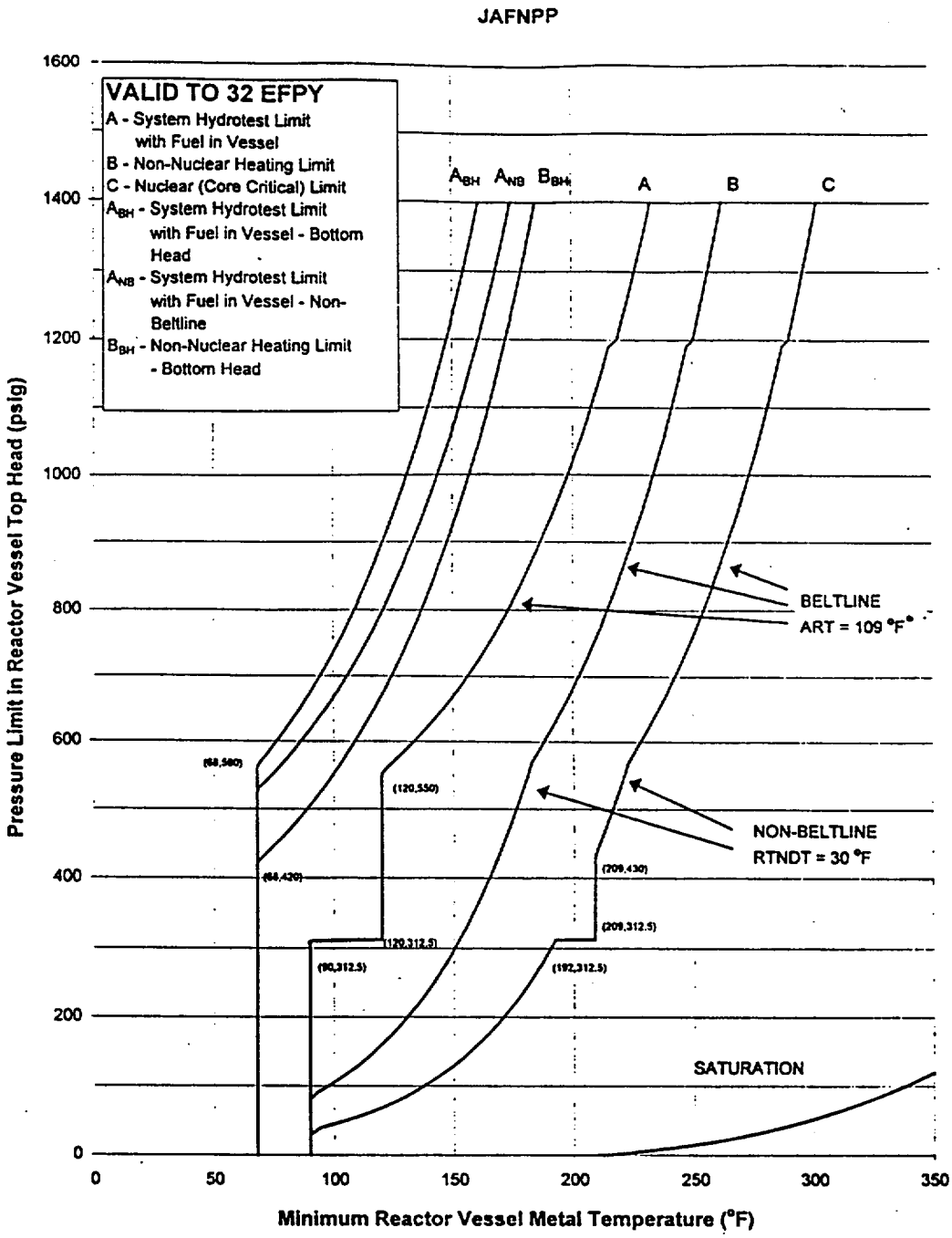


Figure 3.6-1 Part 2 (3.4.9-2) (A1) Reactor Vessel Pressure-Temperature Limits Through 32 EFPY

AMD 258

AMD 258

Page 5 of 5

See ITS 3.6.2.1, 3.6.2.2

Specification 3.6.1.1

A1

3.7 LIMITING CONDITIONS FOR OPERATION	4.7 SURVEILLANCE REQUIREMENTS
3.7 CONTAINMENT SYSTEMS	**4.7 CONTAINMENT SYSTEMS**
Applicability:	**Applicability:**
Applies to the operating status of the primary and secondary containment systems.	Applies to the primary and secondary containment integrity.
Objective:	**Objective:**
To assure the integrity of the primary and secondary containment systems.	To verify the integrity of the primary and secondary containment systems.
Specification:	**Specification:**
A. Primary Containment	A. Primary Containment
1. The level from the bottom of the torus and temperature of the water in the torus shall be maintained within the following limits whenever the reactor is critical or whenever the reactor coolant temperature is greater than 212°F and irradiated fuel is in the reactor vessel:	1. The torus water level and temperature shall be monitored as specified in Table 4.2-8.
a. Maximum level of 14.00 feet.	The accessible interior surfaces of the drywell and above the water line of the torus shall be inspected once per 24 months for evidence of deterioration.
b. Minimum level of 13.88 feet.	Whenever there is indication of relief valve operation or testing which adds heat to the suppression pool, the pool temperature shall be continuously recorded until the heat addition is terminated. The operator will verify that average temperature is within applicable limits every 5 minutes. In lieu of continuous recording, the operator shall log the temperature every 5 minutes.
The torus water level may be outside the above limits for a maximum of four (4) hours as a result of required operability testing of HPCI, RCIC, RHR, CS, and the Drywell - Torus Vacuum Relief System.	Whenever there is indication of relief valve operation with the temperature of the suppression pool reaching 160°F or more and the primary coolant system pressure greater than 200 psig, an external visual examination of the torus shall be conducted before resuming power operation.
c. Maximum water temperature	
(1) During normal power operation maximum water temperature shall be 95°F.	

L3

RAI 3.6.1.1-2

Specification 3.6.2.1

Suppression Pool Average Temperature

A1

JAFNPP

3.7 LIMITING CONDITIONS FOR OPERATION	4.7 SURVEILLANCE REQUIREMENTS
3.7 CONTAINMENT SYSTEMS	**4.7 CONTAINMENT SYSTEMS**
Applicability:	**Applicability:**
Applies to the operating status of the primary and secondary containment systems.	Applies to the primary and secondary containment integrity.
Objective:	**Objective:**
To assure the integrity of the primary and secondary containment systems.	To verify the integrity of the primary and secondary containment systems.
Specification:	**Specification:**

3.6.2.1 A. Primary Containment

see ITS: 3.6.2.2

LCO 3.6.2.1

Applicability MODES 1, 2 and 3

The level from the bottom of the torus and temperature of the water in the torus shall be maintained within the following limits whenever the reactor is critical or whenever the reactor coolant temperature is greater than 212°F and irradiated fuel is in the reactor vessel:

M4

a. Maximum level of 14.00 feet.

b. Minimum level of 13.88 feet.

see ITS: 3.6.2.2

SR 3.6.2.1.1

The torus water level may be outside the above limits for a maximum of four (4) hours as a result of required operability testing of HPCI, RCIC, RHR, CS, and the Drywell - Torus Vacuum Relief System.

c. Maximum water temperature

A5

LCO 3.6.2.1.a

(1) During normal power operation maximum water temperature shall be 95°F.

3.6.2.1 A. Primary Containment

see ITS: 3.6.2.2

Suppression Pool Average Temperature

See ITS 3.6.1.1

RAI 3.6.2.1-2

A3

1. The torus water level and temperature shall be monitored as specified in Table 4.2-B. every 24 hours

The accessible interior surfaces of the drywell and above the water line of the torus shall be inspected once per 24 months for evidence of deterioration.

L4

Whenever there is indication of relief valve operation or testing which adds heat to the suppression pool, the pool temperature shall be continuously recorded until the heat addition is terminated. The operator will verify that average temperature is within applicable limits every 5 minutes. In lieu of continuous recording, the operator shall log the temperature every 5 minutes.

A4

A4

Whenever there is indication of relief valve operation with the temperature of the suppression pool reaching 160°F or more and the primary coolant system pressure greater than 200 psig, an external visual examination of the torus shall be conducted before resuming power operation.

L3

Specification 3.6.2.2

A1

JAFNPP

3.7 LIMITING CONDITIONS FOR OPERATION	4.7 SURVEILLANCE REQUIREMENTS
3.7 CONTAINMENT SYSTEMS	**4.7 CONTAINMENT SYSTEMS**
Applicability:	**Applicability:**
Applies to the operating status of the primary and secondary containment systems.	Applies to the primary and secondary containment integrity.
Objective:	**Objective:**
To assure the integrity of the primary and secondary containment systems.	To verify the integrity of the primary and secondary containment systems.
Specification:	**Specification:**
A. Primary Containment	A. Primary Containment
1. The level from the bottom of the torus and temperature of the water in the torus shall be maintained within the following limits whenever the reactor is critical or whenever the reactor coolant temperature is greater than 212°F and irradiated fuel is in the reactor vessel:	1. The torus water level and temperature shall be monitored as specified in Table 4.2-8.
a. Maximum level of 14.00 feet.	
b. Minimum level of 13.88 feet.	
The torus water level may be outside the above limits for a maximum of four (4) hours as a result of required operability testing of HPCI, RCIC, RHR, CS, and the Drywell - Torus Vacuum Relief System.	
c. Maximum water temperature	
(1) During normal power operation maximum water temperature shall be 95°F.	
	The accessible interior surfaces of the drywell and above the water line of the torus shall be inspected once per 24 months for evidence of deterioration.
	Whenever there is indication of relief valve operation or testing which adds heat to the suppression pool, the pool temperature shall be continuously recorded until the heat addition is terminated. The operator will verify that average temperature is within applicable limits every 5 minutes. In lieu of continuous recording, the operator shall log the temperature every 5 minutes. Whenever there is indication of relief valve operation with the temperature of the suppression pool reaching 160°F or more and the primary coolant system pressure greater than 200 psig, an external visual examination of the torus shall be conducted before resuming power operation.

3.6.2.2 — Suppression Pool Water Level — See ITS: 3.6.2.1

[LCO 3.6.2.2] — Applicability Modes 1, 2, and 3 — M2

[SR 3.6.2.2.1] — every 24 hours — A2

See ITS: 3.6.1.1

[LCO 3.6.2.2] — add Required Action A.1 — L1

[Note to SR 3.6.2.2.1] — LA1

See ITS: 3.6.2.1

See ITS: 3.6.2.1

Specification 3.6.1.1

A1

3.7 (cont'd)

(2) During testing which adds heat to the suppression pool, the water temperature shall not exceed 10°F above the normal power operation limit specified in (1) above. In connection with such testing, the pool temperature must be reduced to below the normal power operation limit specified in (1) above within 24 hours.

(3) The reactor shall be scrammed from any operating condition if the pool temperature reaches 110°F. Power operation shall not be resumed until the pool temperature is reduced below the normal power operation limit specified in (1) above.

(4) During reactor isolation conditions, the reactor pressure vessel shall be depressurized to less than 200 psig at normal cooldown rates if the pool temperature reaches 120°F.

4.7 (cont'd)

see ITS: 3.6.2.1

[3.6.1.1]

[LCO 3.6.1.1]

2. Primary containment integrity shall be maintained at all times when the reactor is critical or when the reactor water temperature is above 212°F, and fuel is in the reactor vessel, except while performing low power physics tests at atmospheric pressure at power levels not to exceed 5 MWt.

A2

OPERABLE

M3

see ITS 3.10.8

[Applicability]

add ACTION A

L1

2. a. [SR 3.6.1.1.1] Perform required visual examination and leakage rate testing of the Primary Containment in accordance with the Primary Containment Leakage Rate Testing Program.

A3

except for primary containment air lock testing

b. Demonstrate leakage rate through each MSIV is ≤ 11.5 scfh when tested at ≥ 25 psig. The testing frequency is in accordance with the Primary Containment Leakage Rate Testing Program.

see ITS: 3.6.1.3

c. Once per 24 months, demonstrate the leakage rate of 10AOV-68A,B for the Low Pressure Coolant Injection system and 14AOV-13A,B for the Core Spray system to be less than 11 scfm per valve when pneumatically tested at ≥ 45 psig at ambient temperature, or less than 10 gpm per valve if hydrostatically tested at ≥ 1,035 psig at ambient temperature.

see ITS: 3.6.1.3

Specification 3.6.1.3 (A1)

3.7 (cont'd)

(2) During testing which adds heat to the suppression pool, the water temperature shall not exceed 10°F above the normal power operation limit specified in (1) above. In connection with such testing, the pool temperature must be reduced to below the normal power operation limit specified in (1) above within 24 hours.

(3) The reactor shall be scrammed from any operating condition if the pool temperature reaches 110°F. Power operation shall not be resumed until the pool temperature is reduced below the normal power operation limit specified in (1) above.

(4) During reactor isolation conditions, the reactor pressure vessel shall be depressurized to less than 200 psig at normal cooldown rates if the pool temperature reaches 120°F.

see ITS 3.6.2.1

LCO 3.6.1.3

2. Primary containment integrity shall be maintained at all times when the reactor is critical or when the reactor water temperature is above 212°F, and fuel is in the reactor vessel, except while performing low power physics tests at atmospheric pressure at power levels not to exceed 5 MWt.

see ITS: 3.10.8

Applicability Modes 1, 2 and 3 (M1)

add proposed ACTION D for MSIV leakage not within limits (L9)

4.7 (cont'd)

In accordance with the primary Containment Leakage Rate Testing Program (L13)

RAI 3.6.1.3-7

(AB) Each PCIV, except reactor building-to-suppression chamber vacuum breakers, shall be OPERABLE

see ITS: 3.6.1.1

add second Applicability (M1)

2. a. Perform required visual examination and leakage rate testing of the Primary Containment in accordance with the Primary Containment Leakage Rate Testing Program. (A6) within limits

b. Demonstrate leakage rate through each MSIV is ≤ 11.5 scfh when tested at ≥ 25 psig. The testing frequency is in accordance with the Primary Containment Leakage Rate Testing Program. [SR 3.6.1.3.10]

c. Once per 24 months, demonstrate the leakage rate of 10AOV-86A,B for the Low Pressure Coolant Injection system and 14AOV-13A,B for the Core Spray system to be less than 11 scfm per valve when pneumatically tested at ≥ 45 psig at ambient temperature, or less than 10 gpm per valve if hydrostatically tested at ≥ 1,035 psig at ambient temperature. (L12)

RAI 3.6.1.3-7

add proposed ACTION E for any LPCI or CS AOV PCIV leakage not within limits (L10) [SR 3.6.1.3.11]

Specification 3.6.2.1

A1

RAI 3.6.2.1-1
RAI 3.6.2.1-6

add proposed Required Action A.1 — M1

add proposed Required Action A.2 — L1

add proposed ACTION B — L2

JAFNPP

3.7 (cont'd)

4.7 (cont'd)

(2) During testing which adds heat to the suppression pool, the water temperature shall not exceed 10°F above the normal power operation limit specified in (1) above. In connection with such testing, the pool temperature must be reduced to below the normal power operation limit specified in (1) above within 24 hours.

[LCO 3.6.2.1.b] — [ACTION A] — add proposed ACTION C — L5

(3) The reactor shall be scrammed from any operating condition if the pool temperature reaches 110°F. Power operation shall not be resumed until the pool temperature is reduced below the normal power operation limit specified in (1) above.

[Required Action D.1] — [LCO 3.6.2.1.c]

[LCO 3.6.2.1 → LCO 3.0.4] — [ACTION E]

add proposed Required ACTIONS D.2 and D.3 — M2

(4) During reactor isolation conditions, the reactor pressure vessel shall be depressurized to less than 200 psig at normal cooldown rates if the pool temperature reaches 120°F. — M3

add proposed Required Action E.2

2. Primary containment integrity shall be maintained at all times when the reactor is critical or when the reactor water temperature is above 212°F, and fuel is in the reactor vessel, except while performing low power physics tests at atmospheric pressure at power levels not to exceed 5 MWt.

see ITS: 3.6.1.1

2. a. Perform required visual examination and leakage rate testing of the Primary Containment in accordance with the Primary Containment Leakage Rate Testing Program.

see ITS: 3.6.1.1

b. Demonstrate leakage rate through each MSIV is ≤ 11.5 scfh when tested at ≥ 25 psig. The testing frequency is in accordance with the Primary Containment Leakage Rate Testing Program.

c. Once per 24 months, demonstrate the leakage rate of 10AOV-68A,B for the Low Pressure Coolant Injection system and 14AOV-13A,B for the Core Spray system to be less than 11 scfm per valve when pneumatically tested at ≥ 45 psig at ambient temperature, or less than 10 gpm per valve if hydrostatically tested at ≥ 1,035 psig at ambient temperature.

See ITS: 3.6.1.3

Specification 3.10.8

A1

JAFNPP

3.7 (cont'd)	4.7 (cont'd)
(2) During testing which adds heat to the suppression pool, the water temperature shall not exceed 10°F above the normal power operation limit specified in (1) above. In connection with such testing, the pool temperature must be reduced to below the normal power operation limit specified in (1) above within 24 hours.	
(3) The reactor shall be scrammed from any operating condition if the pool temperature reaches 110°F. Power operation shall not be resumed until the pool temperature is reduced below the normal power operation limit specified in (1) above.	
(4) During reactor isolation conditions, the reactor pressure vessel shall be depressurized to less than 200 psig at normal cooldown rates if the pool temperature reaches 120°F.	

see ITS: 3.6.2.1

A2

[LCO 3.10.8]

2. Primary containment integrity shall be maintained at all times when the reactor is critical or when the reactor water temperature is above 212°F, and fuel is in the reactor vessel, except while performing low power physics tests at atmospheric pressure at power levels not to exceed 5 MWt.

A2

M3

SHUTDOWN MARGIN

[Applicability]

MODE 5 with the reactor mode switch in startup/hot standby position

L1

see ITS: 3.6.1.3

see ITS: 3.6.1.1
ITS: 3.6.1.2

2. a. Perform required visual examination and leakage rate testing of the Primary Containment in accordance with the Primary Containment Leakage Rate Testing Program.

b. Demonstrate leakage rate through each MSIV is ≤ 11.5 scfh when tested at ≥ 25 psig. The testing frequency is in accordance with the Primary Containment Leakage Rate Testing Program.

c. Once per 24 months, demonstrate the leakage rate of 10AOV-68A,B for the Low Pressure Coolant Injection system and 14AOV-13A,B for the Core Spray system to be less than 11 scfm per valve when pneumatically tested at ≥ 45 psig at ambient temperature, or less than 10 gpm per valve if hydrostatically tested at ≥ 1,035 psig at ambient temperature.

Specification 3.6.1.1

A1

3.7 (cont'd)

3. The containment shall be purged through the Standby Gas Treatment System whenever the primary containment integrity is required. If this requirement cannot be met, then purging shall be discontinued without delay.

see CTS 3.7.A.3

~~4.7 (cont'd)~~

3. Continuous Leak Rate Monitoring

When the primary containment is inerted, it shall be continuously monitored for gross leakage by review of the inerting system makeup requirements.

LA4

Specification 3.6.1.6

A1

JAFNPP

3.7 (cont'd)

4.7 (cont'd)

M6

MODES 1, 2, and 3

M7

Each

[3.6.1.6]

A

Pressure Suppression Chamber Reactor Building Vacuum Breakers

[LCO 3.6.1.6]

[Applicability]

[SR 3.6.1.6.3]

a. Except as specified in 3.7.A.4.b below, two Pressure Suppression Chamber Reactor Building Vacuum Breakers shall be operable at all times when the primary containment integrity is required. The setpoint of the differential pressure instrumentation which actuates the pressure suppression chamber reactor building vacuum breakers shall be ≤0.5 psi below reactor building pressure.

b. From and after the date that one of the pressure suppression chamber reactor building vacuum breakers is made or found to be inoperable for any reason, reactor operation is permissible only during the succeeding 7 days, unless such vacuum

not closed

72 hours

M1

M7

[ACTION A]

add proposed ACTIONS B, C, and D

M7

M2

add SR 3.6.1.6.1

[3.6.1.6]

A

Pressure Suppression Chamber-Reactor Building Vacuum Breakers

[SR 3.6.1.6.2]

a. The pressure suppression chamber-reactor building vacuum breakers shall be checked for proper operation in accordance with the Inservice Testing Program.

[SR 3.6.1.6.3]

b. Instrumentation associated with pressure suppression chamber-reactor building vacuum breakers shall be functionally tested once per 92 days.

CALIBRATION

M5

add SR 3.6.1.6.4 for self actuating vacuum breakers

M3

add ACTIONS NOTE

L1

RAI 3.6.1.6-2

Specification 3.10.8

A1

3.7 (cont'd)

4.7 (cont'd)

See ITS: 3.6.1.6

4. Pressure Suppression Chamber Reactor Building Vacuum Breakers

A2

[LCO 3.10.8]

a. Except as specified in 3.7.A.4.b below, two Pressure Suppression Chamber Reactor Building Vacuum Breakers shall be operable at all times when the primary containment integrity is required.

M3

The setpoint of the differential pressure instrumentation which actuates the pressure suppression chamber reactor building vacuum breakers shall be ≤0.5 psi below reactor building pressure.

b. From and after the date that one of the pressure suppression chamber reactor building vacuum breakers is made or found to be inoperable for any reason, reactor operation is permissible only during the succeeding 7 days, unless such vacuum

See ITS 3.6.1.6

MODE 5 with the reactor mode switch in Startup/Hot Standby position

L1

4. Pressure Suppression Chamber-Reactor Building Vacuum Breakers

a. The pressure suppression chamber-reactor building vacuum breakers shall be checked for proper operation in accordance with the Inservice Testing Program.

b. Instrumentation associated with pressure suppression chamber-reactor building vacuum breakers shall be functionally tested once per 92 days.

See ITS 3.6.1.6

Page 10 of 12

Specification 3.6.1.1

A1

3.7 (cont'd)

See ITS 3.6.1.6

breaker is sooner made operable, provided that the repair procedure does not violate primary containment integrity.

4.7 (cont'd)

See ITS 3.6.1.7

5. Pressure Suppression Chamber - Drywell Vacuum Breakers	5. Pressure Suppression Chamber - Drywell Vacuum Breakers
a. When primary containment integrity is required, all drywell suppression chamber vacuum breakers shall be operable and positioned in the fully closed position except during testing and as specified in 3.7.A.5.b below.	a. Each drywell suppression chamber vacuum breaker shall be exercised through an opening - closing cycle monthly.
b. One drywell suppression chamber vacuum breaker may be non-fully closed so long as it is determined to be not more than 1° open as indicated by the position lights.	b. When it is determined that one vacuum breaker is inoperable for fully closing when operability is required, the operable breakers shall be exercised immediately, and every 15 days thereafter until the inoperable valve has been returned to normal service.
c. One drywell suppression chamber vacuum breaker may be determined to be inoperable for opening.	c. Each vacuum breaker valve shall be visually inspected to insure proper maintenance and operation in accordance with the Inservice Testing Program.
d. Deleted	[SR 3.6.1.1.2] (d) A leak test of the drywell to suppression chamber structure shall be conducted once per 24 months; the acceptable leak rate is ≤0.25 in. water/min, over a 10 min period, with the drywell at ≥1 psid.

RAI 3.6.1.1-3

Verify suppression chamber pressure increase is

M4

and every 12 months after two consecutive tests fail until two consecutive tests pass

M2

Specification 3.6.1.6

A1

RAI 3.6.1.6-2

3.7 (cont'd)	4.7 (cont'd)
[ACTION A] breaker is sooner made operable, provided that the repair procedure does not violate primary containment integrity.	
5. Pressure Suppression Chamber - Drywell Vacuum Breakers	5. Pressure Suppression Chamber - Drywell Vacuum Breakers
a. When primary containment integrity is required, all drywell suppression chamber vacuum breakers shall be operable and positioned in the fully closed position except during testing and as specified in 3.7.A.5.b below.	a. Each drywell suppression chamber vacuum breaker shall be exercised through an opening - closing cycle monthly.
b. One drywell suppression chamber vacuum breaker may be non-fully closed so long as it is determined to be not more than 1° open as indicated by the position lights.	b. When it is determined that one vacuum breaker is inoperable for fully closing when operability is required, the operable breakers shall be exercised immediately, and every 15 days thereafter until the inoperable valve has been returned to normal service.
c. One drywell suppression chamber vacuum breaker may be determined to be inoperable for opening.	c. Each vacuum breaker valve shall be visually inspected to insure proper maintenance and operation in accordance with the Inservice Testing Program.
d. Deleted	d. A leak test of the drywell to suppression chamber structure shall be conducted once per 24 months; the acceptable leak rate is ≤0.25 in. water/min, over a 10 min period, with the drywell at 1 psid.

See ITS: 3.6.1.7

See ITS: 3.6.1.1

Specification 3.6.1.7 (A1)

3.7 (cont'd)	4.7 (cont'd)
breaker is sooner made operable, provided that the repair procedure does not violate primary containment integrity. (See JTS: 3.6.1.6)	(L4) In accordance with the Inservice Testing Program (E)
[3.6.1.7] 5. Pressure Suppression Chamber - Drywell Vacuum Breakers	[3.6.1.7] 5. Pressure Suppression Chamber - Drywell Vacuum Breakers
[Applicability] a. When primary containment integrity is required, (Modes 1, 2 and 3) (M5) (Five) (A3) drywell suppression chamber vacuum breakers shall be operable and positioned in the fully closed position except during testing and as specified in 3.7.A.5.b below. [LCO 3.6.1.7] [Note 1. to SR 3.6.1.7.1] (add Note 2 to SR 3.6.1.7.1) (A2)	[SR 3.6.1.7.2] a. Each drywell suppression chamber vacuum breaker shall be exercised through an opening - closing cycle monthly. (add SR 3.6.1.7.1) (M1) (E)
b. One drywell suppression chamber vacuum breaker may be non-fully closed so long as it is determined to be not more than 1° open as indicated by the position lights. (LA2)	(L1) b. When it is determined that one vacuum breaker is inoperable for fully closing when operability is required, the operable breakers shall be exercised immediately, and every 15 days thereafter until the inoperable valve has been returned to normal service.
[ACTION A] c. One drywell suppression chamber vacuum breaker may be determined to be inoperable for opening. (M2) (for 72 hours)	c. Each vacuum breaker valve shall be visually inspected to insure proper maintenance and operation in accordance with the Inservice Testing Program. (LA1)
~~d. Deleted~~	d. A leak test of the drywell to suppression chamber structure shall be conducted once per 24 months; the acceptable leak rate is ≤0.25 in. water/min, over a 10 min period, with the drywell at 1 psid. (See ITS: 3.6.1.1) (RAI 3.6.1.7-3)

Specification 3.10.8

A1

~~3.7 (cont'd)~~

breaker is sooner made operable, provided that the repair procedure does not violate primary containment integrity.

~~3.7 (cont'd)~~

See ITS: 3.6.1.6

MODE 5 with the reactor mode switch in startup/hot standby position

L1

5. Pressure Suppression Chamber - Drywell Vacuum Breakers

M3

LCO 3.10.8

A2

a. When primary containment integrity is required all drywell suppression chamber vacuum breakers shall be operable and positioned in the fully closed position except during testing and as specified in 3.7.A.5.b below.

b. One drywell suppression chamber vacuum breaker may be non-fully closed so long as it is determined to be not more than 1° open as indicated by the position lights.

c. One drywell suppression chamber vacuum breaker may be determined to be inoperable for opening.

d. Deleted

See ITS: 3.6.1.7

5. Pressure Suppression Chamber - Drywell Vacuum Breakers

a. Each drywell suppression chamber vacuum breaker shall be exercised through an opening - closing cycle monthly.

b. When it is determined that one vacuum breaker is inoperable for fully closing when operability is required, the operable breakers shall be exercised immediately, and every 15 days thereafter until the inoperable valve has been returned to normal service.

c. Each vacuum breaker valve shall be visually inspected to insure proper maintenance and operation in accordance with the Inservice Testing Program.

d. A leak test of the drywell to suppression chamber structure shall be conducted once per 24 months; the acceptable leak rate is ≤0.25 in. water/min, over a 10 min period, with the drywell at 1 psid.

Specification 3.6.1.1

A1

JAFNPP

3.7 (cont'd)	4.7 (cont'd)
e. Leakage between the drywell and suppression chamber shall not exceed a rate of 71 scfm as monitored via the suppression chamber 10 min pressure transient of 0.25 in. water/min.	e. Not applicable
f. The self actuated vacuum breakers shall open when subjected to a force equivalent to 0.5 psid acting on the valve disc.	f. Not applicable
g. From and after the date that one of the pressure suppression chamber/drywell vacuum breakers is made or found to be inoperable for any reason, the vacuum breaker shall be locked closed and reactor operation is permissible only during the succeeding seven days unless such vacuum breaker is sooner made operable, provided that the repair procedure does not violate primary containment integrity.	g. Once per 24 months, each vacuum breaker shall be tested to determine that the force required to open the vacuum breaker does not exceed the force specified in Specification 3.7.A.6.f and each vacuum breaker shall be inspected and verified to meet design requirements.

LA3

RAI 3.6.1.1-3

See ITS 3.6.1.7

Specification 3.6.1.7

A1

JAFNPP

see ITS: 3.6.1.1

3.7 (cont'd)	4.7 (cont'd)
e. Leakage between the drywell and suppression chamber shall not exceed a rate of 71 scfm as monitored via the suppression chamber 10 min pressure transient of 0.25 in. water/min.	e. ~~Not applicable~~
f. The self actuated vacuum breakers shall open when subjected to a force equivalent to 0.5 psid acting on the valve disc.	f. ~~Not applicable~~
g. From and after the date that one of the pressure suppression chamber/drywell vacuum breakers is made or found to be inoperable for any reason, the vacuum breaker shall be locked closed and reactor operation is permissible only during the succeeding seven days unless such vacuum breaker is sooner made operable, provided that the repair procedure does not violate primary containment integrity.	g. Once per 24 months, each vacuum breaker shall be tested to determine that the force required to open the vacuum breaker does not exceed the force specified in Specification 3.7.A.5.f and each vacuum breaker shall be inspected and verified to meet design requirements.

SR 3.6.1.7.3

M3

ACTION B

M3

SR 3.6.1.7.3

12 hours

M3

A1

ACTION A

72 hours

M2

[for OPENING]

Page 2 of 3

Specification 3.6.2.4

A1

3.7 (cont'd)	4.7 (cont'd)
6. Oxygen Concentration The primary containment oxygen concentration shall be maintained less than 4.0 volume percent while in the Run mode, except as specified in 3.7.A.6.a and 3.7.A.6.b below: a. Primary containment oxygen concentration shall be less than 4.0 volume percent within 24 hours of exceeding 15% of rated thermal power during startup. b. De-inerting may commence up to 24 hours prior to reducing thermal power to less than 15% of rated before a plant shutdown. c. If oxygen concentration is greater than or equal to 4.0 volume percent at any time while in the Run mode, except as specified in 3.7.A.6.a or 3.7.A.6.b above, restore oxygen concentration to less than 4.0 volume percent within 24 hours, otherwise reduce thermal power to less than or equal to 15% of rated within the next 8 hours.	6. Oxygen Concentration a. The primary containment oxygen concentration shall be verified to be within limits once each week. Instrument surveillances shall be performed as specified in Table 4.2-8.
[3.6.2.4] 7. Drywell-~~Torus~~ to-Suppression Chamber Differential Pressure	[3.6.2.4] 7. Drywell-~~Torus~~ to-Suppression Chamber Differential Pressure
[LCO 3.6.2.4] a. Differential pressure between the drywell and torus shall be maintained at equal to or greater than 1.7 psid except as specified in (1) and (2) below:	[3.6.2.4.1] a. The pressure differential between the drywell and torus shall be verified to be within limits once per 8 hours. Instrument surveillances shall be performed as specified in Table 4.2-8.

See ITS: 3.6.3.1

12 L1

A2

Page 1 of 3

Specification 3.6.3.1 (A1)

JAFNPP

3.7 (cont'd)	Primary Containment	~~4.7 (cont'd)~~	Primary Containment
[3.6.3.1] B	Oxygen Concentration	[3.6.3.1] B	Oxygen Concentration
[LCO 3.6.3.1]	The primary containment oxygen concentration shall be maintained less than 4.0 volume percent while in the Run mode, except as specified in 3.7.A.6.a and 3.7.A.6.b below:	[SR 3.6.3.1.1]	a. The primary containment oxygen concentration shall be verified to be within limits once each week. Instrument surveillances shall be performed as specified in Table 4.2-8. (A2)
[Applicability]	a. Primary containment oxygen concentration shall be less than 4.0 volume percent within 24 hours of exceeding 15% of rated thermal power during startup. b. De-inerting may commence up to 24 hours prior to reducing thermal power to less than 15% of rated before a plant shutdown.		
[ACTION A] B	If oxygen concentration is greater than or equal to 4.0 volume percent at any time while in the Run mode, except as specified in 3.7.A.6.a or 3.7.A.6.b above, restore oxygen concentration to less than 4.0 volume percent within 24 hours, otherwise reduce thermal power to less than or equal to 15% of rated within the next 8 hours.		
[Required Action A.1]			
[ACTION B]			

See ITS: 3.6.2.4

7. Drywell-Torus Differential Pressure	7. Drywell-Torus Differential Pressure
a. Differential pressure between the drywell and torus shall be maintained at equal to or greater than 1.7 psid except as specified in (1) and (2) below:	a. The pressure differential between the drywell and torus shall be verified to be within limits once per 8 hours. Instrument surveillances shall be performed as specified in Table 4.2-8.

Specification 3.6.1.1

A1

3.7 (Cont'd)	4.7 (Cont'd)
(1) The drywell to torus differential pressure shall be established within 24 hours of exceeding 15% rated thermal power during startup. The differential pressure may be reduced to less than the limit up to 24 hours prior to reducing thermal power to less than 15% of rated before a plant shutdown.	
(2) The differential pressure may be decreased to less than 1.7 psid for a maximum of four (4) hours during required operability testing of the HPCI, RCIC, and Suppression Chamber - Drywell Vacuum Breaker System.	
(3) If 3.7.A.7.a above cannot be met, restore the differential pressure to within limits within eight hours or reduce thermal power to less than 15% of rated within the next 12 hours.	

See ITS: 3.6.2.4

ACTION B

8.	If the specifications of 3.7.A.1 through 3.7.A.5 cannot be met the reactor shall be in the cold condition within 24 hours.	8. Not applicable.

Be in MODE 3 12 hours

M1

36

L2

Specification 3.6.1.3

A1

3.7 (Cont'd)

4.7 (Cont'd)

(1) The drywell to torus differential pressure shall be established within 24 hours of exceeding 15% rated thermal power during startup. The differential pressure may be reduced to less than the limit up to 24 hours prior to reducing thermal power to less than 15% of rated before a plant shutdown.

(2) The differential pressure may be decreased to less than 1.7 psid for a maximum of four (4) hours during required operability testing of the HPCI, RCIC, and Suppression Chamber - Drywell Vacuum Breaker System.

(3) If 3.7.A.7.a above cannot be met, restore the differential pressure to within limits within eight hours or reduce thermal power to less than 15% of rated within the next 12 hours.

see ITS: 3.6.2.4

8. If the specifications of ~~3.7.A.1 through 3.7.A.5~~ cannot be met the reactor shall be in the cold condition within ~~24~~ 36 hours.

8. ~~Not applicable.~~

[ACTION F]

MODE 3 12 hours

M5

L7

Specification 3.6.1.6

A1

3.7 (Cont'd)

4.7 (Cont'd)

(1) The drywell to torus differential pressure shall be established within 24 hours of exceeding 15% rated thermal power during startup. The differential pressure may be reduced to less than the limit up to 24 hours prior to reducing thermal power to less than 15% of rated before a plant shutdown.

(2) The differential pressure may be decreased to less than 1.7 psid for a maximum of four (4) hours during required operability testing of the HPCI, RCIC, and Suppression Chamber - Drywell Vacuum Breaker System.

(3) If 3.7.A.7.a above cannot be met, restore the differential pressure to within limits within eight hours or reduce thermal power to less than 15% of rated within the next 12 hours.

see ITS: 3.6.2.4

ACTION E

8. If the specifications of 3.7.A.1 through 3.7.A.5 cannot be met the reactor shall be in the cold condition within 24 hours.

8. Not applicable.

36

L2

MODE 3 in 12 hours

M4

Specification 3.C.1.7

A1

3.7 (Cont'd)	4.7 (Cont'd)
(1) The drywell to torus differential pressure shall be established within 24 hours of exceeding 15% rated thermal power during startup. The differential pressure may be reduced to less than the limit up to 24 hours prior to reducing thermal power to less than 15% of rated before a plant shutdown.	
(2) The differential pressure may be decreased to less than 1.7 psid for a maximum of four (4) hours during required operability testing of the HPCI, RCIC, and Suppression Chamber - Drywell Vacuum Breaker System.	
(3) If 3.7.A.7.a above cannot be met, restore the differential pressure to within limits within eight hours or reduce thermal power to less than 15% of rated within the next 12 hours.	

see ITS: 3.6.2.4

8.	If the specifications of 3.7.A.1 through 3.7.A.5 cannot be met the reactor shall be in the cold condition within 24 hours.	8. Not applicable.

ACTION C

36 — L2

MODE 3 in 12 hours

M4

Page 3 of 3

Specification 3.6.2.1

(A7)

3.7 (Cont'd)	4.7 (Cont'd)
(1) The drywell to torus differential pressure shall be established within 24 hours of exceeding 15% rated thermal power during startup. The differential pressure may be reduced to less than the limit up to 24 hours prior to reducing thermal power to less than 15% of rated before a plant shutdown.	
(2) The differential pressure may be decreased to less than 1.7 psid for a maximum of four (4) hours during required operability testing of the HPCI, RCIC, and Suppression Chamber - Drywell Vacuum Breaker System.	
(3) If 3.7.A.7.a above cannot be met, restore the differential pressure to within limits within eight hours or reduce thermal power to less than 15% of rated within the next 12 hours.	
8. If the specifications of 3.7.A.1 through 3.7.A.5 cannot be met the reactor shall be in the cold condition within 24 hours.	8. Not applicable.

see ITS: 3.6.2.4

ACTION B

Reduce THERMAL POWER to ≤ 1% RTP 12 hours

(12)

Specification 3.6.2.2

A1

3.7 (Cont'd)	4.7 (Cont'd)
(1) The drywell to torus differential pressure shall be established within 24 hours of exceeding 15% rated thermal power during startup. The differential pressure may be reduced to less than the limit up to 24 hours prior to reducing thermal power to less than 15% of rated before a plant shutdown.	
(2) The differential pressure may be decreased to less than 1.7 psid for a maximum of four (4) hours during required operability testing of the HPCI, RCIC, and Suppression Chamber - Drywell Vacuum Breaker System.	
(3) If 3.7.A.7.a above cannot be met, restore the differential pressure to within limits within eight hours or reduce thermal power to less than 15% of rated within the next 12 hours.	
8. If the specifications of 3.7.A.1 through 3.7.A.5 cannot be met the reactor shall be in the cold condition within 24 hours.	8. Not applicable.

see ITS: 3.6.2.4

ACTION B

MODE 3 in 12 hours

M.1

36 — L2

Specification 3.6.2.4 (A1)

3.7 (Cont'd)

4.7 (Cont'd)

Applicability

(1) The drywell to torus differential pressure shall be established within 24 hours of exceeding 15% rated thermal power during startup. The differential pressure may be reduced to less than the limit up to 24 hours prior to reducing thermal power to less than 15% of rated before a plant shutdown.

Note to SR 3.6.2.4.1

(2) The differential pressure may be decreased to less than 1.7 psid for a maximum of four (4) hours during required operability testing of the HPCI, RCIC, and Suppression Chamber-Drywell Vacuum Breaker System. (A1)

ACTION A

(3) If 3.7.A.7.a above cannot be met, restore the differential pressure to within limits within eight hours or reduce thermal power to less than 15% of rated within the next 12 hours.

ACTION B

8. If the specifications of 3.7.A.1 through 3.7.A.5 cannot be met the reactor shall be in the cold condition within 24 hours.

8. Not applicable.

see ITS:
3.6.1.1
3.6.1.2
3.6.1.3
3.6.1.6
3.6.1.7
3.6.2.1
3.6.2.2
and see also 3.7.A.3

RAI CTS 3.7.A.3-1

Specification 3.6.4.3

A1

3.7 (cont'd)

4.7 (cont'd)

[3.6.4.3] (SGT)

~~B.~~ Standby Gas Treatment System

[LCO 3.6.4.3] ~~A.~~ Except as specified in 3.7.B.2 below both circuits of the Standby Gas Treatment System shall be operable at all times when secondary containment integrity is required.

[Applicability]

A3

add: operations with a potential for draining the reactor vessel

M1

[3.6.4.3]

B. Standby Gas Treatment System

1. Standby Gas Treatment System surveillance shall be performed as indicated below:

[SR 3.6.4.3.2]

A2

moved to ITS Section 5.5

a. Once per 24 months, it shall be demonstrated that:

(1) Pressure drop across the combined high-efficiency and charcoal filters is less than 5.7 in. of water at 6,000 scfm, and

(2) Each 39kW heater shall dissipate greater than 29kW of electric power as calculated by the following expression:

$$P = \sqrt{3}EI$$

where:
P = Dissipated Electrical Power;
E = Measured line-to-line voltage in volts (RMS);
I = Average measured phase current in amperes (RMS).

Section 5.5 (A1)

3.7 (cont'd)

4.7 (cont'd)

ITS [5.5.8]

see ITS: 3.6.4.3

B. Standby Gas Treatment System

1. Except as specified in 3.7.B.2 below both circuits of the Standby Gas Treatment System shall be operable at all times when secondary containment integrity is required.

B. Standby Gas Treatment System

1. Standby Gas Treatment System surveillance shall be performed as indicated below:

a. Once per 24 months, it shall be demonstrated that:

[5.5.8.d]

(1) Pressure drop across the combined high-efficiency and charcoal filters is less than 5.7 in. of water at ~~4,000~~ 5400 to 6600 scfm, and (L3)

[5.5.8.e]

(2) Each ~~20kW~~ heater shall dissipate greater than 20kW of electric power as calculated by the following expression: (M2)

$$P = \sqrt{3}EI$$

where:
P = Dissipated Electrical Power;
E = Measured line-to-line voltage in volts (RMS);
I = Average measured phase current in amperes (RMS).

when tested in accordance with ASME N510 – 1975

CTS Amend 262

Specification 3.6.4.3

A1

4.7 (cont'd)

b. At least once during each scheduled secondary containment leak rate test, whenever a filter is changed, whenever work is performed that could affect the filter system efficiency, and at intervals not to exceed six months between refueling outages, it shall be demonstrated that:

(1) The removal efficiency of the particulate filters is not less than 99 percent based on a DOP test per ANSI N101.1-1972 para. 4.1.

(2) The removal efficiency of each of the charcoal filters is not less than 99 percent based on a Freon test.

c. At least once per 24 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire, or chemical release, that could adversely affect the ability of the charcoal to perform its intended function, in any ventilation zone communicating with the system, verify:

(1) Within 31 days after removal, that a laboratory test of a sample of the charcoal adsorber, when obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows methyl iodide penetration to be less than or equal to 5 percent when tested in accordance with ASTM D3803-1989 at a temperature of 30 degrees C (86 degrees F), and a relative humidity of at least 70 percent.

(2) Within 31 days of completing 720 hours of charcoal adsorber operation, that a laboratory test of a sample of the charcoal adsorber, when obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows

A2

moved to ITS Section 5.5

CTS Amend 269

JAFNPP

4.7 (cont'd)

[5.5.8] b. At least once during each scheduled secondary containment leak rate test, whenever a filter is changed, whenever work is performed that could affect the filter system efficiency, and at intervals not to exceed six months between refueling outages of 24 it shall be demonstrated that:

[5.5.8.a] (1) The removal efficiency of the particulate filters is not less than 99 percent based on a DOP test per ANSI N101.1-1972 para. 4.d.

[5.5.8.b] (2) The removal efficiency of each of the charcoal filters is not less than 99 percent based on a Freon test

[5.5.8.c] c. At least once per 24 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire, or chemical release that could adversely affect the ability of the charcoal to perform its intended function in any ventilation zone communicating with the system, verify:

(1) Within 31 days after removal that a laboratory test of a sample of the charcoal adsorber, when obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows methyl iodide penetration to be less than or equal to 5 percent when tested in accordance with ASTM D3803-1989 at a temperature of 30 degrees C [86 degrees F], and a relative humidity of at least 70 percent.

(2) Within 31 days after completing 720 hours of charcoal adsorber operation, that a laboratory test of a sample of the charcoal adsorber, when obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows

M2 Section 5.5 following painting, fire, or chemical release that could adversely affect the ability of the filter system to perform the intended function

A1

RAI 5.5-2

L1

L2

RAI 5.5-3

M2 when tested in accordance with Sections C.5.a and C.5.c of Regulatory Guide 1.52, Revision 2, at a flow rate of 5400 to 6600 scfm

M2 When tested in accordance with Sections C.5.a and C.5.d of Regulatory Guide 1.52, Revision 2, at a flow rate of 5400 to 6600 scfm

that could affect the filter system efficiency

A13

LA4

RAI 5.5-2

CTS Amend 269

Specification 3.6.4.3

A1

CTS Amend 269

A2

Moved to ITS Section 5.5

3.7 (cont'd)

4.7 (cont'd)

the methyl iodide penetration to be less than or equal to 5 percent when tested in accordance with ASTM D3803-1989 at a temperature of 30 degrees C [86 degrees F], and a relative humidity of at least 70 percent.

L4

[SR 3.6.4.3.3]

Once per 24 months, automatic initiation of each branch of the Standby Gas Treatment System shall be demonstrated.

on an actual or simulated initiation signal

A4

[SR 3.6.4.3.4]

Once per 24 months, manual operability of the bypass valve for filter cooling shall be demonstrated.

RAI 3.6.4.3-2
RAI 3.6.4.3-3

f. Standby Gas Treatment System Instrumentation Calibration:

differential pressure switches	Once per 24 Months

LB1

A5

2. When one circuit of the Standby Gas Treatment System becomes inoperable, the operable circuit shall be verified to be operable immediately and daily thereafter.

RAI 3.6.4.3-6

RAI 3.6.4.3-5

[ACTION A]

2. From and after the date that one circuit of the Standby Gas Treatment System is made or found to be inoperable for any reason, the following would apply:

[Applicability]

MODES 1, 2, or 3

If in Start-up/Hot Standby, Run or Hot Shutdown mode, reactor operation or irradiated fuel handling is permissible only during the succeeding 7 days unless such circuit is sooner made operable, provided that during such 7 days all active components of the other Standby Gas Treatment Circuit shall be operable.

[Required Action A.1]

[Condition D]

CTS Amend 269

3.7 (cont'd)

4.7 (cont'd)

(A12) add SR 3.0.2 and SR 3.0.3 applicability

the methyl iodide penetration to be less than or equal to 5 percent when tested in accordance with ASTM D3803-1989 at a temperature of 30 degrees C [86 degrees F], and a relative humidity of at least 70 percent.

d. Once per 24 months, automatic initiation of each branch of the Standby Gas Treatment System shall be demonstrated.

e. Once per 24 months, manual operability of the bypass valve for filter cooling shall be demonstrated.

f. Standby Gas Treatment System Instrumentation Calibration:

differential pressure switches	Once per 24 Months

See ITS 3.6.4.3

2. From and after the date that one circuit of the Standby Gas Treatment System is made or found to be inoperable for any reason, the following would apply:

   a. If in Start-up/Hot Standby, Run or Hot Shutdown mode, reactor operation or irradiated fuel handling is permissible only during the succeeding 7 days unless such circuit is sooner made operable, provided that during such 7 days all active components of the other Standby Gas Treatment Circuit shall be operable.

2. When one circuit of the Standby Gas Treatment System becomes inoperable, the operable circuit shall be verified to be operable immediately and daily thereafter.

CTS Amend 269

CTS Amend 269

Specification 3.6.1.3

A1

3.7 (cont'd)	4.7 (cont'd)
b. If in Refuel or Cold Shutdown mode, reactor operation or irradiated fuel handling is permissible only during the succeeding 31 days unless such circuit is sooner made operable, provided that during such 31 days all active components of the other Standby Gas Treatment Circuit shall be operable.	See ITS 3.6.4.3
3. If Specifications 3.7.B.1 and 3.7.B.2 are not met, the reactor shall be placed in the cold condition and irradiated fuel handling operations and operations that could reduce the shutdown margin shall be prohibited.	3. Intentionally Blank
4. Whenever primary containment integrity is required as specified in Section 3.7.A.2. Valve 27MOV-121 shall be used for inerting or deinerting.	[SR 3.6.1.3.1] 4. Valve 27MOV-120 shall be verified closed when containment integrity is established, and then once per month.

M7

20 and 24 inch vent and purge valves

[Note to SR 3.6.1.3.1]

CTS Amend 269

Specification 3.6.4.3

CTS Amend 269

3.7 (cont'd)	4.7 (cont'd)
[Applicability] If in Refuel or Cold Shutdown mode, reactor operation or irradiated fuel handling is permissible only during the succeeding (7) days unless such circuit is sooner made operable, provided that during such (7) days all active components of the other Standby Gas Treatment Circuit shall be operable.	CORE ALTERATION and OPDRVs — M1
[Required Action A.1]	7 — M2
[Condition E]	
[ACTION B] [ACTION D] — M3 M4 — MODE 3 in 12 hours, MODE 4 in 36 hours	M4 — LCO 3.0.3 — M1
3. If Specifications 3.7.B.1 and 3.7.B.2 are not met, the reactor shall be placed in the cold condition and irradiated fuel handling operations and operations that could reduce the shutdown margin shall be prohibited. [ACTION C] [ACTION E]	3. Intentionally Blank
4. Whenever primary containment integrity is required as specified in Section 3.7.A.2. Valve 27MOV-121 shall be used for inerting or deinerting.	4. Valve 27MOV-120 shall be verified closed when containment integrity is established, and then once per month.

M5 — L1 — add Required Action C Note; add Required Action C.1; add Required Action C.2.3 — [ACTION C]

M5 — [ACTION E] — M1 — add Required Action E.3; add Required Action E.1 Note

A1

See ITS 3.6.1.3

M6 — add proposed SR 3.6.4.3.1

Specification 3.6.4.1

[3.6.4.1]

2. Secondary Containment

[LCO 3.6.4.1] a. Secondary containment integrity shall be maintained during all modes of plant operation, except when all of the following conditions are met:

[Applicability]

a. The reactor is subcritical and Specification 3.3.A is met.

b. The reactor water temperature is below 212°F, and the Reactor Coolant System is vented.

c. No activity is being performed which can reduce the shutdown margin below that specified in Specification 3.3.A.

d. The fuel cask or irradiated fuel is not being moved in the reactor building.

Operations with a potential for draining the reactor vessel (OADRVs)

2. If Specification 3.7.C.1 cannot be met, procedures shall be initiated to establish conditions listed in Specification 3.7.C.1 within 24 hr.

(see page 2 of 4)

C. Secondary Containment

1. Secondary containment surveillance shall be performed as indicated below:

a. A preoperational secondary containment capability test shall be conducted after isolating the reactor building and placing either Standby Gas Treatment System filter train in operation. Such tests shall demonstrate the capability to maintain a 1/4 in. of water vacuum as indicated by plant instrumentation under calm wind conditions with a filter train flow rate of not more than 6,000 cfm.

b. Additional tests shall be performed during the first operating cycle under an adequate number of different environmental wind conditions to enable valid extrapolation of the test results.

Page 1 of 4

Specification 3.6.4.1

(see page 1 of 4)

C. Secondary Containment

1. Secondary containment integrity shall be maintained during all modes of plant operation, except when all of the following conditions are met:

a. The reactor is subcritical and Specification 3.3.A is met.

b. The reactor water temperature is below 212°F, and the Reactor Coolant System is vented.

c. No activity is being performed which can reduce the shutdown margin below that specified in Specification 3.3.A.

d. The fuel cask or irradiated fuel is not being moved in the reactor building.

2. If Specification 3.7.C.1 cannot be met, procedures shall be initiated to establish conditions listed in Specification 3.7.C.1 within 24 hr.

C. Secondary Containment

1. Secondary containment surveillance shall be performed as indicated below:

a. A preoperational secondary containment capability test shall be conducted after isolating the reactor building and placing either Standby Gas Treatment System filter train in operation. Such tests shall demonstrate the capability to maintain a 1/4 in. of water vacuum as indicated by plant instrumentation under calm wind conditions with a filter train flow rate of not more than 6,000 cfm.

b. Additional tests shall be performed during the first operating cycle under an adequate number of different environmental wind conditions to enable valid extrapolation of the test results.

Page 2 of 4

Revision E

Specification 3.6.4.2

3.7 (cont'd) JAFNPP 4.7 (cont'd)

[3.6.4.2]

C. Secondary Containment

[LCO 3.6.4.2]

1. Secondary containment integrity shall be maintained during all modes of plant operation, except when all of the following conditions are met:

[Applicability]

a. The reactor is subcritical and Specification 3.3.A is met.

b. The reactor water temperature is below 212°F, and the Reactor Coolant System is vented.

c. No activity is being performed which can reduce the shutdown margin below that specified in Specification 3.3.A.

d. The fuel cask or irradiated fuel is not being moved in the reactor building.

2. If Specification 3.7.C.1 cannot be met, procedures shall be initiated to establish conditions listed in Specification 3.7.C.1 within 24 hr.

(see page 5 of 7)

C. Secondary Containment

1. Secondary containment surveillance shall be performed as indicated below:

a. A preoperational secondary containment capability test shall be conducted after isolating the reactor building and placing either Standby Gas Treatment System filter train in operation. Such tests shall demonstrate the capability to maintain a 1/4 in. of water vacuum as indicated by plant instrumentation under calm wind conditions with a filter train flow rate of not more than 6,000 cfm.

b. Additional tests shall be performed during the first operating cycle under an adequate number of different environmental wind conditions to enable valid extrapolation of the test results.

M1 Each SCIV shall be OPERABLE.

Isolation Valves (SCIVs)

A1 A2 A3 A4

Operations with a potential for draining the reactor vessel

M2

L1 L2 L3 L4 L5 L8

See ITS 3.6.4.1

RAI 3.6.K2-7

Add proposed ACTION Note 1

Add proposed ACTION Note 3

Add proposed ACTION A

Add proposed ACTION B

add proposed ACTION Note 2

M5 Add proposed Required Action A.2

Specification 3.6.4.2

A1

C. Secondary Containment

1. Secondary containment integrity shall be maintained during all modes of plant operation, except when all of the following conditions are met:

M3

MODE 3 IN 12 hours

[Required Action C.1] a. The reactor is subcritical and Specification 3.3.A is met. A2

[Required Action C.2] b. The reactor water temperature is below 212°F, and the Reactor Coolant System is vented. L5

L1

MODE 4 IN 36 hours

[Required Action D.2] c. No activity is being performed which can reduce the shutdown margin below that specified in Specification 3.3.A. LA1

L9

add Required Action D.1 Note

[Required Action D.1] d. The fuel cask or irradiated fuel is not being moved in the reactor building.

immediately

M4

[ACTION C] [ACTION D] e. If Specification 3.7.C.1 cannot be met, procedures shall be initiated to establish conditions listed in Specification 3.7.C.1 within 24 hr.

MODE 3 IN 12 hours M3

MODE 4 IN 36 hours L1

immediately M4

See ITS: 3.6.4.1

C. Secondary Containment

1. Secondary containment surveillance shall be performed as indicated below:

a. A preoperational secondary containment capability test shall be conducted after isolating the reactor building and placing either Standby Gas Treatment System filter train in operation. Such tests shall demonstrate the capability to maintain a 1/4 in. of water vacuum as indicated by plant instrumentation under calm wind conditions with a filter train flow rate of not more than 6,000 cfm.

b. Additional tests shall be performed during the first operating cycle under an adequate number of different environmental wind conditions to enable valid extrapolation of the test results.

RAI 3.6.4.2-2

Add proposed SR 3.6.4.2.1 M7

Add proposed SR 3.6.4.2.2 M8

add Required Action D.3 M2

Specification 3.6.4.3

A1

3.7 (cont'd)

JAFNPP

4.7 (cont'd)

see ITS: 3.6.4.1, 3.6.4.2

C. Secondary Containment

[Applicability]

1. Secondary containment integrity shall be maintained during all modes of plant operation, except when all of the following conditions are met:

a. The reactor is subcritical and Specification 3.3.A is met. — A3

b. The reactor water temperature is below 212°F, and the Reactor Coolant System is vented. — A3, L3

c. No activity is being performed which can reduce the shutdown margin below that specified in Specification 3.3.A. — A3

add: operations with a potential for draining the reactor vessel — M1

d. The fuel cask or irradiated fuel is not being moved in the reactor building. — LA1

2. If Specification 3.7.C.1 cannot be met, procedures shall be initiated to establish conditions listed in Specification 3.7.C.1 within 24 hr.

see ITS: 3.6.4.1, 3.6.4.2

see ITS: 3.6.4.1

C. Secondary Containment

1. Secondary containment surveillance shall be performed as indicated below:

a. A preoperational secondary containment capability test shall be conducted after isolating the reactor building and placing either Standby Gas Treatment System filter train in operation. Such tests shall demonstrate the capability to maintain a 1/4 in. of water vacuum as indicated by plant instrumentation under calm wind conditions with a filter train flow rate of not more than 6,000 cfm.

b. Additional tests shall be performed during the first operating cycle under an adequate number of different environmental wind conditions to enable valid extrapolation of the test results.

Specification 3.6.1.3

A1

A8

except reactor building-to-suppression chamber vacuum breakers

3.7 [cont'd]

JAFNPP

4.7 [cont'd]

sec JIS: 3.6.4.1

c. Secondary containment capability to maintain a 1/4 in. of water vacuum under calm wind conditions with a filter train flow rate of not more than 6,000 cfm, shall be demonstrated at each refueling outage prior to refueling.

add second Applicability

M1

MODES 1, 2 and 3

[3.6.1.3]

Primary Containment Isolation Valves

[Applicability]

1. Whenever primary containment integrity is required per 3.7.A.2, containment isolation valves and all instrument line excess flow check valves shall be operable, ~~except as specified in 3.7.D.2.~~ The containment vent and purge valves shall be limited to opening angles less than or equal to that specified below:

[LCO 3.6.1.3]

A8

Valve Number	Maximum Opening Angle
27AOV-111	40°
27AOV-112	40°
27AOV-113	40°
27AOV-114	50°
27AOV-115	50°
27AOV-116	50°
27AOV-117	50°
27AOV-118	50°

LA6

[3.6.1.3]

Primary Containment Isolation Valves

A1

1. The primary containment isolation valves surveillance shall be performed as follows:

A9

A9

24 months

Item	Frequency	
a. The operable isolation valves that are power operated and automatically initiated shall be tested for simulated automatic initiation and for closure time.	In accordance with the Inservice Testing Program	actual or L1
b. Instrument line excess flow check valves shall be tested for proper operation.	In accordance with the Inservice Testing Program	
All normally open power-operated isolation valves (except for the main steam isolation valves) shall be fully closed and reopened.	In accordance with the Inservice Testing Program	

[3.6.1.3.7]

[SR 3.6.1.3.5]

[SR 3.6.1.3.8]

[SR 3.6.1.3.5]

[3.6.1.3.5]

RAI 3.6.1.3-3

to actuate to the isolation position on a simulated instrument line break

M2

add ACTIONS Note 2, 3 and 4

A2

A10

Specification 3.6.4.1

A1

JAFNPP

3.7 (cont'd)

4.7 (cont'd)

SR 3.6.4.1.4 → (2)

M4 — for 1 hour →

LA2

Secondary containment capability to maintain ≥ 1/4 in. of water vacuum under calm wind conditions with a filter train flow rate of not more than 6,000 cfm, shall be demonstrated at each refueling outage prior to refueling

L4

7

24 months

on a STAGGERED TEST BASIS

M5

D. Primary Containment Isolation Valves

1. Whenever primary containment integrity is required per 3.7.A.2, containment isolation valves and all instrument line excess flow check valves shall be operable, except as specified in 3.7.D.2. The containment vent and purge valves shall be limited to opening angles less than or equal to that specified below:

Valve Number	Maximum Opening Angle
27AOV-111	40°
27AOV-112	40°
27AOV-113	40°
27AOV-114	50°
27AOV-115	50°
27AOV-116	50°
27AOV-117	50°
27AOV-118	50°

D. Primary Containment Isolation Valves

1. The primary containment isolation valves surveillance shall be performed as follows:

	Item	Frequency
a.	The operable isolation valves that are power operated and automatically initiated shall be tested for simulated automatic initiation and for closure time.	In accordance with the Inservice Testing Program
b.	Instrument line excess flow check valves shall be tested for proper operation.	In accordance with the Inservice Testing Program
c.	All normally open power-operated isolation valves (except for the main steam isolation valves) shall be fully closed and reopened.	In accordance with the Inservice Testing Program

See ITS 3.6.1.3

M6 — add proposed SR 3.6.4.1.1 →

M7 — add proposed SR 3.6.4.1.2 →

M8 — add proposed SR 3.6.4.1.3 →

Amendment No. ~~154, 173, 195, 232, 233~~ 242

185

Specification 3.10.8

A1

JAFNPP

3.7 cont'd

L1

MODE 5 with the reactor mode switch in startup/hot standby position

D. Primary Containment Isolation Valves

M3

A2

LCO 3.10.8

1. Whenever primary containment integrity is required per 3.7.A.2 containment isolation valves and all instrument line excess flow check valves shall be operable, except as specified in 3.7.D.2. The containment vent and purge valves shall be limited to opening angles less than or equal to that specified below:

Valve Number	Maximum Opening Angle
27AOV-111	40°
27AOV-112	40°
27AOV-113	40°
27AOV-114	50°
27AOV-115	50°
27AOV-116	50°
27AOV-117	50°
27AOV-118	50°

See ITS: 3.6.1.3

4.7 cont'd

See ITS: 3.6.4.1

c. Secondary containment capability to maintain a 1/4 in. of water vacuum under calm wind conditions with a filter train flow rate of not more than 6,000 cfm, shall be demonstrated at each refueling outage prior to refueling.

D. Primary Containment Isolation Valves

1. The primary containment isolation valves surveillance shall be performed as follows:

	Item	Frequency
a.	The operable isolation valves that are power operated and automatically initiated shall be tested for simulated automatic initiation and for closure time.	In accordance with the Inservice Testing Program
b.	Instrument line excess flow check valves shall be tested for proper operation.	In accordance with the Inservice Testing Program
c.	All normally open power-operated isolation valves (except for the main steam isolation valves) shall be fully closed and reopened.	In accordance with the Inservice Testing Program

specification 3.6.1.3 A1

3.7 (cont'd)

add Proposed ACTION B L3

add Proposed ACTION C L4

add Required Action A.2 and Required Action C.2 Notes L11

add Note to Condition A A3

[ACTION A] 2. With one or more of the containment isolation valves inoperable, maintain at least one isolation valve operable in each affected penetration that is open and:

a. Restore the inoperable valve(s) to operable status within 4 hours; or A4

b. Isolate each affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the closed position. Isolation valves closed to satisfy these requirements may be reopened on an intermittent basis under administrative control; or

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

Required Action A.1

or check valve with flow through the valve secured or closed and deactivated automatic valve. L6

8 hours for main steam lines L5

3. If Specifications 3.7.D.1 or 3.7.D.2 cannot be met the reactor shall be in the cold condition within 24 hrs.

M5 mode 3 in 12 hours 36

add ACTION G M1 L7

4.7 (cont'd)

Item	Surveillance	Frequency
d. [SR 3.6.1.3.6]	Fast close each main steam isolation valve, and verify closure time. add limits M3	In accordance with the Inservice Testing Program

CTS Amend 260

TSTF-269, R2

2. Whenever a containment isolation valve is inoperable, the position of at least one other valve in each line having an inoperable valve shall be recorded daily A5 L8

Required Action A.2 and C.2

add proposed SRs:
SR 3.6.1.3.2
SR 3.6.1.3.3
SR 3.6.1.3.4
SR 3.6.1.3.9 M4

TSTF-30, R3 (AI 3.6.1.3-5)

CTS 3/4.8 1

3.8 LIMITING CONDITIONS FOR OPERATION

3.8 MISCELLANEOUS RADIOACTIVE MATERIALS SOURCES

Applicability:

Applies to the handling and use of sealed special nuclear, source and by-product material at all times.

Objective:

To assure that leakage from by-product, source and special nuclear radioactive material sources does not exceed allowable limits.

Specification:

Each sealed source containing radioactive material either in excess of 100 microcuries of beta and/or gamma emitting material or 5 microcuries of alpha emitting material, shall have removable contamination of less than or equal to 0.005 microcuries.

A. With a sealed source having removable contamination in excess of the above limit, immediately withdraw the sealed source from use, and either:

   1. Decontaminate and repair the sealed source, or

   2. Dispose of the sealed source in accordance with applicable regulations.

R1

4.8 SURVEILLANCE REQUIREMENTS

4.8 MISCELLANEOUS RADIOACTIVE MATERIALS SOURCES

Applicability:

Applies to the surveillance requirements of sealed special nuclear, source and by-product materials.

Objective:

To specify the surveillances to be applied to sealed special nuclear, source and by-product materials.

Specification:

Tests for leakage and/or contamination shall be conducted as follows:

A. Each sealed source, except startup sources subject to core flux, containing radioactive material, other than Hydrogen 3, with a half-life greater than thirty days and in any form other than gas shall be tested for leakage and/or contamination at intervals not to exceed six months.

B. The periodic leak test required does not apply to sealed sources that are stored and not being used. The sources excepted from this test shall be tested for leakage prior to any use or transfer to another user unless they have been leak tested within six months prior to the date of use or transfer. In the absence of a certificate from a transferor indicating that a test has been made within six months prior to the transfer, sealed source shall not be put into use until tested.

C. Startup sources shall be leak tested within 31 days prior to being subjected to core flux or installed in the core and following repair or maintenance to the source.

D. The test method shall have a detection sensitivity of at least 0.005 microcuries per test sample. Testing shall be performed by the licensee or by other persons specifically authorized by the NRC or an agreement State.

Specification 3.8.1

AT

JAFNPP

3.9 LIMITING CONDITIONS FOR OPERATION	4.9 SURVEILLANCE REQUIREMENTS
3.9 AUXILIARY ELECTRICAL SYSTEMS	**4.9 AUXILIARY ELECTRICAL SYSTEMS**
Applicability:	**Applicability:**
Applies to the auxiliary electrical systems.	Applies to the periodic testing requirements of the auxiliary electrical systems.
Objective:	**Objective:**
To assure an adequate supply of electrical power for operation of those systems required for safety.	Verify the operability of the auxiliary electrical system.
Specifications: (AC Power Sources-Operating)	**Specifications:**
[3.8.1] A. Normal and Reserve A-C Power Systems	A. Deleted
[App] [LCO 3.8.1] The reactor shall not be made critical unless all of the following requirements are satisfied: — MODES 1, 2 and 3 — M1	
1. Power is available to the emergency buses from the following power sources: — OPERABLE — LA1	
[LCO 3.8.1.a] a. the two 115 kv lines and reserve station service transformers — LA1 — Qualified circuits between the offsite transmission network and the plant's Class 1E AC Electrical Power Distribution System	
[LCO 3.8.1.b] b. the two Emergency Diesel Generator Systems.	
2. a. 4,160 v buses 10,500 and 10,600 are energized.	
b. 600 v buses 11,500, 12,500, 11,600 and 12,600 are energized. — see ITS 3.8.7	

add SRs 3.8.1.4, 3.8.1.5, 3.8.1.7, 3.8.1.8, 3.8.1.11, 3.8.1.13 — M2

G

G RAI 3.8.1-19

Page 1 of 11

Revision C

Specification 3.8.7

A1

JAFNPP

3.9 LIMITING CONDITIONS FOR OPERATION

3.9 AUXILIARY ELECTRICAL SYSTEMS

Applicability:

Applies to the auxiliary electrical systems.

Objective:

To assure an adequate supply of electrical power for operation of those systems required for safety.

Specification:

A. Normal and Reserve AC Power Systems

The reactor shall not be made critical unless all of the following requirements are satisfied:

1. Power is available to the emergency buses from the following power sources:
   a. the two 115 kv lines and reserve station service transformers
   b. the two Emergency Diesel Generator Systems.
2. a. 4,160 v buses 10,500 and 10,600 are energized.
   b. 600 v buses 11,500, 12,500, 11,600 and 12,600 are energized.

4.9 SURVEILLANCE REQUIREMENTS

4.9 AUXILIARY ELECTRICAL SYSTEMS

Applicability:

Applies to the periodic testing requirements of the auxiliary electrical systems.

Objective:

Verify the operability of the auxiliary electrical system.

Specification:

A. Deleted

3.8.7 — Distribution Systems - Operating

[Applicability]

Modes 1, 2, and 3

M1

[SR 3.8.7.1]

every 7 days

M2

See ITS: 3.8.1

LA1

Division 1 and 2 AC electrical power distribution subsystems

[LCO 3.8.7]

LA1

LA1

A2

OPERABLE

LA1

215

L1

add ACTION A to restore in 8 hours AND 16 hours from failure to meet LCO

M3

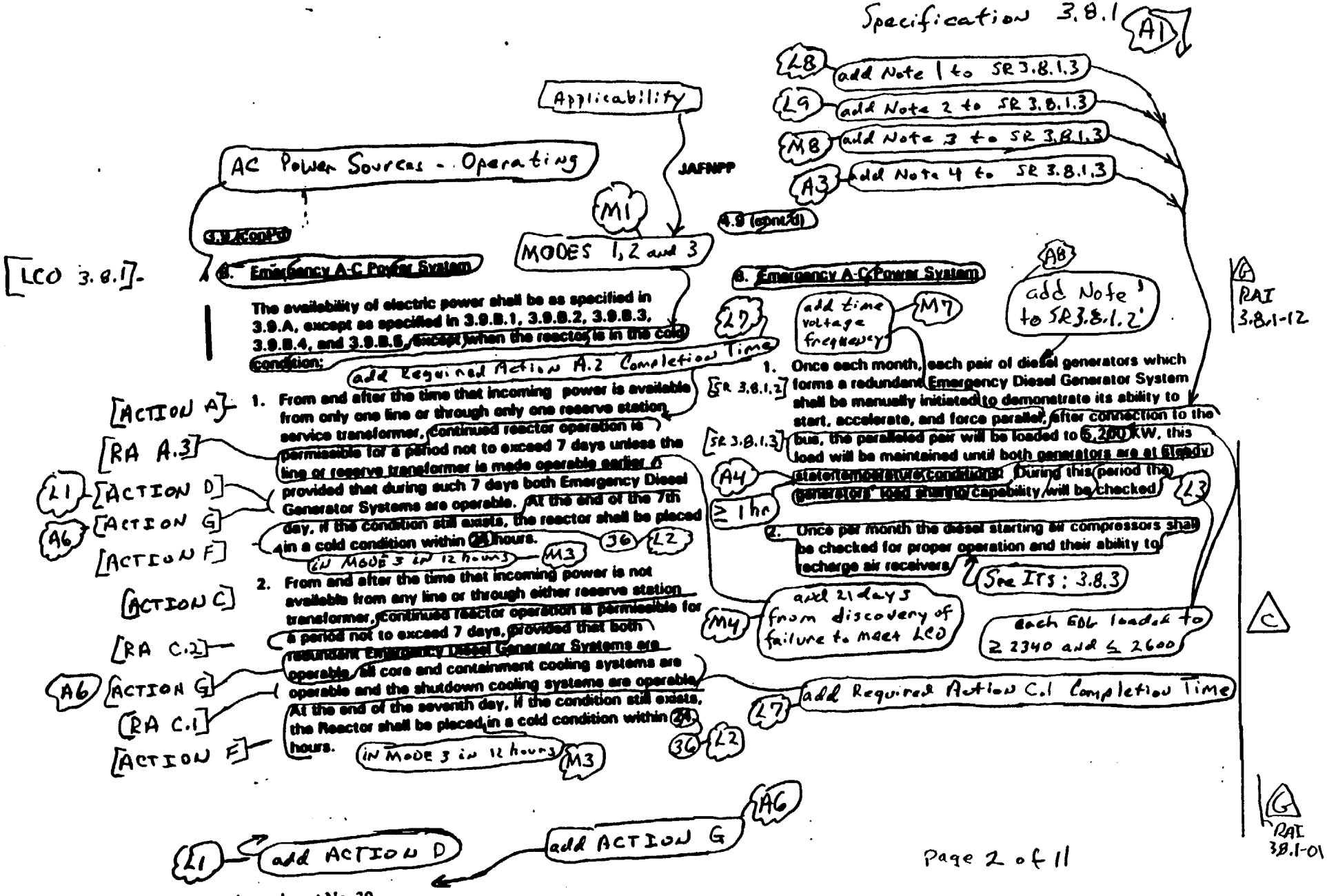
add ACTION C.1 to MODE 3 within 12 hours

L2

add ACTION C.2 to MODE 4 within 36 hours

add ACTION D for loss of function

A3


Specification 3.8.1
A1
Applicability
JAFNPP
AC Power Sources - Operating
M1
MODES 1, 2 and 3
4.9 (opnl'd)
G.E.Coop'd
LCO 3.8.1
8. Emergency A-C Power System
The availability of electric power shall be as specified in 3.9.A, except as specified in 3.9.B.1, 3.9.B.2, 3.9.B.3, 3.9.B.4, and 3.9.B.5, except when the reactor is in the cold condition:
L8 add Note 1 to SR 3.8.1.3
L9 add Note 2 to SR 3.8.1.3
M8 add Note 3 to SR 3.8.1.3
A3 add Note 4 to SR 3.8.1.3
A8 add Note 5 to SR 3.8.1.2
G RAI 3.8.1-12
L7 add Required Action A.2 Completion Time
ACTION A
1. From and after the time that incoming power is available from only one line or through only one reserve station service transformer, continued reactor operation is permissible for a period not to exceed 7 days unless the line or reserve transformer is made operable earlier, provided that during such 7 days both Emergency Diesel Generator Systems are operable. At the end of the 7th day, if the condition still exists, the reactor shall be placed in a cold condition within 24 hours.
RA A.3
L1 ACTION D
A6 ACTION G
ACTION F
J6 L2
in MODE 3 in 12 hours
M3
2. From and after the time that incoming power is not available from any line or through either reserve station transformer, continued reactor operation is permissible for a period not to exceed 7 days, provided that both redundant Emergency Diesel Generator Systems are operable, all core and containment cooling systems are operable and the shutdown cooling systems are operable. At the end of the seventh day, if the condition still exists, the Reactor shall be placed in a cold condition within 24 hours.
ACTION C
RA C.2
A6 ACTION G
RA C.1
ACTION F
36 L2
in MODE 3 in 12 hours
M3
8. Emergency A-C Power System
add time voltage frequency
M7
SR 3.8.1.2
1. Once each month, each pair of diesel generators which forms a redundant Emergency Diesel Generator System shall be manually initiated to demonstrate its ability to start, accelerate, and force parallel. After connection to the bus, the paralleled pair will be loaded to 6,200 KW. this load will be maintained until both generators are at steady state temperature conditions. During this period the generators' load sharing capability will be checked.
SR 3.8.1.3
A4
≥ 1 hr
L3
2. Once per month the diesel starting air compressors shall be checked for proper operation and their ability to recharge air receivers.
See ITS : 3.8.3
M4
and 21 days from discovery of failure to meet LCO
Each EDG loaded to ≥ 2340 and ≤ 2600
C
L7 add Required Action C.1 Completion Time
G RAI 3.8.1-01
L1 add ACTION D
A6 add ACTION G

see 3.8.1

Specification 3.8.3 (A1)

3.9 (cont'd) JAFNPP	4.9 (cont'd)
B. Emergency A-C Power System	**B. Emergency A-C Power System**
The availability of electric power shall be as specified in 3.9.A, except as specified in 3.9.B.1, 3.9.B.2, 3.9.B.3, and 3.9.B.4, except when the reactor is in the cold condition.	
1: From and after the time that incoming power is available from only one line or through only one reserve station service transformer, continued reactor operation is permissible for a period not to exceed 7 days unless the line or reserve transformer is made operable earlier provided that during such 7 days both Emergency Diesel Generator Systems are operable. At the end of the 7th day, if the condition still exists, the reactor shall be placed in a cold condition within 24 hours.	1. Once each month, each pair of diesel generators which forms a redundant Emergency Diesel Generator System shall be manually initiated to demonstrate its ability to start, accelerate, and force parallel; after connection to the bus, the paralleled pair will be loaded to 5,200 KW, this load will be maintained until both generators are at steady state temperature conditions. During this period the generators' load sharing capability will be checked.
2. From and after the time that incoming power is not available from any line or through either reserve station transformer, continued reactor operation is permissible for a period not to exceed 7 days, provided that both redundant Emergency Diesel Generator Systems are operable, all core and containment cooling systems are operable and the shutdown cooling systems are operable. At the end of the seventh day, if the condition still exists, the Reactor shall be placed in a cold condition within 24 hours.	[SR 3.8.3.4] 2. Once per month the diesel starting air compressors shall be checked for proper operation and their ability to recharge air receivers. (M4) (≥180 psig) (L3)

(M4) add proposed LCO ACTION E and F for starting air