ATTACHMENT 3

ITS 3.3.3, Post Accident Monitoring (PAM) Instrumentation

Current Technical Specification (CTS) Markup and Discussion of Changes (DOCs)

ITS 3.3.3

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

POST-ACCIDENT INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

LCO 3.3.3 — 3.3.3.8 The post-accident monitoring instrumentation channels shown in Table 3.3-11 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTION: — Add proposed ACTIONS Note 2 — A.2

ACTIONS A and C — a. With the number of OPERABLE post-accident monitoring channels less than required by Table 3.3-11 (except item 8), either restore the inoperable channel to OPERABLE status within 30 days, or be in HOT SHUTDOWN within the next 12 hours. — M.1 — L.1 — L.2

ACTIONS B, E, F and G — Add proposed Required Action F.1 — M.2

ACTION A — b. With the number of OPERABLE post-accident monitoring channels one less than required by Table 3.3-11, item 8, Refueling Water Storage Tank Water Level:

1. Either restore the inoperable channel to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours, and — 30 days — L.3

ACTION B — Add proposed Required Action B.1 — L.1

~~2. Within one hour, bypass the Residual Heat Removal Pump trip function from the Refueling Water Storage Tank Water Level for the pump associated with the out-of-service instrument.~~ — L.4

Add proposed ACTIONS C and F — L.5

ACTIONS Note 1 — c. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

SR Table Note — 4.3.3.8 Each post-accident monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3-7.

ITS

A.1

Table 3.3.3-1

TABLE 3.3-11

POST-ACCIDENT MONITORING INSTRUMENTATION

ITS		INSTRUMENT	MINIMUM CHANNELS OPERABLE	
8	1.	Containment Pressure	2	
3	2.	Reactor Coolant Outlet Temperature- T_{HOT} (Wide Range)	2	
4	3.	Reactor Coolant Inlet Temperature- T_{COLD} (Wide Range)	2	
5	4.	Reactor Coolant Pressure-Wide Range	2	
12	5.	Pressurizer Water Level	2	
2	6.	Steam Line Pressure	2/Steam Generator	
22	7.	Steam Generator Water Level- Narrow Range	1/Steam Generator (2)	M.3
24	8.	Refueling Water Storage Tank Water Level	2	
	9.	Boric Acid Tank Solution Level	1	R.1
19	10.	Auxiliary Feedwater Flow Rate	1/Steam Generator*	
25	11.	Reactor Coolant System Subcooling Margin Monitor	1**	LA.1
	12.	PORV Position Indicator -- Limit Switches***	1/Valve	R.1
	13.	PORV Block Valve Position Indicator -- Limit Switches	1/Valve	R.1
	14.	Safety Valve Position Indicator -- Acoustic Monitor	2 Out of 3 Total	R.1
15, 16, 17, 18	15.	Incore Thermocouples (Core Exit Thermocouples)	2/Core Quadrant	
6	16.	Reactor Coolant Inventory Tracking System (Reactor Vessel Level Indication)	One Train (2) (3 Channels/Train)	LA.1, M.3
	17.	Containment Sump Level	1	R.1
7	18.	Containment Water Level	2	

Footnote (d) * Steam Generator Water Level Channels can be used as a substitute for the corresponding auxiliary feedwater flow rate channel instrument.

** PPC subcooling margin readout can be used as a substitute for the subcooling monitor instrument. LA.1

*** Acoustic monitoring of PORV position (1 channel per three valves - headered discharge) can be used as a substitute for the PORV Indicator - Limit Switches instruments. R.1

Add proposed Functions 1, 9, 13, 14, 20, 21, 23, 26, 27, and 28 M.4

ITS 3.3.3

A.1

ITS

Table 3.3.3-1

TABLE 4.3-7

POST-ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

ITS	INSTRUMENT	CHANNEL CHECK (SR 3.3.3.1)	CHANNEL CALIBRATION (SR 3.3.3.3)
8	1. Containment Pressure	M	R
3	2. Reactor Coolant Outlet Temperature-T_{HOT} (Wide Range)	M	R
4	3. Reactor Coolant Inlet Temperature-T_{COLD} (Wide Range)	M	R
5	4. Reactor Coolant Pressure-Wide Range	M	R
12	5. Pressurizer Water Level	M	R
2	6. Steam Line Pressure	M	R
22	7. Steam Generator Water Level-Narrow Range	M	R
24	8. RWST Water Level	M	R
	~~9. Boric Acid Tank Solution Level~~	~~M~~	~~R~~
19	10. Auxiliary Feedwater Flow Rate	M	R
25	11. Reactor Coolant System Subcooling Margin Monitor	M	R
	~~12. PORV Position Indicator - Limit Switches~~	~~M~~	~~R~~
	~~13. PORV Block Valve Position Indicator Limit Switches~~	~~M~~	~~R~~
	~~14. Safety Valve Position Indicator Acoustic Monitor~~	~~M~~	~~R~~
15, 16, 17, 18	15. Incore Thermocouples (Core Exit Thermocouples)	M	R(1) R(3)
6	16. Reactor Coolant Inventory Tracking System (Reactor Vessel Level Indication)	M(2)	R(1) R(3)
	~~17. Containment Sump Level~~	~~M~~	~~R~~
7	18. Containment Water Level	M	R

24 months L.6

R.1

24 months L.6

R.1

24 months L.6

M.5

LA.2

R.1

24 months L.6

Add proposed Functions 1, 9, 13, 14, 20, 21, 23, 26, 27, and 28 M.4

~~(1) Partial range channel calibration for sensor to be performed below P-12 in MODE 3.~~ M.5

~~(2) With one train of Reactor Vessel Level Indication inoperable, Subcooling Margin Indication and Core Exit Thermocouples may be used to perform a CHANNEL CHECK to verify the remaining Reactor Vessel Indication train OPERABLE.~~ LA.2

~~(3) Completion of channel calibration for sensors to be performed below P-12 in MODE 3.~~ M.5

A.1

ITS

INSTRUMENTATION

3/4.3.3 MONITORING INSTRUMENTATION

RADIATION MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

LCO 3.3.3 — 3.3.3.1 The radiation monitoring instrumentation channels shown in Table 3.3-6 shall be OPERABLE ~~with their alarm/trip setpoints within the specified limits~~. L.7

APPLICABILITY: As shown in Table 3.3-6.

ACTION: — Add proposed ACTIONS Note 2 — A.2

~~a. With a radiation monitoring channel alarm/trip setpoint exceeding the value shown in Table 3.3-6, adjust the setpoint to within the limit within 4 hours or declare the channel inoperable.~~ L.7

ACTION A, B, C, E, and G — b. With one or more radiation monitoring channels inoperable, take the ACTION shown in Table 3.3-6.

ACTIONS Note 1 — c. The provisions of Specifications ~~3.0.3 and~~ 3.0.4 are not applicable. M.6

SURVEILLANCE REQUIREMENTS

SR Table Note — 4.3.3.1 Each radiation monitoring instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and ~~CHANNEL FUNCTIONAL TEST~~ operations during the modes and at the frequencies shown in Table 4.3-3. L.8

ITS 3.3.3

A.1

ITS

Table 3.3.3-1

TABLE 3.3-6
RADIATION MONITORING INSTRUMENTATION
(OPERABILITY BASES DISCUSSED IN BASES SECTION 3/4 3.3.1)

L.7

OPERATION MODE/INSTRUMENT	MINIMUM CHANNELS OPERABLE	~~ALARM SETPOINT~~	TRIP SETPOINT	ACTION
1. Modes 1, 2, 3 ~~& 4~~				
A. Area Monitors				
i. Upper Containment⁺ (VRS 1101/1201)	1	N/A	≤ 54 mR/hr	21
10 ii. Containment High Range ~~(VRA 1310/1410)~~	2	~~≤ 10R/hr~~	N/A	22A
B. Process Monitors				
i. Particulate Channel⁺ (ERS 1301/1401)	1	N/A	≤ 2.52 μCi	20
ii. Noble Gas Channel⁺ (ERS 1305/1405)	1	N/A	≤ $4.4\times10^{-3}\frac{\mu Ci}{cc}$	20
C. Noble Gas Effluent Monitors				
i. Unit Vent Effluent Monitors				
a. Low Range (VRS 1505)	------------(see the ODCM)------------			
b. Mid Range (VRS 1507)	1	N/A	N/A	22B
c. High Range (VRS 1509)	1	N/A	N/A	22B
ii. Steam Generator PORV				
a. MRA 1601 (Loop 1)	1	N/A	N/A	22B
b. MRA 1602 (Loop 4)	1	N/A	N/A	22B
c. MRA 1701 (Loop 2)	1	N/A	N/A	22B
d. MRA 1702 (Loop 3)	1	N/A	N/A	22B
iii. Gland Steam Condenser Vent Monitor				
a. Low Range (SRA 1805)	------------(see the ODCM)------------			
iv. Steam Jet Air Ejector Vent Monitors				
a. Low Range (SRA 1905)	------------(see the ODCM)------------			
b. Mid Range (SRA 1907)	1	N/A	N/A	22B
c. High Range (SRA 1909)	1	N/A	N/A	22B

L.9

See ITS 3.3.6 and CTS 3/4.3.3.1

L.7

L.14

See ITS 3.3.6 and ITS 3.4.15

See CTS 3/4.3.3.1

ITS

A.1

TABLE 3.3-6 (Continued)

TABLE NOTATION

ACTION 20 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, comply with the ACTION requirements of Specification 3.4.6.1.

See ITS 3.4.15

ACTION 21 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, perform area surveys of the monitored area with portable monitoring instrumentation at least once per day.

See CTS 3/4.3.3.1

ACTION 22 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirements, comply with the ACTION requirements of Specification 3.9.9. This ACTION is not required during the performance of containment integrated leak rate test.

See ITS 3.3.6

ACTION 22A- With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirements:

ACTIONS A and C

1. either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or

L.11

ACTIONS B, E, and G

2. prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

See ITS 5.6

ACTIONS Note 1

3. Technical Specification Sections ~~3.0.3 and~~ 3.0.4 Not Applicable.

M.6

ACTION 22B- With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirements.

1. either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or

2. prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

3. In the event of an accident involving radiological releases initiate the preplanned alternate method of monitoring the appropriate parameter(s) within 72 hours.

4. Technical Specification Sections 3.0.3 and 3.0.4 Not Applicable.

See CTS 3/4.3.3.1

ITS 3.3.3

ITS

A.1

Table 3.3.3-1

TABLE 4.3-3

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

OPERATION MODE/INSTRUMENT	SR 3.3.3.1 CHANNEL CHECK	SR 3.3.3.3 CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	APPLICABLE MODES
1. Modes 1, 2, 3 ~~& 4~~				
A. Area Monitors				
i. Upper Containment (VRS 1101/1201)	S*	R	Q	1, 2, 3, 4
10 ii. Containment High Range (~~VRA~~ 13~~1~~0/1410)	~~S~~ 31 days	~~R~~ 24 months	~~Q~~	1, 2, 3, ~~4~~
B. Process Monitors				
i. Particulate Channel (ERS 1301/1401)	S*	R	Q	1, 2, 3, 4
C. Noble Gas Effluent Monitors				
i. Unit Vent Effluent Monitors				
a. Low Range (VRS 1505)	-------------(see the ODCM)-------------			
b. Mid Range (VRS 1507)	S	R	N/A	1, 2, 3, 4
c. High Range (VRS 1509)	S*	R	N/A	1, 2, 3, 4
ii. Steam Generator PORV				
a. MRA 1601 (Loop 1)	S*	R	Q	1, 2, 3, 4
b. MRA 1602 (Loop 4)	S*	R	Q	1, 2, 3, 4
c. MRA 1701 (Loop 2)	S*	R	Q	1, 2, 3, 4
d. MRA 1702 (Loop 3)	S*	R	Q	1, 2, 3, 4
iii. Gland Steam Condenser Vent Monitor				
a. Low Range (SRA 1805)	-------------(see the ODCM)-------------			
iv. Steam Jet Air Ejector Vent Monitors				
a. Low Range (SRA 1905)	-------------(see the ODCM)-------------			
b. Mid Range (SRA 1907)	S	R	Q	1, 2, 3, 4
c. High Range (SRA 1909)	S*	R	N/A	1, 2, 3, 4

L.9

See CTS 3/4.3.3.1

L.8

L.9

L.6

L.12

L.14

See ITS 3.4.15

See CTS 3/4.3.3.1

ITS 3.3.3

A.1

ITS

CONTAINMENT SYSTEMS

3/4.6.4 COMBUSTIBLE GAS CONTROL

HYDROGEN ANALYZERS

LIMITING CONDITION FOR OPERATION

Table 3.3.3-1 Function 11

3.6.4.1 Two containment hydrogen analyzers shall be OPERABLE. M.7

APPLICABILITY: MODES 1 and 2 3

Add proposed ACTIONS Note 1 L.10

ACTION:

Add proposed ACTIONS Note 2 A.2

ACTION A — a. With one hydrogen analysis device inoperable, restore the inoperable analysis device to OPERABLE status within 30 days ~~or be in at least~~
ACTION B — ~~HOT STANDBY within the next 6 hours.~~

Add proposed Required Action B.1 L.1

ACTION D — b. With both hydrogen analysis devices inoperable, restore at least one analysis device to OPERABLE status within 72 hours or be in at
ACTIONS E and F — least HOT STANDBY within the next 6 hours.

and in MODE 4 within 12 hours M.7

SURVEILLANCE REQUIREMENTS

SR 3.3.3.2 — 4.6.4.1 Each hydrogen analysis device shall be demonstrated OPERABLE at least once per 92 days ~~on a STAGGERED TEST BASIS~~ by performing a CHANNEL CALIBRATION ~~using a four percent and fifteen percent nominal hydrogen gas, balance nitrogen.~~

L.13

LA.3

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

POST-ACCIDENT INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

LCO 3.3.3 — 3.3.3.6 The post-accident monitoring instrumentation channels shown in Table 3.3-10 shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3.

ACTION: — Add proposed ACTIONS Note 2 — A.2

ACTIONS A and C — a. With the number of OPERABLE post-accident monitoring channels less than required by Table 3.3-10 (except item 8), either restore the inoperable channel to OPERABLE status within 30 days, — M.1 — L.1

ACTIONS B, E, F, and G — or be in HOT SHUTDOWN within the next 12 hours. — L.2

Add proposed Required Actions F.1 — M.2

ACTION A — b. With the number of OPERABLE post-accident monitoring channels one less than required by Table 3.3-10, item 8, Refueling Water Storage Tank Water Level:

30 days — L.3

1. Either restore the inoperable channel to OPERABLE status within ~~72 hours~~ or be in at

ACTION B — least HOT SHUTDOWN within the next 12 hours, and — Add proposed Required Action B.1 — L.1

~~2. Within one hour, bypass the Residual Heat Removal Pump trip function from the Refueling Water Storage Tank Water Level for the pump associated with the out-of-service instrument.~~ — L.4

Add proposed ACTIONS C and F — L.5

ACTIONS Note 1 — c. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

SR Table Note — 4.3.3.6 Each post-accident monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3-10.

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ITS

A.1

Table 3.3.3-1

TABLE 3.3-10
POST-ACCIDENT MONITORING INSTRUMENTATION

ITS		INSTRUMENT	MINIMUM CHANNELS OPERABLE	
8	1.	Containment Pressure	2	
3	2.	Reactor Coolant Outlet Temperature - T_{HOT} (Wide Range)	2	
4	3.	Reactor Coolant Inlet Temperature - T_{COLD} (Wide Range)	2	
5	4.	Reactor Coolant Pressure - Wide Range	2	
12	5.	Pressurizer Water Level	2	
2	6.	Steam Line Pressure	2/Steam Generator	
22	7.	Steam Generator Water Level - Narrow Range	~~1~~ 2/Steam Generator	M.3
24	8.	Refueling Water Storage Tank Water Level	2	
	~~9.~~	~~Boric Acid Tank Solution Level~~	~~1~~	R.1
19	10.	Auxiliary Feedwater Flow Rate	1/Steam Generator*	
25	11.	Reactor Coolant System subcooling Margin Monitor	1~~**~~	LA.1
	~~12.~~	~~PORV Position Indicator - Limit Switches***~~	~~1/Valve~~	R.1
	~~13.~~	~~PORV Block Valve Position Indicator - Limit Switches~~	~~1/Valve~~	R.1
	~~14.~~	~~Safety Valve Position Indicator - Acoustic Monitor~~	~~2 Out of 3 Total~~	R.1
15, 16, 17, 18	15.	Incore Thermocouples (Core Exit Thermocouples)	2/Core Quadrant	
6	16.	Reactor Coolant Inventory Tracking System (Reactor Vessel Level Indication)	~~One Train~~ 2 ~~(3 Channels/Train)~~	M.3, LA.1
	~~17.~~	~~Containment Sump Level~~	~~1~~	R.1
7	18.	Containment Water Level	2	

Footnote (d) * Steam Generator Water Level Channels can be used as a substitute for the corresponding auxiliary feedwater flow rate channel instrument.

~~** PPC subcooling margin readout can be used as a substitute for the subcooling monitor instrument.~~ LA.1

~~*** Acoustic monitoring of PORV position (1 channel per three valves - headered discharge) can be used as a substitute for the PORV Indicator - Limit Switches instruments.~~ R.1

Add proposed Functions 1, 9, 13, 14, 20, 21, 23, 26, 27, and 28 M.4

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ITS 3.3.3

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.3-1

TABLE 4.3-10

POST-ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

ITS			SR 3.3.3.1 CHANNEL CHECK	SR 3.3.3.3 CHANNEL CALIBRATION	
8	1.	Containment Pressure	M	~~R~~	
3	2.	Reactor Coolant Outlet Temperature - T_{HOT} (Wide Range)	M	~~R~~	
4	3.	Reactor Coolant Inlet Temperature - T_{COLD} (Wide Range)	M	~~R~~	
5	4.	Reactor Coolant Pressure - Wide Range	M	~~R~~	
12	5.	Pressurizer Water Level	M	~~R~~	24 months L.6
2	6.	Steam Line Pressure	M	~~R~~	
22	7.	Steam Generator Water Level - Narrow Range	M	~~R~~	
24	8.	RWST Water Level	M	~~R~~	
	~~9.~~	~~Boric Acid Tank Solution Level~~	~~M~~	~~R~~	R.1
19	10.	Auxiliary Feedwater Flow Rate	M	~~R~~	24 months L.6
25	11.	Reactor Coolant System Subcooling Margin Monitor	M	~~R~~	
	~~12.~~	~~PORV Position Indicator - Limit Switches~~	~~M~~	~~R~~	R.1
	~~13.~~	~~PORV Block Valve Position Indicator - Limit Switches~~	~~M~~	~~R~~	
	~~14.~~	~~Safety Valve Position Indicator - Acoustic Monitor~~	~~M~~	~~R~~	24 months L.6
15, 16, 17, 18	15.	Incore Thermocouples (Core Exit Thermocouples)	M	~~R~~~~(1)~~	M.5
6	16.	Reactor Coolant Inventory Tracking System (Reactor Vessel Level Indication)	M~~(2)~~	~~R~~~~(3)~~	LA.2
	~~17.~~	~~Containment Sump Level~~	~~M~~	~~R~~	R.1
7	18.	Containment Water Level	M	~~R~~	24 months L.6

Add proposed Functions 1, 9, 13, 14, 20, 21, 23, 26, 27, and 28 M.4

~~(1) Partial range channel calibration for sensor to be performed below P-12 in MODE 3.~~ M.5

~~(2) With one train of Reactor Vessel Level Indication inoperable, Subcooling Margin Indication and Core Exit Thermocouples may be used to perform a CHANNEL CHECK to verify the remaining Reactor Vessel Indication train OPERABLE.~~ LA.2

~~(3) Completion of channel calibration for sensors to be performed below P-12 in MODE 3.~~ M.5

ITS

A.1

3/4.3.3 MONITORING INSTRUMENTATION

RADIATION MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

LCO 3.3.3

3.3.3.1 The radiation monitoring instrumentation channels shown in Table 3.3-6 shall be OPERABLE ~~with their alarm/trip setpoints within the specified limits~~. L.7

APPLICABILITY: As shown in Table 3.3-6.

ACTION: Add proposed ACTIONS Note 2 A.2

~~a. With a radiation monitoring channel alarm/trip setpoint exceeding the value shown in Table 3.3-6, adjust the setpoint to within the limit within 4 hours or declare the channel inoperable.~~ L.7

ACTION A, B, C, E and G

b. With one or more radiation monitoring channels inoperable, take the ACTION shown in Table 3.3-6.

ACTIONS Note 1

c. The provisions of Specifications ~~3.0.3 and~~ 3.0.4 are not applicable. M.6

SURVEILLANCE REQUIREMENTS

SR Table Note

4.3.3.1 Each radiation monitoring instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and ~~CHANNEL FUNCTIONAL TEST~~ operations during the modes and at the frequencies shown in Table 4.3-3. L.8

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ITS 3.3.3

A.1

ITS

Table 3.3.3-1

TABLE 3.3-6
RADIATION MONITORING INSTRUMENTATION
(OPERABILITY BASES DISCUSSED IN BASES SECTION 3/4 3.3.1)

L.7

OPERATION MODE/INSTRUMENT	MINIMUM CHANNELS OPERABLE	~~ALARM SETPOINT~~	TRIP SETPOINT	ACTION
1. Modes 1, 2, 3 ~~& 4~~				
A. Area Monitors				
i. Upper Containment⁺ (VRS 2101/2201)	1	N/A	≤ 54 mR/hr	21
10 ii. Containment High Range (~~VRA~~ 23~~1~~0/24~~1~~0)	2	~~≤ 10R/hr~~	N/A	22A
B. Process Monitors				
i. Particulate Channel⁺ (ERS 2301/2401)	1	N/A	≤ 2.52 μCi	20
ii. Noble Gas Channel⁺ (ERS 2305/2405)	1	N/A	≤ 4.4x10⁻³ μCi/cc	20
C. Noble Gas Effluent Monitors				
i. Unit Vent Effluent Monitors				
a. Low Range (VRS 2505)	------------(see the ODCM)------------			
b. Mid Range (VRS 2507)	1	N/A	N/A	22B
c. High Range (VRS 2509)	1	N/A	N/A	22B
ii. Steam Generator PORV				
a. MRA 2601 (Loop 1)	1	N/A	N/A	22B
b. MRA 2602 (Loop 4)	1	N/A	N/A	22B
c. MRA 2701 (Loop 2)	1	N/A	N/A	22B
d. MRA 2702 (Loop 3)	1	N/A	N/A	22B
iii. Gland Steam Condenser Vent Monitor				
a. Low Range (SRA 2805)	------------(see the ODCM)------------			
iv. Steam Jet Air Ejector Vent Monitors				
a. Low Range (SRA 2905)	------------(see the ODCM)------------			
b. Mid Range (SRA 2907)	1	N/A	N/A	22B
c. High Range (SRA 2909)	1	N/A	N/A	22B

L.9

See ITS 3.3.6 and CTS 3/4.3.3.1

L.7

L.14

See ITS 3.3.6 and ITS 3.4.15

See CTS 3/4.3.3.1

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ITS 3.3.3

ITS

A.1

TABLE 3.3-6 (Continued)

TABLE NOTATION

ACTION 20 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, comply with the ACTION requirements of Specification 3.4.6.1.

See ITS 3.4.15

ACTION 21 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, perform area surveys of the monitored area with portable monitoring instrumentation at least once per day.

See CTS 3/4.3.3.1

ACTION 22 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, comply with the ACTION requirements of Specification 3.9.9. This ACTION is not required during the performance of containment integrated leak rate test.

See ITS 3.3.6

ACTION 22A- With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirements:

ACTIONS A and C

1. either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or

L.11

ACTIONS B, E, and G

2. prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

See ITS 5.6

ACTIONS Note 1

3. Technical Specification Sections 3.0.3 and 3.0.4 Not Applicable.

M.6

ACTION 22B- With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirements.

1. either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or

2. prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

3. In the event of an accident involving radiological releases initiate the preplanned alternate method of monitoring the appropriate parameter(s) within 72 hours.

4. Technical Specification Sections 3.0.3 and 3.0.4 Not Applicable.

See CTS 3/4.3.3.1

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ITS 3.3.3

A.1

ITS

Table 3.3.3-1

TABLE 4.3-3

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

OPERATION MODE/INSTRUMENT	CHANNEL CHECK (SR 3.3.3.1)	CHANNEL CALIBRATION (SR 3.3.3.3)	CHANNEL FUNCTIONAL TEST	APPLICABLE MODES
1. Modes 1, 2, 3 ~~& 4~~ (L.9)				
A. Area Monitors (See CTS 3/4.3.3.1)				
i. Upper Containment (VRS 2101/2201)	S*	R	Q	1, 2, 3, 4
10 ii. Containment High Range (~~V~~RA ~~2~~310/~~2~~410) (L.12, L.14)	~~S~~ 31 days	~~R~~ 24 months	~~Q~~ (L.8)	1, 2, 3, ~~4~~ (L.9) (L.6)
B. Process Monitors				
i. Particulate Channel (ERS 2301/2401)	S*	R	Q	1, 2, 3, 4
C. Noble Gas Effluent Monitors (See ITS 3.4.15; See CTS 3/4.3.3.1)				
i. Unit Vent Effluent Monitors				
a. Low Range (VRS 2505)	--------------(see the ODCM)--------------			
b. Mid Range (VRS 2507)	S	R	N/A	1, 2, 3, 4
c. High Range (VRS 2509)	S*	R	N/A	1, 2, 3, 4
ii. Steam Generator PORV				
a. MRA 2601 (Loop 1)	S*	R	Q	1, 2, 3, 4
b. MRA 2602 (Loop 4)	S*	R	Q	1, 2, 3, 4
c. MRA 2701 (Loop 2)	S*	R	Q	1, 2, 3, 4
d. MRA 2702 (Loop 3)	S*	R	Q	1, 2, 3, 4
iii. Gland Steam Condenser Vent Monitor				
a. Low Range (SRA 2805)	--------------(see the ODCM)--------------			
iv. Steam Jet Air Ejector Vent Monitors				
a. Low Range (SRA 2905)	--------------(see the ODCM)--------------			
b. Mid Range (SRA 2907)	S	R	Q	1, 2, 3, 4
c. High Range (SRA 2909)	S*	R	N/A	1, 2, 3, 4

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ITS 3.3.3

A.1

ITS

CONTAINMENT SYSTEMS

3/4.6.4 COMBUSTIBLE GAS CONTROL

HYDROGEN ANALYZERS

LIMITING CONDITION FOR OPERATION

Table 3.3.3-1 Function 11

3.6.4.1 Two containment hydrogen analyzers shall be OPERABLE.

M.7

APPLICABILITY: Modes 1 ~~and~~ 2. 3

Add proposed ACTIONS Note 1 — L.10

ACTION:

Add proposed ACTIONS Note 2 — A.2

ACTION A — a. With one hydrogen analysis device inoperable, restore the inoperable analysis device to OPERABLE status within 30 days ~~or be in at least~~

ACTION B — ~~HOT STANDBY within the next 6 hours~~.

Add proposed Required Action B.1 — L.1

ACTION D — b. With both hydrogen analysis devices inoperable, restore at least one analysis device to OPERABLE status within 72 hours or be in at

ACTIONS E and F — least HOT STANDBY within the next 6 hours.

and in MODE 4 within 12 hours — M.7

SURVEILLANCE REQUIREMENTS

SR 3.3.3.2

4.6.4.1 Each hydrogen analysis device shall be demonstrated OPERABLE at least once per 92 days ~~on a STAGGERED TEST BASIS~~ by performing a CHANNEL CALIBRATION ~~using a four percent and fifteen percent nominal hydrogen gas, balance nitrogen.~~

L.13

LA.3

DISCUSSION OF CHANGES
ITS 3.3.3, POST ACCIDENT MONITORING (PAM) INSTRUMENTATION

ADMINISTRATIVE CHANGES

A.1 In the conversion of the CNP Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1431, Rev. 2, "Standard Technical Specifications-Westinghouse Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

A.2 Unit 1 CTS 3.3.3.8 Actions a and b, Unit 2 CTS 3.3.3.6 Actions a and b, CTS 3.3.3.1 Actions b and c, CTS Table 3.3-6 Action 22A, and CTS 3.6.4.1 Actions a and b provide the compensatory actions to take when PAM instrumentation is inoperable. ITS 3.3.3 ACTIONS provide the compensatory actions for inoperable PAM Instrumentation. The ITS 3.3.3 ACTIONS include a Note (Note 2) that allows separate Condition entry for each Function. In addition, separate Condition entry is allowed within a Function on a steam generator basis for Functions 2 (Steam Generator Pressure), 19 (Auxiliary Feedwater Flow), and 22 (Steam Generator Water Level (Narrow Range)). This modifies the CTS by providing a specific allowance to enter the Action for each inoperable PAM instrumentation Function and for certain Functions on a steam generator basis.

This change is acceptable because it clearly states the current requirement. The CTS considers each PAM instrumentation Function to be separate and independent from the others. In addition, the channels associated with Functions 2, 19, and 22 are allowed separate Condition entry on a steam generator basis, which is consistent with the intent of the CTS. This change is designated as administrative because it does not result in technical changes to the CTS.

MORE RESTRICTIVE CHANGES

M.1 Unit 1 CTS 3.3.3.8 Action a and Unit 2 CTS 3.3.3.6 Action a require, with the number of OPERABLE post accident monitoring instrumentation channels less than the minimum channels OPERABLE requirements of Table 3.3-11 (Unit 1) and Table 3.3-10 (Unit 2), that the inoperable channel be restored to OPERABLE status within 30 days. ITS 3.3.3 ACTION C requires, with one or more Functions with two required channels inoperable, restoration of one channel to OPERABLE status within 7 days. This changes the CTS requirement by reducing the allowed outage time when two required channels of a PAM instrumentation Function are inoperable from 30 days to 7 days.

This change is acceptable because it provides appropriate requirements for when two required channels of a PAM instrumentation Function are inoperable. The PAM instrumentation are required to be OPERABLE to provide the control room operators with sufficient information on selected unit parameters to monitor and assess unit status following an accident. This change is designated as more restrictive because it requires restoration of the inoperable PAM instrumentation channels is less time than is required in the CTS.

DISCUSSION OF CHANGES
ITS 3.3.3, POST ACCIDENT MONITORING (PAM) INSTRUMENTATION

M.2 Unit 1 CTS 3.3.3.8 Action a and Unit 2 CTS 3.3.3.6 Action a require, when required channels are not restored within the allowed outage time, that the unit be in at least HOT SHUTDOWN within the next 12 hours. ITS 3.3.3 ACTION F requires the unit to be placed in MODE 3 (HOT STANDBY) within 6 hours (Required Action F.1) and MODE 4 (HOT SHUTDOWN) within 12 hours (Required Action F.2). This changes the CTS requirement by requiring the unit to be in MODE 3 within 6 hours.

This change is acceptable because 6 hours is a reasonable period of time for the operator to safely decrease power from full power to MODE 3 without challenging unit systems. This Completion Time is consistent with other ITS requirements that specify a unit power reduction to MODE 3. The change is designated as more restrictive because it adds a requirement to place the unit in MODE 3 within 6 hours to the CTS.

M.3 Unit 1 CTS Table 3.3-11 and Unit 2 CTS Table 3.3-10, Instruments 7 and 16, require one channel per steam generator for the Steam Generator Water Level-Narrow Range Instrument and one train (equivalent to one channel in ITS nomenclature) for the Reactor Coolant Inventory Tracking System (Reactor Vessel Level Indication) Instrument to be OPERABLE. ITS Table 3.3.3-1 Functions 22 and 6 require two channels per steam generator for Steam Generator Water Level (Narrow Range) Function and two channels for the Reactor Coolant Inventory Tracking System (Reactor Vessel Level Indication) to be OPERABLE. This changes the CTS requirements for the parameters from one to two required channels.

This change is acceptable because the ITS reflects the requirements for diversity and redundancy stated in Regulatory Guide 1.97, Revision 3, and NRC Generic Letter 82-33. Additionally, the unit specific evaluation requires that a minimum of two channels be available for these parameters. This provides the operator an unambiguous source of information for decisions needed following design basis events. The change is designated as a more restrictive because the number of required channels for the indicated parameters is increased from one to two.

M.4 Unit 1 CTS Table 3.3-11 and Unit 2 CTS Table 3.3-10 do not require OPERABLE indication channels for Neutron Flux, Penetration Flow Path Containment Isolation Valve Position, Steam Generator Water Level (Wide Range), Condensate Storage Tank Level, Centrifugal Charging Pump Flow, Safety Injection Pump Flow, Containment Pressure (Wide Range), Component Cooling Water Pump Circuit Breaker Status, Centrifugal Charging Pump Circuit Breaker Status, and Safety Injection Pump Circuit Breaker Status. These are added to the CTS and shown in ITS Table 3.3.3-1, Functions 1, 9, 13, 14, 20, 21, 23, 26, 27, and 28. Two channels are provided for Neutron Flux (Function 1). Two channels per penetration flow path are provided for Penetration Flow Path Containment Isolation Valve Position (Function 9). This requirement is modified by two footnotes, footnotes (a) and (b). Footnote (a) does not require position indication for isolation valves whose penetration is isolated by at least one closed and deactivated automatic valve, closed manual valve, blind flange or check valve with flow through the valve secured. Footnote (b) requires only one position indication channel per penetration flow path with one installed channel located in the control room. One channel per steam generator is provided for

DISCUSSION OF CHANGES
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Steam Generator Water Level (Wide Range) (Function 13). One channel is provided for Condensate Storage Tank Level (Function 14). One channel per cold leg injection is provided for Centrifugal Charging Pump Flow (Function 20). Two channels are provided for Safety Injection Pump Flow (Function 21). Two channels are provided for Containment Pressure (Wide Range) (Function 23). One channel per pump is provided for Component Cooling Water Pump Circuit Breaker Status (Function 26). One channel per pump is provided for Centrifugal Charging Pump Circuit Breaker Status (Function 27). One Channel per pump is provided for Safety Injection Pump Circuit Breaker Status (Function 28). ITS 3.3.3 ACTION A has been added to cover the Condition when one or more Functions have one required channel inoperable. ITS 3.3.3 Required Action A.1 allows 30 days to restore the required channel to OPERABLE status. If this Required Action and associated Completion Time of Condition A is not met, then ITS Required Action B.1 requires the immediate initiation of the actions specified in Specification 5.6.6. ITS 3.3.3 ACTION C has been added to cover the Condition when one or more Functions have two required channels inoperable. ITS 3.3.3 Required Action C.1 requires restoration of one channel to OPERABLE status within 7 days. If this cannot be met, then ITS 3.3.3 Condition E must be entered, which will then require entry into Condition F where ITS 3.3.3 Required Action F.1 will require the unit to be in MODE 3 within 6 hours and MODE 4 within 12 hours. A Note has been added to the ACTIONS to allow Separate Condition entry for each Function. In addition, separate Condition entry is allowed within a Function as follows: (a) for Function 13 on a steam generator basis; (b) for Function 20 on a cold leg injection line basis; and (c) for Functions 26, 27, and 28 on a pump basis. In addition, SRs are added for each Function. These SRs are a CHANNEL CHECK for each required instrumentation channel that is normally energized (SR 3.3.3.1) and a CHANNEL CALIBRATION (SR 3.3.3.3). For the CHANNEL CALIBRATION of the Neutron Flux Function channels, SR 3.3.3.3 is modified by a note that states "Neutron detectors are excluded from CHANNEL CALIBRATION." This changes the CTS by adding new Functions, Footnotes, a Note, applicable ACTIONS, and SRs.

This change is acceptable because a plant specific evaluation has concluded that these instrumentation channels are required to provide the primary, unambiguous information to the operator necessary in order to perform manual actions for which no automatic controls exist and that are required for safety systems to accomplish their safety functions for design basis accident (DBA) events. The change is designated as more restrictive because 10 new instrumentation functions are added to the Technical Specifications.

M.5 Unit 1 CTS Table 4.3-7 and Unit 2 CTS Table 4.3-10 Instrument 15, Incore Thermocouples (Core Exit Thermocouples), and Instrument 16, Reactor Coolant Inventory Tracking System (Reactor Vessel Level Indication) CHANNEL CALIBRATION requirements are modified by Notes (1) and (3), respectively. Note (1) states "Partial range channel calibration for sensor to be performed below P-12 in MODE 3." Note (3) states "Completion of channel calibration for sensors to be performed below P-12 in MODE 3." The ITS SR 3.3.3.3 requires the performance of a CHANNEL CALIBRATION for ITS Table 3.3.3-1 Functions 15, 16, 17, and 18 (Core Exit Temperature - Quadrants 1, 2, 3, and 4) and ITS Table 3.3.3-1 Function 6 (Reactor Coolant Inventory Tracking System (Reactor Vessel Level Indication)). This changes the CTS by deleting the

DISCUSSION OF CHANGES
ITS 3.3.3, POST ACCIDENT MONITORING (PAM) INSTRUMENTATION

allowances of Unit 1 CTS Table 4.3-7 and Unit 2 CTS Table 4.3-10 Notes (1) and (3).

The purpose of the CTS Notes is to allow the unit to enter the MODE of Applicability of the instrumentation without calibrating the associated sensors. These allowances are no longer used for performing the CHANNEL CALIBRATIONS of these Functions. The CHANNEL CALIBRATIONS of these Functions are performed prior to entering the MODE of Applicability. Therefore, deletion of these Notes is acceptable. This change is designated as more restrictive as it eliminates allowances from the CTS.

M.6 CTS 3.3.3.1 Action c states, in part, that the provisions of Specification 3.0.3 is not applicable. CTS Table 3.3-6 Action 22A.3 states, in part, that Specification 3.0.3 is not applicable. ITS 3.3.3 does not include a LCO 3.0.3 exception. This changes the CTS by eliminating the CTS 3.0.3 exception.

CTS 3.0.3 requires the unit to be shutdown when the requirements of LCOs and associated Actions are not satisfied. This change is acceptable because the ISTS does not provide exceptions to ITS LCO 3.0.3 in the PAM Instrumentation Specification. Eliminating the CTS 3.0.3 exception ensures that the operators are provided guidance regarding actions to take in the event the required PAM instrumentation is inoperable and associated Actions are not satisfied within the required time periods. This change is designated as more restrictive because an explicit exception provided in the CTS is eliminated.

M.7 CTS 3.6.4.1, Hydrogen Analyzers, is applicable in MODES 1 and 2. CTS 3.6.4.1 Action b requires, if both hydrogen analyzers are inoperable for more than 72 hours, that the unit is to be placed in HOT STANDBY (MODE 3) within the next 6 hours. ITS 3.3.3 is applicable in MODES 1, 2, and 3. ITS 3.3.3 ACTION F requires, if two hydrogen analyzers are inoperable for greater than 72 hours, that the unit is to be placed in MODE 3 within 6 hours and MODE 4 within 12 hours. This changes the CTS Applicability requirements for the hydrogen analyzers from MODES 1 and 2 to MODES 1, 2, and 3, and the Required Actions from being in MODE 3 to being in MODE 4.

This change is acceptable because the potential for hydrogen generation in the Reactor Coolant System in MODE 3 can be the same as MODES 1 and 2. The only effect on hydrogen concentration as assumed in the accident analyses that changes for MODE 3 is the potential amount of hydrogen generated from fuel clad damage. Therefore, the expansion of the Applicability to MODE 3 and the requirement to place the unit in MODE 4 (outside the expanded MODES of Applicability) if inoperable hydrogen analyzers are inoperable and not restored within the required Completion Time, are appropriate. The 12 hour time provided to reach MODE 4 is consistent with the time provided in similar actions in both the CTS and ITS. The change is designated as more restrictive because the hydrogen analyzers are required to be OPERABLE in more conditions than required in the CTS.

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RELOCATED SPECIFICATIONS

R.1 Unit 1 CTS Tables 3.3-11 and 4.3-7 and Unit 2 CTS Tables 3.3-10 and 4.3-10 provide requirements for Post-Accident Monitoring Instrumentation channels. Each individual post accident monitoring parameter has a specific purpose, however, the general purpose for all accident monitoring instrumentation is to ensure sufficient information is available following an accident to allow an operator to verify the response of automatic safety systems, and to take preplanned manual actions to accomplish a safe shutdown of the plant.

The NRC position on application of the screening criteria to post-accident monitoring instrumentation is documented in a letter dated May 9, 1988 from T.E. Murley (NRC) to W.S. Wilgus (B&W Owners Group). The screening criteria are now incorporated into 10 CFR 50.36(c)(2)(ii). The NRC position taken was that the post-accident monitoring instrumentation table list should contain, on a plant specific basis, all Regulatory Guide 1.97 Type A instruments specified in the plant's Safety Evaluation Report (SER) on Regulatory Guide 1.97, and all Regulatory Guide 1.97 Category 1 instruments. Accordingly, this position has been applied to the CNP Units 1 and 2 Regulatory Guide 1.97 instruments. Those instruments meeting these criteria have remained in Technical Specifications. The instruments not meeting this criteria will be relocated from the Technical Specifications to the Technical Requirements Manual (TRM).

A review of the CNP Units 1 and 2 UFSAR and the NRC Regulatory Guide 1.97 Safety Evaluation for CNP Units 1 and 2 shows that the following Unit 1 CTS Tables 3.3-11 and 4.3-7 and Unit 2 CTS Tables 3.3-10 and 4.3-10 Instruments do not meet Category 1 or Type A requirements.

Instrument 9	Boric Acid Tank Solution Level
Instrument 12	PORV Position Indicator - Limit Switches
Instrument 13	PORV Block Valve Position Indicator - Limit Switches
Instrument 14	Safety Valve Position Indicator - Acoustic Monitor
Instrument 17	Containment Sump Level

10 CFR 50.36(c)(2)(ii) Criteria Evaluation:

1. These instruments are not used for, nor capable of, detecting a significant abnormal degradation of the reactor coolant pressure boundary prior to a design basis accident (DBA). These instruments do not meet criterion 1.

2. The monitored parameters are not process variables, design features, or operating restrictions that are initial conditions of a DBA or transient. These instruments do not meet criterion 2.

3. These instruments are not part of a primary success path in the mitigation of a DBA or transient. These instruments do not meet criterion 3.

4. These instruments are not structures, systems, or components which operating experience or probabilistic risk assessment has shown to be significant to public health and safety. As discussed in Section 4.0 (Appendix A, page A-25) and summarized in Table 1 of WCAP-11618, the

loss of the above listed instruments were found to be non-significant risk contributors to core damage frequency and offsite releases. I&M has reviewed this evaluation, considers it applicable to CNP Units 1 and 2, and concurs with the assessment. These instruments do not meet criterion 4.

Since the 10 CFR 50.36(c)(2)(ii) criteria have not been met for instruments which do not meet Regulatory Guide 1.97 Type A variable requirements or non-Type A, Category 1, variable requirements, their associated LCO and Surveillances may be relocated out of the Technical Specifications. The Technical Specification requirements for these instruments will be relocated to the TRM. Changes to the TRM will be controlled by the provisions of 10 CFR 50.59. This change is designated as a relocation because the LCO requirements for these instruments did not meet the criteria in 10 CFR 50.36(c)(2)(ii) and have been relocated to the TRM.

REMOVED DETAIL CHANGES

LA.1 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* Unit 1 CTS Table 3.3-11 and Unit 2 CTS Table 3.3-10, Instrument 11, Reactor Coolant System Subcooling Margin Monitor channel OPERABILITY requirements are modified by footnote **, that states "PPC subcooling margin readout can be used as a substitute for the subcooling monitor instrument." Unit 1 CTS Table 3.3-11 and Unit 2 CTS Table 3.3-10, Instrument 16, Reactor Coolant Inventory Tracking System (Reactor Vessel Level Indication), states that the required train (equivalent to one channel in ITS nomenclature) includes three channels. ITS Table 3.3.3-1 Function 25 requires one channel of the RCS Subcooling Margin Monitor to be OPERABLE and Function 6 requires two channels of the Reactor Coolant Inventory Tracking System (Reactor Vessel Level Indication) to be OPERABLE, but the details of what constitutes an OPERABLE channel are moved to the Bases. This changes the CTS by moving the details of what constitutes an OPERABLE channel to the Bases. The change to the number of required CTS Function 16 channels is discussed in DOC M.3.

The removal of these details, which are related to system design, from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement for one channel of the RCS Subcooling Margin Monitor and two channels of the Reactor Coolant Inventory Tracking System (Reactor Vessel Level Indication) to be OPERABLE and to perform CHANNEL CHECKS and CHANNEL CALIBRATIONS of the channels. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5 of the ITS. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

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LA.2 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* Unit 1 CTS Table 4.3-7 and Unit 2 CTS Table 4.3-10, Instrument 16, Reactor Coolant Inventory Tracking System (Reactor Vessel Level Indication), CHANNEL CHECK requirements are modified by Note (2). Note (2) allows, with one train of Reactor Vessel Level Indication inoperable, subcooling margin indication and core exit thermocouples to be used to perform a CHANNEL CHECK to verify the remaining Reactor Vessel Level Indication train is OPERABLE. ITS SR 3.3.3.1 requires the performance of a CHANNEL CHECK of the Reactor Coolant Inventory Tracking System (Reactor Vessel Level Indication) channels. This changes the CTS by moving the descriptive wording of the method for performing the CHANNEL CHECK to the ITS Bases.

The removal of these details for performing Surveillance Requirements from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement to perform the CHANNEL CHECK. Also, this change is acceptable because these types of procedural details will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

LA.3 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS 4.6.4.1 requires that each hydrogen analyzer be demonstrated OPERABLE by performing a CHANNEL CALIBRATION using calibration gas containing a four percent and fifteen percent nominal hydrogen gas, balance nitrogen. ITS SR 3.3.3.2 requires the hydrogen monitors to be subjected to a CHANNEL CALIBRATION. This change moves the CTS calibration gas requirements to the ITS Bases.

The removal of these details for performing Surveillance Requirements from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement for the hydrogen monitors to be OPERABLE in the required MODES. The details of composition of the calibration gas used to perform the CHANNEL CALIBRATION is not required to be in the Technical Specifications, because regardless of the calibration gas composition, the hydrogen monitors are required to be OPERABLE (i.e., capable of performing their safety function). Also, this change is acceptable because these types of procedural details will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

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LESS RESTRICTIVE CHANGES

L.1 *(Category 3 – Relaxation of Completion Time)* Unit 1 CTS 3.3.3.8 Actions a and b and Unit 2 CTS 3.3.3.6 Actions a and b require placing the unit in HOT SHUTDOWN within the next 12 hours if an inoperable PAM instrumentation channel has not been restored within the allowed outage time. CTS 3.6.4.1 Action a requires placing the unit in HOT STANDBY within the next 6 hours if an inoperable hydrogen analyzer has not been restored within the allowed outage time. ITS 3.3.3 ACTION B requires the initiation of a report to the NRC if one inoperable PAM instrumentation channel has not been restored within the associated Completion Time. This changes the CTS by deleting the requirements for the unit to be in HOT STANDBY or HOT SHUTDOWN with one required channel inoperable and not restored within the allowed outage time, and instead requiring a report to be made in accordance with ITS 5.6.6.

The purpose of these shutdown requirements is to limit unit operation in the MODES of Applicability when required equipment is inoperable. This change is acceptable due to the passive function of these instruments and the operator's ability to respond to an accident utilizing redundant or alternate instruments and methods for monitoring. The change is also considered acceptable since the probability of an event requiring the operator to utilize this instrumentation to respond to the event is low. The addition of a report is acceptable because it advises the NRC of the cause of the inoperability and the plans and schedule for restoring the instrumentation channel to OPERABLE status. This change is designated as less restrictive because additional time is allowed to restore instrument channels to OPERABLE status than was allowed in the CTS.

L.2 *(Category 3 – Relaxation of Completion Time)* Unit 1 CTS 3.3.3.8 Action a and Unit 2 CTS 3.3.3.6 Action a require placing the unit in HOT SHUTDOWN within the next 12 hours if both Reactor Coolant Inventory Tracking System (Reactor Vessel Level Indication) channels are inoperable and have not been restored within the allowed outage time. ITS 3.3.3 ACTION G requires initiation of a report to the NRC if one of the two inoperable channels of the Reactor Coolant Inventory Tracking System (Reactor Vessel Level Indication) Function has not been restored within the associated Completion Time. This changes the CTS by deleting the requirements for the unit to be in HOT SHUTDOWN with two Reactor Coolant Inventory Tracking System (Reactor Vessel Level Indication) Function channels inoperable and not restored within the allowed outage time, and instead requiring a report to be made in accordance with ITS 5.6.6.

The purpose of these shutdown requirements is to limit unit operation in the MODES of Applicability when required equipment is inoperable. This change is acceptable due to the passive function of these instruments and the operator's ability to respond to an accident utilizing alternate instruments and methods for monitoring. The change is also considered acceptable since the probability of an event requiring the operator to utilize this instrumentation to respond to the event is low. The addition of a report is acceptable because it advises the NRC of the cause of the inoperability and the plans and schedule for restoring the instrumentation channel to OPERABLE status. This change is designated as less restrictive because additional time is allowed to restore instrument channels to OPERABLE status than was allowed in the CTS.

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L.3 *(Category 3 – Relaxation of Completion Time)* Unit 1 CTS 3.3.3.8 Action b and Unit 2 CTS 3.3.3.6 Action b require, whenever one required channel is inoperable, restoration of one Refueling Water Storage Tank Water Level PAM instrumentation channel to OPERABLE status within 72 hours. ITS 3.3.3 ACTION A requires the restoration of the inoperable Refueling Water Storage Tank Water Level PAM instrumentation channel within 30 days. This changes the CTS by extending the restoration time for an inoperable Refueling Water Storage Tank Water Level PAM instrumentation channel from 72 hours to 30 days.

The purpose of the current 72 hour allowed outage time for restoration of an inoperable Refueling Water Storage Tank Water Level PAM instrumentation channel, as a opposed to the current 30 day allowed outage time for restoration of other inoperable PAM instrumentation channels, is to ensure that the allowed outage times for the Refueling Water Storage Tank Water Level PAM instrumentation channel was consistent with allowed outage times for the Emergency Core Cooling System (ECCS). The Refueling Water Storage Tank Water Level PAM instrumentation provides level indication in the control room for the operators to determine when to manually transfer suction of the ECCS pumps from the depleted refueling water storage tank to cold leg recirculation from the containment recirculation sump following an accident. This level instrumentation also provides a bistable input to trip the Residual Heat Removal (RHR) pump when Refueling Water Storage Tank level falls below a preset level to protect the RHR pump. However, this bistable function is not part of the PAM Instrumentation Function, and the bistable Function is not necessary for the OPERABILITY of the PAM Instrumentation Function. The definition of OPERABLE-OPERABILITY and the requirements in ITS 3.5.2, "ECCS - Operating," are adequate to ensure that, if this bistable results in RHR pump inoperability, then the applicable actions of ITS 3.5.2 will be taken. Therefore, this change is acceptable due to the passive function of these PAM instruments and the operator's ability to respond to an accident utilizing redundant instruments. The change is also considered acceptable since the probability of an event requiring the operator to utilize this instrumentation to respond to the event is low. This change is designated as less restrictive because additional time is allowed to restore instrument channels to OPERABLE status than was allowed in the CTS.

L.4 *(Category 4 – Relaxation of Required Action)* Unit 1 CTS 3.3.3.8 Action b.2 and Unit 2 CTS 3.3.3.6 Action b.2, in the event of an inoperable Refueling Water Storage Tank Water Level PAM instrumentation channel, require action to be taken within one hour to bypass the Residual Heat Removal (RHR) pump trip function from the Refueling Water Storage Tank Water Level instrumentation for the pump associated with the out-of-service instrument. ITS 3.3.3 does not include this requirement. This changes the CTS by eliminating the Action requirement to bypass the RHR trip function when the Refueling Water Storage Tank Water Level PAM instrumentation channel is inoperable.

The purpose of the action to bypass the RHR pump trip function is to maintain RHR pump availability in the event of Refueling Water Storage Tank Water Level instrumentation inoperability. The Refueling Water Storage Tank Water Level PAM instrumentation provides level indication in the control room for the operators to determine when to manually transfer suction of the ECCS pumps from the depleted refueling water storage tank to cold leg recirculation from the containment recirculation sump following an accident. This level instrumentation also provides a bistable input to trip the Residual Heat Removal (RHR) pump when Refueling Water Storage Tank level falls below a preset level to protect the RHR pump. However, this bistable function is not part of the PAM Instrumentation Function, and the bistable Function is not necessary for the OPERABILITY of the PAM Instrumentation Function. The definition of OPERABLE-OPERABILITY and the requirements in ITS 3.5.2 are adequate to ensure that, if this bistable results in RHR pump inoperability, then the applicable actions of ITS 3.5.2 will be taken. In addition, the requirements of the ITS 3.5.2 ACTIONS and the requirements of 10 CFR 50.65 ensure that RHR pump availability is adequately maintained. Therefore, the CTS action to bypass the bistable trip of the associated RHR pump when a Refueling Water Storage Tank Water Level PAM instrument is inoperable is unnecessary. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

L.5 *(Category 3 – Relaxation of Completion Time)* Unit 1 CTS 3.3.3.8 Action b and Unit 2 CTS 3.3.3.6 Action b provide actions for the condition of one Refueling Water Storage Tank Water Level PAM instrumentation channel. When both Refueling Water Storage Tank Water Level PAM instrumentation channels are inoperable, no actions are provided and unit shutdown in accordance with CTS 3.0.3 is required. ITS 3.3.3 ACTION C, when two channels of Refueling Water Storage Tank Water Level PAM instrumentation are inoperable, requires the restoration of one of the two inoperable Refueling Water Storage Tank Water Level PAM instrumentation channels to OPERABLE status within 7 days. If not restored, then ITS 3.3.3 ACTION F requires the unit to be in MODE 3 in 6 hours and MODE 4 in 12 hours. This changes the CTS by providing a restoration time when two Refueling Water Storage Tank Water Level PAM instrumentation channels are inoperable, prior to requiring a unit shutdown.

The purpose of requiring entry into CTS 3.0.3 when two Refueling Water Storage Tank Water Level PAM instrumentation channels are inoperable, as opposed to the current 30 day allowed outage time for other inoperable PAM instrumentation channels, is to ensure that the allowed outage time for the Refueling Water Storage Tank Water Level PAM instrumentation channels was consistent with allowed outage times for Emergency Core Cooling System (ECCS). The Refueling Water Storage Tank Water Level PAM instrumentation provides level indication in the control room for the operators to determine when to manually transfer suction of the ECCS pumps from the depleted refueling water storage tank to cold leg recirculation from the containment recirculation sump following an accident. This level instrumentation also provides a bistable input to trip the Residual Heat Removal (RHR) pump when Refueling Water Storage Tank level falls below a preset level to protect the RHR pump. However, this bistable function is not part of the PAM Instrumentation Function, and the bistable Function is not necessary for the OPERABILITY of the PAM Instrumentation Function. The definition of OPERABLE-OPERABILITY and the requirements in ITS 3.5.2 are adequate to ensure that, if this bistable results in RHR pump inoperability, then the applicable actions of ITS 3.5.2 will be taken. Therefore, this change is acceptable due to the passive function of these PAM instruments

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and the operator's ability to respond to an accident utilizing redundant instruments. The change is also considered acceptable since the probability of an event requiring the operator to utilize this instrumentation to respond to the event is low. This change is designated as less restrictive because additional time is allowed to restore instrument channels to OPERABLE status than was allowed in the CTS.

L.6 *(Category 11 – 18 to 24 Month Surveillance Frequency Change, Channel Calibration Type)* Unit 1 CTS Table 4.3-7 and Unit 2 CTS Table 4.3-10 requires a CHANNEL CALIBRATION of the identified PAM instruments every 18 months. CTS Table 4.3-3 requires a CHANNEL CALIBRATION of the Containment High Range Area Monitors every 18 months. ITS Table 3.3.3-1 Functions 2 through 8, 10, 12, 15 through 19, 22, 24, and 25 require the performance of SR 3.3.3.3, a CHANNEL CALIBRATION, every 24 months. This changes the CTS by extending the Frequency of the Surveillance from 18 months (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.2 and ITS SR 3.0.2) to 24 months (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.2 and ITS SR 3.0.2).

The purpose of Unit 1 CTS Table 4.3-7, Unit 2 CTS Table 4.3-10, and CTS Table 4.3-3 is to ensure PAM instruments will function as designed during an analyzed event. Extending the SR Frequency is acceptable because the PAM instruments are designed to be highly reliable. Furthermore, a CHANNEL CHECK is performed on a more frequent basis (ITS SR 3.3.3.1). The CHANNEL CHECK provides a qualitative demonstration of the OPERABILITY of the instrument.

This change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. The impacted PAM instruments listed below were evaluated through a failure analysis as well as a quantitative and qualitative analysis for drift to verify the instrument drift did not adversely impact instrument performance or availability.

<u>Unit 1 CTS Table 4.3-7 and Unit 2 CTS Table 4.3-10</u>

Instrument 1, Containment Pressure

For narrow range containment pressure, the function is performed using Foxboro E11 Series Transmitters, Foxboro N-2AI-H2V Input Cards, Foxboro N-N-2AO-V2H+P Series Converters, Weschler VX-252 Indicators, and Yokogawa μR100 Recorders. A separate drift evaluation was not performed for the accident monitoring instrumentation based upon the design of the accident monitoring instruments, accuracy requirements, and equipment history. The following discussion supports this conclusion.

The accident monitoring function is supported by a combination of process transmitters, indicators and recorders. These components differ from other TS instruments in that they are not associated with a single action point but may be required to function anywhere within their range capability. An additional difference, based upon the time of function, is the process and environmental

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conditions that may be present when the instruments are required. Trip devices function during the first several seconds of an accident (normally prior to any significant environment changes) to prevent or mitigate the consequences of an accident. The detailed setpoint analysis for these devices considers the environmental conditions as well as the specific process conditions associated with the protective trip. The accident monitoring instrumentation devices must maintain their function after the accident has occurred and track the progress of the event and event mitigation over a long period of time. Accident monitoring instrumentation is designed to operate in a wide variety of environments (ranging from normal to high temperature, high radiation, and high humidity) and to maintain functionality. Accident instrumentation may also be expected to monitor the process over a wide range of process conditions. However, these instruments are not expected to function with the same high degree of accuracy demanded of accident detection and mitigation trip devices. The accident monitoring instrumentation devices are expected to maintain sufficient accuracy to detect trends or the existence or non-existence of a condition within wider boundaries (e.g., is there water in the steam generator).

The accident monitoring instrumentation is designed with a high degree of reliability and redundancy. Where possible, the indicators and recorders used for accident monitoring are compared with other channels of instruments measuring the same variable or other variables with know relationships, to verify OPERABILITY during normal operating conditions. Additionally, a CHANNEL CHECK is required every 31 days. These tests verify that the indication and recording instruments are acceptable and operating within established tolerances. For the transmitters, the primary error contributor for normal operations is drift. However, for accident monitoring conditions the major errors are associated with the changes in process conditions and in environmental conditions. These changes in process and environmental conditions are in most cases orders of magnitude larger than the errors associated with drift. Therefore, a drift analysis will not verify that these devices will maintain acceptable accuracy for the accident monitoring conditions. Additionally, no specific accuracy requirements are noted within Technical Specifications and the accident analyses have adequate margin to account for instrumentation errors.

Therefore, for the reasons cited above, a drift calculation for these instruments is not necessary and a review of the surveillance test history provides an acceptable method to determine if the instrument calibration interval can be extended to a 24 month operating cycle. For the Narrow Range Containment Pressure instrumentation, the Foxboro E11 Series Transmitters and the Foxboro N-2AI-H2V Input Cards were evaluated quantitatively through a drift analysis to verify that drift for normal operating conditions is consistent with similar plant instruments used for protective functions. The results of these analyses will support a 24 month Surveillance interval.

Instrument 2, Reactor Coolant Outlet Temperature - T_{HOT} (Wide Range)

This function is performed using 200 Ω Platinum RTDs as the sensing elements, Foxboro N-2AI-P2V Input Card and N-2AO-V2H+P Series Converter, and Leeds and Northrup 125 Series Recorders. The RTDs are not calibrated, and as such, instrument drift does not apply to these devices. Response of the RTDs to temperature variations during normal plant operation verifies proper operation of the input signal. The Foxboro N-2AO-V2H+P Series Converter and N-2AI-P2V Input Card and Leeds and Northrup 125 series Recorders were not evaluated for drift based on the generic discussion for Instrument 1 above. The results of these analyses will support a 24 month Surveillance interval.

Instrument 3, Reactor Coolant Inlet Temperature - T_{COLD} (Wide Range)

This function is performed using 200 Ω Platinum RTDs as the sensing element, Foxboro N-2AI-P2V Input Card and N-2AO-V2H+P Series Converter, and Leeds and Northrup 125 series Recorders. The RTDs are not calibrated, and as such, instrument drift does not apply to these devices. Response of the RTDs to temperature variations during normal plant operation verifies proper operation of the input signal. The Foxboro N-2AI-P2V Input Card and N-2AO-V2H+P Series Converter and Leeds and Northrup 125 Series Recorders were not evaluated for drift based on the generic discussion for Instrument 1 above. The results of these analyses will support a 24 month Surveillance interval.

Instrument 4, Reactor Coolant Pressure - Wide Range

This function is performed using a Foxboro N-E11 Series Transmitter, Foxboro N-2AI-H2V Input Card and N-2AO-V2H+P Series Converter, a Weschler VX-252 Indicator, and a Yokogawa µR100 Recorder. The Foxboro N-2AO-V2H+P Series Converter, Weschler VX-252 Indicator, and Yokogawa µR100 Recorder were not evaluated for drift based on the generic discussion for Instrument 1 above. The Foxboro N-E11 Series Transmitters and Foxboro N-2AI-H2V Input Card were evaluated quantitatively through a drift analysis to verify that drift for normal operating conditions is consistent with similar plant instruments used for protective functions. The results of these analyses will support a 24 month Surveillance interval.

Instrument 5, Pressurizer Water Level

This function is performed using a Foxboro N-E13 Series Differential Pressure Transmitter, a Foxboro N-2AI-H2V Input Card and N-2AO-V2H+P Series Converter, a Weschler VX-252 Indicator, and a Yokogawa µR100 Recorder. The Foxboro N-2AO-V2H+P Series Converter, Weschler VX-252 Indicator, and the Yokogawa µR100 Recorder were not evaluated for drift based on the generic discussion for Instrument 1 above. The Foxboro N-E13 Series Differential Pressure Transmitters and Foxboro N-2AI-H2V Input Cards were evaluated quantitatively through a drift analysis to verify that drift for normal operating conditions is consistent with similar plant instruments used for protective functions. The results of these analyses will support a 24 month Surveillance interval.

Instrument 6, Steam Line Pressure

This function is performed using Foxboro N-E11 Series Transmitters, Foxboro N-2AI-H2V Input Cards, Foxboro N-2AO-V2H+P Series Converters, a Weschler VX-252 Indicator, and a Taylor 1334JA18100 Indicator. The Foxboro N-2AO-V2H+P Series Converters, Weschler VX-252 Indicator, and Taylor

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1334JA18100 Indicator were not evaluated for drift based on the generic discussion for Instrument 1 above. The Foxboro N-E11 Series Transmitters and Foxboro N-2AI-H2V Input Cards were evaluated quantitatively through a drift analysis to verify that drift for normal operating conditions is consistent with similar plant instruments used for protective functions. The results of these analyses will support a 24 month Surveillance interval.

Instrument 7, Steam Generator Water Level – Narrow Range

This function is performed using Foxboro N-E13 Series Differential Pressure Transmitters, Foxboro N-2AI-H2V Input Cards, Foxboro N-2AO-V2H+P Series Converters, and a Weschler VX-252 Indicator. The Foxboro N-2AO-V2H+P Series Converters and the Weschler VX-252 Indicator were not evaluated for drift based on the generic discussion for Instrument 1 above. The Foxboro N-E13 Series Differential Pressure Transmitters and Foxboro N-2AI-H2V Input Cards were evaluated quantitatively through a drift analysis to verify that drift for normal operating conditions is consistent with similar plant instruments used for protective functions. The results of these analyses will support a 24 month Surveillance interval.

Instrument 8, Refueling Water Storage Tank Water Level

This function is performed using a Foxboro E13 Series Differential Pressure Transmitters, Foxboro N-2AI-H2V Input Cards, Foxboro N-2AO-V2H+P Series Converters, Devar 18-119 Series Isolators, a Leeds & Northrup 124 Series Recorder, and a Weschler VX-252 Indicator. The Foxboro N-2AO-V2H+P Series Converters, Devar 18-119 Series Isolators, Leeds & Northrup 124 Series Recorder, and Weschler VX-252 Indicator were not evaluated for drift based on the generic discussion for Instrument 1 above. The Foxboro E13 Series Differential Pressure Transmitters and Foxboro N-2AI-H2V Input Cards were evaluated quantitatively through a drift analysis to verify that drift for normal operating conditions is consistent with similar plant instruments used for protective functions. The results of these analyses will support a 24 month Surveillance interval.

Instrument 10, Auxiliary Feedwater Flow Rate

This function is performed using Foxboro N-E13 Series Differential Pressure Transmitters, Foxboro N-2AI-H2V and N-2CCA-SC & -DC Input Cards, Foxboro N-2AO-V2H+P Series Converters, and a Weschler VX-252 Indicator. The Foxboro N-2CCA-SC & -DC Input Cards, Foxboro N-2AO-V2H+P Series Converters, and the Weschler VX-252 Indicator were not evaluated for drift based on the generic discussion for Instrument 1 above. The Foxboro N-E13 Series Differential Pressure Transmitters and Foxboro N-2AI-H2V Input Cards were evaluated quantitatively through a drift analysis to verify that drift for normal operating conditions is consistent with similar plant instruments used for protective functions. The results of these analyses will support a 24 month Surveillance interval.

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Instrument 11, Reactor Coolant System Subcooling Margin Monitor

This function is performed by using various instrument loop inputs to the Subcooling Margin Monitor indication. Inputs from the Core Exit Thermocouples are provided by Whittaker Type K thermocouples as the sensing elements, Foxboro N 2AI-T2V+K+K, 2AO-V3I, 2AO-VAI, and 2AO-V2H Input Cards, and Foxboro N-2AO-V2H+P Series Converters. Inputs for Reactor Coolant System Wide Range Temperature are provided by 200 Ω Platinum RTDs as the sensing elements, Foxboro 66 Special and 66-BC-OH Input Cards, and Foxboro N-2AO-V2H+P and N-2AI-H2V+P Series Converters. Inputs for the Reactor Coolant System Wide Range Pressure are provided by Foxboro N-E11 Series Pressure Transmitters, Foxboro N-2AI-H2V Input Cards, and Foxboro N-2AO-V2H+P and N-2AI-H2V+P Series Converters. Foxboro N-2CCA-SC Spec 200 Micro Control Cards provide the Subcooling Margin computation and provide output to the Subcooling Margin Monitor Indicators via Foxboro N-2AO-V2I+P Series Converters. The Indicators are Wavetek Model 500D Indicators. The RTDs and thermocouples are not calibrated, and as such, instrument drift does not apply to these devices. Response of the RTDs and thermocouples to temperature variations during normal plant operation verifies proper operation of the input signal. With the exception of the Foxboro N-2AI-H2V Input Cards, the Input Cards, Converters, and Indicators were not evaluated for drift based on the generic discussion for Instrument 1 above. The Foxboro N-E11 Pressure Transmitters and Foxboro N-2AI-H2V Input Cards were evaluated quantitatively through a drift analysis to verify that drift for normal operating conditions is consistent with similar plant instruments used for protective functions. The results of these analyses will support a 24 month Surveillance interval.

Instrument 15, Incore Thermocouples (Core Exit Thermocouples)

This function is performed using Whittaker Type K thermocouples as the sensing elements, Foxboro 2AO-V3I and 2AO-VAI Input Cards, a Foxboro N-2AI-T2V+K+K Series Converter, and a Yokogawa DR 240 Recorder. The thermocouples are not calibrated, and as such, instrument drift does not apply to these devices. Response of the thermocouples to temperature variations during normal plant operation verifies proper operation of the input signal. The Foxboro 2AO-V3I and 2AO-VAI Input Cards, Foxboro N-2AI-2V+K+K Series Converter, and Yokogawa DR 240 Indicators were not evaluated for drift based on the generic discussion for Instrument 1 above. The results of these analyses will support a 24 month Surveillance interval.

Instrument 16, Reactor Coolant Inventory Tracking System (Reactor Vessel Level Indication)

This function is performed by a loop consisting of sensing elements, signal processing equipment, and indicators. The sensing elements include Foxboro N-E11 Series Transmitters and Barton 764 Differential Pressure Transmitters providing pressure and level signals and Conax RTDs providing Wide Range RCS Temperature signals. The Barton 764 Differential Pressure Transmitter (level) sensing lines are temperature (sensing line and RCS) and pressure (RCS) compensated, with the sensing line temperature compensation

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signal provided by Minco RTDs. The signal processing equipment is contained not only within the various sensing element loops, but also in a Westinghouse 7300 Rack that generates the actual level signal for output to the Level Indicators. The Foxboro rack equipment for signal processing includes Model N-2AI-H2V and N-2AI-P2V Input Cards and N-2AO-V2H+P Converters. The Westinghouse 7300 rack signal processing equipment consists of Model NRA2 and NLP2 Input Cards, Model NCT4 and NTC4 test Input Cards, and Model NCH9, NCH10, NCH11, NCH12, NCH13, NCI1, NLL1, NLP3, NMD1, NPC1, NSA, NSA2, NSA3, NSA4 and NSC7 Converters and signal processing cards. The Level Indicators are Weschler VX-252 Indicators. The RTDs are not calibrated, and as such, instrument drift does not apply to these devices. Response of the RTDs to temperature variations during normal plant operation verifies proper operation of the input signal. The signal processing equipment and Indicators (with the exception of the Foxboro N-2AI-H2V and Foxboro N-2AI-P2V Input Cards) were not evaluated for drift based on the generic discussion for Instrument 1 above. The Foxboro N-E11 Series Transmitters, Barton 764 Differential Pressure Transmitters, Foxboro N-2AI-H2V Input Cards for the RCS Pressure input, and the Foxboro N-2AI-P2V Input Cards for the RCS Temperature input were evaluated quantitatively through a drift analysis to verify that drift for normal operating conditions with the extended calibration interval was consistent with drift for normal operating conditions at the current calibration interval. The results of these analyses will support a 24 month Surveillance interval.

Instrument 18, Containment Water Level

This function is performed using a FCI CL-86 Level Transmitter, Foxboro N-2AI-H2V Input Cards, Foxboro N-2AO-V2H+P Series Converters, and a Weschler VX-252 Indicator. The Foxboro N-2AO-V2H+P Converter and the Weschler VX-252 Indicator were not evaluated for drift based on the generic discussion for Instrument 1 above. The FCI CL-86 Level Transmitters and the Foxboro N-2AI-H2V Input Cards were evaluated quantitatively through a drift analysis to verify that drift for normal operating conditions is consistent with similar plant instruments used for protective functions. The results of these analyses will support a 24 month Surveillance interval.

<u>CTS Table 4.3-3</u>

Instrument 1.A.ii, Containment High Range Area Monitors

This function is performed using Victoreen 877-1 Hi Range Radiation Monitoring Element as the sensing element and Victoreen 876-A-1 and 879-1 Hi Range Radiation Monitoring Readout Modules and Eberline SPING-4 Hi Range Radiation Monitoring Readout Modules for the output indication. These components were not evaluated for drift because, for radiation monitors, the major error contributor is the accuracy of the detector and the calibration sources. In the case of the calibration sources, normally multiple readings are required and an average reading is used to confirm operation. The accuracy of the decay curves and detector sensitivity may be from 12% to 30%. This accuracy far overshadows the accuracy of the electronic signal conditioning circuit. Therefore, drift of the electronic circuit does not provide a measure of functional performance over time between calibrations. This is substantiated by the ANSI N42.18 acceptance criteria of + 20%, which also recognizes that + 30% for alarm points satisfies the accuracy needed for Emergency Plan decisions and license requirements. The results of these analyses will support a 24 month Surveillance interval or the interval.

Based on the design of the instrumentation and the drift evaluations (where applicable), it is concluded that the impact, if any, from this change on system availability is minimal. A review of the Surveillance test history was performed to validate the above conclusion. This review demonstrates that there are no failures that would invalidate the conclusion that the impact, if any, on system availability from this change is minimal. In addition, the proposed 24 month Surveillance Frequency, if performed at the maximum interval allowed by ITS SR 3.0.2 (30 months) does not invalidate any assumptions in the unit licensing basis. This change is designated as less restrictive because Surveillances will be performed less frequently under the ITS than under the CTS.

L.7 *(Category 1 – Relaxation of LCO Requirements)* CTS 3.3.3.1 and CTS Table 3.3-6, Instrument 1.A.ii provides alarm setpoint requirements for the Containment High Range Area Monitors. CTS 3.3.3.1 Action a provides actions to take when the Containment High Range Area Monitors alarm setpoint exceeds the specified value. ITS 3.3.3 does not include alarm setpoint for the Containment Area Radiation (High Range) instrumentation. This changes the CTS by eliminating the alarm setpoint requirements for the Containment High Range Area Monitors.

The purpose of the Containment High Range Area Monitors PAM instrumentation is to provide the control room operator with indication of adverse conditions in containment. This change is acceptable because the alarm setpoint is not necessary for the Containment High Range Area Monitors PAM instrumentation to perform its specified function of providing indication to the control room operators. ITS 3.3.3 requires the Containment Area Radiation (High Range) instrumentation to be OPERABLE. The ITS 3.3.3 requirement and the definition of OPERABLE-OPERABILITY are adequate to ensure that the Containment Area Radiation (High Range) PAM instrumentation remain capable of providing indication to the control room operators. This change is designated as less restrictive because less stringent LCO requirements are being applied in the ITS than were applied in the CTS.

L.8 *(Category 5 – Deletion of Surveillance Requirement)* CTS 4.3.3.1 and CTS Table 4.3-3 require the performance of a CHANNEL FUNCTIONAL TEST of Containment High Range Area Monitors. ITS 3.3.3 does not require a CHANNEL FUNCTIONAL TEST be performed for Containment Area Radiation (High Range) PAM instrumentation. This changes the CTS by eliminating the CHANNEL FUNCTIONAL TEST for the Containment Area Radiation (High Range) PAM instrumentation.

The purpose of CTS Table 4.3-3 Surveillances is to ensure the Containment Area Radiation (High Range) PAM instrumentation will function as designed during an analyzed event. This change is acceptable because the deleted

Surveillance Requirement is not necessary to verify that the capability of equipment used to meet the LCO is consistent with assumption in the safety analysis. Thus, appropriate equipment continues to be tested in a manner and at a Frequency necessary to give confidence that the assumptions in the safety analyses are satisfied. The ITS SRs for the instruments continue to provide sufficient test requirements to ensure the OPERABILITY of the Containment Area Radiation (High Range) PAM instrumentation. The elimination of the CTS SR does not affect reactor protection or accident mitigation. The ITS SRs are consistent with other PAM instrumentation channels and ensure the functions remain OPERABLE. This change is designated as less restrictive because Surveillances which are required in the CTS will not be required in the ITS.

L.9 *(Category 2 – Relaxation of Applicability)* CTS Tables 3.3-6 and 4.3-3 require the Containment High Range Area Monitors to be OPERABLE in MODES 1, 2, 3, and 4. ITS 3.3.3 requires the Containment Area Radiation (High Range) PAM Function to be OPERABLE in MODES 1, 2, and 3. This changes the CTS by deleting the requirements for the Function in MODE 4.

The purpose of the Containment Area Radiation (High Range) PAM instrumentation requirements is to ensure that the control room operators are provided with information regarding adverse conditions in containment following a design basis event. This change is acceptable because the requirements continue to ensure that the instruments are maintained in the MODES and other specified conditions assumed in the safety analyses and licensing basis. Containment Area Radiation (High Range) PAM instrumentation is required to be OPERABLE in MODES 1, 2, and 3. This is acceptable because in MODES 4, 5, and 6, accidents of the type that would require these instruments are less likely to occur because of reduced temperature and pressure in the RCS and secondary system. This change is designated as less restrictive because the LCO requirements are applicable in fewer operating conditions than in the CTS.

L.10 *(Category 13 – Addition of LCO 3.0.4 Exception)* CTS 3.6.4.1 provides requirements for containment hydrogen analyzers, but does not include an exception to CTS 3.0.4. Thus, CTS 3.0.4 would preclude changing MODES when one or both hydrogen analyzers are inoperable. ITS 3.3.3 ACTION Note 1 states "LCO 3.0.4 is not applicable." This changes the CTS by allowing entry into the MODE of Applicability with one or both hydrogen analyzers inoperable.

The purpose of CTS 3.6.4.1 is to provide the capability to detect high hydrogen concentration levels in containment that represent a potential for containment breach from a hydrogen uncontrolled burn following a Design Basis Accident. The change allows entry into the MODE of Applicability with one or both hydrogen analyzers inoperable. The hydrogen analyzers do not impact normal unit operation and would not provide additional initiators for unit transients during MODE changes. This change is acceptable because the Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. The Required Actions are consistent with safe operation under the specified condition, considering the passive function of these PAM instruments and the operator's ability to respond to an accident utilizing redundant instruments or alternative monitoring means for monitoring hydrogen concentration in containment. Therefore, the capability to detect high hydrogen concentration levels in containment that represent a potential for containment breach from a hydrogen uncontrolled burn following a Design Basis Accident is maintained. The change is also considered acceptable since the probability of an event requiring the operator to utilize this instrumentation to respond to the event is low. This change is designated as less restrictive because the ACTIONS Note allows entry into the MODE of Applicability with one or two inoperable containment hydrogen monitors.

L.11 *(Category 3 – Relaxation of Completion Time)* CTS Table 3.3-6 Action 22A requires, when one or both Containment High Range Area Monitor channels become inoperable, the inoperable channels to be restored to OPERABLE status within 7 days. ITS 3.3.3 ACTION A allows 30 days to restore one inoperable channel of the Containment Area Radiation (High Range) Function to OPERABLE status. This changes the CTS by allowing one channel of the Containment Area Radiation (High Range) Function to be inoperable for a period of 30 days.

The purpose of the CTS allowed outage times is to limit unit operation in the MODES of Applicability when required equipment is inoperable. This change is acceptable due to the passive function of these PAM instruments and the operator's ability to respond to an accident utilizing redundant instruments. The change is also considered acceptable since the probability of an event requiring the operator to utilize this instrumentation to respond to the event is low. This change is designated as less restrictive because additional time is allowed to restore instrument channels to OPERABLE status than was allowed in the CTS.

L.12 *(Category 7 – Relaxation Of Surveillance Frequency, Non-24 Month Type Change)* CTS Table 4.3-3 requires the performance of a CHANNEL CHECK of the Containment High Range Area Monitors once per 12 hours. ITS SR 3.3.3.1 requires the performance of a CHANNEL CHECK of the Containment Area Radiation (High Range) Function instrumentation once per 31 days. This changes the CTS by extending the Surveillance interval for performance of a CHANNEL CHECK of the Containment Area Radiation (High Range) Function instrumentation from 12 hours to 31 days.

The purpose of the CHANNEL CHECK is to perform a qualitative assessment to ensure that gross instrumentation failure has not occurred. This change is acceptable because the new Surveillance Frequency has been evaluated to ensure that it provides an acceptable level of equipment reliability. This change extends the Surveillance Frequency for performance of a CHANNEL CHECK of the Containment Area Radiation (High Range) Function instrumentation from 12 hours to 31 days. This change is acceptable since a Frequency of 31 days for the CHANNEL CHECK of this instrumentation provides adequate assurance that a gross failure will be detected since operating experience demonstrates that channel failure is rare. This change is designated as less restrictive because Surveillances will be performed less frequently under the ITS than under the CTS.

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L.13 *(Category 7 – Relaxation Of Surveillance Frequency, Non-24 Month Type Change)* CTS 4.6.4.1 requires each hydrogen analyzer to be demonstrated OPERABLE at least once per 92 days "on a STAGGERED TEST BASIS" by performing a CHANNEL CALIBRATION. ITS SR 3.3.3.2 requires a CHANNEL CALIBRATION of the hydrogen monitors to be performed at a Frequency of every 92 days, but does not include the "STAGGERED TEST BASIS" requirement. This changes the CTS by deleting the requirement to test on a STAGGERED TEST BASIS.

The purpose of the CHANNEL CALIBRATION surveillance is to demonstrate the OPERABILITY of the hydrogen monitors. This change is acceptable because the new Surveillance Frequency has been evaluated to ensure that it provides an acceptable level of equipment reliability. This change deletes the requirement to perform the CHANNEL CALIBRATION on a STAGGERED TEST BASIS. The intent of a requirement for staggered testing is to increase reliability of the component/system being tested. A number of studies have been performed that have demonstrated that staggered testing has negligible impact on component reliability. These analytical and subjective analyses have determined that staggered testing 1) is operationally difficult, 2) has negligible impact on component reliability, 3) is not as significant as initially thought, 4) has no impact on failure frequency, 5) introduces additional stress on components potentially causing increased component failures rates and component wearout, 6) results in reduced redundancy testing, and 7) increases likelihood of human error by increasing testing intervals. Therefore, the hydrogen monitors CHANNEL CALIBRATION staggered testing requirements have been deleted. This change is designated as less restrictive because the intervals between performances of the Surveillances for the two hydrogen monitors can be larger or smaller under the ITS than under the CTS.

L.14 *(Category 1 – Relaxation of LCO Requirements)* CTS Table 3.3-6, Instrument 1.A.ii specifies the Containment High Range Area Monitor channel instrument numbers to be VRA 1310/1410 (Unit 1) and VRA 2310/2410 (Unit 2). ITS Table 3.3.3-1 Function 10 does not specify the instrument numbers. This changes the CTS by deleting the Containment High Range Area Monitor channel instrument numbers from the Technical Specifications.

The purpose of CTS Table 3.3-6, Instrument 1.A.ii is to ensure the appropriate instrument channels are OPERABLE. This change is acceptable because the LCO and associated Surveillance Requirements continue to ensure that the instrumentation is maintained consistent with the safety analyses and licensing basis. The Containment High Range Area Monitor instrument channel numbers have been deleted from the Technical Specifications. The instrument numbers are not necessary to ensure the equipment is OPERABLE. The requirements to maintain the instrumentation (Containment Area Radiation (High Range) channels) OPERABLE is sufficient to ensure the appropriate equipment is maintained OPERABLE. The use of a description of the instrument channel in the Technical Specifications has been proven to be sufficient. This change is designated as less restrictive because less stringent LCO requirements are being applied in the ITS than were applied in the CTS.

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Improved Standard Technical Specifications (ISTS) Markup and Justification for Deviations (JFDs)

CTS

3.3 INSTRUMENTATION

3.3.3 Post Accident Monitoring (PAM) Instrumentation

Unit 1 LCO 3.3.3.8, Unit 2 LCO 3.3.3.6, LCO 3.3.3.1, LCO 3.6.4.1

LCO 3.3.3 The PAM instrumentation for each Function in Table 3.3.3-1 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

Unit 1 3.3.3.8 Action c, Unit 2 3.3.3.6 Action c, 3.3.3.1 Action c, Table 3.3-6 Action 22A.3

DOCs A.2 and M.4

- NOTES -

1. LCO 3.0.4 is not applicable.
2. Separate Condition entry is allowed for each Function. INSERT 1 7

CTS	CONDITION	REQUIRED ACTION	COMPLETION TIME
Unit 1 3.3.3.8 Actions a and b, Unit 2 3.3.3.6 Actions a and b, 3.6.4.1 Action, Table 3.3-6 Action 22A.1	A. One or more Functions with one required channel inoperable.	A.1 Restore required channel to OPERABLE status.	30 days
Unit 1 3.3.3.8 Actions a and b, Unit 2 3.3.3.6 Actions a and b, Table 3.3-6 Action 22A.2, 3.6.4.1 Action a	B. Required Action and associated Completion Time of Condition A not met.	B.1 Initiate action in accordance with Specification 5.6.~~0~~ 6.	Immediately 6
Unit 1 3.3.3.8 Action a, Unit 2 3.3.3.6 Action a, Table 3.3-6 Action 22A.1, Doc L.5	C. - NOTE - Not applicable to hydrogen monitor channels. One or more Functions with two required channels inoperable.	C.1 Restore one channel to OPERABLE status.	7 days
3.6.4.1 Action b	D. Two hydrogen monitor channels inoperable.	D.1 Restore one hydrogen monitor channel to OPERABLE status.	72 hours

7 **INSERT 1**

In addition, separate Condition entry is allowed within a Function as follows: (a) for Functions 2, 13, 19, and 22 on a steam generator basis; (b) for Function 20 on a cold leg injection line basis; and (c) for Functions 26, 27, and 28 on a pump basis.

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CTS

ACTIONS (continued)

	CONDITION	REQUIRED ACTION		COMPLETION TIME
Unit 1 3.3.3.8 Action a, Unit 2 3.3.3.6 Action a, Table 3.3-6 Action 22A, 3.6.4.1 Action b	E. Required Action and associated Completion Time of Condition C or D not met.	E.1	Enter the Condition referenced in Table 3.3.3-1 for the channel.	Immediately
Unit 1 3.3.3.8 Action a, Unit 2 3.3.3.6 Action a, DOC L.5	F. As required by Required Action E.1 and referenced in Table 3.3.3-1.	F.1	Be in MODE 3.	6 hours
		AND		
		F.2	Be in MODE 4.	12 hours
3.6.4.1 Action, Unit 1 3.3.3.8 Action c, Unit 2 3.3.3.6 Action c, Table 3.3-6 Action 22A.2	G. As required by Required Action E.1 and referenced in Table 3.3.3-1.	G.1	Initiate action in accordance with Specification 5.6.~~7~~ 6.	Immediately

⑥

SURVEILLANCE REQUIREMENTS

Unit 1 4.3.3.8, Unit 2 4.3.3.6

- NOTE -

These SRs ~~SR 3.3.3.1 and SR 3.3.2~~ apply to each PAM instrumentation Function in Table 3.3.3-1 except where identified in the SR. (1)

	SURVEILLANCE		FREQUENCY
Unit 1 4.3.3.8, Unit 2 4.3.3.6, 4.3.3.1, DOC M.4	SR 3.3.3.1	Perform CHANNEL CHECK for each required instrumentation channel that is normally energized.	31 days
Unit 1 4.3.3.8, Unit 2 4.3.3.6, DOC M.4	SR 3.3.3.~~2~~ 3	- NOTE - Neutron detectors are excluded from CHANNEL CALIBRATION. (1) Perform CHANNEL CALIBRATION for Functions other than Function 11. (1)	~~[18]~~ 24 months (2)

INSERT 2

4.6.4.1

CTS

1

INSERT 2

4.6.4.1	SR 3.3.3.2	Perform CHANNEL CALIBRATION for Function 11.	92 days

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3 (All changes on this page, except where noted)

PAM Instrumentation
3.3.3

CTS
Unit 1 Table 3.3-11
Unit 2 Table 3.3-10

Table 3.3.3-1 (page 1 of 1)
Post Accident Monitoring Instrumentation

CTS		FUNCTION	REQUIRED CHANNELS	CONDITION REFERENCED FROM REQUIRED ACTION E.1
Doc M.4	1.	~~Power Range~~ Neutron Flux Steam Generator Pressure	2	F
6	2.	~~Source Range Neutron Flux~~	2 per steam generator	F
2	3.	Reactor Coolant System (RCS) Hot Leg Temperature (Wide Range)	2 ~~per loop~~	F
3	4.	RCS Cold Leg Temperature (Wide Range)	2 ~~per loop~~	F
4	5.	RCS Pressure (Wide Range)	2	F
16	6.	Reactor ~~Vessel Water Level~~ Coolant Inventory Tracking System (Reactor Vessel Level Indication)	2	G
18	7.	Containment ~~Sump~~ Water Level ~~(Wide Range)~~	2	F
1	8.	Containment Pressure (~~Wide~~ Narrow Range)	2	F
Doc M.4	9.	Penetration Flow Path Containment Isolation Valve Position	2 per penetration flow path[(a)(b)]	F
Table 3.3-6 item 1.A.11	10.	Containment Area Radiation (High Range)	2	G
LCO 3.6.4.1	11.	Hydrogen Monitor~~s~~	2	F
5	12.	Pressurizer Level	2	F
Doc M.4	13.	Steam Generator Water Level (Wide Range)	~~2~~ 1 per steam generator	F
Doc M.4	14.	Condensate Storage Tank Level	~~2~~ 1	F
15	15.	Core Exit Temperature - Quadrant ~~[1]~~	2[(c)]	F
15	16.	Core Exit Temperature - Quadrant ~~[2]~~	2[(c)]	F
15	17.	Core Exit Temperature - Quadrant ~~[3]~~	2[(c)]	F
15	18.	Core Exit Temperature - Quadrant ~~[4]~~	2[(c)]	F
10	19.	Auxiliary Feedwater Flow	~~2~~ 1 per steam generator (d)	F

Doc M.4 (a) Not required for isolation valves whose associated penetration is isolated by at least one closed and deactivated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured.

Doc M.4 (b) Only one position indication channel is required for penetration flow paths with only one installed control room indication channel.

15 (c) A channel consists of ~~two~~ One core exit thermocouple~~s~~ (CET~~s~~).

~~- REVIEWER'S NOTE -~~
~~Table 3.3.3-1 shall be amended for each unit as necessary to list:~~
~~1. All Regulatory Guide 1.97, Type A instruments and~~
~~2. All Regulatory Guide 1.97, Category I, non-Type A instruments in accordance with the unit's Regulatory Guide 1.97, Safety Evaluation Report.~~

4

INSERT 3 — 3

INSERT 4 — 5

CTS
Unit 1 Table 3.3-11
Unit 2 Table 3.3-10

3

INSERT 3

DOC M.4	20. Centrifugal Charging Pump Flow	1 per cold leg injection line	F
DOC M.4	21. Safety Injection Pump Flow	2	F
7	22. Steam Generator Water Level (Narrow Range)	2 per steam generator	F
DOC M.4	23. Containment Pressure (Wide Range)	2	F
8	24. Refueling Water Storage Tank Level	2	F
11	25. RCS Subcooling Margin Monitor	1	F
DOC M.4	26. Component Cooling Water Pump Circuit Breaker Status	1 per pump	F
DOC M.4	27. Centrifugal Charging Pump Circuit Breaker Status	1 per pump	F
DOC M.4	28. Safety Injection Pump Circuit Breaker Status	1 per pump	F

5

INSERT 4

* Note

(d) Function 22, Steam Generator Water Level (Narrow Range), channel(s) may be credited to satisfy the corresponding Function 19, Auxiliary Feedwater Flow, channel(s) OPERABLITY requirements.

JUSTIFICATION FOR DEVIATIONS
ITS 3.3.3, POST ACCIDENT MONITORING (PAM) INSTRUMENTATION

1. An additional CHANNEL CALIBRATION (ITS SR 3.3.3.2) has been added consistent with the current licensing basis for performing CHANNEL CALIBRATION of the hydrogen analyzers. The Note to the Surveillance Requirements has been modified and the subsequent Surveillance has been modified and renumbered due to the addition.

2. The brackets are removed and the proper plant specific information/value is provided.

3. The PAM Instrumentation Functions and number of required channels have been revised in ISTS Table 3.3.3-1 to reflect the CNP nomenclature, design, and licensing basis with respect to the plant-specific Regulatory Guide 1.97 Type A instruments and Category 1, non-Type A, instruments.

4. The ISTS Reviewer's Note has been deleted since it is not intended to be included in the ITS.

5. A new footnote (d) is added to ISTS Table 3.3.3-1, Function 19, Auxiliary Feedwater Flow to allow ITS Table 3.3.3-1, Function 22, Steam Generator Water Level (Narrow Range) channel(s) to be credited with satisfying the corresponding Auxiliary Feedwater Flow channel(s) OPERABILITY requirements. This change is consistent with the allowances of the "*" footnote in Unit 1 CTS Table 3.3-11 and Unit 2 CTS Table 3.3-10.

6. Changes have been made due to changes in other Specifications.

7. The ISTS ACTIONS NOTE has been revised to allow separate Condition entry for certain Functions specified on a steam generator, a cold leg injection line, and a pump basis. The allowance is also consistent with the current allowances in the CTS for Functions 2, 19, and 22. There are no requirements in the CTS for Functions 13, 20, 26, 27, and 28. The requirements for these Functions have been added in accordance with ITS 3.3.3 DOC M.4. This change has been made to be consistent with the allowances specified in the Bases for ISTS 3.3.2 for similar type Functions and the modified ACTIONS Note in the ITS 3.3.2.

Improved Standard Technical Specifications (ISTS) Bases Markup and Justification for Deviations (JFDs)

B 3.3 INSTRUMENTATION

B 3.3.3 Post Accident Monitoring (PAM) Instrumentation

BASES

BACKGROUND

The primary purpose of the PAM instrumentation is to display unit variables that provide information required by the control room operators during accident situations. This information provides the necessary support for the operator to take the manual actions for which no automatic control is provided and that are required for safety systems to accomplish their safety functions for Design Basis Accidents (DBAs).

The OPERABILITY of the accident monitoring instrumentation ensures that there is sufficient information available on selected unit parameters to monitor and to assess unit status and behavior following an accident.

The availability of accident monitoring instrumentation is important so that responses to corrective actions can be observed and the need for, and magnitude of, further actions can be determined. These essential instruments are identified ~~by unit specific documents (Ref. 1)~~ In References 1 and 2 (1) addressing the recommendations of Regulatory Guide 1.97 (Ref. 2) 3 as required by Supplement 1 to NUREG-0737 (Ref. 3) 4. (1)

The instrument channels required to be OPERABLE by this LCO include two classes of parameters identified during unit specific implementation of Regulatory Guide 1.97 as Type A and Category I variables. (5)

~~Type A variables are included in this LCO because they provide the primary information required for the control room operator to take specific manually controlled actions for which no automatic control is provided, and that are required for safety systems to accomplish their safety functions for DBAs. Because the list of Type A variables differs widely between units, Table 3.3.3-1 in the accompanying LCO contains no examples of Type A variables, except for those that may also be Category I variables.~~ (2)

~~Category I variables are the key variables deemed risk significant because they are needed to:~~

- ~~Determine whether other systems important to safety are performing their intended functions,~~
- ~~Provide information to the operators that will enable them to determine the likelihood of a gross breach of the barriers to radioactivity release, and~~ (2)

BASES

BACKGROUND (continued)

- ~~Provide information regarding the release of radioactive materials to allow for early indication of the need to initiate action necessary to protect the public, and to estimate the magnitude of any impending threat.~~ 2

These key variables are identified by the unit specific Regulatory Guide 1.97 analyses (Ref. 1). These analyses identify the unit specific Type A and Category I variables and provide justification for deviating from the NRC ~~proposed list of Category I variables~~. 5 1 guidance in Reference 3

~~- REVIEWER'S NOTE -~~
~~Table 3.3.3-1 provides a list of variables typical of those identified by the unit specific Regulatory Guide 1.97 analyses. Table 3.3.3-1 in unit specific Technical Specifications (TS) shall list all Type A and Category I variables identified by the unit specific Regulatory Guide 1.97 analyses, as amended by the NRC's Safety Evaluation Report (SER).~~ 3

The specific instrument Functions listed in Table 3.3.3-1 are discussed in the LCO section. 4

APPLICABLE SAFETY ANALYSES

The PAM instrumentation LCO ensures the ~~operability~~ OPERABILITY 5 of Regulatory Guide 1.97 Type A ~~and Category I~~ 2 variables so that the control room operating staff can:

- Perform the diagnosis specified in the emergency operating procedures (these variables are restricted to preplanned actions for the primary success path of DBAs), e.g., loss of coolant accident (LOCA)~~;~~ and 2 ; 7
- Take the specified, pre-planned, manually controlled actions, for which no automatic control is provided, and that are required for safety systems to accomplish their safety function~~s~~. 2
- Determine whether systems important to safety are performing their intended functions~~;~~ ; 7
- Determine the likelihood of a gross breach of the barriers to radioactivity release~~;~~ ;
- Determine if a gross breach of a barrier has occurred~~;~~ ; and

INSERT 1 2

2

INSERT 1

The PAM Instrumentation LCO also ensures the OPERABILITY of Category 1, non-Type A, variables so the control room staff can:

BASES

APPLICABLE SAFETY ANALYSES (continued)

- Initiate action necessary to protect the public and to estimate the magnitude of any impending threat.

PAM instrumentation that meets the definition of Type A in Regulatory Guide 1.97 satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii). Category 1, 5
non-Type A, instrumentation must be retained in TS because it is intended to assist operators in minimizing the consequences of accidents. Therefore, Category 1 non-Type A, variables are important for reducing public risk. 5

LCO

The PAM instrumentation LCO provides OPERABILITY requirements for Regulatory Guide 1.97 Type A monitors, which provide information required by the control room operators to perform certain manual actions specified in the unit Emergency Operating Procedures. These manual actions ensure that a system can accomplish its safety function, and are credited in the safety analyses. Additionally, this LCO addresses Regulatory Guide 1.97 instruments that have been designated Category I, non-Type A.

The OPERABILITY of the PAM instrumentation ensures there is sufficient information available on selected unit parameters to monitor and assess unit status following an accident. This capability is consistent with the recommendations of Reference ~~4~~ 3. 1

LCO 3.3.3 requires two OPERABLE channels for most Functions. Two OPERABLE channels ensure no single failure prevents operators from getting the information necessary for them to determine the safety status of the unit, and to bring the unit to and maintain it in a safe condition following an accident.

Furthermore, OPERABILITY of two channels allows a CHANNEL CHECK during the post accident phase to confirm the validity of displayed information. ~~More than two channels may be required at some units if the unit specific Regulatory Guide 1.97 analyses (Ref. 1) determined that failure of one accident monitoring channel results in information ambiguity (that is, the redundant displays disagree) that could lead operators to defeat or fail to accomplish a required safety function.~~ 1 1

~~The~~ One exception to the two channel requirement is Containment Isolation Valve (CIV) Position. In this case, the important information is the status of the containment penetrations. The LCO requires one position indicator for each active CIV. This is sufficient to redundantly verify the isolation status of each isolable penetration either via indicated status of the active

1 – (All changes on this page, except as Noted)

BASES

LCO (continued)

valve and prior knowledge of a passive valve, or via system boundary status. If a normally active CIV is known to be closed and deactivated, position indication is not needed to determine status. Therefore, the position indication for valves in this state is not required to be OPERABLE.

~~Table 3.3.3-1 provides a list of variables typical of those identified by the unit specific Regulatory Guide 1.97 (Ref. 1) analyses. Table 3.3.3-1 in unit specific TS should list all Type A and Category I variables identified by the unit specific Regulatory Guide 1.97 analyses, as amended by the NRC's SER.~~

3 5

Type A and Category 1 variables ~~are required to~~ meet Regulatory Guide 1.97 Category 1 (Ref. 2) design and qualification requirements for seismic and environmental qualification, single failure criterion, utilization of emergency standby power, immediately accessible display, continuous readout, and recording of display. INSERT 1A

Listed below are discussions of the specified instrument Functions listed in Table 3.3.3-1. ~~These discussions are intended as examples of what should be provided for each Function when the unit specific list is prepared.~~

1, 2. ~~Power Range and Source Range~~ Neutron Flux

~~Power Range and Source Range~~ Neutron Flux ~~indication is~~ is a Category 1 variable provided to verify reactor shutdown. The ~~two~~ ranges ~~are necessary to~~ cover(s) the full range of flux that may occur post accident. INSERT 1B 5

~~Neutron flux is used for accident diagnosis, verification of subcriticality, and diagnosis of positive reactivity insertion.~~

INSERT 2

3, 4. Reactor Coolant System (RCS) Hot and Cold Leg Temperatures (Wide Range)

RCS Hot and Cold Leg Temperatures are Type A, Category 1 variables provided for verification of core cooling and long term surveillance. 5

RCS hot and cold leg temperatures are used to determine RCS subcooling margin. ~~RCS subcooling margin will allow termination of safety injection (SI), if still in progress, or reinitiation of SI if it has been stopped. RCS subcooling margin is also used for unit stabilization and cooldown control.~~

1 **INSERT 1A**

, except for approved deviations, as described in References 1 and 2.

1 **INSERT 1B**

of each of the two neutron flux instruments (10E-8 to 200% power)

1 **INSERT 2**

2. Steam Generator Pressure

Steam Generator Pressure is a Type A, Category 1 variable provided for determination of required core exit temperature. Three steam generator pressure channels per steam generator are provided. Each channel has a range of 0 psig to 1200 psig. However, only two steam generator pressure channels per steam generator are required to satisfy the guidance in Reference 3.

1 (All changes on this page, except as noted)

BASES

LCO (continued)

~~In addition, RCS cold leg temperature is used in conjunction with RCS hot leg temperature to verify the unit conditions necessary to establish natural circulation in the RCS.~~

INSERT 3

~~Reactor outlet temperature inputs to the Reactor Protection System are provided by two fast response resistance elements and associated transmitters in each loop.~~ The channels provide indication over a range of ~~32~~ 0°F to 700°F.

5. ~~Reactor Coolant System~~ RCS Pressure (Wide Range)

RCS wide range pressure is a Type A ~~Category 1~~ variable provided for verification of core cooling and RCS integrity long term surveillance. 5

~~RCS pressure is used to verify delivery of SI flow to RCS from at least one train when the RCS pressure is below the pump shutoff head. RCS pressure is also used to verify closure of manually closed spray line valves and pressurizer power operated relief valves (PORVs).~~

INSERT 4

In addition ~~to these verifications~~, RCS wide range pressure is used for determining RCS subcooling margin. ~~RCS subcooling margin will allow termination of SI, if still in progress, or reinitiation of SI if it has been stopped. RCS pressure can also be used:~~

- ~~to determine whether to terminate actuated SI or to reinitiate stopped SI,~~
- ~~to determine when to reset SI and shut off low head SI,~~
- ~~to manually restart low head SI,~~
- ~~as reactor coolant pump (RCP) trip criteria, and~~
- ~~to make a determination on the nature of the accident in progress and where to go next in the procedure.~~

~~RCS subcooling margin is also used for unit stabilization and cooldown control.~~

~~RCS pressure is also related to three decisions about depressurization. They are:~~

INSERT 5

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1 **INSERT 3**

The RCS hot leg and RCS cold leg channels each receive input from one resistance temperature detector (RTD). In each of RCS loops 1 and 3, there is one RCS hot leg RTD and one RCS cold leg RTD that satisfy the guidance of Reference 3.

1 **INSERT 4**

as criteria to manually trip the reactor coolant pumps

1 **INSERT 5**

Two RCS Pressure (Wide Range) channels are provided, each with a range of 0 psig to 3000 psig.

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BASES

LCO (continued)

- ~~to determine whether to proceed with primary system depressurization,~~
- ~~to verify termination of depressurization, and~~
- ~~to determine whether to close accumulator isolation valves during a controlled cooldown/depressurization.~~

~~A final use of RCS pressure is to determine whether to operate the pressurizer heaters.~~

~~In some units, RCS pressure is a Type A variable because the operator uses this indication to monitor the cooldown of the RCS following a steam generator tube rupture (SGTR) or small break LOCA. Operator actions to maintain a controlled cooldown, such as adjusting steam generator (SG) pressure or level, would use this indication. Furthermore, RCS pressure is one factor that may be used in decisions to terminate RCP operation.~~

Reactor Coolant Inventory Tracking System

6. Reactor Vessel ~~Water~~ Level ~~Indication~~

a Category 1 variable

Reactor Vessel Water Level is provided for verification and long term surveillance of core cooling. ~~It is also used for accident diagnosis and to determine reactor coolant inventory adequacy.~~

Reactor Coolant Inventory Tracking

Reactor coolant inventory

The ~~Reactor Vessel Water Level Monitoring~~ System provides a direct measurement of the collapsed liquid level above the fuel alignment plate. The collapsed level represents the amount of liquid mass that is in the reactor vessel above the core. Measurement of the collapsed water level is selected because it is a direct indication of the water inventory.

INSERT 6

7. Containment ~~Sump~~ Water Level ~~(Wide Range)~~

~~Containment Sump Water Level is provided for verification and long term surveillance of RCS integrity.~~

INSERT 7

~~Containment Sump Water Level is used to determine:~~

- ~~containment sump level accident diagnosis,~~
- ~~when to begin the recirculation procedure, and~~

1 **INSERT 6**

The Reactor Coolant Inventory Tracking System consists of two channels of instrumentation. Each channel is capable of measuring upper plenum level, narrow range level, and dynamic head (i.e., wide range level).

1 **INSERT 7**

Containment Water Level is a Type A, Category 1 variable provided for determination of adverse containment conditions. Two containment water level channels are provided. Each channel is capable of measuring from 599' 3" elevation to 614' elevation (containment floor level to maximum flood level). Additionally, each channel is supplemented by two level switches. Each level switch will provide indication in the control room when the containment water level has exceeded its associated setpoint. One level switch actuates at a containment level of 602' 2 3/4" while the other level switch actuates when the containment level reaches 613' 0." The low switch provides a decision point associated with Type A use (switch the ECCS suction source from the refueling water storage tank to the containment recirculation sump) while the high switch confirms whether or not the containment water level has exceeded its design basis value.

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BASES

LCO (continued)

- ~~whether to terminate SI if still in progress.~~

8. Containment Pressure (Wide Range) Narrow

~~Containment Pressure (Wide Range) is provided for verification of RCS and containment OPERABILITY.~~

~~Containment pressure is used to verify closure of main steam isolation valves (MSIVs) and containment spray Phase B isolation when High-3 containment pressure is reached.~~

INSERT 8

9. Containment Isolation Valve Position

Penetration Flow Path

CIV Position is ~~provided for verification of Containment OPERABILITY, and Phase A and Phase B isolation.~~

Containment Isolation Valve (excluding check valves)

a Category 1 variable

~~When used to verify Phase A and Phase B isolation~~ In the case of CIV position, the important information is the isolation status of the containment penetrations. The LCO requires one channel of valve position indication in the control room to be OPERABLE for each active CIV in a containment penetration flow path, i.e., two total channels of CIV position indication for a penetration flow path with two active valves. For containment penetrations with only one active CIV having control room indication, Note (b) requires a single channel of valve position indication to be OPERABLE. This is sufficient to redundantly verify the isolation status of each isolable penetration either via indicated status of the active valve, as applicable, and prior knowledge of a passive valve, or via system boundary status. If a ~~normally active CIV is known to be closed and deactivated~~ penetration flow path is isolated, position indication is not needed to determine status. Therefore, the position indication for valves ~~in this state~~ in an isolated penetration flow path is not required to be OPERABLE. Note (a) to the Required Channels states that the Function is not required for isolation valves whose associated penetration is isolated by at least one closed and deactivated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured. Each penetration is treated separately and each penetration flow path is considered a separate function. Therefore, separate Condition entry is allowed for each inoperable penetration flow path.

requiring post-accident valve position indication

for the CIVs

10. Containment Area Radiation (High Range)

Containment Area Radiation (High Range) is a Type A, Category 1 variable provided ~~to monitor for the potential of significant radiation releases and to provide release assessment~~ for determination of adverse containment conditions.

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1 **INSERT 8**

Containment Pressure (Narrow Range) is a Type A, Category 1 variable used as criteria to manually establish or trip containment spray. Four containment pressure (narrow range) channels are provided. Each channel has a range of -5 psig to +12 psig. However, only two of containment pressure (narrow range) channels are required to satisfy the guidance in Reference 3.

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BASES

LCO (continued)

INSERT 9

~~for use by operators in determining the need to invoke site emergency plans. Containment radiation level is used to determine if a high energy line break (HELB) has occurred, and whether the event is inside or outside of containment.~~

11. Hydrogen Monitors

Hydrogen Monitors are Type A, Category 1 instruments provided to detect high hydrogen concentration conditions that represent a potential for containment breach from a hydrogen ~~explosion~~ uncontrolled burn. This variable is also important in verifying the adequacy of mitigating actions. INSERT 10

12. Pressurizer Level

Pressurizer Level is a Type A, Category 1 variable used to determine whether to ~~terminate SI, if still in progress, or to reinitiate SI if it has been stopped. Knowledge of pressurizer water level is also used to verify the unit conditions necessary to establish natural circulation in the RCS and to verify that the unit is maintained in a safe shutdown condition.~~ manually reduce ECCS flow. INSERT 11

13. Steam Generator Water Level (Wide Range)

SG Water Level is a Category 1 variable provided to monitor operation of decay heat removal via the SGs. ~~The Category I indication of SG level is the extended startup range level instrumentation. The extended startup range level covers a span of ≥ 6 inches to ≤ 394 inches above the lower tubesheet. The measured differential pressure is displayed in inches of water at 68°F.~~ INSERT 12

~~Temperature compensation of this indication is performed manually by the operator. Redundant monitoring capability is provided by two trains of instrumentation. The uncompensated level signal is input to the unit computer, a control room indicator, and the Emergency Feedwater Control System.~~

~~SG Water Level (Wide Range) is used to:~~

- ~~identify the faulted SG following a tube rupture,~~
- ~~verify that the intact SGs are an adequate heat sink for the reactor,~~

1 **INSERT 9**

Two containment area radiation channels are provided. Each channel is capable of monitoring from 1 R/hr to 1 X 10E7 R/hr.

1 **INSERT 10**

Two hydrogen monitors are provided. Each hydrogen monitor is capable of determining hydrogen concentration in the range of 0 to 30% hydrogen by volume. Each analyzer must be capable of sampling the containment.

1 **INSERT 11**

Three pressurizer level channels are provided. Each channel has a range of 0 to 100% (96% of indicated volume). However, only two pressurizer level channels are required to satisfy the guidance in Reference 3.

1 **INSERT 12**

One steam generator level (wide range) channel per steam generator is provided. Each channel is capable of monitoring from 12” above the steam generator tube sheet to the separators.

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1 — (All changes on this page)

BASES

LCO (continued)

- ~~determine the nature of the accident in progress (e.g., verify an SGTR), and~~
- ~~verify unit conditions for termination of SI during secondary unit HELBs outside containment.~~

~~At some units, operator action is based on the control room indication of SG level. The RCS response during a design basis small break LOCA depends on the break size. For a certain range of break sizes, the boiler condenser mode of heat transfer is necessary to remove decay heat. Extended startup range level is a Type A variable because the operator must manually raise and control SG level to establish boiler condenser heat transfer. Operator action is initiated on a loss of subcooled margin. Feedwater flow is increased until the indicated extended startup range level reaches the boiler condenser setpoint.~~

14. Condensate Storage Tank (CST) Level

a Category 1 variable

CST Level is provided to ensure water supply for auxiliary feedwater (AFW). The CST provides the ensured safety grade water supply for the AFW System. The CST consists of two identical tanks connected by a common outlet header. Inventory is monitored by a 0 inch to 144 inch level indication for each tank. CST Level is displayed on a control room indicator, strip chart recorder, and unit computer. In addition, a control room annunciator alarms on low level.

qualified

INSERT 13

1

~~At some units, CST Level is considered a Type A variable because the control room meter and annunciator are considered the primary indication used by the operator.~~

~~The DBAs that require AFW are the loss of electric power, steam line break (SLB), and small break LOCA.~~

~~The CST is the initial source of water for the AFW System. However, as the CST is depleted, manual operator action is necessary to replenish the CST or align suction to the AFW pumps from the hotwell.~~

1 **INSERT 13**

from essentially the top of the CST to the bottom of the CST (95% total volume) by a single channel provided to satisfy the guidance of Reference 3, as described in Reference 1.

1 (All changes on this page)

BASES

LCO (continued)

15, 16, 17, 18. Core Exit Temperature

INSERT 14

Core Exit Temperature is provided for verification and long term surveillance of core cooling.

INSERT 15

~~An evaluation was made of the minimum number of valid core exit thermocouples (CET) necessary for measuring core cooling. The evaluation determined the reduced complement of CETs necessary to detect initial core recovery and trend the ensuing core heatup. The evaluations account for core nonuniformities, including incore effects of the radial decay power distribution, excore effects of condensate runback in the hot legs, and nonuniform inlet temperatures. Based on these evaluations, adequate core cooling is ensured with two valid Core Exit Temperature channels per quadrant with two CETs per required channel. The CET pair are oriented radially to permit evaluation of core radial decay power distribution. Core Exit Temperature is used to determine whether to terminate SI, if still in progress, or to reinitiate SI if it has been stopped. Core Exit Temperature is also used for unit stabilization and cooldown control.~~

Two OPERABLE channels of Core Exit Temperature, with one core exit thermocouple per channel, ~~are~~ required in each quadrant to provide indication of radial distribution of the coolant temperature rise across representative regions of the core. ~~Power distribution symmetry was considered in determining the specific number and locations provided for diagnosis of local core problems. Therefore, two randomly selected thermocouples are not sufficient to meet the two thermocouples per channel requirement in any quadrant. The two thermocouples in each channel must meet the additional requirement that one is located near the center of the core and the other near the core perimeter, such that the pair of Core Exit Temperatures indicate the radial temperature gradient across their core quadrant. Unit specific evaluations in response to Item II.F.2 of NUREG-0737 (Ref. 3) should have identified the thermocouple pairings that satisfy these requirements.~~ Two ~~sets of two thermocouples~~ Core exit temperature channels per quadrant ensure a single failure will not disable the ability to determine the radial temperature gradient.

INSERT 16

19. Auxiliary Feedwater Flow

AFW Flow is provided to monitor operation of decay heat removal via the SGs.

INSERT 17

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1 **INSERT 14**

a Type A, Category 1 variable used to determine whether to manually reduce Emergency Core Cooling System (ECCS) flow. This variable is also

1 **INSERT 15**

In addition, core exit temperature is used for determining RCS subcooling margin.

1 **INSERT 16**

Each core exit temperature channel has a range of 200°F to 2300°F.

1 **INSERT 17**

a Type A, Category 1 variable used to determine whether to manually reduce ECCS flow. This variable is also

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BASES

LCO (continued)

INSERT 18

~~The AFW Flow to each SG is determined from a differential pressure measurement calibrated for a range of 0 gpm to 1200 gpm. Redundant monitoring capability is provided by two independent trains of instrumentation for each SG. Each differential pressure transmitter provides an input to a control room indicator and the unit computer. Since the primary indication used by the operator during an accident is the control room indicator, the PAM specification deals specifically with this portion of the instrument channel.~~

1

~~AFW flow is used three ways:~~

- ~~to verify delivery of AFW flow to the SGs,~~
- ~~to determine whether to terminate SI if still in progress, in conjunction with SG water level (narrow range), and~~
- ~~to regulate AFW flow so that the SG tubes remain covered.~~

~~At some units, AFW flow is a Type A variable because operator action is required to throttle flow during an SLB accident to prevent the AFW pumps from operating in runout conditions. AFW flow is also used by the operator to verify that the AFW System is delivering the correct flow to each SG. However, the primary indication used by the operator to ensure an adequate inventory is SG level.~~

1

INSERT 19

APPLICABILITY

The PAM instrumentation LCO is applicable in MODES 1, 2, and 3. These variables are related to the diagnosis and pre-planned actions required to mitigate DBAs. The applicable DBAs are assumed to occur in MODES 1, 2, and 3. In MODES 4, 5, and 6, unit conditions are such that the likelihood of an event that would require PAM instrumentation is low; therefore, the PAM instrumentation is not required to be OPERABLE in these MODES.

ACTIONS

Note 1 has been added in the ACTIONS to exclude the MODE change restriction of LCO 3.0.4. This exception allows entry into the applicable MODE while relying on the ACTIONS even though the ACTIONS may eventually require unit shutdown. This exception is acceptable due to the passive function of the instruments, the operator's ability to respond to an accident using alternate instruments and methods, and the low probability of an event requiring these instruments.

1 **INSERT 18**

One auxiliary feedwater flow channel per steam generator is provided. Each channel is capable of measuring from 0 lbm/hr to 250,000 lbm/hr. Due to the similarity of the Steam Generator Water Level (Narrow Range) Function (Table 3.3.3-1 Function 22) and the Auxiliary Feedwater Flow Function (Table 3.3.3-1, Function 19), Note (d) to Table 3.3.3-1 provides the allowance to credit OPERABLE Steam Generator Water Level (Narrow Range) channel(s) to satisfy the corresponding Auxiliary Feedwater Flow channel(s) OPERABILITY requirements of Table 3.3.3-1.

1 **INSERT 19**

20. Centrifugal Charging Pump Flow

    Centrifugal Charging Pump Flow is a Type A, Category 1 variable provided for verification that pressurizer level is maintained during a Steam Generator Tube Rupture. Four charging pump flow channels (one channel per cold leg injection line) are provided. Each channel is capable of measuring from 0 gpm to 200 gpm.

21. Safety Injection Pump Flow

    Safety Injection Pump Flow is a Type A, Category 1 variable used as criteria to manually trip the reactor coolant pumps. Two safety injection pump flow channels (one channel per safety injection line) are provided. Each channel is capable of measuring from 0 gpm to 500 gpm.

22. Steam Generator Water Level (Narrow Range)

    Steam Generator Water Level (Narrow Range) is a Type A, Category 1 variable used to determine whether to manually reduce ECCS flow. This variable is also provided to monitor operation of decay heat removal via the SGs. Three steam generator water level (narrow range) channels per steam generator are provided. Each channel is capable of measuring from below the first stage separator to the second stage separator. However, only two steam generator water level (narrow range) channels per steam generator are required to satisfy the guidance in Reference 3.

23. Containment Pressure (Wide Range)

    Containment Pressure (Wide Range) is a Category 1 variable provided for verification of RCS and containment OPERABILITY. Two containment pressure (wide range) channels are provided. Each channel is capable of monitoring from -5 psig to +36 psig.

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1

INSERT 19 (continued)

24. Refueling Water Storage Tank Level

Refueling Water Storage Tank Level is a Type A, Category 1 variable provided for determination of when the manual transfer to cold leg recirculation is required, based on low Refueling Water Storage Tank level. Two refueling water storage tank water level channels are provided. Each channel is capable of monitoring from essentially the top of the tank (bottom of the tank overflow) to the bottom of the tank (bottom of the safety injection suction pipe).

25. RCS Subcooling Margin Monitor

RCS Subcooling Margin Monitor is a Type A variable provided for the determination of when to manually trip or when to reduce pressurizer spray and ECCS flow. This variable is also provided for verification of core cooling. The RCS Subcooling Margin Monitor calculates the margin to saturation for the RCS from inputs for RCS Pressure (Wide Range), Core Exit Temperature, RCS Hot Leg Temperature (Wide Range) and RCS Cold Leg Temperature (Wide Range). The RCS Subcooling Margin Monitor is capable of measuring from 425°F subcooling to 75°F superheat. The output of the RCS Subcooling Margin Monitor is indicated in the control room. The plant process computer subcooling margin readout can also be used in place of the RCS Subcooling Margin Monitor indicator in the control room.

26. Component Cooling Water Pump Circuit Breaker Status

Component Cooling Water Pump Circuit Breaker Status is a Type A, Category 1 variable provided for verification of component cooling water flow to Engineered Safety Feature Systems. Two component cooling water pump circuit breaker status channels (one channel per component cooling water pump) are provided. Each channel is capable of indicating circuit breaker position (open or closed).

27. Centrifugal Charging Pump Circuit Breaker Status

Centrifugal Charging Pump Circuit Breaker Status is a Type A, Category 1 variable used as criteria to manually trip the reactor coolant pumps (RCPs). Two centrifugal charging pump circuit breaker status channels (one channel per centrifugal charging pump) are provided. Each channel is capable of indicating circuit breaker position (open or closed).

28. Safety Injection Pump Circuit Breaker Status

Safety Injection Pump Circuit Breaker Status is a Type A, Category 1 variable used as criteria to manually trip the RCPs. Two safety injection pump circuit breaker status channels (one channel per safety injection pump) are provided. Each channel is capable of indicating circuit breaker position (open or closed).

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BASES

ACTIONS (continued)

4 INSERT 19A

Note 2 has been added in the ACTIONS to clarify the application of Completion Time rules. The Conditions of this Specification may be entered independently for each Function listed on Table 3.3.3-1. ~~The Completion Time(s) of the inoperable channel(s) of a Function~~ will be tracked separately for each Function starting from the time the Condition was entered for that Function.

INSERT 19B 4

or within a Function (as applicable) 6

A.1

Condition A applies when one or more Functions have one required channel that is inoperable. Required Action A.1 requires restoring the inoperable channel to OPERABLE status within 30 days. The 30 day Completion Time is based on operating experience and takes into account the remaining OPERABLE channel ~~(or in the case of a Function that has only one required channel, other non-Regulatory Guide 1.97 instrument channels to monitor the Function)~~, the passive nature of the instrument (no critical automatic action is assumed to occur from these instruments), and the low probability of an event requiring PAM instrumentation during this interval.

INSERT 20 1

B.1

immediate

Condition B applies when the Required Action and associated Completion Time for Condition A are not met. This Required Action specifies initiation of actions in Specification 5.6.~~7~~, which requires a written report to be submitted to the NRC ~~immediately~~. This report discusses the results of the ~~root cause~~ evaluation of the inoperability and identifies proposed restorative actions. This action is appropriate in lieu of a shutdown requirement since alternative actions are identified before loss of functional capability, and given the likelihood of unit conditions that would require information provided by this instrumentation.

6 4 6 4 into the cause 4

C.1

Condition C applies when one or more Functions have two inoperable required channels (i.e., two channels inoperable in the same Function). Required Action C.1 requires restoring one channel in the Function(s) to OPERABLE status within 7 days. The Completion Time of 7 days is based on the relatively low probability of an event requiring PAM instrument operation and the availability of alternate means to obtain the required information. Continuous operation with two required channels inoperable in a Function is not acceptable because the alternate indications may not fully meet all performance qualification requirements

4 **INSERT 19A**

In addition, separate Condition entry is allowed within a Function as follows: (a) for Functions 2, 13, 19, and 22 on a steam generator basis; (b) for Function 20 on a cold leg injection line basis; and (c) for Functions 26, 27, and 28 on a pump basis.

4 **INSERT 19B**

or steam generator basis for Functions 2, 13, 19, and 22, cold leg injection line basis for Function 20, and pump basis for Functions 26, 27, and 28

1 **INSERT 20**

or remaining isolation barrier in the case of containment penetrations with only one CIV

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BASES

ACTIONS (continued)

applied to the PAM instrumentation. Therefore, requiring restoration of one inoperable channel of the Function limits the risk that the PAM Function will be in a degraded condition should an accident occur. Condition C is modified by a Note that excludes hydrogen monitor channels.

D.1

~~- REVIEWER'S NOTE -~~
~~Implementation of WCAP-14986, Rev 1, "Post Accident Sampling System Requirements: A Technical Basis," and the associated NRC Safety Evaluation dated June 14, 2000, allows other core damage assessment capabilities in lieu of the Post Accident Sampling System.~~ 3

Condition D applies when two hydrogen monitor channels are inoperable. Required Action D.1 requires restoring one hydrogen monitor channel to OPERABLE status within 72 hours. The 72 hour Completion Time is reasonable based on the backup capability ~~of the Post Accident Sampling System~~ to monitor the hydrogen concentration for evaluation of core damage or other core damage assessment capabilities available and to provide information for operator decisions. Also, it is unlikely that a LOCA (which would cause core damage) would occur during this time. 8

E.1

Condition E applies when the Required Action and associated Completion Time of Condition C or D are not met. Required Action E.1 requires entering the appropriate Condition referenced in Table 3.3.3-1 for the channel immediately. The applicable Condition referenced in the Table is Function dependent. Each time an inoperable channel has not met any Required Action of Condition C or D, and the associated Completion Time has expired, Condition E is entered for that channel and provides for transfer to the appropriate subsequent Condition.

F.1 and F.2

If the Required Action and associated Completion Time of Conditions C or D are not met and Table 3.3.3-1 directs entry into Condition F, the unit must be brought to a MODE where the requirements of this LCO do not apply. To achieve this status, the unit must be brought to at least MODE 3 within 6 hours and MODE 4 within 12 hours.

BASES

ACTIONS (continued)

The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

G.1

At this unit, alternate means of monitoring Reactor Vessel Water Level and Containment Area Radiation have been developed and tested. These alternate means may be temporarily installed if the normal PAM channel cannot be restored to OPERABLE status within the allotted time. If these alternate means are used, the Required Action is not to shut down the unit but rather to follow the directions of Specification 5.6.~~7~~ 6, in the Administrative Controls section of the TS. The report provided to the NRC should discuss the alternate means used, describe the degree to which the alternate means are equivalent to the installed PAM channels, justify the areas in which they are not equivalent, and provide a schedule for restoring the normal PAM channels. 6

SURVEILLANCE REQUIREMENTS

INSERT 20A

~~A Note has been added to the SR Table to clarify that SR 3.3.3.1 and SR 3.3.3.3~~ apply to each PAM instrumentation Function in Table 3.3.3-1. 6

INSERT 20B

SR 3.3.3.1

Performance of the CHANNEL CHECK once every 31 days ensures that a gross instrumentation failure has not occurred. A CHANNEL CHECK is normally a comparison of the parameter indicated on one channel to a similar parameter on other channels. It is based on the assumption that instrument channels monitoring the same parameter should read approximately the same value. Significant deviations between the two instrument channels could be an indication of excessive instrument drift in one of the channels or of something even more serious. A CHANNEL CHECK will detect gross channel failure; thus, it is key to verifying the instrumentation continues to operate properly between each CHANNEL CALIBRATION. The ~~high radiation~~ Containment Area Radiation (High Range) instrumentation should be compared to similar unit instruments located throughout the unit. 4

INSERT 21

Agreement criteria are determined by the unit staff, based on a combination of the channel instrument uncertainties, including isolation, indication, and readability. If a channel is outside the criteria, it may be an indication that the sensor or the signal processing equipment has drifted outside its limit. If the channels are within the criteria, it is an indication that the channels are OPERABLE.

1

6 **INSERT 20A**

As noted at the beginning of the SRs, the following SRs

6 **INSERT 20B**

, except where identified in the SR

1 **INSERT 21**

When only one channel of the Reactor Coolant Inventory Tracking System is OPERABLE, the RCS Subcooling Margin Monitor and Core Exit Temperature channels may be used for performance of the CHANNEL CHECK of the OPERABLE Reactor Coolant Inventory Tracking System channel.

BASES

SURVEILLANCE REQUIREMENTS (continued)

As specified in the SR, a CHANNEL CHECK is only required for those channels that are normally energized.

The Frequency of 31 days is based on operating experience that demonstrates that channel failure is rare. The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with the LCO required channels. 6

and SR 3.3.3.3

every 92 days for Function 11 and 6

24 months for all other Functions

SR 3.3.3.2

INSERT 22

A CHANNEL CALIBRATION is performed every ~~[18] months, or approximately at every refueling~~. CHANNEL CALIBRATION is a complete check of the instrument loop, including the sensor. The test verifies that the channel responds to measured parameter with the necessary range and accuracy. This SR is modified by a Note that excludes neutron detectors. ~~The calibration method for neutron detectors is specified in the Bases of LCO 3.3.1, "Reactor Trip System (RTS) Instrumentation." Whenever a sensing element is replaced, the next required CHANNEL CALIBRATION of the Core Exit thermocouple sensors is accomplished by an inplace cross calibration that compares the other sensing elements with the recently installed sensing element.~~ 1

INSERT 23

~~The Frequency is~~ based on operating experience ~~and consistency with the typical industry refueling cycle~~. 1

REFERENCES

INSERT 24

~~[1. Unit specific document (e.g., FSAR, NRC Regulatory Guide 1.97 SER letter).]~~

3 ~~2~~. Regulatory Guide 1.97, ~~date~~. Revision 3, May 1983

4 ~~3~~. NUREG-0737, Supplement 1, "TMI Action Items." 1

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1

INSERT 22

For Function 9, the CHANNEL CALIBRATION shall consist of verifying that the position indication conforms to actual valve position. For Function 11, the CHANNEL CALIBRATION shall be performed using a 4% and 15% nominal hydrogen gas, balance nitrogen. For Functions 15, 16, 17, and 18, whenever a sensing element is replaced, the next required CHANNEL CALIBRATION of the Core Exit Temperature thermocouple sensors is accomplished by an inplace cross calibration that compares the other sensing elements with the recently installed sensing elements. For Functions 26, 27, and 28, the CHANNEL CALIBRATION shall consist of verifying that the position indication conforms to actual circuit breaker position.

6

INSERT 23

Both the 92 day and 24 month Frequencies are

1

INSERT 24

1. NRC letter, T. G. Colburn (NRC) to M. P. Alexich (Indiana Michigan Power Company), "Emergency Response Capability – Conformance to Regulatory Guide 1.97 Revision 3 for the D. C. Cook Nuclear Plant, Units 1 and 2," dated December 14, 1990.

2. UFSAR, Table 7.8-1.

JUSTIFICATION FOR DEVIATIONS
ITS 3.3.3 BASES, POST ACCIDENT MONITORING (PAM) INSTRUMENTATION

1. Changes are made (additions, deletions, and/or changes) to the ISTS Bases, which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.

2. The Background section of the ISTS 3.3.3 Bases contains information that describes the Type A variables and Category 1 variables. This same descriptive information is effectively duplicated in the Applicable Safety Analyses section of the ISTS 3.3.3 Bases. Therefore, the duplicate descriptive information in the Background section of the Bases is deleted. In addition, the description of these variables in the Applicable Safety Analyses section of the ISTS 3.3.3 Bases has been modified to clearly identify which functions are provided by Type A variables and which functions are provided by Category 1, non-Type A, variables.

3. The ISTS Reviewer's Note is deleted because it is not intended to be included in the plant specific ITS submittal.

4. Changes are made to reflect the Specifications.

5. Grammatical/editorial error corrected.

6. Changes are made to reflect changes made to the Specification.

7. These punctuation corrections have been made consistent with the Writer's Guide for the Improved Standard Technical Specifications, NEI 01-03, Section 5.1.3.

8. The brackets have been removed and the proper plant specific information/value has been provided.

Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.3.3, POST ACCIDENT MONITORING (PAM) INSTRUMENTATION

There are no specific NSHC discussions for this Specification.

ATTACHMENT 4

ITS 3.3.4, Remote Shutdown Monitoring Instrumentation

Current Technical Specification (CTS) Markup and Discussion of Changes (DOCs)

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

REMOTE SHUTDOWN INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

LCO 3.3.4 3.3.3.5 The remote shutdown monitoring instrumentation channels ~~shown in Table 3.3-9~~ shall be OPERABLE ~~with readouts displayed external to the control room~~. LA.1 LA.2

APPLICABILITY: MODES 1, 2 and 3.

ACTION: Add proposed ACTIONS Note 2 A.2

ACTIONS A and B a. With the number of OPERABLE remote shutdown monitoring channels less than required by Table 3.3-9, either restore the inoperable channel to OPERABLE status within 30 days, or be in HOT SHUTDOWN within the next 12 hours. Add proposed Required Action B.1 M.1

ACTIONS Note 1 b. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

SR 3.3.4.1, SR 3.3.4.2 4.3.3.5 Each remote shutdown monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3-6.

ITS 3.3.4

ITS

A.1

TABLE 3.3-9

REMOTE SHUTDOWN MONITORING INSTRUMENTATION

INSTRUMENT	READOUT LOCATION	MEASUREMENT RANGE	MINIMUM CHANNELS OPERABLE
1. Reactor Trip Breaker Indication	Hot Shutdown Panel in Unit No. 2 Control Room	OPEN-CLOSE	1/trip breaker
2. Pressurizer Pressure	Hot Shutdown Panel in Unit No. 2 Control Room	1700-2500 psig	1
3. Pressurizer Level	Hot Shutdown Panel in Unit No. 2 Control Room	0-100% of instrument span	1
4. Steam Generator Pressure	Hot Shutdown Panel in Unit No. 2 Control Room	0-1200 psig	1/steam generator
5. Steam Generator Level	Hot Shutdown Panel in Unit No. 2 Control Room	0-100% wide range instrument span	1/steam generator

LA.1

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ITS 3.3.4

ITS

A.1

TABLE 4.3-6

~~REMOTE SHUTDOWN MONITORING INSTRUMENTATION~~
SURVEILLANCE REQUIREMENTS

LA.1

INSTRUMENT	SR 3.3.4.1 CHANNEL CHECK	SR 3.3.4.2 CHANNEL CALIBRATION
1. Reactor Trip Breaker Indication	N.A.	~~N.A.~~ 24 months
2. Pressurizer Pressure	M	~~R~~
3. Pressurizer Level	M	~~R~~ 24 months
4. Steam Generator Level	M	~~R~~
5. Steam Generator Pressure	M	~~R~~

M.2

L.1

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ITS 3.3.4

A.1

ITS

INSTRUMENTATION

REMOTE SHUTDOWN INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

LCO 3.3.4 3.3.3.5 The remote shutdown monitoring instrumentation channels ~~shown in Table 3.3-9~~ shall be OPERABLE ~~with readouts displayed external to the control room~~. LA.1 LA.2

APPLICABILITY: MODES 1, 2 and 3.

ACTION: Add proposed ACTIONS Note 2 A.2

ACTIONS A and B a. With the number of OPERABLE remote shutdown monitoring channels less than required by Table 3.3-9, either restore the inoperable channel to OPERABLE status within 30 days, or be in HOT SHUTDOWN within the next 12 hours. Add proposed Required Action B.1 M.1

ACTIONS Note 1 b. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

SR 3.3.4.1, SR 3.3.4.2 4.3.3.5 Each remote shutdown monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3-6.

ITS 3.3.4

ITS

A.1

TABLE 3.3-9

REMOTE SHUTDOWN MONITORING INSTRUMENTATION

INSTRUMENT	READOUT LOCATION	MEASUREMENT RANGE	MINIMUM CHANNELS OPERABLE
1. Reactor Trip Breaker Indication	Hot Shutdown Panel in Unit No. 1 Control Room	OPEN-CLOSE	1/trip breaker
2. Pressurizer Pressure	Hot Shutdown Panel in Unit No. 1 Control Room	1700-2500 psig	1
3. Pressurizer Level	Hot Shutdown Panel in Unit No. 1 Control Room	0-100% of instrument span	1
4. Steam Generator Pressure	Hot Shutdown Panel in Unit No. 1 Control Room	0-1200 psig	1/steam generator
5. Steam Generator Level	Hot Shutdown Panel in Unit No. 1 Control Room	0-100% wide range instrument span	1/steam generator

LA.1

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ITS 3.3.4

ITS

A.1

LA.1 M.2 L.1

TABLE 4.3-6

REMOTE SHUTDOWN MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	LOCATION	CHANNEL CHECK (SR 3.3.4.1)	CHANNEL CALIBRATION (SR 3.3.4.2)
1. Reactor Trip Breaker Indication	Hot Shutdown Panel in Unit No. 1 Control Room	N.A.	N.A. 24 months
2. Pressurizer Pressure	Hot Shutdown Panel in Unit No. 1 Control Room	M	R 24 months
3. Pressurizer Level	Hot Shutdown Panel in Unit No. 1 Control Room	M	R 24 months
4. Steam Generator Level	Hot Shutdown Panel in Unit No. 1 Control Room	M	R 24 months
5. Steam Generator Pressure	Hot Shutdown Panel in Unit No. 1 Control Room	M	R 24 months

DISCUSSION OF CHANGES
ITS 3.3.4, REMOTE SHUTDOWN MONITORING INSTRUMENTATION

ADMINISTRATIVE CHANGES

A.1 In the conversion of the CNP Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1431, Rev. 2, "Standard Technical Specifications-Westinghouse Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

A.2 CTS 3.3.3.5 Action a provides the compensatory actions to take when remote shutdown monitoring instrumentation is inoperable. ITS 3.3.4 ACTIONS provide the compensatory actions for inoperable remote shutdown monitoring instrumentation. The ITS 3.3.4 ACTIONS include a Note (Note 2) that allows separate Condition entry for each Function. This modifies the CTS by providing a specific allowance to enter the Action for each inoperable remote shutdown monitoring instrumentation Function.

This change is acceptable because it clearly states the current requirement. The CTS considers each remote shutdown monitoring instrumentation Function to be separate and independent from the others. This change is designated as administrative because it does not result in technical changes to the CTS.

MORE RESTRICTIVE CHANGES

M.1 CTS 3.3.3.5 Action a requires, if an inoperable channel cannot be returned to OPERABLE status within the allowed outage time, then the unit shall be placed in HOT SHUTDOWN within the next 12 hours. ITS 3.3.4 ACTION B requires, if a required channel cannot be returned to OPERABLE status within the associated Completion Time, then the unit shall be in MODE 3 (HOT STANDBY) within 6 hours and MODE 4 (HOT SHUTDOWN) within 12 hours. This changes the CTS requirements by specifying that MODE 3 must be achieved within 6 hours.

The purpose of ITS 3.3.4 Required Action B.1 is to specify consistent Completion Times to shutdown the unit from full power to MODE 3. This change is acceptable because the proposed Completion Time is sufficient to allow an operator to reduce power from full power to MODE 3 in a controlled manner without challenging unit safety systems. The 6 hour time provided to reach MODE 3 is also consistent with the time provided in similar actions in both the CTS and ITS. The change has been designated as more restrictive because it specifies the amount of time within which the unit must be placed in MODE 3.

M.2 CTS Table 4.3-6 provides Surveillance Requirements for the remote shutdown monitoring instrumentation. For the Reactor Trip Breaker Indication Function, CTS Table 4.3-6 does not require Surveillances to be performed. ITS SR 3.3.4.2 requires a CHANNEL CALIBRATION for each required instrumentation channel be performed every 24 months, including the Reactor Trip Breaker Indication Function. This changes the CTS by requiring a CHANNEL CALIBRATION of the

Reactor Trip Breaker Indication Function of the remote shutdown monitoring instrumentation.

The purpose of the CHANNEL CALIBRATION is to ensure that the remote shutdown monitoring instrumentation is capable of performing its intended monitoring function should the control room become inaccessible. This change is acceptable because it provides additional assurance that the operator will be capable of monitoring reactor trip breaker status on the hot shutdown panel should the control room become inaccessible. The change is designated as more restrictive because it adds a new Surveillance Requirement to the CTS.

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA.1 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS 3.3.3.5 requires the remote shutdown monitoring instrumentation in Table 3.3-9 to be OPERABLE. CTS Table 3.3-9 lists each of the required remote shutdown monitoring instruments, the measurement range of each instrument, the location of the remote shutdown monitoring instrumentation readout, and the minimum number of channels required for each instrument. CTS Table 4.3-6 lists the required remote shutdown monitoring instruments and their associated Surveillance Requirements. ITS LCO 3.3.4 states that the remote shutdown monitoring instrumentation Functions shall be OPERABLE. This changes the CTS by moving the details in Tables 3.3-9 and 4.3-6, with the exception of the Surveillance Requirements, from the Technical Specifications to the ITS Bases.

The removal of these details, which are related to system design, from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement for the remote shutdown monitoring instrumentation to be OPERABLE. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

LA.2 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS 3.3.3.5 states that the remote shutdown monitoring instrumentation channels shown in Table 3.3-9 shall be OPERABLE "with readouts displayed external to the control room." ITS LCO 3.3.4 states that the remote shutdown monitoring instrumentation Functions shall be OPERABLE.

DISCUSSION OF CHANGES
ITS 3.3.4, REMOTE SHUTDOWN MONITORING INSTRUMENTATION

This changes the CTS by moving the requirement for readouts displayed external to the control room from the Technical Specifications to the ITS Bases.

The removal of these details, which are related to system design, from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement for the remote shutdown monitoring instrumentation to be OPERABLE. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

LESS RESTRICTIVE CHANGES

L.1 *(Category 11 – 18 to 24 Month Surveillance Frequency Change, Channel Calibration Type)* CTS Table 4.3-6 requires a CHANNEL CALIBRATION of the remote shutdown monitoring pressurizer pressure, pressurizer level, steam generator pressure, and steam generator level instruments every 18 months. ITS SR 3.3.4.2 requires the performance of a CHANNEL CALIBRATION for these instruments every 24 months. This changes the CTS by extending the Frequency of the Surveillance from 18 months (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.2 and ITS SR 3.0.2) to 24 months (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.2 and ITS SR 3.0.2).

The purpose of CTS Table 4.3-6 is to ensure remote shutdown monitoring instruments will function as designed during an analyzed event. Extending the SR Frequency is acceptable because the remote shutdown monitoring instruments are designed to be highly reliable. Furthermore, a CHANNEL CHECK for the remote shutdown monitoring pressurizer pressure, pressurizer level, steam generator pressure, and steam generator level instruments is performed on a more frequent basis (ITS SR 3.3.4.1). The CHANNEL CHECK provides a qualitative demonstration of the OPERABILITY of the instrument.

This change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. The impacted remote shutdown monitoring instrumentation has been evaluated through a failure analysis as well as a quantitative and qualitative analysis for drift to verify the instrument drift did not adversely impact instrument performance or availability.

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DISCUSSION OF CHANGES
ITS 3.3.4, REMOTE SHUTDOWN MONITORING INSTRUMENTATION

<u>CTS Table 4.3-6</u>

Instrument 2, Pressurizer Pressure

This function is performed using a Foxboro N-E11 Series Pressure Transmitter, Foxboro N-2AI-H2V Input Cards, Foxboro N-2AO-V2H+P Series Converters, and a Weschler VX-252 Indicator. The Foxboro N-E11 Pressure Transmitter and Foxboro N-2AI-H2V Input Card were evaluated quantitatively through a drift analysis to verify that drift for normal operating conditions is consistent with similar plant instruments used for protective functions. The results of the quantitative drift analysis demonstrate that the Transmitter and Input Card will provide acceptable accuracy for the Remote Shutdown Monitoring indication in the event an evacuation of the control room is required. The Foxboro N-2AO-V2H+P Series Converters and Weschler VX-252 Indicator were not evaluated for drift because mirror Indicators exist in the control room for the same variables, in many cases with signals provided by the same Transmitters. Monthly CHANNEL CHECKS are required to compare the control room reading with the remote panel reading. Thus the periodic CHANNEL CHECKS provide an excellent indication that the Remote Shutdown Monitoring indication loop is properly functioning. The Transmitter and its associated Input Card are analyzed because a single Transmitter may provide the signal for both control room and remote shutdown panel indications. Therefore, the specific accuracy of the Transmitter is verified by analysis and the accuracy of the Indicators and Converter are verified by the CHANNEL CHECKS. The results of these analyses will support a 24 month Surveillance interval.

Instrument 3, Pressurizer Level

This function is performed using a Foxboro N-E13 Series Differential Pressure Transmitter, Foxboro N-2AI-H2V Input Card, Foxboro N-2AO-V2H+P Series Converter, and a Hughes VX-252 Indicator. The Foxboro N-E13 Series Differential Pressure Transmitter and Foxboro N-2AI-H2V Input Card were evaluated quantitatively through a drift analysis to verify that drift for normal operating conditions is consistent with similar plant instruments used for protective functions. The results of the quantitative drift analysis demonstrate that the Transmitter and Input Card will provide acceptable accuracy for the Remote Shutdown Monitoring indication in the event an evacuation of the control room is required. The Foxboro N-2AO-V2H+P Series Converter and Hughes VX-252 Indicator were not evaluated for drift because mirror indicators exist in the control room for the same variables, in many cases with signals provided by the same Transmitters. Monthly CHANNEL CHECKS are required to compare the control room reading with the remote panel reading. Thus the periodic CHANNEL CHECKS provide an excellent indication that the Remote Shutdown Monitoring indication loop is properly functioning. The Transmitter and its associated Input Card are analyzed because a single Transmitter may provide the signal for both control room and remote shutdown panel indications. Therefore, the specific accuracy of the Transmitter is verified by analysis and the accuracy of the Indicators and Converter are verified by the CHANNEL CHECKS. The results of these analyses will support a 24 month Surveillance interval.

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DISCUSSION OF CHANGES
ITS 3.3.4, REMOTE SHUTDOWN MONITORING INSTRUMENTATION

Instrument 4, Steam Generator Pressure

This function is performed using a Foxboro N-E11 Series Pressure Transmitter, Foxboro N-2AI-H2V Input Card, Foxboro N-2AO-V2H+P Series Converter, and a Weschler VX-252 Indicator. The Foxboro N-E11 Pressure Transmitter and Foxboro N-2AI-H2V Input Card were evaluated quantitatively through a drift analysis to verify that drift for normal operating conditions is consistent with similar plant instruments used for protective functions. The results of the quantitative drift analysis demonstrate that the Transmitter will provide acceptable accuracy for the Remote Shutdown Monitoring indication in the event an evacuation of the control room is required. The Foxboro N-2AO-V2H+P Series Converter and Weschler VX-252 Indicator were not evaluated for drift because mirror indicators exist in the control room for the same variables, in many cases with signals provided by the same Transmitters. Monthly CHANNEL CHECKS are required to compare the control room reading with the remote panel reading. Thus the periodic CHANNEL CHECKS provide an excellent indication that the Remote Shutdown Monitoring indication loop is properly functioning. The Transmitter and its associated Input Card are analyzed because a single Transmitter may provide the signal for both control room and remote shutdown panel indications. Therefore, the specific accuracy of the Transmitter is verified by analysis and the accuracy of the Indicators and Converter are verified by the CHANNEL CHECKS. The results of these analyses will support a 24 month Surveillance interval.

Instrument 5, Steam Generator Level

This function is performed using a Foxboro N-E13 Series Differential Pressure Transmitter and a Weschler VX-252 Indicator. The Foxboro N-E13 Series Differential Pressure Transmitter was evaluated quantitatively through a drift analysis to verify that drift for normal operating conditions is consistent with similar plant instruments used for protective functions. The results of the quantitative drift analysis demonstrate that the Transmitter will provide acceptable accuracy for the Remote Shutdown Monitoring indication in the event an evacuation of the control room is required. The Remote Shutdown Monitoring Indicators were not evaluated for drift because mirror indicators exist in the control room for the same variables, in many cases with signals provided by the same Transmitters. Monthly CHANNEL CHECKS are required to compare the control room reading with the remote panel reading. Thus the periodic CHANNEL CHECKS provide an excellent indication that the Remote Shutdown Monitoring indication loop is properly functioning. The Transmitter and its associated Input Card are analyzed because a single Transmitter may provide the signal for both control room and remote shutdown panel indications. Therefore, the specific accuracy of the Transmitter is verified by analysis and the accuracy of the Indicators and Converter are verified by the CHANNEL CHECKS. The results of these analyses will support a 24 month Surveillance interval.

Based on the design of the instrumentation and the drift evaluations (where applicable), it is concluded that the impact, if any, from this change on system availability is minimal. A review of the Surveillance test history was performed to validate the above conclusion. This review demonstrates that there are no

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DISCUSSION OF CHANGES
ITS 3.3.4, REMOTE SHUTDOWN MONITORING INSTRUMENTATION

failures that would invalidate the conclusion that the impact, if any, on system availability from this change is minimal. In addition, the proposed 24 month Surveillance Frequency, if performed at the maximum interval allowed by ITS SR 3.0.2 (30 months) does not invalidate any assumptions in the unit licensing basis. This change is designated as less restrictive because Surveillances will be performed less frequently under the ITS than under the CTS.

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Improved Standard Technical Specifications (ISTS) Markup and Justification for Deviations (JFDs)

@ TS

3.3 INSTRUMENTATION Monitoring Instrumentation 1

3.3.4 Remote Shutdown ~~System~~

3.3.3.5 LCO 3.3.4 The Remote Shutdown ~~System~~ monitoring instrumentation Functions shall be OPERABLE. 1

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

- NOTES -

ACTION b. 1. LCO 3.0.4 is not applicable.

DOC A.2 2. Separate Condition entry is allowed for each Function.

	CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION a.	A. One or more required Functions inoperable.	A.1 Restore required Function to OPERABLE status.	30 days
ACTION a.	B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 4.	6 hours 12 hours

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE		FREQUENCY
4.3.3.5 & Table 4.3-6	SR 3.3.4.1	Perform CHANNEL CHECK for each required instrumentation channel that is normally energized.	31 days 2
	~~SR 3.3.4.2~~	~~Verify each required control circuit and transfer switch is capable of performing the intended function.~~	~~[18] months~~ 1

Monitoring Instrumentation 1

Remote Shutdown System
3.3.4

CTS

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
4.3.3.5 & Table 4.3-6 SR 3.3.4.2 (2)	~~- NOTE - Neutron detectors are excluded from CHANNEL CALIBRATION.~~ Perform CHANNEL CALIBRATION for each required instrumentation channel.	24 ~~18~~ months
~~SR 3.3.4.4~~	~~[Perform TADOT of the reactor trip breaker open/ closed indication.~~	~~18 months]~~

(1) (2) (3)

JUSTIFICATION FOR DEVIATIONS
ITS 3.3.4, REMOTE SHUTDOWN MONITORING INSTRUMENTATION

1. ISTS 3.3.4 requires Remote Shutdown System Functions to be OPERABLE. As stated in the Bases, these Functions include not only instrumentation to monitor plant parameters, but also control switches and circuits to operate equipment necessary to shut down and maintain the unit in MODE 3. The requirements of ITS 3.3.4 only include the instrumentation necessary to monitor the prompt shutdown to MODE 3, including the necessary instrumentation to support maintaining the unit in a safe condition in MODE 3. This change is consistent with the current licensing basis for the Remote Shutdown Instrumentation in CTS 3/4.3.3.5. As a result of this change, the Specification's title and LCO statement have been changed from "Protection System" to "Monitoring Instrumentation," and ISTS SR 3.3.4.2, which verifies control circuit and transfer switch capability, has not been included in the ITS.

2. The brackets are removed and the proper plant specific information/value is provided.

3. ISTS SR 3.3.4.4 requires performance of a TADOT of the reactor trip breaker open/closed indication. This requirement has not been included in the CNP Unit 1 and Unit 2 ITS. CTS 3/4.3.3.5 does not contain this requirement. Thus, this deviation from the ISTS has been made to retain the current licensing basis. OPERABILITY of the Reactor Trip Breaker Indication will be adequately verified by the performance of a CHANNEL CALIBRATION (ITS SR 3.3.4.2).

Improved Standard Technical Specifications (ISTS) Bases Markup and Justification for Deviations (JFDs)

1 All changes on this page, except as noted

Monitoring Instrumentation

B 3.3 INSTRUMENTATION

Monitoring Instrumentation

B 3.3.4 Remote Shutdown ~~System~~

BASES

monitoring instrumentation | support | ing | ing

BACKGROUND

The Remote Shutdown ~~System~~ provides the control room operator with sufficient instrumentation ~~and controls~~ to place and maintain the unit in a safe shutdown condition from a location other than the control room. This capability is necessary to protect against the possibility that the control room becomes inaccessible. A safe shutdown condition is defined as MODE 3. With the unit in MODE 3, the Auxiliary Feedwater (AFW) System and the ~~steam generator (SG)~~ safety valves or the ~~SG~~ ~~atmospheric dump valves (ADVs)~~ can be used to remove core decay heat and meet all safety requirements. The long term supply of water for the AFW System and the ability to borate the Reactor Coolant System (RCS) from outside the control room allows extended operation in MODE 3.

main steam 2 | steam generator

2 power operated relief valves

hot 2 | Monitor the status of the reactor

If the control room becomes inaccessible, the operators can ~~establish~~ ~~control~~ at the ~~remote~~ shutdown panel~~, and place and maintain the unit in MODE 3~~. ~~Not all controls and necessary transfer switches are located at the remote shutdown panel. Some controls and transfer switches will have to be operated locally at the switchgear, motor control panels, or other local stations.~~ The unit automatically reaches MODE 3 following a unit shutdown and can be maintained safely in MODE 3 for an extended period of time.

2 INSERT 1

ing | ing | monitoring

The OPERABILITY of the remote shutdown ~~control and~~ instrumentation functions ensures there is sufficient information available on selected unit parameters to place and maintain the unit in MODE 3 should the control room become inaccessible.

Support

monitoring instrumentation

APPLICABLE SAFETY ANALYSES

~~The~~ Remote Shutdown ~~System~~ is required to provide equipment at appropriate locations outside the control room with a capability to ~~promptly shut down and maintain~~ the unit in a safe condition in MODE 3.

Monitoring instrumentation

The criteria governing the design and specific system requirements of the Remote Shutdown ~~System~~ are located in ~~10 CFR 50, Appendix A,~~ ~~GDC 19~~ (Ref. 1).

INSERT 3. 3

Monitoring Instrumentation

~~The~~ Remote Shutdown ~~System~~ satisfies Criterion 4 of 10 CFR 50.36(c)(2)(ii).

INSERT 2

2 **INSERT 1**

The hot shutdown panel is located in the rear of the opposite unit's control room.

1 **INSERT 2**

monitor the prompt shutdown to MODE 3, including the necessary instrumentation to support maintaining

2 **INSERT 3**

Plant Specific Design Criterion (PSDC) 11

1 All changes on this page, except as noted

Monitoring Instrumentation

BASES

Monitoring Instrumentation

LCO

The Remote Shutdown System LCO provides the OPERABILITY requirements of the instrumentation and controls necessary to place and maintain the unit in MODE 3 from a location other than the control room. The instrumentation and controls required are listed in Table B 3.3.4-1.

Support ing monitoring ing

The controls, instrumentation, and transfer switches are required for:

Monitoring Those monitoring

- Core reactivity control (initial and long term);
- RCS pressure control;
- Decay heat removal via the AFW System and the SG safety valves or SG ADVs,
- RCS inventory control via charging flow, and
- Safety support systems for the above Functions, including service water, component cooling water, and onsite power, including the diesel generators.

; 6 2 ; and Reactor makeup.

INSERT 4

monitoring instrumentation

A Function of a Remote Shutdown System is OPERABLE if all instrument and control channels needed to support the Remote Shutdown System Function are OPERABLE. In some cases, Table B 3.3.4-1 may indicate that the required information or control capability is available from several alternate sources. In these cases, the Function is OPERABLE as long as one channel of any of the alternate information or control sources is OPERABLE.

each 2 2 monitoring instrumentation 2 is 2

monitoring ation

The remote shutdown instrument and control circuits covered by this LCO do not need to be energized to be considered OPERABLE. This LCO is intended to ensure the instruments and control circuits will be OPERABLE if unit conditions require that the Remote Shutdown System be placed in operation.

Monitoring instrumentation

Monitoring Instrumentation

APPLICABILITY

The Remote Shutdown System LCO is applicable in MODES 1, 2, and 3. This is required so that the unit can be placed and maintained in MODE 3 for an extended period of time from a location other than the control room.

This LCO is not applicable in MODE 4, 5, or 6. In these MODES, the facility is already subcritical and in a condition of reduced RCS energy. Under these conditions, considerable time is available to restore necessary instrument control functions if control room instruments or controls become unavailable.

2 **INSERT 4**

with readout displayed external to the control room (i.e., on the hot shutdown panel located in the other unit's control room)

1 All changes on this page; except as noted

Monitoring Instrumentation

BASES

ACTIONS

Note 1 is included which excludes the MODE change restriction of LCO 3.0.4. This exception allows entry into an applicable MODE while relying on the ACTIONS even though the ACTIONS may eventually require a unit shutdown. This exception is acceptable due to the low probability of an event requiring the Remote Shutdown ~~System~~ monitoring instrumentation and because the equipment can generally be repaired during operation without significant risk of spurious trip.

A Remote Shutdown ~~System division~~ monitoring instrumentation is inoperable when each function is not accomplished by at least one designated Remote Shutdown ~~System~~ monitoring instrumentation channel that satisfies the OPERABILITY criteria for the channel's Function. These criteria are outlined in the LCO section of the Bases.

Note 2 has been added to the ACTIONS to clarify the application of Completion Time rules. Separate Condition entry is allowed for each Function. The Completion Time(s) of the inoperable channel~~s/train(s)~~ 2 of a Function will be tracked separately for each Function starting from the time the Condition was entered for that Function.

A.1

Condition A addresses the situation where one or more required Functions of the Remote Shutdown ~~System~~ monitoring instrumentation are inoperable. ~~This includes the control and transfer switches for any required Function.~~

The Required Action is to restore the required Function to OPERABLE status within 30 days. The Completion Time is based on operating experience and the low probability of an event that would require evacuation of the control room.

B.1 and B.2

If the Required Action and associated Completion Time of Condition A is not met, the unit must be brought to a MODE in which the LCO does not apply. To achieve this status, the unit must be brought to at least MODE 3 within 6 hours and to MODE 4 within 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

1

Monitoring Instrumentation

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.4.1

Performance of the CHANNEL CHECK once every 31 days ensures that a gross failure of instrumentation has not occurred. A CHANNEL CHECK is normally a comparison of the parameter indicated on one channel to a similar parameter on other channels. It is based on the assumption that instrument channels monitoring the same parameter should read approximately the same value. Significant deviations between the two instrument channels could be an indication of excessive instrument drift in one of the channels or of something even more serious. CHANNEL CHECK will detect gross channel failure; thus, it is key to verifying that the instrumentation continues to operate properly between each CHANNEL CALIBRATION.

Agreement criteria are determined by the unit staff, based on a combination of the channel instrument uncertainties, including indication and readability. If the channels are within the criteria, it is an indication that the channels are OPERABLE. If a channel is outside the criteria, it may be an indication that the sensor or the signal processing equipment has drifted outside its limit.

As specified in the Surveillance, a CHANNEL CHECK is only required for those channels which are normally energized.

The Frequency of 31 days is based upon operating experience which demonstrates that channel failure is rare. ~~The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with the LCO required channels.~~ 7

~~SR 3.3.4.2~~

~~SR 3.3.4.2 verifies each required Remote Shutdown System control circuit and transfer switch performs the intended function. This verification is performed from the remote shutdown panel and locally, as appropriate. Operation of the equipment from the remote shutdown panel is not necessary. The Surveillance can be satisfied by performance of a continuity check. This will ensure that if the control room becomes inaccessible, the unit can be placed and maintained in MODE 3 from the remote shutdown panel and the local control stations. The [18] month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. (However, this Surveillance is not required to be performed only during a unit outage.) Operating~~ 1

1

Monitoring Instrumentation

BASES

SURVEILLANCE REQUIREMENTS (continued)

~~experience demonstrates that remote shutdown control channels usually pass the Surveillance test when performed at the [18] month Frequency.~~ 1

SR 3.3.4.~~3~~ 2 1

CHANNEL CALIBRATION is a complete check of the instrument loop and the sensor. The test verifies that the channel responds to a measured parameter within the necessary range and accuracy.

2

INSERT 5

~~Whenever a sensing element is replaced, the next required CHANNEL CALIBRATION of the resistance temperature detectors (RTD) sensors is accomplished by an inplace cross calibration that compares the other sensing elements with the recently installed sensing element.~~

The Frequency of ~~[18]~~ 24 5 months is based upon operating experience ~~and consistency with the typical industry refueling cycle~~. 2

~~[SR 3.3.4.4~~

~~SR 3.3.4.4 is the performance of a TADOT every 18 months. This test should verify the OPERABILITY of the reactor trip breakers (RTBs) open and closed indication on the remote shutdown panel, by actuating the RTBs. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable TADOT of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions. The Frequency is based upon operating experience and consistency with the typical industry refueling outage.]~~ 1

REFERENCES 1. ~~10 CFR 50, Appendix A, GDC 19~~.

UFSAR, Section 1.4.3 3

2 **INSERT 5**

For the Reactor Trip Breaker Indication Function on the hot shutdown panel, the CHANNEL CALIBRATION shall consist of verifying that the indication conforms to the actual reactor trip breaker position (i.e., open, closed).

Monitoring Instrumentation (1)

Remote Shutdown ~~System~~
B 3.3.4

(1)

Monitoring

Table B 3.3.4-1 (page 1 of 1)
Remote Shutdown ~~System~~ Instrumentation ~~and Controls~~

INSERT 6

(2)

FUNCTION/INSTRUMENT OR CONTROL PARAMETER	REQUIRED NUMBER OF FUNCTIONS
1. Reactivity Control	
a. Source Range Neutron Flux	[1]
b. Reactor Trip Breaker Position	[1 per trip breaker]
c. Manual Reactor Trip	[2]
2. Reactor Coolant System (RCS) Pressure Control	
a. Pressurizer Pressure or RCS Wide Range Pressure	[1]
b. Pressurizer Power Operated Relief Valve (PORV) Control and Block Valve Control	[1, controls must be for PORV & block valves on same line]
3. Decay Heat Removal via Steam Generators (SGs)	
a. RCS Hot Leg Temperature	[1 per loop]
b. RCS Cold Leg Temperature	[1 per loop]
c. AFW Controls Condensate Storage Tank Level	[1]
d. SG Pressure	[1 per SG]
e. SG Level or AFW Flow	[1 per SG]
4. RCS Inventory Control	
a. Pressurizer Level	[1]
b. Charging Pump Controls	[1]

- REVIEWER'S NOTE -

For channels that fulfill GDC 19 requirements, the number of OPERABLE channels required depends upon the unit licensing basis as described in the NRC unit specific Safety Evaluation Report (SER). Generally, two divisions are required OPERABLE. However, only one channel per a given Function is required if the unit has justified such a design, and NRC's SER accepted the justification.

- REVIEWER'S NOTE -

This Table is for illustration purposes only. It does not attempt to encompass every Function used at every unit, but does contain the types of Functions commonly found.

(4)

2 **INSERT 6**

FUNCTION	MEASUREMENT RANGE	REQUIRED NUMBER OF CHANNELS
1. Reactor Trip Breaker Indication	Open - Close	1 per trip breaker
2. Pressurizer Pressure	1700 – 2500 psig	1
3. Pressurizer Level	0 – 100% of instrument span	1
4. Steam Generator Pressure	0 – 1200 psig	1 per steam generator
5. Steam Generator Level	0 – 100% wide range instrument span	1 per steam generator

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JUSTIFICATION FOR DEVIATIONS
ITS 3.3.4 BASES, REMOTE SHUTDOWN MONITORING INSTRUMENTATION

1. Changes are made to reflect changes made to the Specification.

2. Changes are made (additions, deletions, and/or changes) to the ISTS Bases, which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.

3. CNP Units 1 and 2 were designed and under construction prior to the promulgation of 10 CFR 50, Appendix A. CNP Units 1 and 2 were designed and constructed to meet the intent of the proposed General Design Criteria, published in 1967. However, the CNP UFSAR contains discussions of the Plant Specific Design Criteria (PSDCs) used in the design of CNP Units 1 and 2. Bases references to the 10 CFR 50, Appendix A criteria have been replaced with references to the appropriate section of the UFSAR.

4. The ISTS Reviewer's Notes have been deleted since they are not intended to be included in the ITS.

5. The brackets are removed and the proper plant specific information/value is provided.

6. These punctuation corrections have been made consistent with the Writer's Guide for the Improved Standard Technical Specifications, NEI 01-03, Section 5.1.3.

7. These instruments are not normally monitored during normal operations. Thus, this sentence has been deleted.

Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.3.4, REMOTE SHUTDOWN MONITORING INSTRUMENTATION

There are no specific NSHC discussions for this Specification.

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ATTACHMENT 5

ITS 3.3.5, Loss of Power (LOP) Diesel Generator (DG) Start Instrumentation

Current Technical Specification (CTS) Markup and Discussion of Changes (DOCs)

ITS 3.3.5

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

3/4.3.2 ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

A.2

LIMITING CONDITION FOR OPERATION

LCO 3.3.5 3.3.2.1 The Engineered Safety Feature Actuation System (ESFAS) instrumentation channels and interlocks shown in Table 3.3-3 shall be OPERABLE ~~with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3-4.~~

See ITS 3.3.2

LA.1

APPLICABILITY: As shown in Table 3.3-3.

ACTION:

Add proposed ACTIONS Note

A.3

ACTION A a. With an ESFAS instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3-4, declare the channel inoperable and apply the applicable ACTION requirement of Table 3.3-3 until the channel is restored to OPERABLE status ~~with the trip setpoint adjusted consistent with the Trip Setpoint value~~.

LA.1

ACTION A b. With an ESFAS instrumentation channel inoperable, take the ACTION shown in Table 3.3-3.

SURVEILLANCE REQUIREMENTS

SR 3.3.5.1, SR 3.3.5.2, SR 3.3.5.3, SR 3.3.5.4, SR 3.3.5.5 4.3.2.1.1 Each ESFAS instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION, ~~CHANNEL FUNCTIONAL TEST~~ and TRIP ACTUATING DEVICE OPERATIONAL TEST operations for the MODES and at the frequencies shown in Table 4.3-2.

A.4

4.3.2.1.2 The logic for the interlocks shall be demonstrated OPERABLE during the automatic actuation logic test. The total interlock function shall be demonstrated OPERABLE at least once per 18 months during CHANNEL CALIBRATION testing of each channel affected by interlock operation.

See ITS 3.3.2

~~4.3.2.1.3 The ENGINEERED SAFETY FEATURES RESPONSE TIME of each ESFAS function shall be demonstrated to be within the limit at least once per 18 months. Each test shall include at least one logic train such that both logic trains are tested at least once per 36 months and one channel per function such that all channels are tested at least once per N times 18 months where N is the total number of redundant channels in a specific ESFAS function as shown in the "Total No. of Channels" Column of Table 3.3-3.~~

A.5

ITS 3.3.5

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
6. MOTOR DRIVEN AUXILIARY FEEDWATER PUMPS					
a. Steam Generator Water Level -- Low-Low	3/Stm. Gen.	2/Stm. Gen. any Stm. Gen.	2/Stm. Gen.	1, 2, 3	14*
b. 4 kV Bus Loss of Voltage	3/Bus	2/Bus	2/Bus	1, 2, 3	14*
Pump Start		2/bus (T11A -- Train B; T11D -- Train A)			
Valve Actuation (Both trains)		2/bus on (T11A & T11B or 2/busses T11C & T11D)			
c. Safety Injection	2	1	2	1, 2, 3	18*
d. Loss of Main Feedwater Pumps	2	2	2	1, 2	18*
7. TURBINE DRIVEN AUXILIARY FEEDWATER PUMPS					
a. Steam Generator Water Level -- Low-Low	3/Stm. Gen.	2/Stm. Gen. any 2 Stm. Gen.	2/Stm. Gen.	1, 2, 3	14*
b. Reactor Coolant Pump Bus Undervoltage	4-1/Bus	2	3	1, 2, 3	19*
8. LOSS OF POWER					
a. 4 kV Bus Loss of Voltage	~~3/Bus~~	~~2/Bus~~	3 ~~2~~/Bus	1, 2, 3, 4	14*
b. 4 kV Bus Degraded Voltage	~~3/Bus (T11A -- Train B; T11D -- Train A)~~	~~2/Bus (T11A -- Train B; T11D -- Train A)~~	3 ~~2~~/Bus train ~~(T11A -- Train B; T11D -- Train A)~~	1, 2, 3, 4	14*

See ITS 3.3.2

LCO 3.3.5, APPLICABILITY, and ACTION A

when associated DG is required to be OPERABLE by LCO 3.8.2

A.6

M.1

A.7

LA.2

ITS 3.3.5

A.1

ITS

TABLE 3.3-3 (Continued)

TABLE NOTATION

*Trip function may be bypassed in this MODE below P-11.

**Trip function may be bypassed in this MODE below P-12.

***The channel(s) associated with the protective functions derived from the out of service Reactor Coolant Loop shall be placed in the tripped mode.

****Manually trip all bistables which would be automatically tripped in the event pressure in the associated active loop were less than the pressure in the inactive loop. For example, if loop 1 is the inactive loop, then the bistables which indicate low pressure in loops 2, 3, and 4 relative to loop 1 should be tripped.

*The provisions of Specification 3.0.4 are not applicable.

See ITS 3.3.2

ACTION STATEMENTS

ACTION 13 - With the number of OPERABLE Channels one less than the Total Number of Channels, be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.1.

ACTION A

ACTION 14 - With the number of OPERABLE Channels one less than the Total Number of Channels, operations may proceed until performance of the next required CHANNEL FUNCTIONAL TEST provided the inoperable channel is placed in the tripped condition within 1 hour.

L.1

L.2

6 hours

Add proposed ACTION B

L.3

Add proposed ACTION C

L.4

ACTION 15 - With a channel associated with an operating loop inoperable, restore the inoperable channel to OPERABLE status within 2 hours or be in HOT SHUTDOWN within the following 12 hours; however, one channel associated with an operating loop may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.1.

ACTION 16 - With the number of OPERABLE Channels one less than the Total Number of Channels, operation may proceed provided the inoperable channel is placed in the bypassed condition and the Minimum Channels OPERABLE requirement is met; one additional channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.1.

See ITS 3.3.2

ITS 3.3.5

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

ITS	FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES	
	6. MOTOR DRIVEN AUXILIARY FEEDWATER PUMPS			
	a. Steam Generator Water Level--Low-Low	Greater than or equal to 17% of narrow-range instrument span each steam generator	Greater than or equal to 16% of narrow-range instrument span each steam generator	See ITS 3.3.2
	b. 4 kv Bus Loss of Voltage	3286 volts with a time delay of 2 seconds	≥ 3245 volts and ≤ 3328 volts with a time delay of 2 ± 0.2 seconds	
	c. Safety Injection	Not Applicable	Not Applicable	
	d. Loss of Main Feedwater Pumps	Not Applicable	Not Applicable	
	7. TURBINE DRIVEN AUXILIARY FEEDWATER PUMPS			
	a. Steam Generator Water Level--Low-Low	Greater than or equal to 17% of narrow-range instrument span each steam generator	Greater than or equal to 16% of narrow-range instrument span each steam generator	
	b. Reactor Coolant Pump Bus Undervoltage	Greater than or equal 2750 Volts--each bus	Greater than or equal to 2725 Volts--each bus	
	8. LOSS OF POWER			
SR 3.3.5.5	a. 4 kv Bus Loss of Voltage	~~3286 volts with a time delay of 2 seconds~~	≥ 3245 volts and ≤ 3328 volts with a time delay of 2 ± 0.2 seconds	LA.1
SR 3.3.5.3	b. 4 kv Bus Degraded Voltage	~~3959 volts with a time delay of 9 seconds when a steam generator water level low-low or a safety injection signal is present~~	≥ 3910 volts and ≤ 4000 volts with a time delay of 9 ± 0.25 seconds when a steam generator water level low-low or a safety injection signal is present	

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	SR 3.3.5.1 CHANNEL CHECK	SR 3.3.5.3, SR 3.3.5.5 CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	SR 3.3.5.2, SR 3.3.5.4 TRIP ACTUATING DEVICE OPERATIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
7. TURBINE DRIVEN AUXILIARY FEEDWATER PUMPS					
a. Steam Generator Water Level--Low-Low	S	R	SA	N.A.	1, 2, 3
b. Reactor Coolant Pump Bus Undervoltage	N.A.	R	M	N.A.	1, 2, 3
8. LOSS OF POWER					
a. 4 kv Bus Loss of Voltage	S	~~R~~ -5 184 days	M 184 days	~~N.A~~ -4	1, 2, 3, 4 when associated DG is required to be OPERABLE by LCO 3.8.2
b. 4 kv Bus Degraded Voltage	S	~~R~~ -3 31 days	M	~~N.A~~ -2	1, 2, 3, 4

A.4

See ITS 3.3.2

LCO 3.3.5 and APPLICABILITY

Add proposed Note to SR 3.3.5.2 and SR 3.3.5.4

A.4

M.1

L.5

M.2

A.8

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

3/4.3.2 ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION A.2

LIMITING CONDITION FOR OPERATION

LCO 3.3.5 3.3.2.1 The Engineered Safety Feature Actuation System (ESFAS) instrumentation channels and interlocks shown in Table 3.3-3 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3-4. See ITS 3.3.2 LA.1

APPLICABILITY: As shown in Table 3.3-3.

ACTION: Add proposed ACTIONS Note A.3

ACTION A a. With an ESFAS instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3-4, declare the channel inoperable and apply the applicable ACTION requirement of Table 3.3-3 until the channel is restored to OPERABLE status with the trip setpoint adjusted consistent with the Trip Setpoint value. LA.1

ACTION A b. With an ESFAS instrumentation channel inoperable, take the ACTION shown in Table 3.3-3.

SURVEILLANCE REQUIREMENTS

SR 3.3.5.1, SR 3.3.5.2, SR 3.3.5.3, SR 3.3.5.4, SR 3.3.5.5 4.3.2.1.1 Each ESFAS instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION, ~~CHANNEL FUNCTIONAL TEST~~ and TRIP ACTUATING DEVICE OPERATIONAL TEST operations for the MODES and at the frequencies shown in Table 4.3-2. A.4

4.3.2.1.2 The logic for the interlocks shall be demonstrated OPERABLE during the automatic actuation logic test. The total interlock function shall be demonstrated OPERABLE at least once per 18 months during CHANNEL CALIBRATION testing of each channel affected by interlock operation. See ITS 3.3.2

4.3.2.1.3 ~~The ENGINEERED SAFETY FEATURES RESPONSE TIME of each ESFAS function shall be demonstrated to be within the limit at least once per 18 months. Each test shall include at least one logic train such that both logic trains are tested at least once per 36 months and one channel per function such that all channels are tested at least once per N times 18 months where N is the total number of redundant channels in a specific ESFAS function as shown in the "Total No. of Channels" Column of Table 3.3-3.~~ A.5

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ITS 3.3.5

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

See ITS 3.3.2

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
7. TURBINE DRIVEN AUXILIARY FEEDWATER PUMPS					
a. Steam Generator Water Level -- Low-Low	3/Stm. Gen.	2/Stm. Gen. any 2 Stm. Gen.	2/Stm. Gen.	1, 2, 3	14*
b. Reactor Coolant Pump Bus Undervoltage	4-1/Bus	2	3	1, 2, 3	19*
8. LOSS OF POWER					
a. 4 kV Bus Loss of Voltage	~~3/Bus~~	~~2/Bus~~	~~2~~ 3/Bus	1, 2, 3, 4 when associated DG is required to be OPERABLE by LCO 3.8.2	14*
b. 4 kV Bus Degraded Voltage	~~3/Bus (T21A - Train B) (T21D – Train A)~~	~~2/Bus (T21A-Train B) (T21D–Train A)~~	~~2~~ 3/~~Bus~~ train (T21A-Train B) (T21D–Train A)	1, 2, 3, 4	14*
9. MANUAL					
a. Safety Injection (ECCS) Feedwater Isolation Reactor Trip (SI) Containment Isolation-Phase "A" Containment Purge and Exhaust Isolation Auxiliary Feedwater Pumps Essential Service Water System	2/train	1/train	2/train	1, 2, 3, 4	18
b. Containment Spray Containment Isolation - Phase "B" Containment Purge and Exhaust Isolation	1/train	1/train	1/train	1, 2, 3, 4	18
c. Containment Isolation - Phase "A" Containment Purge and Exhaust Isolation	1/train	1/train	1/train	1, 2, 3, 4	18
d. Steam Line Isolation	2/steam line (1 per train)	2/steam line (1 per train)	2/operating steam line (1 per train)	1, 2, 3	20

LCO 3.3.5, APPLICABILITY, and ACTION A

A.6

M.1

A.7

LA.2

See ITS 3.3.6

See ITS 3.3.2

See ITS 3.3.2 and ITS 3.3.6

See ITS 3.3.2

ITS 3.3.5

A.1

ITS

TABLE 3.3-3 (Continued)
TABLE NOTATION

*Trip function may be bypassed in this MODE below P-11.

**Trip function may be bypassed in this MODE below P-12.

***The channel(s) associated with the protective functions derived from the out of service Reactor Coolant Loop shall be placed in the tripped mode.

See ITS 3.3.2

****Manually trip all bistables which would be automatically tripped in the event pressure in the associated active loop were less than the pressure in the inactive loop. For example, if loop 1 is the inactive loop then the bistables which indicate low pressure in loops 2, 3, and 4 relative to loop 1 should be tripped.

*The provisions of Specification 3.0.4 are not applicable.

ACTION STATEMENTS

ACTION 13 - With the number of OPERABLE Channels one less than the Total Number of Channels, be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.1.

ACTION A

ACTION 14 - With the number of OPERABLE Channels one less than the Total Number of Channels, ~~operation may proceed until performance of the next required CHANNEL FUNCTIONAL TEST~~ provided the inoperable channel is placed in the tripped condition within ~~1 hour~~.

L.1

6 hours

L.2

Add proposed ACTION B

L.3

Add proposed ACTION C

L.4

ACTION 15 - With a channel associated with an operating loop inoperable, restore the inoperable channel to OPERABLE status within 2 hours or be in HOT SHUTDOWN within the following 12 hours; however, one channel associated with an operating loop may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.1.

ACTION 16 - With the number of OPERABLE Channels one less than the Total Number of Channels, operation may proceed provided the inoperable channel is placed in the bypassed condition and the Minimum Channels OPERABLE requirement is met; one additional channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.1.

See ITS 3.3.2

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ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

ITS	FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES	
	6. MOTOR DRIVEN AUXILIARY FEEDWATER PUMPS			
	a. Steam Generator Water Level--Low-Low	Greater than or equal to 21% of narrow range instrument span each steam generator	Greater than or equal to 19.2% of narrow range instrument span each steam generator	See ITS 3.3.2
	b. 4 kV Bus Loss of Voltage	3241 volts with a time delay of 2 seconds	≥ 3195 volts and ≤ 3280 volts with a time delay of 2 ± 0.2 seconds	
	c. Safety Injection	Not Applicable	Not Applicable	
	d. Loss of Main Feedwater Pumps	Not Applicable	Not Applicable	
	7. TURBINE DRIVEN AUXILIARY FEEDWATER PUMPS			
	a. Steam Generator Water Level - - Low-Low	Greater than or equal to 21% of narrow range instrument span each steam generator	Greater than or equal to 19.2% of narrow range instrument span each steam generator	
	b. Reactor Coolant Pump Bus Undervoltage	Greater than or equal to 2750 Volts -- each bus	Greater than or equal to 2725 Volts -- each bus	
	8. LOSS OF POWER			
SR 3.3.5.5	a. 4 kV Bus Loss of Voltage	~~3241 volts with a time delay of 2 seconds~~	≥ 3195 volts and ≤ 3280 volts with a time delay of 2 ± 0.2 seconds	LA.1
SR 3.3.5.3	b. 4 kV Bus Degraded Voltage	~~3959 volts with a time delay of 9 seconds when a steam generator water level low-low or a safety injection signal is present~~	≥ 3910 volts and ≤ 4000 volts with a time delay of 9 ± 0.25 seconds when a steam generator water level low-low or a safety injection signal is present	

ITS 3.3.5

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

A.4

LCO 3.3.5 and APPLICABILITY

FUNCTIONAL UNIT	SR 3.3.5.1 CHANNEL CHECK	SR 3.3.5.3, SR 3.3.5.5 CHANNEL CALIBRATION	SR 3.3.5.2, SR 3.3.5.4 CHANNEL FUNCTIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
7. TURBINE DRIVEN AUXILIARY FEEDWATER PUMP					
a. Steam Generator Water Level -- Low-Low	S	R	SA	N.A.	1, 2, 3
b. Reactor Coolant Pump Bus Undervoltage	N.A.	R	M	N.A.	1, 2, 3
8. LOSS OF POWER					
a. 4 kv Bus Loss of Voltage	S	184 days ~~R~~ -5	~~M~~	~~N.A.~~ -4	1, 2, 3, 4
b. 4 kv Bus Degraded Voltage	S	184 days; 31 days ~~R~~ -3	M	~~N.A.~~ -2	1, 2, 3, 4
9. MANUAL					
a. Safety Injection (ECCS) Feedwater Isolation Reactor Trip (SI) Containment Isolation - Phase "A" Containment Purge and Exhaust Isolation Auxiliary Feedwater Pumps Essential Service Water System	N.A.	N.A.	N.A.	R	1, 2, 3, 4
b. Containment Spray Containment Isolation - Phase "B" Containment Purge and Exhaust Isolation	N.A.	N.A.	N.A.	R	1, 2, 3, 4
c. Containment Isolation - Phase "A" Containment Purge and Exhaust Isolation	N.A.	N.A.	N.A.	R	1, 2, 3, 4
d. Steam Line Isolation	N.A.	N.A.	Q	R	1, 2, 3
e. Containment Air Recirculation Fan	N.A.	N.A.	N.A.	R	1, 2, 3, 4
10. CONTAINMENT AIR RECIRCULATION FAN					
a. Manual	-----See Functional Unit 9-----				
b. Automatic Actuation Logic	N.A.	N.A.	Q (2)	N.A.	1, 2, 3
c. Containment Pressure – High	S	R	SA (3)	N.A.	1, 2, 3

See ITS 3.3.2

Add proposed Note to SR 3.3.5.2 and SR 3.3.5.4

A.8

when associated DG is required to be OPERABLE by LCO 3.8.2

A.4

M.1

L.5

M.2

See ITS 3.3.2

See ITS 3.3.6

See ITS 3.3.2

See ITS 3.3.2

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DISCUSSION OF CHANGES
ITS 3.3.5, LOP DG START INSTRUMENTATION

ADMINISTRATIVE CHANGES

A.1 In the conversion of the CNP Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1431, Rev. 2, "Standard Technical Specifications-Westinghouse Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

A.2 CTS 3.3.2.1, "Engineered Safety Feature Actuation System Instrumentation," requires the Engineered Safety Feature Actuation System (ESFAS) instrumentation channels and interlocks shown in Table 3.3-3 to be OPERABLE. ITS 3.3.5, "Loss of Power (LOP) Diesel Generator (DG) Start Instrumentation," requires specific channels per bus for the Loss of Voltage and specific channels per train for the Degraded Voltage Functions to be OPERABLE. This changes the CTS by having a separate Specification for the LOP DG Start Instrumentation in lieu of including it with the ESFAS Instrumentation Specification.

This change is acceptable because the technical requirements for the LOP DG start instrumentation are maintained with the change in format. The LOP DG Start Instrumentation Specification continues to require the start of the DGs on Loss of Voltage and Degraded Voltage signals. This change is designated as administrative because it does not result in a technical change to the CTS.

A.3 CTS 3.3.2.1 Actions provide the compensatory actions to take when Loss of Power instrumentation is inoperable. ITS 3.3.5 ACTIONS provide the compensatory actions for inoperable LOP DG start instrumentation. The ITS 3.3.5 ACTIONS include a Note that allows separate Condition entry for each Function. This modifies the CTS by providing a specific allowance to enter the Action for each inoperable LOP DG Start Instrumentation Function.

This change is acceptable because it clearly states the current requirement. The CTS considers each Loss of Power Function to be separate and independent from the other. This change is designated as administrative because it does not result in technical changes to the CTS.

A.4 CTS 4.3.2.1.1 and CTS Table 4.3-2 require that Loss of Power Function channels be demonstrated OPERABLE by performance of a CHANNEL FUNCTIONAL TEST once per 31 days. ITS SR 3.3.5.2 and SR 3.3.5.4 require the performance of a TRIP ACTUATING DEVICE OPERATIONAL TEST (TADOT) once per 31 days and 184 days, respectively. This changes the CTS by changing the CHANNEL FUNCTIONAL TEST requirements to a TADOT. The change to the Frequency for ITS SR 3.3.5.4 is discussed in DOC L.5.

This change is acceptable because the TADOT continues to perform a test similar to the current CHANNEL FUNCTIONAL TEST. The change is one of format only. In addition, the change to the CHANNEL FUNCTIONAL TEST definition is described in Discussion of Changes for ITS Chapter 1.0. This

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change is designated as administrative because it does not result in technical changes to the CTS.

A.5 CTS 4.3.2.1.3 requires ENGINEERED SAFETY FEATURES RESPONSE TIME testing of "each" ESFAS function. ITS 3.3.5 does not include response time testing for the LOP DG Start Instrumentation Functions. This changes the CTS by clearly identifying that the ENGINEERED SAFETY FEATURES RESPONSE TIME testing does not apply to the LOP DG Start Instrumentation Functions.

The purpose of the CTS 4.3.2.1.3 requirements is to ensure that the actuation response time is less than or equal to the maximum value assumed in the accident analysis. UFSAR Table 7.2-7, which was previously in CTS 3.3.2 as Table 3.3-5, only specifies response times for those ESFAS Functions assumed in the CNP safety analyses. CTS Table 3.3-5 did not include response times for the CTS 3.3.2 Loss of Power Functions. Therefore, this change is acceptable since ENGINEERED SAFETY FEATURES RESPONSE TIME testing of the Loss of Power Functions was not required. These response times were removed from CTS 3.3.2 and placed under CNP control as documented in the NRC Safety Evaluation for License Amendments 202 (Unit 1) and 187 (Unit 2). In addition, UFSAR Table 7.2-7 currently does not require response time testing of the CTS 3.3.2 Loss of Power Functions. This change is designated as administrative because it does not result in technical changes to the CTS.

A.6 CTS Table 3.3-3 specifies the "TOTAL NO. OF CHANNELS" as 3/Bus and the "MINIMUM CHANNELS OPERABLE" as 2/Bus for the Loss of Voltage and Degraded Voltage Functions. CTS Table 3.3-3 Action 14 specifies the actions to take with the number of Loss of Voltage or Degraded Voltage channels OPERABLE one less than required by the "TOTAL NO. OF CHANNELS" column. ITS LCO 3.3.5 requires the LOP DG Start Instrumentation Functions to be OPERABLE and specifies the required number of channels. The required number of channels specified in ITS LCO 3.3.5 is consistent with the TOTAL NO. OF CHANNELS specified in CTS Table 3.3-3. The ITS 3.3.5 ACTIONS require entry when the OPERABLE channels are less than required by the LCO. This changes the CTS by effectively changing the "MINIMUM CHANNELS OPERABLE" column to the required number of channels in the LCO and changes the number of channels to reflect when actions must be taken when a required channel becomes inoperable.

This change is acceptable because the requirements for when actions must be taken remain unchanged. The required channels specified in ITS LCO 3.3.5 reflect the current requirements in the CTS Table 3.3-3 Actions for when actions are required to be taken. The "MINIMUM CHANNELS OPERABLE" column for CTS Table 3.3-3 Functional Units 8.a and 8.b have effectively been changed to correspond to the number of channels in the "TOTAL NO. OF CHANNELS" column as reflected in ITS LCO 3.3.5. This change is designated as administrative because it does not result in technical changes to the CTS.

A.7 CTS Table 3.3-3 requires 3 channels/bus (T11D – Train A and T11A – Train B (Unit 1) and T21D – Train A and T21A – Train B (Unit 2)) to be OPERABLE for the Degraded Voltage Function (Functional Unit 8.b). ITS LCO 3.3.5, for the Degraded Voltage Function, requires 3 channels per train to be OPERABLE.

This changes the CTS by specifying, for the Degraded Voltage Function, the required number of channels on a "per train" basis instead of on a "per bus" basis.

This change is acceptable because the number of channels of the Degraded Voltage Function required to be OPERABLE remains unchanged. The CNP design includes two 4.16 kV emergency buses for each of two trains (Train "A" and Train "B"). Only one of these 4.16 kV emergency buses in each train has Degraded Voltage Function channels. As described for the Degraded Voltage Function in CTS Table 3.3-3, there are 3 channels per bus, on one bus in each of two trains, required to be OPERABLE (i.e., 3 channels per train as reflected in ITS LCO 3.3.5). This change is designated as administrative because it does not result in technical changes to the CTS.

A.8 CTS Table 4.3-2 requires a CHANNEL FUNCTIONAL TEST be performed for Functions 8.a (Loss of Power, 4 kv Bus Loss of Voltage) and 8.b (Loss of Power, 4 kv Bus Degraded Voltage). ITS 3.3.5 requires performance of SR 3.3.5.4 and SR 3.3.5.2 (respectively), a TADOT, for these Functions. However, the Surveillances are modified by a Note that states that a verification of the setpoint is not required. This changes the CTS by explicitly stating that setpoint verification is not part of the TADOT. The change from a CHANNEL FUNCTIONAL TEST to a TADOT is discussed in DOC A.4.

The CTS definition of CHANNEL FUNCTIONAL TEST does not require a setpoint verification. However, the ITS definition of TADOT does include a setpoint verification. Therefore, to be consistent with the current requirements and with current practice, the Note has been added. Since a setpoint verification is not currently required during performance of this test, this change is acceptable. This change is designated as administrative because it does not result in a technical change to the CTS.

MORE RESTRICTIVE CHANGES

M.1 CTS Tables 3.3-3 and 4.3-2 requirements for the Loss of Voltage Function are applicable in MODES 1, 2, 3, and 4. ITS 3.3.5 requires the Loss of Voltage Function to be OPERABLE in MODES 1, 2, 3, and 4 and when the associated DG is required to be OPERABLE by LCO 3.8.2, "AC Sources - Shutdown." This changes the CTS by expanding the conditions under which the Loss of Voltage Function must be OPERABLE.

This change is acceptable because requiring the Loss of Voltage Function to be OPERABLE when LCO 3.8.2 requires a DG to be OPERABLE ensures that the automatic loss of power start of the DG is available when needed. This change is designated as more restrictive because the ITS expands MODES in which equipment is required to be OPERABLE.

M.2 CTS Table 4.3-2 requires a CHANNEL CALIBRATION of the Loss of Voltage and Degraded Voltage instrumentation every 18 months, however the Surveillances are currently being performed more frequently. ITS SR 3.3.5.3 requires the performance of a CHANNEL CALIBRATION for the Degraded Voltage Function every 31 days and ITS SR 3.3.5.5 requires the performance of a CHANNEL CALIBRATION for the Loss of Voltage Function every 184 days. This changes the CTS by changing the Frequency of the Surveillance from 18 months to either 31 days or 184 days.

The purpose of CTS Table 4.3-2 is to ensure LOP DG start instrumentation will function as designed during an analyzed event. Changing the SR Frequency is acceptable because a 31 day and 184 day calibration interval (as applicable) is assumed in the setpoint analysis. This change is designated as more restrictive because Surveillances will be performed more frequently under the ITS than under the CTS.

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA.1 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS 3.3.2.1 requires the ESFAS instrumentation and interlocks setpoints to be set consistent with the Trip Setpoint values shown in Table 3.3-4. CTS 3.3.2.1 Action a is required to be entered when the setpoint is less conservative than the Allowable Value. The channel is to be declared inoperable until adjusted consistent with the Trip Setpoint value. CTS Table 3.3-4 specifies the Trip Setpoints and Allowable Values for the ESFAS Instrumentation Functions. ITS 3.3.5 requires the LOP DG Start Instrumentation Functions to be OPERABLE. ITS SR 3.3.5.3 and SR 3.3.5.5 specify the Allowable Values for the LOP DG Start Instrumentation Functions. This changes the CTS by moving the Trip Setpoints and associated requirements to the Technical Requirements Manual (TRM).

The removal of these details for meeting Technical Specification requirements from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the Allowable Values associated with the LOP DG Start Instrumentation. Also, this change is acceptable because these types of procedural details will be adequately controlled in the TRM. Any changes to the TRM are made under 10 CFR 50.59, which ensures changes are properly evaluated. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

LA.2 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS Table 3.3-3 for ESFAS instrumentation has three columns stating various requirements for the Loss of Voltage and Degraded Voltage Functions. These columns are labeled, "TOTAL NO. OF CHANNELS," "CHANNELS TO TRIP," and "MINIMUM CHANNELS OPERABLE." In addition, CTS Table 3.3-3 also specifies the tag numbers of the emergency buses in each train that include the Degraded Voltage Function instrumentation. ITS LCO 3.3.5 does not retain the "TOTAL NO. OF CHANNELS" and "CHANNELS TO TRIP" columns and does not include the tag numbers of the emergency buses that include the Degraded Voltage Function instrumentation. This changes the CTS by moving the information of the "TOTAL NO. OF CHANNELS" and "CHANNELS TO TRIP" columns and emergency bus tag numbers to the Bases.

The removal of these details, which are related to system design, from the Technical Specifications, is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement for the number of required channels and the appropriate Condition to enter if a required channel becomes inoperable. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

LESS RESTRICTIVE CHANGES

L.1 *(Category 4 - Relaxation of Required Action)* CTS Table 3.3-3 Action 14 states, in part, that with the number of OPERABLE channels one less than the total number of channels, "operation may proceed until performance of the next required CHANNEL FUNCTIONAL TEST." This CTS Action applies to the Loss of Voltage and Degraded Voltage Functions of CTS Table 3.3-3. ITS 3.3.5 ACTION A is the applicable action for the Loss of Voltage and Degraded Voltage Functions when one channel is inoperable, and does not include the restoration time limit of "until performance of the next required CHANNEL FUNCTIONAL TEST." This changes the CTS by allowing operation with an inoperable channel for an unlimited amount of time provided the inoperable channel is in the tripped condition.

The purpose of CTS Table 3.3-3 Action 14 is to only allow operation until performance of the next required CHANNEL FUNCTIONAL TEST. This requirement is based upon the assumption that when it is time to test the other OPERABLE channels in the associated Function, the OPERABLE channels cannot be tested with the inoperable channel in trip. However, CTS 3.0.6 (ITS LCO 3.0.5) is a generic allowance that will allow the inoperable channel to be restored to service in order to perform Surveillances on the other OPERABLE channels in the associated Function. Thus, using this generic allowance, it is possible to test the remaining OPERABLE channels in the associated Function, and there is no reason to restrict the generic allowance from applying to these specific channels. As such, the CTS Table 3.3-3 Action 14 statement is not necessary and has been deleted. The administrative controls required by ITS LCO 3.0.5 will ensure the time the channel is returned to service in conflict with the requirements of ITS 3.3.5 ACTION A is limited to the time absolutely necessary to perform the required testing to demonstrate OPERABILITY of the other channels. In addition, this specific example (taking an inoperable channel

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out of the tripped condition) is discussed in the Bases of ISTS SR 3.0.5. Therefore, this change is acceptable for the above described reasons. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

L.2 *(Category 3 - Relaxation of Completion Time)* CTS Table 3.3-3 Action 14 requires, with the number of OPERABLE channels one less than the total number of channels, that the inoperable channel be placed in trip within 1 hour. This CTS Action applies to the Loss of Voltage and Degraded Voltage Functions of CTS Table 3.3-3. ITS 3.3.5 ACTION A allows 6 hours to place the channel in trip when one Loss of Voltage or Degraded Voltage channel is inoperable. This changes the CTS by extending the time for placing a channel in trip, when a Loss of Voltage Function of Degraded Voltage channel is inoperable, from 1 hour to 6 hours.

The Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. This change is acceptable because the Required Actions are consistent with safe operation under the specified Condition, considering the OPERABLE status of the redundant instrumentation channels. This includes the capacity and capability of remaining channels, a reasonable time for repairs or replacement, and the low probability of a design basis accident (DBA) occurring during the repair period. The ITS Action will allow 6 hours to trip the channel when one channel is inoperable. This is a reasonable period of time because of the low probability of an event occurring that would require a LOP DG start, and because of the LOP start actuation capability provided by the remaining OPERABLE channels of the associated Function. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

L.3 *(Category 4 – Relaxation of Required Action)* CTS Table 3.3-3 Action 14 provides requirements for when one Loss of Voltage or Degraded Voltage channel per bus is inoperable. With more than one channel per bus of these channels inoperable, the shutdown requirements of CTS 3.0.3 would apply since the applicable CTS Table 3.3-3 Actions do not address this condition. ITS 3.3.5 ACTION B requires, with one or more Functions with two or more channels per bus or train inoperable, restoration of all but one channel per bus or train to OPERABLE status in 1 hour. This changes the CTS to allow more than one channel per bus or train of the Loss of Voltage and Degraded Voltage Functions to be inoperable. The change to the presentation of the required number of channels (i.e., on a "per train" basis instead of a "per bus" basis for the Degraded Voltage Function) is addressed in DOC A.7.

The Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. This change is acceptable because the Required Actions are consistent with safe operation under the specified Condition, considering a reasonable time for repairs or replacement of most failures and the low probability of a DBA occurring during the repair period. The ITS ACTION will allow 1 hour to restore all but one channel per bus or train to OPERABLE status. This is a reasonable period of time because of the low probability of an event occurring that would require a LOP DG start. In addition, the 1 hour time is consistent with the 1 hour time to initiate a unit shutdown provided in CTS 3.0.3. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

L.4 *(Category 4 – Relaxation of Required Action)* CTS Table 3.3-3 Action 14 requires, with the number of OPERABLE channels one less than the total number of channels, that the inoperable channel be placed in trip within 1 hour. If this action is not accomplished, the shutdown requirements of CTS 3.0.3 would apply. ITS 3.3.5 ACTION C requires, when the Required Action and associated Completion Time are not met, that the applicable Condition(s) and Required Action(s) for the associated DG made inoperable by LOP DG start instrumentation be immediately entered. This changes the CTS by allowing the associated DG to be declared inoperable instead of entering CTS 3.0.3 and shutting down the unit.

The Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. This change is acceptable because the Required Actions are consistent with safe operation under the specified Condition, considering the OPERABLE status of the redundant systems or features. This includes the capacity and capability of remaining systems or features, a reasonable time for repairs or replacement, and the low probability of a DBA occurring during the repair period. This instrumentation provides a start signal for the DGs (i.e., it supports DG OPERABILITY) and the appropriate action in this condition is to declare the DG inoperable. The current requirements are overly restrictive. For example, if a DG were inoperable for other reasons, then a 72 hour allowed outage time is provided. However, if an instrument is inoperable but the DG is otherwise fully OPERABLE, then an immediate shutdown is required. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

L.5 *(Category 9 – Surveillance Frequency Change Using GL 91-04 Guidelines, Non-24 Month Type Change)* CTS Table 4.3-2 requires a CHANNEL FUNCTIONAL TEST of the Loss of Voltage instrumentation every 31 days. ITS SR 3.3.5.4 requires the performance of a TADOT for the Loss of Voltage Function every 184 days. This changes the CTS by extending the Frequency of the Surveillance from 31 days (i.e., a maximum of 38.75 days accounting for the allowable grace period specified in CTS 4.0.2 and ITS SR 3.0.2) to 184 days (i.e., a maximum of 230 days accounting for the allowable grace period specified in CTS 4.0.2 and ITS SR 3.0.2). The change from a CHANNEL FUNCTIONAL TEST to a TADOT is discussed in DOC A.4.

The purpose of the CHANNEL FUNCTIONAL TEST requirement in CTS Table 4.3-2 is to ensure the channels of the Loss of Voltage Function will function as designed during an analyzed event (i.e., a total loss of offsite power). An evaluation of the surveillance interval extension was performed, based on the same approach described in NRC Generic Letter No. 91-04, "Changes in

DISCUSSION OF CHANGES
ITS 3.3.5, LOP DG START INSTRUMENTATION

Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. Reviews of historical surveillance data and maintenance data sufficient to determine failure modes have shown that these tests normally pass their Surveillances at the current Frequency. An evaluation has been performed using this data, and it has been determined that the effect on safety due to the extended Surveillance Frequency will be minimal. Extending the Surveillance test interval for this TADOT is acceptable because the reliability and conservative settings of the plant protective equipment, combined with the low probability of a total loss of offsite power, provide a high confidence in proper system operation. Based on the inherent system and component reliability the impact, if any, from this change on system availability is minimal. The review of historical surveillance data also demonstrated that there are no failures that would invalidate this conclusion. In addition, the proposed 184 day Surveillance Frequency, if performed at the maximum interval allowed by ITS SR 3.0.2 (230 days) does not invalidate any assumptions in the plant licensing basis. This change is designated as less restrictive because Surveillances may be performed less frequently under the ITS than under the CTS.
ITS than were applied in the CTS.

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Improved Standard Technical Specifications (ISTS) Markup and Justification for Deviations (JFDs)

CTS

3.3 INSTRUMENTATION

3.3.5 Loss of Power (LOP) Diesel Generator (DG) Start Instrumentation

LCO 3.3.2.1, Table 3.3-3 Functional Units 8.a and 8.b

LCO 3.3.5 ~~[Three]~~ channels per bus or train of the ~~loss~~ Loss of ~~voltage~~ Voltage Function and ~~[three]~~ channels per ~~bus~~ of the ~~degraded~~ Degraded ~~voltage~~ Voltage ~~Function~~ Function shall be OPERABLE. 1 4 2

Table 3.3-3 Functional Units 8.a and 8.b

APPLICABILITY: MODES 1, 2, 3, and 4,
When associated DG is required to be OPERABLE by LCO 3.8.2, "AC Sources - Shutdown." for the Loss of Voltage Function only. 5

ACTIONS

Doc A.3

- NOTE -
Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions with one channel per bus or train inoperable.	A.1 ~~- NOTE - The inoperable channel may be bypassed for up to [4] hours for surveillance testing of other channels.~~ Place channel in trip.	~~[6]~~ hours
B. One or more Functions with two or more channels per bus or train inoperable.	B.1 Restore all but one channel per bus or train to OPERABLE status.	1 hour
C. Required Action and associated Completion Time not met.	C.1 Enter applicable Condition(s) and Required Action(s) for the associated DG made inoperable by LOP DG start instrumentation.	Immediately

3.3.2.1 Actions a and b, Table 3.3-3 Action 14

3 TSTF-418 Rev. 2 4 2

Doc L.3 2

Doc L.4

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CTS

SURVEILLANCE REQUIREMENTS

INSERT 1 (4)

SURVEILLANCE		FREQUENCY
SR 3.3.5.1	~~①~~ Perform CHANNEL CHECK.	12 hours ~~①~~
SR 3.3.5.2 ~~②~~ (4)	Perform TADOT. INSERT 2	~~[31]~~ days 184
~~SR 3.3.5.3~~	~~Perform CHANNEL CALIBRATION with [Nominal Trip Setpoint and Allowable Value] as follows:~~ ~~a. [Loss of voltage Allowable Value ≥ [2912] V and ≤ [ ] V with a time delay of [0.8] ± [ ] second.~~ ~~Loss of voltage Nominal Trip Setpoint [2975] V with a time delay of [0.8] ± [ ] second.]~~ ~~b. [Degraded voltage Allowable Value ≥ [3683] V and ≤ [ ] V with a time delay of [20] ± [ ] seconds.~~ ~~Degraded voltage Nominal Trip Setpoint [3746] V with a time delay of [20] ± [ ] seconds.]~~	~~[18] months~~

INSERT 3 (4)

4.3.2.1.1, Table 4.3-2 Functional Units 8.a and 8.b

4.3.2.1.1 Table 4.3-2 Functional Unit 8.a

(6)

(4)

(4)

for Loss of Voltage Function (4)

CTS

3.3.5

6 4 **INSERT 1**

4.3.2.1.1, Table 4.3-2 Functional Unit 8.b	SR 3.3.5.2	-NOTE- Verification of setpoint not required. Perform TADOT for the Degraded Voltage Function.	31 days
4.3.2.1.1, Tables 3.3-4 and 4.3-2 Functional Unit 8.b	SR 3.3.5.3	Perform CHANNEL CALIBRATION for the Degraded Voltage Function. The Allowable Value shall be $\geq$ 3910 V and $\leq$ 4000 V with a time delay of 9 $\pm$ 0.25 seconds when a Steam Generator Water Level - Low Low signal or Safety Injection signal is present.	31 days

6 **INSERT 2**

-NOTE-

Verification of setpoint not required.

4 **INSERT 3**

4.3.2.1.1, Tables 3.3-4 and 4.3-2 Functional Unit 8.a	SR 3.3.5.5	Perform CHANNEL CALIBRATION for the Loss of Voltage Function. The Allowable Value shall be $\geq$ 3245 V and $\leq$ 3328 V with a time delay of 2 $\pm$ 0.2 seconds (Unit 1) and $\geq$ 3195 V and $\leq$ 3280 V with a time delay of 2 $\pm$ 0.2 seconds (Unit 2).	184 days

JUSTIFICATION FOR DEVIATIONS
ITS 3.3.5, LOP DG START INSTRUMENTATION

1. Grammatical/editorial change made for consistency.

2. ISTS LCO 3.3.5 requires [three] channels per bus of the loss of voltage Function and [three] channels per bus of the degraded voltage Function to be OPERABLE. ISTS LCO 3.3.5 is revised in ITS LCO 3.3.5 to reflect the design of the CNP Units 1 and 2 Degraded Voltage Function. The CNP Units 1 and 2 design includes two 4.16 kV emergency buses for each of two trains (Train "A" and Train "B"). Only one of these 4.16 kV emergency buses in each train has Degraded Voltage Function channels. Therefore, ITS LCO 3.3.5 requires three channels per bus of the Loss of Voltage Function and three channels per train of the Degraded Voltage Function to be OPERABLE. Commensurate changes to ISTS 3.3.5 ACTIONS A and B to address the "per train" design of the Degraded Voltage Function are made by adding the phrase "or train" to the references to "channels per bus."

3. ISTS 3.3.5 Required Action A.1 is modified by a Note that allows an inoperable channel to be bypassed for up to 4 hours for surveillance testing of other channels. The ISTS 3.3.5 Bases states the Note is provided where bypassing the channel does not cause an actuation and where two other channels are monitoring the parameter. For the CNP Units 1 and 2, the design of each of the LOP DG Start Instrumentation Functions includes 3 channels per bus or train monitoring the parameters. As such, when one channel of a Function on a bus or train is inoperable and another channel of the same Function on the same bus or train is made inoperable for Surveillance testing, only one channel of the Function on that bus or train is available for monitoring the parameter. Therefore, the ISTS 3.3.5 Required Action A.1 Note is not included in the CNP Units 1 and 2 ITS 3.3.5.

4. The brackets are removed and the proper plant specific information/value is provided.

5. The second part of the ISTS LCO 3.3.5 Applicability has been modified so that it only applies to the Loss of Voltage Function. The Degraded Voltage Function is only required to be OPERABLE during MODES 1, 2, 3, and 4. This proposed Applicability for the Degraded Voltage Function is consistent with the current licensing basis.

6. A Note has been added consistent with the Note in ITS SR 3.3.2.6, which performs a TADOT on the actual or similar instruments. This is also consistent with the current licensing basis.

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Improved Standard Technical Specifications (ISTS) Bases Markup and Justification for Deviations (JFDs)

1 All changes on this page, except as noted

B 3.3 INSTRUMENTATION

B 3.3.5 Loss of Power (LOP) Diesel Generator (DG) Start Instrumentation

BASES

associated with offsite power

actuation of the DG(s)

either

BACKGROUND

The DGs provide a source of emergency power when offsite power is either unavailable or is insufficiently stable to allow safe unit operation. Undervoltage protection will generate an LOP start if a loss of voltage or degraded voltage condition occurs ~~in the switchyard~~. ~~There are two LOP start signals, one for each 4.16 kV vital bus.~~

a

time delays

for

Three undervoltage relays with ~~inverse time characteristics~~ are provided ~~on~~ each ~~4160 Class 1E instrument~~ bus for detecting a ~~sustained degraded voltage condition or~~ a loss of bus voltage. The relays are combined in a two-out-of-three logic to generate an LOP signal if the voltage is below ~~75%~~ for a short time ~~or below 90% for a long time~~. The LOP start actuation is ~~described~~ in FSAR, Section 8.~~3~~ (Ref. 1).

4.16 kV emergency

INSERT 1

approximately 78%

INSERT 2

discussed

u

4

for the Loss of Voltage Function

The Allowable Value in conjunction with the trip setpoint and LCO establishes the threshold for Engineered Safety Features Actuation System (ESFAS) action to prevent exceeding acceptable limits such that the consequences of Design Basis Accidents (DBAs) will be acceptable. The Allowable Value is considered a limiting value such that a channel is OPERABLE if the setpoint is found not to exceed the Allowable Value during the CHANNEL ~~CALIBRATION~~. Note that although a channel is OPERABLE under these circumstances, the setpoint must be left adjusted to within the established calibration tolerance band of the setpoint in accordance with uncertainty assumptions stated in the referenced setpoint methodology, (as-left-criteria) and confirmed to be operating within the statistical allowances of the uncertainty terms assigned.

OPERATIONAL TEST (COT)

Allowable Values and LOP DG Start Instrumentation Setpoints

~~- REVIEWER'S NOTE -~~

~~Alternatively, a TS format incorporating an Allowable Value only may be proposed by a licensee. In this case the Nominal Trip Setpoint value is located in the TS Bases or in a licensee controlled document outside the TS. Changes to the trip setpoint value would be controlled by 10 CFR 50.59 or administratively as appropriate, and adjusted per the setpoint methodology and applicable surveillance requirements. At their option, the licensee may include the trip setpoint in the surveillance requirement as shown, or suggested by the licensee's setpoint methodology.~~

2

1

INSERT 1

(i.e., the required number of channels required to trip to generate an LOP signal is 2 per bus)

1

INSERT 2

Undervoltage relays and time delays are also provided for detecting a sustained degraded voltage condition. Three undervoltage relays with time delays are provided for one Train "A" 4.16 kV emergency bus (T11D (Unit 1) and T21D (Unit 2)). Three undervoltage relays with time delays are provided for one Train "B" 4.16 kV emergency bus (T11A (Unit 1) and T21A (Unit 2)). The relays are combined in a two-out-of-three logic to generate an LOP signal (i.e., the required number of channels required to trip to generate an LOP signal is 2 per train) if the voltage is below approximately 93% for a specified delay time. If an accident signal (i.e., Steam Generator Water Level - Low Low signal or a Safety Injection signal) is present coincident with a degraded voltage condition, the delay time is approximately 9 seconds. If no accident signal is present coincident with a degraded voltage condition, the delay time is approximately 2 minutes. The LOP start actuation for the Degraded Voltage Function is discussed in UFSAR, Section 8.5 (Ref. 2).

BACKGROUND (continued)

u 14 3 preserving 1 4

The ~~T~~rip ~~S~~etp~~o~~ints used in the relays a~~re~~ based on the analytical limits presented in FSAR, Chapter ~~16~~ (Ref. ~~2~~). The selection of these trip setpoints is such that adequate protection is provided when all sensor and processing time delays are taken into account.

Setpoints adjusted consistent with the requirements of the Allowable Value ensure that the consequences of accidents will be acceptable, providing the unit is operated from within the LCOs at the onset of the accident and that the equipment functions as designed.

Allowable Values ~~and/or Nominal Trip Setpoints~~ are specified for each Function in SR 3.3.5.3. Nominal Trip Setpoints are ~~also~~ specified in the unit specific setpoint calculations. The trip setpoints are selected to ensure that the setpoint measured by the surveillance procedure does not exceed the Allowable Value if the relay is performing as required. If the measured setpoint does not exceed the Allowable Value, the relay is considered OPERABLE. Operation with a trip setpoint less conservative than the nominal Trip Setpoint, but within the Allowable Value, is acceptable provided that operation and testing is consistent with the assumptions of the unit specific setpoint calculation (Ref. ~~3~~). 4 3 1

APPLICABLE SAFETY ANALYSES

The LOP DG start instrumentation is required for the ~~Engineered Safety Features (~~ESF~~)~~ Systems to function in any accident with a loss of offsite power. Its design basis is that of the ESF Actuation System (ESFAS). 4

Accident analyses credit the loading of the DG based on the loss of offsite power during a loss of coolant accident (LOCA). The actual DG start has historically been associated with the ESFAS actuation. The DG loading has been included in the delay time associated with each safety system component requiring DG supplied power following a loss of offsite power. The analyses assume a non-mechanistic DG loading, which does not explicitly account for each individual component of loss of power detection and subsequent actions.

The required channels of LOP DG start instrumentation, in conjunction with the ESF systems powered from the DGs, provide unit protection in the event of any of the analyzed accidents discussed in Reference ~~2~~, in which a loss of offsite power is assumed. 3 1

The delay times assumed in the safety analysis for the ESF equipment include the 10 second DG start delay, and the appropriate sequencing delay, if applicable. The response times for ESFAS actuated equipment in LCO 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) 1

(1) All changes on this page, except as noted

APPLICABLE SAFETY ANALYSES (continued)

Instrumentation," include the appropriate DG loading and sequencing delay.

The LOP DG start instrumentation channels satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

Function

three channels per train of the

Since

LOP DG start instrumentation for the Loss of Voltage Function

LCO

The LCO for LOP DG start instrumentation requires that three channels per bus of both the loss of voltage and degraded voltage Functions shall be OPERABLE in MODES 1, 2, 3, and 4 ~~when~~ the LOP DG start instrumentation supports safety systems associated with the ESFAS. In MODES 5 and 6, the three channels must be OPERABLE whenever the associated DG is required to be OPERABLE to ensure that the automatic start of the DG is available when needed. A channel is OPERABLE with a trip setpoint value outside its calibration tolerance band provided the trip setpoint "as-found" value does not exceed its associated Allowable Value and provided the trip setpoint "as-left" value is adjusted to a value within the "as-left" calibration tolerance band of the Nominal Trip Setpoint. A trip setpoint may be set more conservative than the Nominal Trip Setpoint as necessary in response to plant conditions. Loss of the LOP DG Start Instrumentation Function could result in the delay of safety systems initiation when required. This could lead to unacceptable consequences during accidents. During the loss of offsite power the DG powers the motor driven auxiliary feedwater pumps. Failure of these pumps to start would leave only one turbine driven pump, as well as an increased potential for a loss of decay heat removal through the secondary system.

(3) INSERT 2A

(5)

APPLICABILITY

The LOP DG Start Instrumentation Functions are required in MODES 1, 2, 3, and 4 because ESF Functions are designed to provide protection in these MODES. Actuation in MODE 5 ~~or 6~~ is required whenever the required DG must be OPERABLE so that it can perform its function on a LOP or degraded power to the vital bus.

loss of voltage (5)

associated emergency

(2) TSTF-418 Rev. 2, Reviewer's Note not Shown

ACTIONS

In the event a channel's trip setpoint is found nonconservative with respect to the Allowable Value, or the channel is found inoperable, then the function that channel provides must be declared inoperable and the LCO Condition entered for the particular protection function affected.

~~Because the required channels are specified on a per bus basis, the Condition may be entered separately for each bus as appropriate.~~ (5)

A Note has been added in the ACTIONS to clarify the application of Completion Time rules. The Conditions of this Specification may be

5

INSERT 2A

or other specified conditions other than MODES 1, 2, 3, and 4

ACTIONS (continued)

/train(s) 3

entered independently for each Function listed in the LCO. The Completion Time(s) of the inoperable channel(s) of a Function will be tracked separately for each Function starting from the time the Condition was entered for that Function.

A.1

channel per bus train 3

Condition A applies to the LOP DG start Functions with one loss of voltage or one degraded voltage channel per ~~bus~~ inoperable.

two 1

If one channel is inoperable, Required Action A.1 requires that channel to be placed in trip within [6] hours. With a channel in trip, the LOP DG start instrumentation channels are configured to provide a one-out-of-~~three~~ logic to ~~initiate a trip of the incoming offsite power~~.

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generate an LOP signal

~~A Note is added to allow bypassing an inoperable channel for up to [4] hours for surveillance testing of other channels. This allowance is made where bypassing the channel does not cause an actuation and where at least two other channels are monitoring that parameter.~~

1 TSTF-418 Rev. 2 3

The specified Completion Time ~~and time allowed for bypassing one channel are~~ reasonable considering the Function ~~remains fully OPERABLE on every bus~~ and the low probability of an event occurring during these intervals.

3 is INSERT 3 5

B.1

per bus 1

Condition B applies when more than one loss of voltage or more than one degraded voltage channel per ~~bus~~ are inoperable.

train or train 1

Required Action B.1 requires restoring all but one channel per bus to OPERABLE status. The 1 hour Completion Time should allow ample time to repair most failures and takes into account the low probability of an event requiring an LOP start occurring during this interval.

actuation 1

C.1

Condition C applies to each of the LOP DG start Functions when the Required Action and associated Completion Time for Condition A or B are not met.

In these circumstances the Conditions specified in LCO 3.8.1, "AC Sources - Operating," or LCO 3.8.2, "AC Sources - Shutdown," for the

5

INSERT 3

maintains LOP start actuation capability on each associated 4.16 kV emergency bus.

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ACTIONS (continued)

DG made inoperable by failure of the LOP DG start instrumentation are required to be entered immediately. The actions of those LCOs provide for adequate compensatory actions to assure unit safety.

SURVEILLANCE REQUIREMENTS

SR 3.3.5.1

Performance of the CHANNEL CHECK once every 12 hours ensures that a gross failure of instrumentation has not occurred. A CHANNEL CHECK is normally a comparison of the parameter indicated on one channel to a similar parameter on other channels. It is based on the assumption that instrument channels monitoring the same parameter should read approximately the same value. Significant deviations between the two instrument channels could be an indication of excessive instrument drift in one of the channels or of something even more serious. A CHANNEL CHECK will detect gross channel failure; thus, it is key to verifying that the instrumentation continues to operate properly between each CHANNEL CALIBRATION.

Agreement criteria are determined by the unit staff, based on a combination of the channel instrument uncertainties, including indication and readability. If a channel is outside the criteria, it may be an indication that the sensor or the signal processing equipment has drifted outside its limit.

The Frequency is based on operating experience that demonstrates channel failure is rare. ~~The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with the LCO required channels.~~ 1

SR 3.3.5.2 and SR 3.3.5.4 3

and SR 3.3.5.4

are

SR 3.3.5.2 ~~is~~ the performance of a TADOT. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable TADOT of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions. This test is performed every ~~[31]~~ days. The test checks trip devices that provide actuation signals directly, bypassing the analog process control equipment. ~~For these tests, the relay trip setpoints are verified and adjusted as necessary.~~ The Frequency is based on the known reliability

for SR 3.3.5.4 3

6

184

3

INSERT 3A

31 days for SR 3.3.5.2 and every 3

3 **INSERT 3A**

The SRs are modified by a Note that excludes verification of setpoints for relays. Relay setpoints require elaborate bench calibration and are verified during CHANNEL CALIBRATION.

1 All changes on this page

SURVEILLANCE REQUIREMENTS (continued)

of the relays and controls and the multichannel redundancy available, and has been shown to be acceptable through operating experience.

SR 3.3.5.3 and SR 3.3.5.5 3 4

and SR 3.3.5.5 are

SR 3.3.5.3 ~~is~~ the performance of a CHANNEL CALIBRATION.

The setpoints, as well as the response to a loss of voltage and a degraded voltage test, shall include a single point verification that the trip occurs within the required time delay ~~as shown in Reference 1~~.

A CHANNEL CALIBRATION is performed every ~~[18] months, or approximately at every refueling~~ 31 days for SR 3.3.5.3 and every 184 days for SR 3.3.5.5 3 4. CHANNEL CALIBRATION is a complete check of the instrument loop, including the sensor. The test verifies that the channel responds to a measured parameter within the necessary range and accuracy.

The Frequenc~~y~~ies ~~of [18] months is~~ are based on operating experience ~~and consistency with the typical industry refueling cycle~~ and is justified by the assumption of ~~an [18] month~~ 31 day or 184 day (as applicable) calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis. 6 3 3

REFERENCES

1. uFSAR, Section ~~[8.3]~~ 8.4. 1 6
2. uFSAR, ~~Chapter [15]~~ Section 8.5. 1 6
3. ~~Plant specific setpoint methodology study~~ UFSAR, Chapter 14.

INSERT 4

1 **INSERT 4**

4. EG-IC-004, "Instrument Setpoint Uncertainty," Revision 4.

JUSTIFICATION FOR DEVIATIONS
ITS 3.3.5 BASES, LOP DG START INSTRUMENTATION

1. Changes are made (additions, deletions, and/or changes) to the ISTS Bases, which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.

2. The ISTS Reviewer's Note has been deleted since it is not intended to be included in the ITS.

3. Changes are made to reflect changes made to the Specification.

4. Grammatical/editorial change made for consistency.

5. Changes are made to reflect the Specification.

6. The brackets are removed and the proper plant specific information/value is provided.

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Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.3.5, LOP DG START INSTRUMENTATION

There are no specific NSHC discussions for this Specification.

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ATTACHMENT 6

ITS 3.3.6, Containment Purge Supply and Exhaust System Isolation Instrumentation

Current Technical Specification (CTS) Markup and Discussion of Changes (DOCs)

A.1

ITS 3.3.6

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

3/4.3.2 ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION — A.2

LIMITING CONDITION FOR OPERATION

LCO 3.3.6 — 3.3.2.1 The Engineered Safety Feature Actuation System (ESFAS) instrumentation channels and interlocks shown in Table 3.3-3 shall be OPERABLE ~~with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3-4~~.

See ITS 3.3.2

LA.3

APPLICABILITY: As shown in Table 3.3-3.

ACTION:

Add proposed ACTIONS Note — A.3

ACTIONS B and C — a. With an ESFAS instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3-4, declare the channel inoperable and apply the applicable ACTION requirement of Table 3.3-3 until the channel is restored to OPERABLE status ~~with the trip setpoint adjusted consistent with the Trip Setpoint value.~~ — LA.3

ACTIONS B and C — b. With an ESFAS instrumentation channel inoperable, take the ACTION shown in Table 3.3-3.

SURVEILLANCE REQUIREMENTS

SR Table Note — 4.3.2.1.1 Each ESFAS instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION, ~~CHANNEL FUNCTIONAL TEST~~ COT and TRIP ACTUATING DEVICE OPERATIONAL TEST operations for the MODES and at the frequencies shown in Table 4.3-2. — A.4

4.3.2.1.2 The logic for the interlocks shall be demonstrated OPERABLE during the automatic actuation logic test. The total interlock function shall be demonstrated OPERABLE at least once per 18 months during CHANNEL CALIBRATION testing of each channel affected by interlock operation. — See ITS 3.3.2

~~4.3.2.1.3 The ENGINEERED SAFETY FEATURES RESPONSE TIME of each ESFAS function shall be demonstrated to be within the limit at least once per 18 months. Each test shall include at least one logic train such that both logic trains are tested at least once per 36 months and one channel per function such that all channels are tested at least once per N times 18 months where N is the total number of redundant channels in a specific ESFAS function as shown in the "Total No. of Channels" Column of Table 3.3-3.~~ — A.5

A.1

ITS 3.3.6

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.6-1

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

LA.1

A.6

	FUNCTIONAL UNIT	~~TOTAL NO OF CHANNELS~~	~~CHANNELS TO TRIP~~	~~MINIMUM~~ REQUIRED CHANNELS OPERABLE	APPLICABLE MODES	ACTION	
	3. CONTAINMENT ISOLATION						
	a. Phase "A" Isolation						
	1) Manual	See Functional Unit 9					
	2) From Safety Injection Automatic Actuation Logic	2	1	2	1, 2, 3, 4	13	See ITS 3.3.2
	b. Phase "B" Isolation						
	1) Manual	See Functional Unit 9					
	2) Automatic Actuation Logic	2	1	2	1, 2, 3, 4	13	
	3) Containment Pressure -- High-High	4	2	3	1, 2, 3	16	
	c. Purge and Exhaust Isolation						
Function 1	1) Manual	See Functional Unit 9					
Function 3	2) Containment Radioactivity-* High Train A ~~(VRS 1101, ERS-1301, ERS 1305)~~	~~3~~	~~1~~	~~2~~ 2 per train	1, 2, 3, 4	17 C	
Function 3	3) Containment Radioactivity-* High Train B ~~(VRS 1201, ERS-1401, ERS-1405)~~	~~3~~	~~1~~	~~2~~	1, 2, 3, 4	17 C	

A.6

LA.1

L.4

Add proposed Function 2 — M.2

Add proposed Function 4 — M.3

*This specification only applies during PURGE. — M.1

A.1

ITS 3.3.6

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.6-1

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

LA.1

A.6

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	~~MINIMUM~~ REQUIRED CHANNELS OPERABLE	APPLICABLE MODES	ACTION
9. MANUAL					
a. Safety Injection (ECCS) Feedwater Isolation Reactor Trip (SI) Containment Isolation - Phase "A" Containment Purge and Exhaust Isolation Auxiliary Feedwater Pumps Essential Service Water System	2/train	1/train	2/train	1, 2, 3, 4	18
b. ~~Containment Spray Containment Isolation - Phase "B"~~ Containment Purge and Exhaust Isolation	~~1/train~~	~~1/train~~	~~1/train~~ 1 per train	1, 2, 3, 4	18 B
c. ~~Containment Isolation - Phase "A"~~ Containment Purge and Exhaust Isolation	~~1/train~~	1/train	~~1/train~~	1, 2, 3, 4	18 B
d. Steam Line Isolation	2/steam line (1 per train)	2/steam line (1 per train)	2/operating steam line (1 per train)	1, 2, 3	20
e. Containment Air Recirculation Fan	1/train	1/train	1/train	1, 2, 3, 4	18
10. CONTAINMENT AIR RECIRCULATION FAN					
a. Manual	See Functional Unit 9				
b. Automatic Actuation Logic	2	1	2	1, 2, 3	13
c. Containment Pressure - High	3	2	2	1, 2, 3	14*

Function 4

See ITS 3.3.2

Function 1

L.10

Function 1

LA.1

LA.2

See ITS 3.3.2

A.1

ITS 3.3.6

ITS

two or more

L.1

TABLE 3.3-3 (Continued)

Add proposed ACTION A

ACTION C

ACTION 17 - With less than the Minimum Channels OPERABLE, operation may continue provided the containment purge and exhaust valves are maintained closed.

ACTION B

ACTION 18 - With the number of OPERABLE Channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ACTION C

L.3

ACTION 19 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:

a. The inoperable channel is placed in the tripped condition within 1 hour.

b. The Minimum Channels OPERABLE requirement is met; however, one additional channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.

ACTION 20 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or declare the associated valve inoperable and take the ACTION required by Specification 3.7.1.5.

See ITS 3.3.2

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.6-1

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

LA.3

FUNCTIONAL UNIT	~~TRIP SETPOINT~~	ALLOWABLE VALUES
2. CONTAINMENT SPRAY		
a. Manual Initiation	---- See Functional Unit 9 ----	
b. Automatic Actuation Logic	Not Applicable	Not Applicable
c. Containment Pressure--High-High	Less than or equal to 2.9 psig	Less than or equal to 3 psig
3. CONTAINMENT ISOLATION		
a. Phase "A" Isolation		
1. Manual	---- See Functional Unit 9 ----	
2. From Safety Injection Automatic Actuation Logic	Not Applicable	Not Applicable
b. Phase "B" Isolation		
1. Manual	---- See Functional Unit 9 ----	
2. Automatic Actuation Logic	Not Applicable	Not Applicable
3. Containment Pressure--High-High	Less than or equal to 2.9 psig	Less than or equal to 3 psig
c. Purge and Exhaust Isolation		
1. Manual	---- See Functional Unit 9 ----	

See ITS 3.3.2

Function 1

A.1

ITS 3.3.6

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.6-1

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

LA.3

A.7

	FUNCTIONAL UNIT	~~TRIP SETPOINT~~	ALLOWABLE VALUES
Function 3	2. Containment Radioactivity--High Train A ~~(VRS-1101, ERS-1301, ERS-1305)~~	See Table 3.3-6	~~Not Applicable~~
Function 3	3. Containment Radioactivity--High Train B ~~(VRS-1201, ERS-1401, ERS-1405)~~	See Table 3.3-6	~~Not Applicable~~
	4. STEAM LINE ISOLATION		
	a. Manual	See Functional Unit 9	
	b. Automatic Actuation Logic	Not Applicable	Not Applicable
	c. Containment Pressure--High-High	Less than or equal to 2.9 psig	Less than or equal to 3 psig
	d. Steam Flow in Two Steam Lines--High Coincident with T_{avg}--Low-Low	Less than or equal to 1.42 x 10^6 lbs/hr from 0% load to 20% load. Linear from 1.42 x 10^6 lbs/hr at 20% load to 3.88 x 10^6 lbs/hr at 100% load.	Less than or equal to 1.56 x 10^6 lbs/hr from 0% load to 20% load. Linear from 1.56 x 10^6 lbs/hr at 20% load to 3.93 10^6 lbs/hr at 100% load.
		T_{avg} greater than or equal to 541°F	T_{avg} greater than or equal to 539°F
	e. Steam Line Pressure--Low	Greater than or equal to 500 psig steam line pressure	Greater than or equal to 480 psig steam line pressure
	5. TURBINE TRIP AND FEEDWATER ISOLATION		
	a. Steam Generator Water Level--High-High	Less than or equal to 67% of narrow-range instrument span each steam generator	Less than or equal to 68% of narrow-range instrument span each steam generator

A.7

L.4

See ITS 3.3.2

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A.1

ITS 3.3.6

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.6-1

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

LA.3

	FUNCTIONAL UNIT	~~TRIP SETPOINT~~	ALLOWABLE VALUES	
	9. Manual			
	a. Safety Injection (ECCS)	N.A.	N.A.	See ITS 3.3.2
	Feedwater Isolation	N.A.	N.A.	
	Reactor Trip (SI)	N.A.	N.A.	
	Containment Isolation - Phase "A"	N.A.	N.A.	
Function 4	Containment Purge and Exhaust Isolation	~~N.A.~~	N.A.	LA.3
	Auxiliary Feedwater Pumps	N.A.	N.A.	See ITS 3.3.2
	Essential Service Water System	N.A.	N.A.	
	b. ~~Containment Spray~~	~~N.A.~~	N.A.	
	~~Containment Isolation - Phase "B"~~	~~N.A.~~	N.A.	LA.3
Function 1	Containment Purge and Exhaust Isolation	~~N.A.~~	N.A.	
	c. ~~Containment Isolation - Phase "A"~~	~~N.A.~~	N.A.	
Function 1	Containment Purge and Exhaust Isolation	~~N.A.~~	N.A.	LA.2
	d. Steam Line Isolation	N.A.	N.A.	See ITS 3.3.2
	e. Containment Air Recirculation Fan	N.A.	N.A.	
	10. CONTAINMENT AIR RECIRCULATION FAN			
	a. Manual	------------------------------ See Functional Unit 9	------------------------------	
	b. Automatic Actuation Logic	Not Applicable	Not Applicable	
	c. Containment Pressure - High	Less than or equal to 1.1 psig	Less than or equal to 1.2 psig	

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.6-1

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK (SR 3.3.6.1)	CHANNEL CALIBRATION (SR 3.3.6.8)	~~CHANNEL FUNCTIONAL TEST~~ COT (SR 3.3.6.6)	TRIP ACTUATING DEVICE OPERATIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
3. CONTAINMENT ISOLATION					
a. Phase "A" Isolation					
1) Manual		See Functional Unit 9			
2) From Safety Injection Automatic Actuation Logic	N.A.	N.A.	Q (2)	N.A.	1, 2, 3, 4
b. Phase "B" Isolation					
1) Manual		See Functional Unit 9			
2) Automatic Actuation Logic	N.A.	N.A.	Q (2)	N.A.	1, 2, 3, 4
3) Containment Pressure--High-High	S	R	SA (3)	N.A.	1, 2, 3
c. Purge and Exhaust Isolation					
1) Manual (Function 1)		See Functional Unit 9			
2) Containment Radioactivity--High (Function 3)	S -1	~~R~~ 24 months -8	~~Q~~ 184 days -6	N.A.	1, 2, 3, 4

A.4

See ITS 3.3.2

M.1

L.9

L.5

Add proposed SRs 3.3.6.2, 3.3.6.3, and 3.3.6.4 for Function 2 — M.2

Add proposed SR 3.3.6.5 for Function 4 — M.3

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A.1

ITS 3.3.6

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.6-1

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

SR 3.3.6.7

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
9. Manual					
a. Safety Injection (ECCS) Feedwater Isolation Reactor Trip (SI) Containment Isolation-Phase "A" Containment Purge and Exhaust Isolation Auxiliary Feedwater Pumps Essential Service Water System	N.A.	N.A.	N.A.	R	1, 2, 3, 4
b. ~~Containment Spray~~ ~~Containment Isolation-Phase "B"~~ Containment Purge and Exhaust Isolation	N.A.	N.A.	N.A.	~~R~~ -7	1, 2, 3, 4
c. ~~Containment Isolation-Phase "A"~~ Containment Purge and Exhaust Isolation	N.A.	N.A.	N.A.	~~R~~ -7	1, 2, 3, 4
d. Steam Line Isolation	N.A.	N.A.	Q	R	1, 2, 3
e. Containment Air Recirculation Fan	N.A.	N.A.	N.A.	R	1, 2, 3, 4
10. CONTAINMENT AIR RECIRCULATION FAN					
a. Manual	See Functional Unit 9				
b. Automatic Actuation Logic	N.A.	N.A.	Q (2)	N.A.	1, 2, 3
c. Containment Pressure - High	S	R	SA (3)	N.A.	1, 2, 3

Function 4

Function 1

Function 1

See ITS 3.3.2

24 months

L.6

LA.2

See ITS 3.3.2

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A.1

ITS 3.3.6

ITS

INSTRUMENTATION

3/4.3.3 MONITORING INSTRUMENTATION

RADIATION MONITORING INSTRUMENTATION A.2

LIMITING CONDITION FOR OPERATION

LCO 3.3.6 3.3.3.1 The radiation monitoring instrumentation channels shown in Table 3.3-6 shall be OPERABLE ~~with their alarm/trip setpoints within the specified limits~~. LA.3

APPLICABILITY: As shown in Table 3.3-6. A.3

Add proposed ACTIONS Note

inoperable, restore the channel L.1

ACTION:

ACTION A a. With a radiation monitoring channel ~~alarm/trip setpoint exceeding the value shown in Table 3.3-6, adjust the setpoint to within the limit~~ within 4 hours ~~or declare the channel inoperable.~~

ACTION C b. With one or more radiation monitoring channels inoperable, take the ACTION shown in Table 3.3-6.

~~c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.~~ A.8

SURVEILLANCE REQUIREMENTS

SR Table Note 4.3.3.1 Each radiation monitoring instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and ~~CHANNEL FUNCTIONAL TEST~~ operations during the modes and at the frequencies shown in Table 4.3-3.

COT A.4

A.1

ITS 3.3.6

ITS

Table 3.3.6-1

TABLE 3.3-6
RADIATION MONITORING INSTRUMENTATION
(OPERABILITY BASES DISCUSSED IN BASES SECTION 3/4 3.3.1)

See ITS 3.3.3

ALLOWABLE VALUE

A.7

OPERATION MODE/INSTRUMENT	MINIMUM CHANNELS OPERABLE	ALARM SETPOINT	~~TRIP~~ SETPOINT	ACTION
1. Modes 1, 2, 3 & 4				
A. Area Monitors				
i. Upper Containment# (VRS ~~1101~~/1201) (Function 3.c)	1	N/A	≤ 54 mR/hr	21
ii. Containment High Range (VRA 1310/1410)	2	≤ 10R/hr	N/A	22A
B. Process Monitors				
i. Particulate Channel# (ERS ~~1301~~/1401) (Function 3.b)	1	N/A	≤ 2.52 μCi	20
ii. Noble Gas Channel# (ERS ~~1305~~/1405) (Function 3.a)	1	N/A	≤ $4.4 \times 10^{-3} \frac{\mu Ci}{cc}$	20
C. Noble Gas Effluent Monitors				
i. Unit Vent Effluent Monitors				
a. Low Range (VRS 1505)	------------(see the ODCM)------------			
b. Mid Range (VRS 1507)	1	N/A	N/A	22B
c. High Range (VRS 1509)	1	N/A	N/A	22B
ii. Steam Generator PORV				
a. MRA 1601 (Loop 1)	1	N/A	N/A	22B
b. MRA 1602 (Loop 4)	1	N/A	N/A	22B
c. MRA 1701 (Loop 2)	1	N/A	N/A	22B
d. MRA 1702 (Loop 3)	1	N/A	N/A	22B
iii. Gland Steam Condenser Vent Monitor				
a. Low Range (SRA 1805)	------------(see the ODCM)------------			
iv. Steam Jet Air Ejector Vent Monitors				
a. Low Range (SRA 1905)	------------(see the ODCM)------------			
b. Mid Range (SRA 1907)	1	N/A	N/A	22B
c. High Range (SRA 1909)	1	N/A	N/A	22B

M.1

See CTS 3/4.3.3.1

L.4

See ITS 3.3.3

M.1

See ITS 3.4.15

L.4

See CTS 3/4.3.3.1

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A.1

ITS 3.3.6

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.6-1

TABLE 3.3-6 (Continued)
RADIATION MONITORING INSTRUMENTATION
(OPERABILITY BASES DISCUSSED IN BASES SECTION 3/4 3.3.1)

L.7

ALLOWABLE VALUE — A.7

See CTS 3/4.3.3.1

ITS	OPERATION MODE/INSTRUMENT	MINIMUM CHANNELS OPERABLE	ALARM SETPOINT	~~TRIP~~ SETPOINT	ACTION
Footnote (a)	2. ~~Mode 6~~ During movement of irradiated fuel assemblies within containment				
	A. Train A	any 2/3 channels Footnote (b)			22 C
Function 3.c	i. Containment Area ~~+~~ Radiation Channel ~~(VRS-1101)~~		N/A	≤ 54 mR/hr	
Function 3.b	ii. Particulate Channel ~~+~~ ~~(ERS-1301)~~		N/A	≤ 2.52 μCi	
Function 3.a	iii. Noble Gas Channel ~~+~~ ~~(ERS-1305)~~		N/A	$\leq 4.4\times10^{-3}\,\mu\mathrm{Ci/cc}$	
	B. Train B	any 2/3 channels Footnote (b)			22 C
Function 3.c	i. Containment Area ~~+~~ Radiation Channel ~~(VRS-1201)~~		N/A	≤ 54 mR/hr	
Function 3.b	ii. Particulate Channel ~~+~~ ~~(ERS-1401)~~		N/A	≤ 2.52 μCi	
Function 3.a	iii. Noble Gas Channel ~~+~~ ~~(ERS-1405)~~		N/A	$\leq 4.4\times10^{-3}\,\mu\mathrm{Ci/cc}$	
	3. Mode ***				
	A. Spent Fuel Storage (RRC-330)	1	≤ 15 mR/hr	≤ 15 mR/hr	21

L.7

L.4

See CTS 3/4.3.3.1

+ ~~This specification only applies during PURGE~~

*** With fuel in storage pool or building

L.7

See CTS 3/4.3.3.1

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A.1

ITS 3.3.6

ITS

TABLE 3.3-6 (Continued)

TABLE NOTATION

ACTION 20 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, comply with the ACTION requirements of Specification 3.4.6.1.

See ITS 3.4.15

ACTION 21 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, perform area surveys of the monitored area with portable monitoring instrumentation at least once per day.

See CTS 3/4.3.3.1

two or more

L.1

ACTION C

ACTION 22 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirements, comply with the ACTION requirements of Specification 3.9.9. This ACTION is not required during the performance of containment integrated leak rate test.

M.4

ACTION 22A- With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirements:

1. either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or

See ITS 3.3.3

2. prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

See ITS 5.6

3. Technical Specification Sections 3.0.3 and 3.0.4 Not Applicable.

See ITS 3.3.3

ACTION 22B- With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirements.

1. either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or

2. prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

See CTS 3/4.3.3.1

3. In the event of an accident involving radiological releases initiate the preplanned alternate method of monitoring the appropriate parameter(s) within 72 hours.

4. Technical Specification Sections 3.0.3 and 3.0.4 Not Applicable.

A.1

ITS 3.3.6

ITS

Table 3.3.6-1

TABLE 4.3-3 (Continued)

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

A.4 L.11 L.5 L.9 L.7 L.4

	OPERATION MODE/INSTRUMENT	SR 3.3.6.1 CHANNEL CHECK	SR 3.3.6.8 CHANNEL CALIBRATION	SR 3.3.6.6 ~~CHANNEL FUNCTIONAL TEST~~ COT	APPLICABLE MODES
	2. Mode 6		24 months	184 days	
	A. Train A				
Function 3.c	i. Containment Area Radiation Channel (VRS-1101)	1-S*	8-R	6-Q	~~6~~ Footnote (a)
Function 3.b	ii. Particulate Channel (ERS-1301)	1-S*	8-R	6-Q	During movement of irradiated fuel assemblies within containment
Function 3.a	iii. Noble Gas Channel (ERS-1305)	1-S*	8-R	6-Q	
	B. Train B				~~6~~ Footnote (a)
Function 3.c	i. Containment Area Radiation Channel (VRS-1201)	1-S*	8-R	6-Q	
Function 3.b	ii. Particulate Channel (ERS-1401)	1-S*	8-R	6-Q	
Function 3.a	iii. Noble Gas Channel (ERS-1405)	1-S*	8-R	6-Q	
	3. Mode **				
	A. Spent Fuel Storage (RRC-330)	S	R	Q	**

See CTS 3/4.3.3.1

L.11

~~* To include SOURCE CHECK per T/S Section 1.27~~

** With fuel in storage pool or building

See CTS 3/4.3.3.1

A.1

ITS 3.3.6

ITS

REFUELING OPERATIONS

CONTAINMENT PURGE AND EXHAUST ISOLATION SYSTEM A.2

LIMITING CONDITION FOR OPERATION

instrumentation

LCO 3.3.6 3.9.9 The Containment Purge and Exhaust isolation system shall be OPERABLE.

L.2

Table 3.3.6-1 Footnote (a) APPLICABILITY: During ~~Core Alterations or~~ movement of irradiated fuel within the containment.

ACTION:

ACTION C With the Containment Purge and Exhaust isolation system inoperable, close each of the Purge and Exhaust penetrations providing direct access from the containment atmosphere to the outside atmosphere. ~~The provision of Specification 3.0.3 are not applicable.~~ A.8

184 days for (containment radiation monitors) L.9

24 months (for manual initiation) L.6

SURVEILLANCE REQUIREMENTS

L.2

L.8

See ITS 3.9.3

SR 3.3.6.6, SR 3.3.6.7 4.9.9 The Containment Purge and Exhaust isolation system shall be demonstrated OPERABLE ~~within 100 hours prior to the start of~~ and at least once per ~~7 days~~ ~~during CORE ALTERATIONS~~ by verifying that containment Purge and Exhaust isolation occurs on manual initiation and on a high radiation signal from each of the containment radiation instrumentation monitors.

A.1

ITS 3.3.6

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

3/4.3.2 ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION — A.2

LIMITING CONDITION FOR OPERATION

LCO 3.3.6 — 3.3.2.1 The Engineered Safety Feature Actuation System (ESFAS) instrumentation channels and interlocks shown in Table 3.3-3 shall be OPERABLE ~~with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3-4.~~

See ITS 3.3.2

LA.3

APPLICABILITY: As shown in Table 3.3-3.

ACTION:

Add proposed ACTIONS Note — A.3

ACTIONS B and C — a. With an ESFAS instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3-4, declare the channel inoperable and apply the applicable ACTION requirement of Table 3.3-3 until the channel is restored to OPERABLE status ~~with the trip setpoint adjusted consistent with the Trip Setpoint value.~~ — LA.3

ACTIONS B and C — b. With an ESFAS instrumentation channel inoperable, take the ACTION shown in Table 3.3-3.

SURVEILLANCE REQUIREMENTS

SR Table Note — 4.3.2.1.1 Each ESFAS instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION, ~~CHANNEL FUNCTIONAL TEST~~ COT and TRIP ACTUATING DEVICE OPERATIONAL TEST operations for the MODES and at the frequencies shown in Table 4.3-2. — A.4

4.3.2.1.2 The logic for the interlocks shall be demonstrated OPERABLE during the automatic actuation logic test. The total interlock function shall be demonstrated OPERABLE at least once per 18 months during CHANNEL CALIBRATION testing of each channel affected by interlock operation. — See ITS 3.3.2

~~4.3.2.1.3 The ENGINEERED SAFETY FEATURES RESPONSE TIME of each ESFAS function shall be demonstrated to be within the limit at least once per 18 months. Each test shall include at least one logic train such that both logic trains are tested at least once per 36 months and one channel per function such that all channels are tested at least once per N times 18 months where N is the total number of redundant channels in a specific ESFAS function as shown in the "Total No. of Channels" Column of Table 3.3-3.~~ — A.5

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A.1

ITS 3.3.6

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.6-1

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

LA.1

A.6

FUNCTIONAL UNIT	~~TOTAL NO. OF CHANNELS~~	~~CHANNELS TO TRIP~~	~~MINIMUM~~ REQUIRED CHANNELS OPERABLE	APPLICABLE MODES	ACTION
3. CONTAINMENT ISOLATION					
a. Phase "A" Isolation					
1) Manual	See Functional Unit 9				
2) From Safety Injection Automatic Actuation Logic	2	1	2	1, 2, 3, 4	13
b. Phase "B" Isolation					
1) Manual	See Functional Unit 9				
2) Automatic Actuation Logic	2	1	2	1, 2, 3, 4	13
3) Containment Pressure -- High-High	4	2	3	1, 2, 3	16
c. Purge and Exhaust Isolation					
Function 1 — 1) Manual	See Functional Unit 9				
Function 3 — 2) Containment Radioactivity-* High Train A ~~(VRS-2101, ERS-2301, ERS-2305)~~	~~3~~	~~1~~	~~2~~	1, 2, 3, 4	17 C
Function 3 — 3) Containment Radioactivity-* High Train B ~~(VRS-2201, ERS-2401, ERS-2405)~~	~~3~~	~~1~~	~~2~~	1, 2, 3, 4	17 C

See ITS 3.3.2

2 per train

A.6

LA.1

L.4

Add proposed Function 2

M.2

Add proposed Function 4

M.3

*This specification only applies during PURGE.

M.1

A.1

ITS 3.3.6

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.6-1

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

LA.1

A.6

FUNCTIONAL UNIT	~~TOTAL NO. OF CHANNELS~~	~~CHANNELS TO TRIP~~	REQUIRED ~~MINIMUM~~ CHANNELS OPERABLE	APPLICABLE MODES	ACTION
7. TURBINE DRIVEN AUXILIARY FEEDWATER PUMPS					
a. Steam Generator Water Level -- Low-Low	3/Stm. Gen.	2/Stm. Gen. any 2 Stm. Gen.	2/Stm. Gen.	1, 2, 3	14*
b. Reactor Coolant Pump Bus Undervoltage	4-1/Bus	2	3	1, 2, 3	19*
8. LOSS OF POWER					
a. 4 kV Bus Loss of Voltage	3/Bus	2/Bus	2/Bus	1, 2, 3, 4	14*
b. 4 kV Bus Degraded Voltage	3/Bus (T21A - Train B) (T21D – Train A)	2/Bus (T21A-Train B) (T21D–Train A)	2/Bus (T21A-Train B) (T21D–Train A)	1, 2, 3, 4	14*
9. MANUAL					
a. Safety Injection (ECCS) Feedwater Isolation Reactor Trip (SI) Containment Isolation-Phase "A" Containment Purge and Exhaust Isolation Auxiliary Feedwater Pumps Essential Service Water System	2/train	1/train	2/train	1, 2, 3, 4	18
b. ~~Containment Spray~~ ~~Containment Isolation - Phase "B"~~ Containment Purge and Exhaust Isolation	~~1/train~~	~~1/train~~	~~1/train~~ 1 per train	1, 2, 3, 4	18 B
c. ~~Containment Isolation - Phase "A"~~ Containment Purge and Exhaust Isolation	~~1/train~~	~~1/train~~	~~1/train~~	1, 2, 3, 4	18 B
d. Steam Line Isolation	2/steam line (1 per train)	2/steam line (1 per train)	2/operating steam line (1 per train)	1, 2, 3	20

See ITS 3.3.2

See ITS 3.3.5

Function 4

See ITS 3.3.2

Function 1

L.10

LA.1

Function 1

LA.2

See ITS 3.3.2

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A.1

ITS 3.3.6

ITS

two or more

L.1

Add proposed ACTION A

TABLE 3.3-3 (Continued)

ACTION C

ACTION 17 - With less than the Minimum Channels OPERABLE, operation may continue provided the containment purge and exhaust valves are maintained closed.

ACTION B

ACTION 18 - With the number of OPERABLE Channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ACTION C

L.3

ACTION 19 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:

a. The inoperable channel is placed in the tripped condition within 1 hour.

b. The Minimum Channels OPERABLE requirement is met; however, one additional channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.

ACTION 20 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or declare the associated valve inoperable and take the ACTION required by Specification 3.7.1.5.

See ITS 3.3.2

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A.1

ITS 3.3.6

ITS

Table 3.3.6-1

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

LA.3

A.7

FUNCTIONAL UNIT	~~TRIP SETPOINTS~~	ALLOWABLE VALUES
2. CONTAINMENT SPRAY		
a. Manual Initiation	------------ See Functional Unit 9 -----------	
b. Automatic Actuation Logic	Not Applicable	Not Applicable
c. Containment Pressure--High-High	Less than or equal to 2.9 psig	Less than or equal to 3.0 psig
3. CONTAINMENT ISOLATION		
a. Phase "A" Isolation		
1. Manual	------------ See Functional Unit 9 -----------	
2. From Safety Injection Automatic Actuation Logic	Not Applicable	Not Applicable
b. Phase "B" Isolation		
1. Manual	------------ See Functional Unit 9 -----------	
2. Automatic Actuation Logic	Not Applicable	Not Applicable
3. Containment Pressure-High-High	Less than or equal to 2.9 psig	Less than or equal to 3.0 psig
c. Purge and Exhaust Isolation		
1. Manual	------------ See Functional Unit 9 -----------	
2. Containment Radio-activity--High Train A ~~(VRS-2101, ERS-2301, ERS-2305)~~	See Table 3.3-6	~~Not Applicable~~
3. Containment Radio-activity--High Train B ~~(VRS-2201, ERS-2401, ERS-2405)~~	See Table 3.3-6	~~Not Applicable~~

See ITS 3.3.2

Function 1

Function 3

Function 3

A.7

L.4

A.1

ITS 3.3.6

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.6-1

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

LA.3

FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES	
9. Manual			
a. Safety Injection (ECCS)	N.A.	N.A.	See ITS 3.3.2
Feedwater Isolation	N.A.	N.A.	
Reactor Trip (SI)	N.A.	N.A.	
Containment Isolation - Phase "A"	N.A.	N.A.	
Function 4 — Containment Purge and Exhaust Isolation	N.A.	N.A.	LA.3
Auxiliary Feedwater Pumps	N.A.	N.A.	See ITS 3.3.2
Essential Service Water System	N.A.	N.A.	
b. Containment Spray	N.A.	N.A.	
Containment Isolation - Phase "B"	N.A.	N.A.	
Function 1 — Containment Purge and Exhaust Isolation	N.A.	N.A.	LA.3
c. Containment Isolation - Phase "A"	N.A.	N.A.	
Function 1 — Containment Purge and Exhaust Isolation	N.A.	N.A.	LA.2
d. Steam Line Isolation	N.A.	N.A.	See ITS 3.3.2
e. Containment Air Recirculation Fan	N.A.	N.A.	
10. CONTAINMENT AIR RECIRCULATION FAN			
a. Manual	See Functional Unit 9	See Functional Unit 9	
b. Automatic Actuation Logic	Not Applicable	Not Applicable	
c. Containment Pressure - High	*Less than or equal to 1.1 psig*	*Less than or equal to 1.2 psig*	

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.6-1

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

A.4 COT

L.9 184 days

M.1

L.5 24 months

FUNCTIONAL UNIT	CHANNEL CHECK (SR 3.3.6.1)	CHANNEL CALIBRATION (SR 3.3.6.8)	~~CHANNEL FUNCTIONAL TEST~~ COT (SR 3.3.6.6)	TRIP ACTUATING DEVICE OPERATIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
c. Purge and Exhaust Isolation					
Function 1 — 1) Manual	See Functional Unit 9				
Function 3 — 2) Containment Radioactivity -- High	S -1	8- ~~R~~	6- ~~Q~~	N.A.	1, 2, 3, 4
4. STEAM LINE ISOLATION					
a. Manual	See Functional Unit 9				
b. Automatic Actuation Logic	N.A.	N.A.	Q (2)	N.A.	1, 2, 3
c. Containment Pressure -- High-High	S	R	SA (3)	N.A.	1, 2, 3
d. Steam Flow in Two Steam Lines -- High Coincident with T_{avg} -- Low-Low	S	R	SA	N.A.	1, 2, 3
e. Steam Line Pressure -- Low	S	R	SA	N.A.	1, 2, 3
5. TURBINE TRIP AND FEEDWATER ISOLATION					
a. Steam Generator Water Level -- High-High	S	R	SA	N.A.	1, 2, 3
6. MOTOR DRIVEN AUXILIARY FEEDWATER PUMPS					
a. Steam Generator Water Level -- Low-Low	S	R	SA	N.A.	1, 2, 3
b. 4 kV Bus Loss of Voltage	S	R	M	N.A.	1, 2, 3
c. Safety Injection	N.A.	N.A.	Q (2)	N.A.	1, 2, 3
d. Loss of Main Feed Pumps	N.A.	N.A.	R	N.A.	1, 2

See ITS 3.3.2

M.2 Add proposed SRs 3.3.6.2, 3.3.6.3, and 3.3.6.4 for Function 2

M.3 Add proposed SR 3.3.6.5 for Function 4

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A.1

ITS 3.3.6

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.6-1

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	SR 3.3.6.7 TRIP ACTUATING DEVICE OPERATIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED	
7. TURBINE DRIVEN AUXILIARY FEEDWATER PUMP						See ITS 3.3.2
a. Steam Generator Water Level -- Low-Low	S	R	SA	N.A.	1, 2, 3	
b. Reactor Coolant Pump Bus Undervoltage	N.A.	R	M	N.A.	1, 2, 3	
8. LOSS OF POWER						See ITS 3.3.5
a. 4 kv Bus Loss of Voltage	S	R	M	N.A.	1, 2, 3, 4	
b. 4 kv Bus Degraded Voltage	S	R	M	N.A.	1, 2, 3, 4	
9. MANUAL						
a. Safety Injection (ECCS) Feedwater Isolation Reactor Trip (SI) Containment Isolation - Phase "A" Containment Purge and Exhaust Isolation Auxiliary Feedwater Pumps Essential Service Water System	N.A.	N.A.	N.A.	R	1, 2, 3, 4	See ITS 3.3.2 (Function 4: Containment Purge and Exhaust Isolation)
b. ~~Containment Spray~~ ~~Containment Isolation - Phase "B"~~ Containment Purge and Exhaust Isolation	N.A.	N.A.	N.A.	~~R~~ -7	1, 2, 3, 4	Function 1; 24 months L.6; LA.2
c. ~~Containment Isolation - Phase "A"~~ Containment Purge and Exhaust Isolation	N.A.	N.A.	N.A.	~~R~~ -7	1, 2, 3, 4	Function 1; 24 months L.6
d. Steam Line Isolation	N.A.	N.A.	Q	R	1, 2, 3	See ITS 3.3.2
e. Containment Air Recirculation Fan	N.A.	N.A.	N.A.	R	1, 2, 3, 4	
10. CONTAINMENT AIR RECIRCULATION FAN						
a. Manual	----See Functional Unit 9----					
b. Automatic Actuation Logic	N.A.	N.A.	Q (2)	N.A.	1, 2, 3	
c. Containment Pressure – High	S	R	SA (3)	N.A.	1, 2, 3	

A.1

ITS 3.3.6

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

~~3/4.3.3 MONITORING INSTRUMENTATION~~ A.2

RADIATION MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

LCO 3.3.6 3.3.3.1 The radiation monitoring instrumentation channels shown in Table 3.3-6 shall be OPERABLE ~~with their alarm/trip setpoints within the specified limits.~~ LA.3

APPLICABILITY: As shown in Table 3.3-6.

ACTION: Add proposed ACTIONS Note A.3

inoperable, restore the channel L.1

ACTION A a. With a radiation monitoring channel ~~alarm/trip setpoint exceeding the value shown in Table 3.3-6, adjust the setpoint to within the limit~~ within 4 hours ~~or declare the channel inoperable.~~

ACTION C b. With one or more radiation monitoring channels inoperable, take the ACTION shown in Table 3.3-6.

~~c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.~~ A.8

SURVEILLANCE REQUIREMENTS

SR Table Note 4.3.3.1 Each radiation monitoring instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and ~~CHANNEL FUNCTIONAL TEST~~ operations during the modes and at the frequencies shown in Table 4.3-3.

COT A.4

A.1

ITS 3.3.6

ITS

Table 3.3.6-1

See ITS 3.3.3

TABLE 3.3-6

RADIATION MONITORING INSTRUMENTATION

(OPERABILITY BASES DISCUSSED IN BASES SECTION 3/4 3.3.1)

ALLOWABLE VALUE — A.7

OPERATION MODE/INSTRUMENT	MINIMUM CHANNELS OPERABLE	ALARM SETPOINT	~~TRIP SETPOINT~~	ACTION
1. Modes 1, 2, 3 & 4				
A. Area Monitors				
i. Upper Containment[+] (VRS 2101/2201)	1	N/A	≤ 54 mR/hr	21
ii. Containment High Range (VRA 2310/2410)	2	≤ 10R/hr	N/A	22A
B. Process Monitors				
i. Particulate Channel[+] (ERS 2301/2401)	1	N/A	≤ 2.52 μCi	20
ii. Noble Gas Channel[+] (ERS 2305/2405)	1	N/A	≤ 4.4×10^{-3} $\frac{\mu Ci}{cc}$	20
C. Noble Gas Effluent Monitors				
i. Unit Vent Effluent Monitors				
a. Low Range (VRS 2505)	------------(see the ODCM)------------			
b. Mid Range (VRS 2507)	1	N/A	N/A	22B
c. High Range (VRS 2509)	1	N/A	N/A	22B
ii. Steam Generator PORV				
a. MRA 2601 (Loop 1)	1	N/A	N/A	22B
b. MRA 2602 (Loop 4)	1	N/A	N/A	22B
c. MRA 2701 (Loop 2)	1	N/A	N/A	22B
d. MRA 2702 (Loop 3)	1	N/A	N/A	22B
iii. Gland Steam Condenser Vent Monitor				
a. Low Range (SRA 2805)	------------(see the ODCM)------------			
iv. Steam Jet Air Ejector Vent Monitors				
a. Low Range (SRA 2905)	------------(see the ODCM)------------			
b. Mid Range (SRA 2907)	1	N/A	N/A	22B
c. High Range (SRA 2909)	1	N/A	N/A	22B

Function 3.c — Upper Containment; M.1; See CTS 3/4.3.3.1; L.4

See ITS 3.3.3 — Containment High Range

Function 3.b — Particulate Channel; M.1; See ITS 3.4.15

Function 3.a — Noble Gas Channel; L.4

See CTS 3/4.3.3.1 — Noble Gas Effluent Monitors

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A.1

ITS 3.3.6

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.6-1

TABLE 3.3-6 (Continued)

RADIATION MONITORING INSTRUMENTATION
(OPERABILITY BASES DISCUSSED IN BASES SECTION 3/4 3.3.1)

L.7 A.7 ALLOWABLE VALUE

See CTS 3/4.3.3.1

OPERATION MODE/INSTRUMENT	MINIMUM CHANNELS OPERABLE	ALARM SETPOINT	~~TRIP~~ ~~SETPOINT~~	ACTION
Footnote (a) 2. ~~Mode 6~~ During movement of irradiated fuel assemblies within containment				
A. Train A	any 2/3 channels Footnote (b)			22 C
Function 3.c i. Containment Area+ Radiation Channel ~~(VRS 2101)~~		~~N/A~~	≤ 54 mR/hr	
Function 3.b ii. Particulate Channel+ ~~(ERS 2301)~~		~~N/A~~	≤ 2.52 μCi	
Function 3.a iii. Noble Gas Channel+ ~~(ERS 2305)~~		~~N/A~~	≤ 4.4x10^{-3} μCi/cc	
B. Train B	any 2/3 channels Footnote (b)			22 C
Function 3.c i. Containment Area+ Radiation Channel ~~(VRS 2201)~~		~~N/A~~	≤ 54 mR/hr	
Function 3.b ii. Particulate Channel+ ~~(ERS 2401)~~		~~N/A~~	≤ 2.52 μCi	
Function 3.a iii. Noble Gas Channel+ ~~(ERS 2405)~~		~~N/A~~	≤ 4.4x10^{-3} μCi/cc	
3. Mode ***				
A. Spent Fuel Storage (RRC 330)	1	≤ 15 mR/hr	≤ 15 mR/hr	21

L.7

L.4

See CTS 3/4.3.3.1

See CTS 3/4.3.3.1

*** With fuel in storage pool or building

+ ~~This specification only applies during PURGE~~

L.7

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A.1

ITS 3.3.6

ITS

TABLE 3.3-6 (Continued)

TABLE NOTATION

ACTION 20 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, comply with the ACTION requirements of Specification 3.4.6.1.

See ITS 3.4.15

ACTION 21 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, perform area surveys of the monitored area with portable monitoring instrumentation at least once per day.

See CTS 3/4.3.3.1

two or more

L.1

ACTION C

ACTION 22 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, comply with the ACTION requirements of Specification 3.9.9. This ACTION is not required during the performance of containment integrated leak rate test.

M.4

ACTION 22A- With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirements:

1. either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or

See ITS 3.3.3

2. prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

See ITS 5.6

3. Technical Specification Sections 3.0.3 and 3.0.4 Not Applicable.

See ITS 3.3.3

ACTION 22B- With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirements.

1. either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or

2. prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

See CTS 3/4.3.3.1

3. In the event of an accident involving radiological releases initiate the preplanned alternate method of monitoring the appropriate parameter(s) within 72 hours.

4. Technical Specification Sections 3.0.3 and 3.0.4 Not Applicable.

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A.1

ITS 3.3.6

ITS

Table 3.3.6-1

TABLE 4.3-3 (Continued)

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

	OPERATION MODE/INSTRUMENT	CHANNEL CHECK (SR 3.3.6.1)	CHANNEL CALIBRATION (SR 3.3.6.8)	~~CHANNEL FUNCTIONAL TEST~~ COT (SR 3.3.6.6)	APPLICABLE MODES
	2. Mode 6				
	A. Train A			184 days / 24 months	
Function 3.c	i. Containment Area Radiation Channel ~~(VRS 2101)~~	1- S*	8- R	6- Q	6 Footnote (a)
Function 3.b	ii. Particulate Channel ~~(ERS 2301)~~	1- S*	8- R	6- Q	During movement of irradiated fuel assemblies within containment
Function 3.a	iii. Noble Gas Channel ~~(ERS 2305)~~	1- S*	8- R	6- Q	
	B. Train B				6 Footnote (a)
Function 3.c	i. Containment Area Radiation Channel ~~(VRS 2201)~~	1- S*	8- R	6- Q	
Function 3.b	ii. Particulate Channel ~~(ERS 2401)~~	1- S*	8- R	6- Q	
Function 3.a	iii. Noble Gas Channel ~~(ERS 2405)~~	1- S*	8- R	6- Q	
	3. Mode **				
	A. Spent Fuel Storage (RRC-330)	S	R	Q	**

A.4 L.11 L.5 L.9 L.7 L.4

See CTS 3/4.3.3.1

L.11

~~* To include SOURCE CHECK per T/S Section 1.27~~

** With fuel in storage pool or building

See CTS 3/4.3.3.1

A.1

ITS 3.3.6

ITS

REFUELING OPERATIONS

CONTAINMENT PURGE AND EXHAUST ISOLATION SYSTEM

A.2

LIMITING CONDITION FOR OPERATION

instrumentation

LCO 3.3.6 — 3.9.9 The Containment Purge and Exhaust isolation system shall be OPERABLE.

L.2

Table 3.3.6-1 Footnote (a) — APPLICABILITY: During ~~Core Alterations or~~ movement of irradiated fuel within the containment.

ACTION:

A.8

ACTION C — With the Containment Purge and Exhaust isolation system inoperable, close each of the Purge and Exhaust penetrations providing direct access from the containment atmosphere to the outside atmosphere. ~~The provisions of Specification 3.0.3 are not applicable.~~

L.9

184 days for containment radiation monitors

SURVEILLANCE REQUIREMENTS

24 months for manual initiation

L.6

L.2

SR 3.3.6.6, SR 3.3.6.7 — 4.9.9 The Containment Purge and Exhaust isolation system shall be demonstrated OPERABLE ~~within 100 hours prior to the start of~~ and at least once per ~~7 days~~ ~~during CORE ALTERATIONS~~ by verifying that containment Purge and Exhaust isolation occurs on manual initiation and on a high radiation test signal from each of the containment radiation monitoring instrumentation channels.

L.8

See ITS 3.9.3

COOK NUCLEAR PLANT - UNIT 2 3/4 9-9 AMENDMENT NO. ~~67~~, ~~83~~, 151

DISCUSSION OF CHANGES
ITS 3.3.6, CONTAINMENT PURGE SUPPLY AND EXHAUST SYSTEM ISOLATION INSTRUMENTATION

ADMINISTRATIVE CHANGES

A.1 In the conversion of the CNP Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1431, Rev. 2, "Standard Technical Specifications-Westinghouse Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

A.2 CTS 3.3.2.1, "Engineered Safety Feature Actuation System Instrumentation," requires the Engineered Safety Feature Actuation System (ESFAS) instrumentation channels and interlocks shown in Table 3.3-3 to be OPERABLE. CTS 3.3.3.1, "Radiation Monitoring Instrumentation," requires the radiation monitoring instrumentation channels shown in Table 3.3-6 to be OPERABLE. CTS 3.9.9 requires the Containment Purge and Exhaust Isolation System to be OPERABLE. ITS 3.3.6, "Containment Purge Supply and Exhaust System Isolation Instrumentation," requires specific channels for the Manual Initiation, Containment Radiation, and Safety Injection Functions to be OPERABLE. This changes the CTS by having a separate Specification for the Containment Purge Supply and Exhaust System isolation instrumentation in lieu of including it with the ESFAS Instrumentation Specification.

This change is acceptable because the technical requirements for the Containment Purge Supply and Exhaust System isolation instrumentation are maintained with the change in format. The Containment Purge Supply and Exhaust System Isolation Instrumentation Specification continues to require the isolation of the Containment Purge Supply and Exhaust System on Manual Initiation, Containment Radiation, and Safety Injection Input from ESFAS signals. This change is designated as administrative because it does not result in a technical change to the CTS.

A.3 CTS 3.3.2.1 Actions and CTS 3.3.3.1 Actions provide the compensatory actions to take when Containment Purge Supply and Exhaust System isolation instrumentation is inoperable. ITS 3.3.6 ACTIONS provide the compensatory actions for inoperable Containment Purge Supply and Exhaust System isolation instrumentation. The ITS 3.3.6 ACTIONS include a Note that allows separate Condition entry for each Function. This modifies the CTS by providing a specific allowance to enter the Action for each inoperable Containment Purge Supply and Exhaust System Isolation Instrumentation Function.

This change is acceptable because it clearly states the current requirement. The CTS considers each Containment Purge Supply and Exhaust System Isolation Instrumentation Function to be separate and independent from the other. This change is designated as administrative because it does not result in technical changes to the CTS.

A.4 CTS 4.3.2.1.1, Table 4.3-2, 4.3.3.1, and Table 4.3-3 require that Containment Radiation Function channels be demonstrated OPERABLE by performance of a

CHANNEL FUNCTIONAL TEST once per 92 days. ITS SR 3.3.6.6 requires the performance of a CHANNEL OPERATIONAL TEST (COT) of the Containment Radiation Function channels once per 184 days. This changes the CTS by changing the CHANNEL FUNCTIONAL TEST requirements to a COT. The change to the Frequency is discussed in DOC L.9.

This change is acceptable because the COT continues to perform a test similar to the current CHANNEL FUNCTIONAL TEST. The change is one of format only. In addition, the change to the CHANNEL FUNCTIONAL TEST definition is described in Discussion of Changes for ITS 1.0. This change is designated as administrative because it does not result in technical changes to the CTS.

A.5 CTS 4.3.2.1.3 requires ENGINEERED SAFETY FEATURES RESPONSE TIME testing of "each" ESFAS function. ITS 3.3.6 does not include response time testing for the Containment Purge Supply and Exhaust System Isolation Instrumentation Functions. This changes the CTS by clearly identifying that the ENGINEERED SAFETY FEATURES RESPONSE TIME testing does not apply to the Containment Purge Supply and Exhaust System Isolation Instrumentation Functions.

The purpose of the CTS 4.3.2.1.3 requirements is to ensure that the actuation response times are less than or equal to the maximum values assumed in the accident analysis. UFSAR Table 7.2-7, which was previously in CTS 3.3.2 as Table 3.3-5, only specifies response times for those ESFAS Functions assumed in the CNP safety analyses. CTS Table 3.3-5 did not include response times for the CTS 3.3.2 Purge and Exhaust Isolation Functions. Therefore, this change is acceptable since ENGINEERED SAFETY FEATURES RESPONSE TIME testing of the Purge and Exhaust Isolation Functions was not required. These response times were removed from CTS 3.3.2 and placed under CNP control as documented in the NRC Safety Evaluation for License Amendments 202 (Unit 1) and 187 (Unit 2). In addition, UFSAR Table 7.2-7 currently does not require response time testing of the CTS 3.3.2 Purge and Exhaust Isolation Functions. This change is designated as administrative because it does not result in technical changes to the CTS.

A.6 CTS Table 3.3-3 requires two channels to be OPERABLE for Functional Unit 3.c.2) (Containment Radioactivity - High Train A) and two channels to be OPERABLE for Functional Unit 3.c.3) (Containment Radioactivity - High Train B). ITS Table 3.3.6-1 requires two channels per train of the Containment Radiation Function (Function 3) to be OPERABLE. This changes the CTS by combining the requirements for Containment Radioactivity - High Train A and Train B Functional Units into one Containment Radiation Function and designating the channel requirements on a "per train" basis and by changing the title of the "MINIMUM CHANNELS OPERABLE" column to "REQUIRED CHANNELS."

This change is acceptable because the channel requirements for the Containment Radiation Function remains unchanged. The "REQUIRED CHANNELS" specified for ITS Table 3.3.6-1 Function 3 (two per train for a total of four channels) reflect the current requirements for CTS Table 3.3-3 Functional Units 3.c.2) and 3.c.3) (two channels in each of two trains for a total of four

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channels). The "MINIMUM CHANNELS OPERABLE" column for CTS Table 3.3-3 Functional Units 3.c.2) and 3.c.3), which are presented for each train, have been changed to correspond to the number of channels on a "per train" basis as reflected in ITS Table 3.3.6-1 Function 3. This change is designated as administrative because it does not result in technical changes to the CTS.

A.7 CTS 3.3.2.1 Action a requires action to be taken if the channel's trip setpoint is less conservative than the value shown in the Allowable Value column of Table 3.3-4. However, no Allowable Value is provided for Functional Units 3.c.2 and 3.c.3 (the Containment Radioactivity - High monitors); only a Trip Setpoint is provided. CTS 3.3.3.1 requires the radiation monitoring instrumentation channels shown in Table 3.3-6 to be OPERABLE with their alarm/trip setpoints within specified limits. CTS 3.3.3.1 Action a requires the channel to be declared inoperable when the setpoint exceeds the Trip Setpoint value shown in CTS Table 3.3-6 and not restored to within limit within 4 hours. ITS Table 3.3.6-1 specifies this value as an "Allowable Value" consistent with other ISTS Section 3.3 Tables. This changes the CTS by specifying an “Allowable Value” in ITS Table 3.3.6-1 instead of a "Trip Setpoint."

This change is acceptable because, in accordance with current plant procedures and practices, the Trip Setpoints specified in CTS Table 3.3-6 are applied as the OPERABILITY limits for the associated instruments. Therefore, the use of the term "Trip Setpoint" in the CTS is the same as the use of the term "Allowable Value" in the ITS. This change is designated as administrative because it does not result in a technical change to the CTS.

A.8 CTS 3.3.3.1 Action c applies, in part, to the MODE 6 requirements for CTS Table 3.3-6 Functional Units 2.A (Train A Containment Area Radiation, Particulate, and Noble Gas Channels) and 2.B (Train B Containment Area Radiation, Particulate, and Noble Gas Channels), and states that the provisions of Specifications 3.0.3 and 3.0.4 are not applicable. The CTS 3.9.9 Action, which applies when the above channels are inoperable, also states that the provisions of Specification 3.0.3 are not applicable. ITS 3.3.6 does not contain equivalent statements. This changes the CTS by deleting the Specifications 3.0.3 and 3.0.4 exception.

This change is acceptable because the technical requirements have not changed. ITS LCO 3.0.3 and LCO 3.0.4 are not applicable in MODE 6. Therefore, the LCO 3.0.3 and LCO 3.0.4 exception are not needed. This change is designated as administrative because it does not result in a technical change to the CTS.

MORE RESTRICTIVE CHANGES

M.1 The Applicability for CTS Table 3.3-3 Functional Units 3.c.2) (Containment Radioactivity - High Train A) and 3.c.3) (Containment Radioactivity - High Train B) is MODES 1, 2, 3, and 4. This requirement is modified by Note * that states that the Specification only applies during PURGE. ITS 3.3.6 requires the Containment Radiation Function of the Containment Purge Supply and Exhaust

DISCUSSION OF CHANGES
ITS 3.3.6, CONTAINMENT PURGE SUPPLY AND EXHAUST SYSTEM ISOLATION INSTRUMENTATION

System isolation instrumentation to be OPERABLE in MODES 1, 2, 3, and 4 when any Containment Purge Supply and Exhaust System isolation valve is open. This changes the CTS by requiring the Containment Radiation Function of the Containment Purge Supply and Exhaust System isolation instrumentation to be OPERABLE in MODES 1, 2, 3, and 4 when any Containment Purge Supply and Exhaust System isolation valve is open, in lieu of just when PURGING. In addition, the Applicability for CTS Table 4.3-2 Functional Unit 3.c.2) (Containment Radioactivity - High) Surveillance Requirements is MODES 1, 2, 3, and 4, and the CTS footnote concerning PURGING is not included. This change also administratively corrects the Applicability of the CTS Surveillances to match the actual Specification Applicability.

This change is acceptable because requiring the Containment Radiation Function of the Containment Purge Supply and Exhaust System isolation instrumentation to be OPERABLE during MODES 1, 2, 3, and 4 when any Containment Purge Supply and Exhaust System isolation valve is open ensures that automatic isolation of the containment purge supply and exhaust isolation valves is available when needed (i.e., whenever the containment purge supply and exhaust valves are open, not just during purging operations). This change is designated as more restrictive because the ITS expands the MODES and other specified conditions in which equipment is required to be OPERABLE.

M.2 CTS Table 3.3-3 Functional Unit 3.c provides requirements for Purge and Exhaust Isolation Functions, but does not explicitly provide requirements for the Automatic Actuation Logic and Actuation Relays Function that results in closure of the containment purge supply and exhaust isolation valves. ITS 3.3.6, "Containment Purge Supply and Exhaust System Isolation Instrumentation," provides requirements for the Automatic Actuation Logic and Actuation Relays Function (Function 2) to be OPERABLE and provides Surveillance Requirements (ITS SR 3.3.6.2, SR 3.3.6.3, and SR 3.3.6.4) to ensure the proper functioning of the associated actuation logic and relays. This changes the CTS by explicitly requiring the Automatic Actuation Logic and Actuation Relays Function for the Containment Purge Supply and Exhaust System isolation instrumentation to be OPERABLE.

This change is acceptable because the Automatic Actuation Logic and Actuation Relays Function is required to support the OPERABILITY of the containment purge supply and exhaust isolation valves. As such, explicitly including requirements for the Automatic Actuation Logic and Actuation Relays Function in the Technical Specifications provides additional assurance that the OPERABILITY of the Containment Purge Supply and Exhaust System isolation instrumentation will be maintained. The change provides explicit requirements for the Automatic Actuation Logic and Actuation Relays Function (ITS Table 3.3.6-1 Function 2) to be OPERABLE. The addition of SR 3.3.6.2 (an ACTUATION LOGIC TEST), SR 3.3.6.3 (a MASTER RELAY TEST), and SR 3.3.6.4 (a SLAVE RELAY TEST) is acceptable since currently the requirements of these tests are satisfied during the 92 day performance of the CHANNEL FUNCTIONAL TEST for the containment radiation monitoring channels. The requirements for the Containment Purge Supply and Exhaust System isolation instrumentation continue to require the isolation of the

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Containment Purge Supply and Exhaust System on Manual Initiation, Containment Radiation, and Safety Injection Input from ESFAS signals. This change is designated as more restrictive because it adds explicit OPERABILITY requirements and SRs for the Automatic Actuation Logic and Actuation Relays Function to the CTS.

M.3 CTS Table 3.3-3 Functional Unit 3.c provides requirements for Purge and Exhaust Isolation Functions, but does not explicitly provide requirements for the Safety Injection signal that results in closure of the containment purge supply and exhaust isolation valves, with the exception of the manual Safety Injection signal. ITS 3.3.6, "Containment Purge Supply and Exhaust System Isolation Instrumentation," provides requirements for the Safety Injection Input from ESFAS Function (Function 4) to be OPERABLE and provides a Surveillance Requirement (ITS SR 3.3.6.5) to ensure the proper functioning of the Safety Injection Input from ESFAS Function. This changes the CTS by explicitly requiring the Safety Injection from ESFAS Function for the Containment Purge Supply and Exhaust System isolation instrumentation and by adding the requirement to periodically perform a TADOT.

This change is acceptable because the Safety Injection Input from ESFAS Function is required to support the OPERABILITY of the containment purge supply and exhaust isolation valves. As such, explicitly including requirements for the Safety Injection Input from ESFAS Function in the Technical Specifications provides additional assurance that the OPERABILITY of the Containment Purge Supply and Exhaust System isolation instrumentation will be maintained. The addition of SR 3.3.6.5 (a TADOT) is acceptable since is consistent with current practice and the CTS requirements for other instrumentation that receive input for safety injection. The requirements for the Containment Purge Supply and Exhaust System isolation instrumentation continue to require the isolation of the Containment Purge Supply and Exhaust System on Manual Initiation, Containment Radiation, and Safety Injection Input from ESFAS signals. This change is designated as more restrictive because it adds OPERABILITY requirements and an SR for the Safety Injection Input from ESFAS Function to the CTS.

M.4 When one or more required channels of CTS Table 3.3-6 Instrument 2.A (Train A Containment Area Radiation, Particulate, and Noble Gas) or 2.B (Train B Containment Area Radiation, Particulate, and Noble Gas) inoperable, CTS Table 3.3-6 Action 22 requires compliance with the CTS 3.9.9 Action (i.e., close each containment purge and exhaust penetration). However, CTS Table 3.3-6 Action 22 includes an exception that states, "This ACTION is not required during the performance of containment integrated leak rate test." ITS 3.3.6 does not include this exception to CTS Table 3.3-6 Action 22. This changes the CTS by eliminating an exception to Action requirements.

The purpose of the exception to the actions when one or more required containment radiation monitoring channels is inoperable was to eliminate to need to obtain grab samples from containment during a containment integrated leak rate test. Prior to License Amendments 60 (Unit 1) and 43 (Unit 2), when one or more required containment radiation monitoring channels were inoperable, a grab sample was required. The action requirement to obtain a grab sample in the event of inoperability of one or more required containment radiation monitoring channels was eliminated from the Technical Specifications and replaced with the requirement to comply with the action requirements of CTS 3.9.9 (i.e., close each containment purge and exhaust penetration) in License Amendments 60 (Unit 1) and 43 (Unit 2) dated September 9, 1982. This change is acceptable since the exception to compliance with CTS Table 3.3-6 Action 22 is no longer needed. This change is designated as more restrictive because it eliminates an allowance from the CTS.

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA.1 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS Table 3.3-3 for ESFAS instrumentation has three columns stating various requirements for the Purge and Exhaust Isolation Functions. These columns are labeled, "TOTAL NO. OF CHANNELS," "CHANNELS TO TRIP," and "MINIMUM CHANNELS OPERABLE." ITS Table 3.3.6-1 does not retain the "TOTAL NO. OF CHANNELS" and "CHANNELS TO TRIP" columns. This changes the CTS by moving the information of the "TOTAL NO. OF CHANNELS" and "CHANNELS TO TRIP" columns to the Bases.

The removal of these details, which are related to system design, from the Technical Specifications, is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement for the number of required channels and the appropriate Condition to enter if a required channel becomes inoperable. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

LA.2 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS Tables 3.3-3, 3.3-4, and 4.3-2 provide requirements for Functions 9.b (Manual Containment Spray Containment Isolation - Phase "B" Containment Purge and Exhaust Isolation) and 9.c (Manual Containment Isolation - Phase "A" Containment Purge and Exhaust Isolation Function). ITS Table 3.3.6-1 provides requirements for Function 1 (Manual Initiation). This changes the CTS by moving the details of the Manual Initiation Function for Containment Purge Supply and Exhaust System isolation from the Technical Specifications to the Bases.

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The removal of these details, which are related to system design, from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement for the Manual Initiation Function of the Containment Purge Supply and Exhaust System isolation instrumentation to be OPERABLE. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

LA.3 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS 3.3.2.1 requires the ESFAS instrumentation and interlocks setpoints to be set consistent with the Trip Setpoint values shown in Table 3.3-4 and the Trip Setpoint column in CTS Table 3.3-4 references CTS Table 3.3-6. CTS 3.3.3.1 requires the radiation monitoring instrumentation channels shown in Table 3.3-6 to be set consistent with the Trip Setpoint values shown in Table 3.3-6. The radiation monitoring channels in question are the same for both CTS 3.3.2.1 and CTS 3.3.3.1. In addition, CTS 3.3.2.1 Action a is required to be entered when the setpoint is less conservative than the Allowable Value. The channel is to be declared inoperable until adjusted consistent with the Trip Setpoint value. ITS 3.3.6 requires the Containment Purge Supply and Exhaust System Isolation Instrumentation Functions to be OPERABLE. ITS Table 3.3.6-1 specifies the Allowable Values for the Containment Purge Supply and Exhaust System Isolation Instrumentation Functions. This changes the CTS by moving the Trip Setpoints and associated requirements to the Technical Requirements Manual (TRM).

The removal of these details for meeting Technical Specification requirements from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the Allowable Values associated with the Containment Purge Supply and Exhaust System Isolation Instrumentation. Also, this change is acceptable because these types of procedural details will be adequately controlled in the TRM. Any changes to the TRM are made under 10 CFR 50.59, which ensures changes are properly evaluated. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

<u>LESS RESTRICTIVE CHANGES</u>

L.1 *(Category 3 - Relaxation of Completion Time)* CTS Table 3.3-3 Action 17 allows operation to continue with the number of OPERABLE channels of the Containment Radioactivity - High Function less than the minimum number of channels, provided the containment purge and exhaust valves are maintained closed. CTS 3.3.3.1 Action a requires that if a radiation monitoring channel alarm/trip setpoint exceeds specified limits (effectively inoperable), then the setpoint is to be adjusted to within the limit within 4 hours (i.e., restore the channel to OPERABLE status) or the channel declared inoperable. CTS Table 3.3-6 Action 22 requires, with the number of OPERABLE containment area radiation, particulate, and noble gas channels less than the minimum number of channels, compliance with the Action requirements of CTS 3.9.9. The CTS 3.9.9 Action requires the containment purge and exhaust penetrations to be closed. ITS 3.3.6 ACTION A is the applicable action for the Containment Radiation Functions when one required channel is inoperable, and allows 4 hours to restore the channel to OPERABLE status. This changes the CTS by providing a 4 hour time to restore a channel to OPERABLE status when one required Containment Radiation Function channel is inoperable. As a result, a corresponding change is also made to CTS Table 3.3-3 Action 17 and CTS Table 3.3-6 Action 22 such that these actions address the condition of two or more required Containment Radiation Function channels inoperable.

The purpose of the Required Actions is to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. This change is acceptable because the Required Actions are consistent with safe operation under the specified Condition, considering the OPERABLE status of the redundant instrumentation channels. This includes the capacity and capability of remaining channels, a reasonable time for repairs or replacement, and the low probability of a design basis accident (DBA) occurring during the repair period. The ITS ACTION will allow 4 hours to restore the channel to OPERABLE status when one channel is inoperable. This is a reasonable period of time because of the low probability of an event occurring that would require a Containment Purge Supply and Exhaust System isolation and the Containment Purge Supply and Exhaust System isolation capability provided by the remaining OPERABLE channels of the associated Containment Radiation Function. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

L.2 *(Category 2 – Relaxation of Applicability)* CTS 3.9.9 is applicable during CORE ALTERATIONS and during movement of irradiated fuel assemblies within containment. The ITS Table 3.3.6-1 requirements for the Manual Initiation and Containment Radiation Functions are applicable, in part, during movement of irradiated fuel assemblies within containment. This changes the CTS by eliminating requirements for the Containment Purge and Exhaust Isolation System during CORE ALTERATIONS.

The purpose of CTS 3.9.9 is to ensure the containment purge supply and exhaust isolation valves are capable of being closed as assumed in the fuel handling accident inside containment analysis. This change is acceptable because the requirements continue to ensure that the structures, systems, and components are maintained in the MODES and other specified conditions assumed in the safety analyses and licensing basis. There are no accidents postulated to occur during CORE ALTERATIONS that result in significant radioactive release except a fuel handling accident. The analysis for a fuel handling accident assumes the event occurs only during movement of irradiated fuel. No CORE ALTERATIONS except the movement of irradiated fuel are assumed to be in progress when a fuel handling accident occurs. Therefore, imposing requirements during CORE ALTERATIONS in addition to during movement of irradiated fuel is unnecessary. This change is designated as less restrictive because the LCO requirements are applicable in fewer operating conditions than in the CTS.

L.3 *(Category 4 – Relaxation of Required Action)* CTS Table 3.3-3 Action 18 requires, with the number of OPERABLE channels of the Manual Containment Purge and Exhaust Isolation Functions less than the total number of channels, that the channels be restored to OPERABLE status within 48 hours or that the unit be placed in MODE 3 in the next 6 hours and in MODE 5 within the following 30 hours. ITS 3.3.6 ACTION C is the applicable action for the Manual Initiation Functions when inoperable channels are not restored to OPERABLE status within the associated Completion Time, and allows the containment purge supply and exhaust isolation valves to be placed in the closed position immediately. This changes the CTS by allowing the containment purge supply and exhaust isolation valves to be closed, in lieu of requiring a unit shutdown.

The purpose of the requirements for the Manual Initiation Function is to ensure the associated containment purge supply and exhaust isolation valves are capable of being manually closed. The proposed Required Action ensures that the function of the inoperable channels is satisfied by requiring the containment purge supply and exhaust isolation valves to be placed in the closed position. The Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation. This change is acceptable because the Required Actions are consistent with safe operation under the specified Condition, considering the OPERABLE status of the automatic Containment Purge Supply and Exhaust System isolation instrumentation channels, a reasonable time to accomplish the closure of the containment purge supply and exhaust isolation valves, and the low probability of a DBA occurring during the time period. The ITS ACTION will allow the containment purge supply and exhaust isolation valves to be placed in the closed position immediately. This is a reasonable period of time because of the low probability of an event occurring that would require a Containment Purge Supply and Exhaust System isolation and the isolation capability provided by the remaining OPERABLE automatic channels of the Containment Purge Supply and Exhaust System Isolation Instrumentation Functions. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

L.4 *(Category 1 – Relaxation of LCO Requirements)* CTS Table 3.3-3 specifies the Functional Unit 3.c.2) (Purge and Exhaust Isolation, Containment Radioactivity - High Train A) channel instrument numbers to be VRS-1101, ERS-1301, and ERS-1305 (Unit 1) and VRS-2101, ERS-2301, and ERS-2305 (Unit 2) and the Functional Unit 3.c.3) (Purge and Exhaust Isolation, Containment Radioactivity - High Train B) channel instrument numbers to be VRS-1201, ERS-1401, and ERS-1405 (Unit 1) and VRS-2201, ERS-2401, and ERS-2405 (Unit 2).
CTS Table 3.3-4 specifies the Functional Unit 3.c.2 (Purge and Exhaust Isolation, Containment Radioactivity - High Train A) channel instrument numbers to be

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ITS 3.3.6, CONTAINMENT PURGE SUPPLY AND EXHAUST SYSTEM ISOLATION INSTRUMENTATION

VRS-1101, ERS-1301, and ERS-1305 (Unit 1) and VRS-2101, ERS-2301, and ERS-2305 (Unit 2) and the Functional Unit 3.c.3 (Purge and Exhaust Isolation, Containment Radioactivity - High Train B) channel instrument numbers to be VRS-1201, ERS-1401, and ERS-1405 (Unit 1) and VRS-2201, ERS-2401, and ERS-2405 (Unit 2). CTS Table 3.3-6 specifies the Instruments 1.A.i (Area Monitor, Upper Containment), 1.B.i (Process Monitors, Particulate Channel), and 1.B.ii (Process Monitors, Noble Gas Channel) channel instrument numbers to be VRS-1101, VRS-1201, ERS-1301, ERS-1401, ERS-1305, and ERS-1405 (Unit 1) and VRS-2101, VRS-2201, ERS-2301, ERS-2401, ERS-2305, and ERS-2405 (Unit 2). CTS Tables 3.3-6 and 4.3-3 specify the Instruments 2.A.i, 2.A.ii, and 2.A.iii (Containment Area Radiation, Particulate, and Noble Gas Train A) channel instrument numbers to be VRS-1101, ERS-1301, and ERS-1305 (Unit 1) and VRS-2101, ERS-2301, and ERS-2305 (Unit 2) and the Instruments 2.B.i, 2.B.ii, and 2.B.iii (Containment Area Radiation, Particulate, and Noble Gas Train B) channel instrument numbers to be VRS-1201, ERS-1401, and ERS-1405 (Unit 1) and VRS-2201, ERS-2401, and ERS-2405 (Unit 2). ITS Table 3.3.6-1 Functions 3.a, 3.b, and 3.c (Containment Radiation - Gaseous, - Particulate, and - Area Radiation) do not specify the instrument numbers for these instruments. This changes the CTS by deleting the instrument numbers for the channels of the Containment Radioactivity - High Functions from the Technical Specifications.

The purpose of the requirements of CTS Tables 3.3-3, 3.3-4, 3.3-6, and 4.3-3 are to ensure the appropriate Containment Radioactivity - High Functions channels are OPERABLE for isolation of the containment purge supply and exhaust isolation valves. This change is acceptable because ITS LCO 3.3.6 and associated Surveillance Requirements continue to ensure that the instrumentation is maintained consistent with the safety analyses and licensing basis. The channel instrument numbers of the Containment Radioactivity - High Function have been deleted from the Technical Specifications. The instrument numbers are not necessary to ensure the equipment is OPERABLE. The requirements to maintain the Containment Radiation Functions instrumentation OPERABLE is sufficient to ensure the appropriate equipment is maintained OPERABLE. The use of a description of the instrument channel in the Technical Specifications has been proven to be sufficient. This change is designated as less restrictive because less stringent LCO requirements are being applied in the ITS than were applied in the CTS.

L.5 *(Category 11 – 18 to 24 Month Surveillance Frequency Change, Channel Calibration Type)* CTS Table 4.3-2 requires a CHANNEL CALIBRATION of the Containment Radioactivity - High Functional Unit instrumentation every 18 months and CTS Table 4.3-3 requires a CHANNEL CALIBRATION of the containment area radiation, particulate, and noble gas channels every 18 months. ITS SR 3.3.6.8 requires the performance of a CHANNEL CALIBRATION for the Containment Radiation Function instrumentation every 24 months. This changes the CTS by extending the Frequency of the Surveillance from 18 months (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.2 and ITS SR 3.0.2) to 24 months (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.2 and ITS SR 3.0.2).

DISCUSSION OF CHANGES
ITS 3.3.6, CONTAINMENT PURGE SUPPLY AND EXHAUST SYSTEM ISOLATION INSTRUMENTATION

The purpose of the CHANNEL CALIBRATION requirement of CTS Tables 4.3-2 and 4.3-3 is to ensure channels of the Containment Radiation Function will function as designed during an analyzed event. Extending the SR Frequency is acceptable because the Containment Radiation Function instruments are designed to be single failure proof, therefore ensuring system availability in the event of a failure of one of the channel components. Furthermore, a CHANNEL CHECK is performed on a more frequent basis (ITS SR 3.3.6.1). The CHANNEL CHECK provides a qualitative demonstration of the OPERABILITY of the instruments.

This change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. The following impacted Containment Radiation Function instrumentation were evaluated:

CTS Table 4.3-2, Functional Unit 3.c.2, Containment Radioactivity - High and CTS Table 4.3-3, Instruments 2.A.i and 2.B.i, Containment Area Radiation

CTS Table 4.3-2, Functional Unit 3.c.2, Containment Radioactivity - High and CTS Table 4.3-3, Instruments 2.A.ii and 2.B.ii, Particulate

CTS Table 4.3-2, Functional Unit 3.c.2, Containment Radioactivity - High and CTS Table 4.3-3, Instruments 2.A.iii and 2.B.iii, Noble Gas

These functions are performed using Eberline Radiation Monitoring Systems including Eberline SPING Radiation Monitoring Systems. These components were not evaluated for drift because, for radiation monitors, the major error contributor is the accuracy of the detector and the calibration sources. In the case of the calibration sources, normally multiple readings are required and an average reading is used to confirm operation. The accuracy of the decay curves and detector sensitivity may be from 12% to 30%. This accuracy far overshadows the accuracy of the electronic signal conditioning circuit. Therefore, drift of the electronic circuit does not provide a measure of functional performance over time between calibrations. This is substantiated by the ANSI N42.18 acceptance criteria of $\pm$ 20%. CHANNEL CHECKS and source checks (where internal source check is possible) verify that the instruments are performing within expected conditions. In addition, there was a failure analysis evaluation performed. This failure analysis did not reveal any time based failure mechanisms or any failure types that would invalidate the conclusion that the system availability and reliability would be impacted by an increased Surveillance interval.

Based on the design of the instrumentation, as well as the qualitative drift analysis and the failure results analysis, it is concluded that the impact, if any, from this change on system availability is minimal. A review of the Surveillance test history was performed to validate the above conclusion. This review demonstrates that there are no failures that would invalidate the conclusion that the impact, if any, on system availability from this change is minimal. In addition, the proposed 24 month Surveillance Frequency, if performed at the maximum

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interval allowed by ITS SR 3.0.2 (30 months) does not invalidate any assumptions in the unit licensing basis. This change is designated as less restrictive because Surveillances will be performed less frequently under the ITS than under the CTS.

L.6 *(Category 10 – 18 to 24 Month Surveillance Frequency Change, Non-Channel Calibration Type)* CTS Table 4.3-2 requires the performance of a TRIP ACTUATING DEVICE OPERATIONAL TEST (TADOT) of the Manual Purge and Exhaust Isolation Functional Unit at least once per 18 months. CTS 4.9.9 requires the verification of containment purge and exhaust isolation on a manual initiation signal once per 7 days during CORE ALTERATIONS. ITS SR 3.3.6.7 requires the performance of a TADOT of the Manual Initiation Function every 24 months. This changes the CTS by extending the Frequency of the Surveillance to 24 months (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.2 and ITS SR 3.0.2).

The purpose of the requirements of CTS Table 4.3-2 for the Manual Purge and Exhaust Isolation Function is to ensure the proper operation of the associated instrumentation. This change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. Reviews of historical surveillance data and maintenance data sufficient to determine failure modes have shown that these tests normally pass their Surveillances at the current Frequency. An evaluation has been performed using this data, and it has been determined that the effect on safety due to the extended Surveillance Frequency will be minimal. Extending the Surveillance test interval for this TADOT is acceptable because the Manual Initiation of the Containment Purge Supply and Exhaust System isolation is not credited in any safety analyses and manual isolation of the Containment Purge Supply and Exhaust System may be accomplished using the individual valve controls. Based on the inherent system and component reliability, the impact, if any, from this change on system availability is minimal. The review of historical surveillance data also demonstrated that there are no failures that would invalidate this conclusion. In addition, the proposed 24 month Surveillance Frequency, if performed at the maximum interval allowed by ITS SR 3.0.2 (30 months) does not invalidate any assumptions in the plant licensing basis. This change is designated as less restrictive because Surveillances will be performed less frequently under the ITS than under the CTS.

L.7 *(Category 2 – Relaxation of Applicability)* CTS Tables 3.3-6 and 4.3-3 require the Functional Units 2.A and 2.B (Containment Area Radiation, Particulate, and Noble Gas) channels to be OPERABLE in MODE 6. ITS Table 3.3.6-1 Footnote (a) requires the Function 3 (Containment Radiation) channels to be OPERABLE during movement of irradiated fuel assemblies within containment. This changes the CTS by deleting the requirement that the Containment Radiation Functions be OPERABLE in MODE 6 when irradiated fuel assemblies are not being moved in containment.

The purpose of CTS Tables 3.3-6 and 4.3-3 MODE 6 requirements for containment area radiation, particulate, and noble gas channels is to ensure the containment purge supply and exhaust isolation valves are capable of closing to mitigate the consequences of a fuel handling accident as assumed in the safety analyses. This change is acceptable because the ITS 3.3.6 requirements continue to ensure that the instrumentation is maintained OPERABLE in the MODES and other specified conditions assumed in the safety analyses and licensing basis. The fuel handling accident is assumed to occur only during movement of an irradiated fuel assembly. This change is designated as less restrictive because LCO requirements are applicable in fewer conditions than in the CTS.

L.8 *(Category 7 – Relaxation Of Surveillance Frequency, Non-24 Month Type Change)* CTS 4.9.9 states that the Containment Purge and Exhaust Isolation System shall be demonstrated OPERABLE, in part, "within 100 hours prior to the start of" the specified conditions. ITS SR 3.3.6.6 and ITS SR 3.3.6.7 do not include the "within 100 hours prior to the start of" Frequency. ITS SR 3.0.1 states "SRs shall be met during the MODES or other specified conditions in the Applicability for the individual LCOs, unless otherwise stated in the SR." Therefore, under the ITS, the Surveillances must be met prior to the initiation of movement of irradiated fuel within containment. This changes the CTS by eliminating the stipulation that the Surveillances be met within 100 hours prior to entering the MODE of Applicability.

The purpose of CTS 4.9.9 is to verify the Containment Purge and Exhaust Isolation System is OPERABLE. This change is acceptable because the periodic Surveillance Frequencies have been evaluated to ensure that they provide an acceptable level of equipment reliability. For CTS 4.9.9, the periodic Surveillance Frequencies for verifying Containment Purge and Exhaust Isolation Instrumentation OPERABILITY are acceptable during the MODE of Applicability, and are also acceptable during the period prior to entering the MODE of Applicability. This change is designated as less restrictive because Surveillances will be performed less frequently under the ITS than under the CTS.

L.9 *(Category 9 – Surveillance Frequency Change Using GL 91-04 Guidelines, Non-24 month Type Change)* CTS Table 4.3-2 requires a CHANNEL FUNCTIONAL TEST of the Containment Radioactivity - High Functional Unit instrumentation every 92 days and CTS Table 4.3-3 requires a CHANNEL FUNCTIONAL TEST of the containment area radiation, particulate, and noble gas channels every 92 days. CTS 4.9.9 states that the Containment Purge and Exhaust Isolation System shall be demonstrated OPERABLE, in part, once per 7 days during the specified conditions. ITS SR 3.3.6.6 requires, for the Containment Radiation Functions of the Containment Purge Supply and Exhaust System isolation instrumentation, the performance of a CHANNEL OPERATIONAL TEST once per 184 days. This changes the CTS by extending the Frequency of the Surveillance from 7 days or 92 days (i.e., for the 92 day Frequency, a maximum of 115 days accounting for the allowable grace period specified in CTS 4.0.2 and ITS SR 3.0.2) to 184 days (i.e., a maximum of 230 days accounting for the allowable grace period specified in CTS 4.0.2 and ITS SR 3.0.2). The change from a CHANNEL FUNCTIONAL TEST to CHANNEL OPERATIONAL TEST is addressed in DOC A.4.

DISCUSSION OF CHANGES
ITS 3.3.6, CONTAINMENT PURGE SUPPLY AND EXHAUST SYSTEM ISOLATION INSTRUMENTATION

The purpose of the CHANNEL FUNCTIONAL TEST requirement in CTS Tables 4.3-2 and 4.3-3 is to ensure the channels of the Containment Radiation Function will function as designed during an analyzed event. An evaluation of the surveillance interval extension was performed, based on the same approach described in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. Reviews of historical surveillance data and maintenance data sufficient to determine failure modes have shown that these tests normally pass their Surveillances at the current Frequency. An evaluation has been performed using this data, and it has been determined that the effect on safety due to the extended Surveillance Frequency will be minimal. Based on the inherent system and component reliability the impact, if any, from this change on system availability is minimal. The review of historical surveillance data also demonstrated that there are no failures that would invalidate this conclusion. In addition, the proposed 184 day Surveillance Frequency, if performed at the maximum interval allowed by ITS SR 3.0.2 (230 days) does not invalidate any assumptions in the plant licensing basis.

The purpose of CTS 4.9.9 is to verify the Containment Purge and Exhaust Isolation System is OPERABLE. The Containment Purge and Exhaust Isolation System includes the instrumentation that provides a containment high radiation isolation signal to the containment purge supply and exhaust isolation valves. During MODES 1, 2, 3, 4, and during MODE 6, CTS Tables 4.3-2 and 4.3-3 require the performance of a CHANNEL FUNCTIONAL TEST for this containment radiation instrumentation once per 92 days (changed to 184 days as described above). This change is acceptable because the periodic Surveillance Frequency for MODES 1, 2, 3, 4 and 6 has been evaluated to ensure that it provides an acceptable level of equipment reliability. For CTS 4.9.9, the same periodic Surveillance Frequency (once per 184 days) for verifying Containment Purge and Exhaust Isolation System OPERABILITY is acceptable during the MODE of Applicability, and is also acceptable during the period prior to entering the MODE of Applicability.

These changes are designated as less restrictive because Surveillances will be performed less frequently under the ITS than under the CTS.

L.10 CTS Table 3.3-3, Functional Units 9.b and 9.c (Manual Containment Purge and Exhaust Isolation) require a total of 2 channels per train to be OPERABLE (1 channel per train for Functional Unit 9.b and 1 channel per train for Functional Unit 9.c). ITS Table 3.3.6-1, Function 1 (Manual Initiation) requires only one channel per train to be OPERABLE. This changes the CTS be decreasing the number of manual channels required OPERABLE from two per train to one per train.

The purpose of the Containment Purge Supply and Exhaust Manual Initiation Function is to ensure the capability exists to manually isolate the Containment Purge Supply and Exhaust System isolation valves. The Containment Purge Supply and Exhaust System Manual Initiation Function at CNP is provided by four switches, two per train. Each switch will actuate all Containment Purge Supply and Exhaust System isolation valves in its associated train (i.e., the two train A switches are fully redundant to each other and the two train B switches are fully redundant to each other). The differences between the two switches within a train are their location within the control room, and one of the two switches also actuates Containment Isolation Phase A while the other switch also actuates the Containment Spray subsystem and Containment Isolation Phase B. There is no manual switch that only initiates a Containment Purge Supply and Exhaust System isolation at CNP. One train A switch and one train B switch are located on the Containment Spray System panel, while one train A switch and one train B switch are located on the Ventilation System panel. The CTS requires both channels per train OPERABLE because the CTS groups the Containment Purge Supply and Exhaust manual initiation function by switch function. Therefore, it is listed twice in CTS Table 3.3-3, Functional Unit 9: once for the Containment Spray subsystem and Containment Isolation Phase B switch (Functional Unit 9.b) and once for the Containment Isolation Phase A switch (Functional Unit 9.c). NUREG-1431 only requires two Manual Initiation channels to be OPERABLE, since a typical Westinghouse plant only has two channels installed. This change is acceptable since each channel within a train is fully redundant to the other channel in that train for the Containment Purge Supply and Exhaust System Manual Initiation Function, and the fact that it is consistent with the NUREG-1431 requirements. In addition, if the single required manual initiation switch does not function, then the associated Containment Purge Supply and Exhaust System valves can still be closed using individual valve control switches that exist in the control room. This change is designated as less restrictive because less stringent LCO requirements are being applied in the ITS than were applied in the CTS.

L.11 CTS Table 4.3-3 footnote * requires performance of a SOURCE CHECK as part of the shiftly CHANNEL CHECK requirements for Containment Radiation instrumentation (Instruments 2.A.i, 2.A.ii, 2.A.iii, 2.B.i, 2.B.ii, and 2.B.iii). ITS 3.3.6 does not include this requirement. This changes the CTS by deleting the shiftly SOURCE CHECK requirement on the Containment Radiation instrumentation.

A SOURCE CHECK is a qualitative assessment of channel response when the channel sensor is exposed to a radioactive source. The purpose for performing the SOURCE CHECK on these instruments is to ensure on-scale reading of the instruments. However, the background radiation levels in the vicinity of these instruments is sufficiently high enough to provide an on-scale reading for the instruments. Thus, the required routine (every 12 hours) CHANNEL CHECK (ITS SR 3.3.6.1) will ensure the on-scale reading of the instruments (i.e., the instruments are not "pegged-low"). In addition, the Containment Radiation instruments have a low failure alarm to alert the operators of a failed-low radiation detector. Therefore, the deletion of this specific requirement is acceptable. This change is designated as less restrictive because a Surveillance Requirement is being deleted.

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Improved Standard Technical Specifications (ISTS) Markup and Justification for Deviations (JFDs)

Supply System (1)

CTS

3.3 INSTRUMENTATION

Supply System (1)

3.3.6 Containment Purge and Exhaust Isolation Instrumentation

Supply System (1)

LCO 3.3.2.1, LCO 3.3.3.1 — LCO 3.3.6 The Containment Purge and Exhaust Isolation instrumentation for each Function in Table 3.3.6-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.6-1.

ACTIONS

- NOTE -

DOC A.3 — Separate Condition entry is allowed for each Function.

CONDITION (required) (2)	REQUIRED ACTION	COMPLETION TIME
3.3.3.1 Action a — A. One required radiation monitoring channel inoperable.	A.1 Restore the affected channel to OPERABLE status. (3)	4 hours
3.3.2.1 Actions a and b, Table 3.3-3 Action 18 — B. ~~- NOTE - Only applicable in MODE 1, 2, 3, or 4.~~ One or more Functions with one or more manual or automatic actuation trains required initiation channels inoperable. ~~OR Two or more radiation monitoring channels inoperable. OR Required Action and associated Completion Time of Condition A not met.~~	B.1 ~~Enter applicable Conditions and Required Actions of LCO 3.6.3, "Containment Isolation Valves," for containment purge and exhaust isolation valves made inoperable by isolation instrumentation.~~ INSERT 1	~~Immediately~~ 48 hours (4)

4 **INSERT 1**

Restore required channels to OPERABLE status.

Supply System 1

CTS

11

Supply 1

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. ~~- NOTE - Only applicable during movement of [recently] irradiated fuel assemblies within containment.~~ One or more Functions with one or more manual or automatic actuation trains inoperable. OR Two or more radiation monitoring channels inoperable. OR Required Action and associated Completion Time for Condition A not met.	C.1 Place and maintain containment purge and exhaust valves in closed position. ~~OR~~ ~~C.2 Enter applicable Conditions and Required Actions of LCO 3.9.4, "Containment Penetrations," for containment purge and exhaust isolation valves made inoperable by isolation instrumentation.~~	Immediately ~~Immediately~~

Isolation 1

5

DOCs M.2 and M.3

or SI Input from ESFAS

Logic and Actuation Relays

3.3.2.1 Actions a and b, Table 3.3-3 Action 18, 3.3.3.1 Action b, 3.3.9 Action

required 2

Table 3.3-3 Actions 17 and 18, 3.3.3.1 Action a

of

or B

12

1

SURVEILLANCE REQUIREMENTS

Supply System

4.3.2.1.1, 4.3.3.1

Instrumentation

- NOTE -

Refer to Table 3.3.6-1 to determine which SRs apply for each Containment Purge and Exhaust Isolation Function.

1

Table 4.3-2 Function 3.c.2), Table 4.3-3 Functions 2A and 2B

SURVEILLANCE		FREQUENCY
SR 3.3.6.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.6.2	Perform ACTUATION LOGIC TEST.	~~31 days on a STAGGERED TEST BASIS~~ 92 days

6

TSTF-411 Rev. 1 changes not shown

Supply System 1

CTS

SURVEILLANCE REQUIREMENTS (continued)

TSTF-411 Rev.1 changes not shown

	SURVEILLANCE		FREQUENCY	
Doc M.2	SR 3.3.6.3	Perform MASTER RELAY TEST.	~~31 days on a STAGGERED TEST BASIS~~ 92 days	6
Table 4.3-2 Function 3.c.2), Table 4.3-3 Functions 2A and 2B	SR 3.3.6.~~4~~ 6	Perform COT. 184	~~92~~ days	9
Doc M.2	SR 3.3.6.~~5~~ 4	Perform SLAVE RELAY TEST.	~~[~~92~~]~~ days	9 8
Table 4.3-2 Functions 9.b and 9.c, 4.9.9	SR 3.3.6.~~6~~ 7	~~- NOTE - Verification of setpoint is not required.~~ Perform TADOT.	9 ~~18~~ 24 months	7 8
Table 4.3-2 Function 3.c.2), Table 4.3-3 Functions 2A and 2B	SR 3.3.6.~~7~~ 8	Perform CHANNEL CALIBRATION.	9 ~~[18]~~ 24 months	8

INSERT 2

10

CTS

10

INSERT 2

DOC M.3	SR 3.3.6.5 Perform TADOT.	92 days on a STAGGERED TEST BASIS

Supply System

(1)

Containment Purge and Exhaust Isolation Instrumentation
3.3.6

CTS

Table 3.3.6-1 (page 1 of 1)
Containment Purge and Exhaust Isolation Instrumentation

Supply System

(1)

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	~~TRIP SETPOINT~~ Allowable Value (13)
See [1] below 1. Manual Initiation	1,2,3,4, (a)	(1) ~~2~~ (10) per train	SR 3.3.6.~~6~~ (7) (6)	NA
Doc M.2 2. Automatic Actuation Logic and Actuation Relays	1,2,3,4, (a)	2 trains	SR 3.3.6.~~2~~ (2) SR 3.3.6.~~3~~ (3) SR 3.3.6.~~5~~ (4) (6)	NA
~~3. [Containment Radiation~~ (10)				
~~a. Gaseous~~	~~1,2,3,4, (a)~~	~~[1]~~	~~SR 3.3.6.1 SR 3.3.6.4 SR 3.3.6.7~~	~~≤ [2 x background]~~
~~b. Particulate~~	~~1,2,3,4, (a)~~	~~[1]~~	~~SR 3.3.6.1 SR 3.3.6.4 SR 3.3.6.7~~	~~≤ [2 x background]~~ INSERT 3
~~c. Iodine~~	~~1,2,3,4, (a)~~	~~[1]~~	~~SR 3.3.6.1 SR 3.3.6.4 SR 3.3.6.7~~	~~≤ [2 x background]~~
~~d. Area Radiation~~	~~1,2,3,4, (a)~~	~~[1]~~	~~SR 3.3.6.1 SR 3.3.6.4 SR 3.3.6.7~~	~~≤ [2 x background]]~~ (10)
~~4. Containment Isolation - Phase A~~	~~Refer to LCO 3.3.2, "ESFAS Instrumentation," Function 3.a., for all initiation functions and requirements.~~			

(a) During movement of ~~recently~~ (8) irradiated fuel assemblies within containment.

INSERT 4 (10)

INSERT 5 (2)

INSERT 6 (10)

[1] CTS Tables 3.3-3, 3.3-4, and 4.3-2 Functions 3.c.1), 9.b, and 9.c

CTS

10

INSERT 3

See 2 below	3. Containment Radiation	1(c), 2(c), 3 (c), 4(c), (a)	2 per train(b)	SR 3.3.6.1 SR 3.3.6.6 SR 3.3.6.8	
	a. Gaseous				≤ 4.4 E-3 μCi/cc
	b. Particulate				≤ 2.52 μCi
	c. Area Radiation				≤ 54 mR/hr

10

INSERT 4

DOC M.3	4. Safety Injection (SI) Input from Engineered Safety Features Actuation System (ESFAS)	1, 2, 3, 4	2 trains	SR 3.3.6.5	NA

2

INSERT 5

See 3 below

(b) Only 2 of the 3 Containment Radiation Function channels (Gaseous, Particulate, and Area Radiation) per train are required to be OPERABLE.

10

INSERT 6

DOC M.1

(c) When any Containment Purge Supply and Exhaust System isolation valve is open.

2 CTS Table 3.3-3 Functions 3.c.2) and 3.c.3)
CTS Table 3.3-4 Functions 3.c.2 and 3.c.3
CTS Table 4.3-2 Function 3.c.2)
CTS Table 3.3-6 Functions 2.A and 2.B
CTS Table 4.3-3 Functions 2.A and 2.B

3 CTS Table 3.3-3 Functions 3.c.2) and 3.c.3)
CTS Table 3.3-6 Functions 2.A and 2.B

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JUSTIFICATION FOR DEVIATIONS
ITS 3.3.6, CONTAINMENT PURGE SUPPLY AND EXHAUST SYSTEM ISOLATION INSTRUMENTATION

1. The title of ISTS 3.3.6, Containment Purge and Exhaust Isolation Instrumentation, has been revised in ITS 3.3.6 to reflect the plant specific nomenclature (i.e., Containment Purge Supply and Exhaust System Isolation Instrumentation). Corresponding changes have also been made to the ISTS 3.3.6 Header, LCO, Surveillance Requirements Note and Table 3.3.6-1.

2. The plant specific design of the containment radiation monitoring instrumentation that functions to isolate the containment purge supply and exhaust isolation valves includes three radiation monitoring channels in each of two trains. These radiation monitors are arranged such that any one of the three radiation monitor channels in a train will initiate a Containment Purge Supply and Exhaust System isolation of the associated train of containment isolation valves in the Containment Purge Supply and Exhaust System. However, current licensing basis, reflected in the Technical Specifications, only requires two of the three radiation monitors in each train to be OPERABLE. This allowance is reflected in ITS Table 3.3.6-1 Footnote (b), which states "Only 2 of the 3 Containment Radiation Function channels (Gaseous, Particulate, and Area Radiation) per train are required to be OPERABLE." As a result, the word "required" is added to ISTS 3.3.6 Conditions A and C to reflect that not all of the radiation monitors are required to be OPERABLE to meet the LCO.

3. ISTS 3.3.6 Required Action A.1 states, "Restore the affected channel to OPERABLE status." ITS 3.3.6 Required Action A.1 is revised to state "Restore channel to OPERABLE status." This changes ISTS 3.3.6 Required Action A.1 to be consistent with other Required Actions in ISTS Section 3.3.

4. ISTS 3.3.6 ACTION B is revised to be consistent with CNP Units 1 and 2 CTS requirements for the manual initiation channels for the Containment Purge Supply and Exhaust System isolation. When one or more of the required manual initiation channels are inoperable, the CTS allows 48 hours to restore the channels to OPERABLE status (ITS 3.3.6 ACTION B). ISTS 3.3.6 ACTION B requirements related to inoperable automatic actuation trains, multiple inoperable radiation monitoring channels, and default actions when ISTS 3.3.6 ACTION A requirements are not met are addressed in ITS 3.3.6 ACTION C. Due to these revised actions, the Note to ISTS 3.3.6 Condition B, which states "Only applicable in MODES 1, 2, 3, and 4," is unnecessary and is deleted.

5. ISTS 3.3.6 ACTION C is revised to be consistent with CNP Units 1 and 2 CTS requirements for the instrumentation channels for the Containment Purge Supply and Exhaust System isolation. When multiple required radiation channels are inoperable, the CTS require the containment purge supply and exhaust isolation valves to be placed in the closed position. This action accomplishes the safety function of the inoperable channels. The function of each of the Containment Purge Supply and Exhaust System Isolation Instrumentation Functions is to close or support closure of the containment purge supply and exhaust isolation valves. Therefore, ITS 3.3.6 Required Action C.1 has also been provided when one or more automatic actuation logic and actuation relay trains are inoperable, when one or more SI Input to ESFAS trains are inoperable, or when any Required Action and associated Completion Time of ITS 3.3.6 Condition A or B is not met (i.e., when one inoperable required radiation monitoring channel is not restored within 4 hours or when one or more inoperable manual initiation channels are not restored within 48 hours). Due to the changes to

JUSTIFICATION FOR DEVIATIONS
ITS 3.3.6, CONTAINMENT PURGE SUPPLY AND EXHAUST SYSTEM ISOLATION INSTRUMENTATION

ISTS 3.3.6 ACTIONS B and C, the Note to ISTS 3.3.6 Condition C and ISTS 3.3.6 Required Action C.2 are unnecessary and are deleted.

6. The ISTS 3.3.6 Surveillance Requirements are revised to reflect the CNP Units 1 and 2 current licensing basis and testing practices. ISTS SR 3.3.6.2 (ITS SR 3.3.6.2) requires the performance of an ACTUATION LOGIC TEST and ISTS SR 3.3.6.3 (ITS SR 3.3.6.3) requires performance of a MASTER RELAY TEST. The ISTS 3.3.6 Frequencies for these SRs are revised from "31 days on a STAGGERED TEST BASIS" to "92 days" to reflect the Frequency that these tests are performed at CNP Units 1 and 2. Currently, the requirements of ITS SR 3.3.6.2 and ITS SR 3.3.6.3 are satisfied during the 92 day performance of the CHANNEL FUNCTIONAL TEST for the radiation monitoring channels.

7. ISTS SR 3.3.6.6 (ITS SR 3.3.6.7) requires the performance of a TRIP ACTUATING DEVICE OPERATIONAL TEST (TADOT) for the manual initiation channels. ISTS SR 3.3.6.6 is modified by a Note that states "Verification of setpoint is not required." The manual initiation channels do not have required setpoints. The ISTS definition of TADOT states "The TADOT shall include adjustment, as necessary, of the trip actuating device so that it actuates at the required setpoint within the necessary accuracy." Since no required setpoints apply for the manual initiation channels, the TADOT definition does not require verification of setpoints. Therefore, the Note to ISTS SR 3.3.6.6 is unnecessary and has been deleted.

8. The brackets are removed and the proper plant specific information/value is provided.

9. The Frequency of ISTS SR 3.3.6.4 (ITS SR 3.3.6.6) has been changed from 92 days to 184 days. The technical justification for this change is consistent with the guidelines of Generic Letter 91-04, and is discussed in ITS 3.3.6 DOC L.9. SRs have been renumbered to reflect their Frequencies, as required.

10. ISTS Table 3.3.6-1 is revised to reflect the plant specific nomenclature, design, and licensing basis for ITS Table 3.3.6-1 Function 1 (Manual Initiation) (as modified by a Discussion of Change), Function 3 (Containment Radiation) (as modified by a Discussion of Change), and Function 4 (Safety Injection Input from Engineered Safety Features Actuation System). In addition, a new Surveillance Requirement (ITS SR 3.3.6.5), which requires the performance of a TADOT once per 92 days on a STAGGERED TEST BASIS, is added for ITS Table 3.3.6-1 Function 4 consistent with current practice and the CTS requirements for other instrumentation that receive input for safety injection.

11. The words "and maintain" in ISTS 3.3.6 Required Action C.1 are unnecessary and have been deleted. In the ISTS, when a Required Action states to place a component in a given condition, it is implicit that the condition specified in the Required Action is to be maintained. Therefore, for consistency with similar Required Actions and to alleviate any confusion, the words have been deleted.

12. Typographical error corrected.

JUSTIFICATION FOR DEVIATIONS
ITS 3.3.6, CONTAINMENT PURGE SUPPLY AND EXHAUST SYSTEM ISOLATION INSTRUMENTATION

13. ISTS Table 3.3.6-1 includes requirements for Trip Setpoints for the Containment Radiation Functions of the Containment Purge Supply and Exhaust System isolation instrumentation. The term "TRIP SETPOINT" is revised to "ALLOWABLE VALUE" in ITS Table 3.3.6-1 to reflect the OPERABILITY limit for the channels of the Containment Radiation Functions. This change achieves consistency with the OPERABILITY requirements for other actuation instrumentation channels in ISTS Section 3.3.

Improved Standard Technical Specifications (ISTS) Bases Markup and Justification for Deviations (JFDs)

1 All changes on this page

B 3.3 INSTRUMENTATION

Supply System

B 3.3.6 Containment Purge and Exhaust Isolation Instrumentation

BASES INSERT 1

Supply System

BACKGROUND

Containment purge and exhaust isolation instrumentation closes the containment isolation valves ~~in the Mini Purge System and the Shutdown Purge System~~. This action isolates the containment atmosphere from the environment to minimize releases of radioactivity in the event of an accident. The ~~Mini Purge System~~ may be in use during reactor operation and ~~the Shutdown Purge System will be in use~~ with the reactor shutdown.

INSERT 1A

system

Supply System n

Containment purge and exhaust isolation initiates on a automatic safety injection (SI) signal ~~through the Containment Isolation - Phase A Function~~, ~~or~~ by manual actuation of Phase A Isolation. The Bases for LCO 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation," discuss these modes of initiation.

INSERT 1B

INSERT 1C

~~Four radiation monitoring channels are also provided as input to the containment purge and exhaust isolation. The four channels measure containment radiation at two locations. One channel is a containment area gamma monitor, and the other three measure radiation in a sample of the containment purge exhaust. The three purge exhaust radiation detectors are of three different types: gaseous, particulate, and iodine monitors. All four detectors will respond to most events that release radiation to containment. However, analyses have not been conducted to demonstrate that all credible events will be detected by more than one monitor. Therefore, for the purposes of this LCO the four channels are not considered redundant. Instead, they are treated as four one-out-of-one Functions. Since the purge exhaust monitors constitute a sampling system, various components such as sample line valves, sample line heaters, sample pumps, and filter motors are required to support monitor OPERABILITY.~~

~~Each of the purge systems has inner and outer containment isolation valves in its supply and exhaust ducts. A high radiation signal from any one of the four channels initiates containment purge isolation, which closes both inner and outer containment isolation valves in the Mini Purge System and the Shutdown Purge System. These systems are described in the Bases for LCO 3.6.3, "Containment Isolation Valves."~~

1 **INSERT 1**

purge supply and exhaust

1 **INSERT 1A**

containment instrumentation room purge supply and exhaust valves, and containment pressure relief isolation valves

1 **INSERT 1B**

, or manual actuation of Phase B isolation

1 **INSERT 1C**

Three radiation monitoring channels in each of two trains are also provided as input to the Containment Purge Supply and Exhaust System isolation. The channels in each train measure containment radiation at two locations. One channel in each train is an upper containment area radiation monitor, and the other two channels in each train measure radiation in lower containment samples. The radiation detectors that measure radiation in the lower containment samples are of two different types: gaseous and particulate. For the purpose of this LCO, the three radiation monitors in each train are considered redundant even though they measure radiation in different locations of the containment. The radiation monitors are arranged such that any one of the three radiation monitor channels in a train will initiate a Containment Purge Supply and Exhaust System isolation of the associated train of containment isolation valves in the Containment Purge Supply and Exhaust System. Therefore, only two of the three radiation monitors in each train are required to be OPERABLE. Since the radiation monitors that measure the radiation in lower containment constitute a sampling system, various components such as sample line valves and sample pumps are required to support the OPERABILITY of these monitors.

Containment Purge Supply and Exhaust System has inner and outer containment isolation valves. A Train “A” Containment Purge Supply and Exhaust System Isolation signal closes the inner containment isolation valves in the Containment Purge Supply and Exhaust System. A Train “B” Containment Purge Supply and Exhaust System Isolation signal closes the outer containment isolation valves in the Containment Purge Supply and Exhaust System. The Containment Purge Supply and Exhaust System is described in UFSAR, Section 5.5.3 (Ref. 1).

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(1) All changes on this page, except as noted

Supply System

INSERT 1D

BASES

APPLICABLE SAFETY ANALYSES

The safety analyses assume that the containment remains intact with penetrations unnecessary for core cooling isolated early in the event, ~~within approximately 60 seconds~~. The isolation of the ~~purge~~ valves ~~has~~ not been analyzed mechanistically in the dose calculations, although its rapid isolation is assumed. The containment purge and exhaust isolation radiation monitors act as backup to the SI signal to ensure closing of the purge and exhaust valves. They are also the primary means for automatically isolating containment in the event of a fuel handling accident during shutdown. Containment isolation in turn ensures meeting the containment leakage rate assumptions of the safety analyses, and ensures that the calculated accidental offsite radiological doses are below 10 CFR 100 (Ref. 1) limits. ~~Due to radioactive decay, containment is only required to isolate during fuel handling accidents involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core withing the previous [ ] days).~~

Supply Containment Supply System (2)

The containment purge and exhaust isolation instrumentation satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii).

System Supply

LCO

The LCO requirements ensure that the instrumentation necessary to initiate Containment Purge and Exhaust Isolation, listed in Table 3.3.6-1, is OPERABLE.

Supply System

1. Manual Initiation

Supply and Exhaust System
per train to be
one
Each (2)

The LCO requires ~~two~~ channels OPERABLE. The operator can initiate Containment Purge Isolation at any time by using either of two switches in the control room. ~~Either~~ switch actuates ~~both~~ trains. This action will cause actuation of ~~all~~ components in the same manner as any of the automatic actuation signals.

INSERT 2

its associated

The LCO for Manual Initiation ensures the proper amount of redundancy is maintained in the manual actuation circuitry to ensure the operator has manual initiation capability.

INSERT 2A (1)

switch

Each channel consists of one ~~push button~~ and the interconnecting wiring to the actuation logic ~~cabinet~~.

2. Automatic Actuation Logic and Actuation Relays

The LCO requires two trains of Automatic Actuation Logic and Actuation Relays OPERABLE to ensure that no single random failure can prevent automatic actuation.

1 **INSERT 1D**

isolated by this instrumentation

1 **INSERT 2**

(manual Containment Isolation - Phase A actuation or manual Containment Spray, Containment Isolation - Phase B actuation) in either Train “A” or Train “B”

1 **INSERT 2A**

These switches are common to ESFAS Containment Isolation, Phase A and B Manual Initiation switches.
.

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1 All changes on this page except as noted

Supply System

BASES

LCO (continued)

INSERT 3

Automatic Actuation Logic and Actuation Relays consist of the same features and operate in the same manner as described for ESFAS Function 1.b, SI, ~~and~~ ESFAS Function 3.a, Containment Phase A Isolation. The applicable MODES and specified conditions for the containment purge isolation portion of these Functions are different ~~and less restrictive~~ than those for their Phase A isolation and SI roles. If one or more of the ~~SI or~~ Phase A isolation Functions becomes inoperable in such a manner that only the Containment Purge Isolation Function is affected, the Conditions applicable to their ~~SI and~~ Phase A isolation Functions need not be entered. The less restrictive Actions specified for inoperability of the Containment Purge Isolation Functions specify sufficient compensatory measures for this case.

and Phase B

or Phase B

and Phase B

Supply and Exhaust System

Supply and Exhaust System

3. Containment Radiation

per train

two

The LCO specifies ~~four~~ required channels of radiation monitors to ensure that the radiation monitoring instrumentation necessary to initiate Containment Purge Isolation remains OPERABLE.

Supply and Exhaust System

For sampling systems, channel OPERABILITY involves more than OPERABILITY of the channel electronics. OPERABILITY ~~may~~ also requires correct valve lineups, sample pump operation ~~and filter motor operation~~, as well as detector OPERABILITY ~~if these supporting features are necessary for trip to occur under the conditions assumed by the safety analyses~~.

and

4. ~~Containment Isolation - Phase A~~

~~Refer to LCO 3.3.2, Function 3.a., for all initiating Functions and requirements.~~

INSERT 4

2

APPLICABILITY

and

The Manual Initiation, Automatic Actuation Logic and Actuation Relays, ~~Containment Isolation - Phase A,~~ and Containment Radiation Functions are required OPERABLE in MODES 1, 2, 3, and 4, and during movement of ~~[recently]~~ irradiated fuel assemblies ~~[(i.e., fuel that has occupied part of a critical reactor core within the previous [ ] days)]~~ within containment. Under these conditions, the potential exists for an accident that could release significant fission product radioactivity into containment. Therefore, the containment purge and exhaust isolation instrumentation must be OPERABLE in these MODES.

2

to be

INSERT 5

2 and other specified conditions

Supply System

1

INSERT 3

, and ESFAS Function 3.b, Containment Phase B Isolation

2

INSERT 4

Safety Injection (SI) Input to Engineered Safety Features Actuation System (ESFAS)

The SI Input from ESFAS ensures that the ESFAS automatic actuation logic will actuate the Containment Purge Supply and Exhaust System isolation upon any signal that initiates SI. Actuation of the Containment Purge Supply and Exhaust System on an SI signal ensures that, in the event of conditions that may result in a radiological release, the Containment Purge Supply and Exhaust will be isolated. The SI Input from ESFAS signal directly inputs to Containment Purge Supply and Exhaust Isolation Instrumentation actuation logic. There are two trains of SI Input from ESFAS arranged in a one-out-of-two logic.

1

INSERT 5

The Containment Radiation Function is required to be OPERABLE in MODES 1, 2, 3, and 4 when any Containment Purge Supply and Exhaust System isolation valve is open and during movement of irradiated fuel assemblies within containment. The SI Input from ESFAS Function is required to be OPERABLE in MODES 1, 2, 3, and 4.

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(1) All changes on this page except as noted

Supply System

BASES

APPLICABILITY (continued)

Supply System

While in MODES 5 and 6 without fuel handling in progress, the containment purge and exhaust isolation instrumentation need not be OPERABLE since the potential for radioactive releases is minimized and operator action is sufficient to ensure post accident offsite doses are maintained within the limits of Reference 4. (2)

~~The Applicability for the containment purge and exhaust isolation on the ESFAS Containment Isolation-Phase A Functions are specified in LCO 3.3.2. Refer to the Bases for LCO 3.3.2 for discussion of the Containment Isolation-Phase A Function Applicability.~~ (2)

ACTIONS

The most common cause of channel inoperability is outright failure or drift of the bistable or process module sufficient to exceed the tolerance allowed by unit specific calibration procedures. Typically, the drift is found to be small and results in a delay of actuation rather than a total loss of function. This determination is generally made during the performance of a COT, when the process instrumentation is set up for adjustment to bring it within specification. If the Trip Setpoint is less conservative than the tolerance specified ~~by the calibration procedure~~, the channel must be declared inoperable immediately and the appropriate Condition entered. (2)

Allowable Value

in Table 3.3.6-1

A Note has been added to the ACTIONS to clarify the application of Completion Time rules. The Conditions of this Specification may be entered independently for each Function listed in Table 3.3.6-1. The Completion Time(s) of the inoperable channel(s)/train(s) of a Function will be tracked separately for each Function starting from the time the Condition was entered for that Function.

A.1

two required   required   per train

Condition A applies to the failure of one ~~containment purge isolation~~ radiation monitor channel. Since the four containment radiation monitors measure different parameters, failure of a single channel may result in loss of the radiation monitoring Function for certain events. Consequently, the failed channel must be restored to OPERABLE status. The 4 hours allowed to restore the affected channel is justified by the low likelihood of events occurring during this interval, and recognition that one or more of the remaining channels will respond to most events.

Supply System

1

BASES

ACTIONS (continued)

B.1

INSERT 6

~~Condition B applies to all Containment Purge and Exhaust Isolation Functions and addresses the train orientation of the Solid State Protection System (SSPS) and the master and slave relays for these Functions. It also addresses the failure of multiple radiation monitoring channels, or the inability to restore a single failed channel to OPERABLE status in the time allowed for Required Action A.1.~~ 2

~~If a train is inoperable, multiple channels are inoperable, or the Required Action and associated Completion Time of Condition A are not met, operation may continue as long as the Required Action for the applicable Conditions of LCO 3.6.3 is met for each valve made inoperable by failure of isolation instrumentation.~~

~~A Note is added stating that Condition B is only applicable in MODE 1, 2, 3, or 4.~~ 2

C.1 ~~and C.2~~ 2

Supply System 1

Condition C applies to all Containment Purge and Exhaust Isolation Functions ~~and addresses the train orientation of the SSPS and the master and slave relays for these Functions. It also addresses the failure of multiple radiation monitoring channels, or the inability to restore a single failed channel to OPERABLE status in the time allowed for Required Action A.1. If a train is inoperable, multiple channels are inoperable, or the Required Action and associated Completion Time of Condition A are not met, operation may continue as long as the Required Action to place and maintain containment purge and exhaust isolation valves in their closed position is met or the applicable Conditions of LCO 3.9.4, "Containment Penetrations," are met for each valve made inoperable by failure of isolation instrumentation. The Completion Time for these Required Actions is Immediately.~~ 2

INSERT 7

~~A Note states that Condition C is applicable during movement of [recently] irradiated fuel assemblies within containment.~~ 2

SURVEILLANCE REQUIREMENTS

A Note has been added to the SR Table to clarify that Table 3.3.6-1 determines which SRs apply to which Containment Purge and Exhaust Isolation Functions.

Instrumentation Supply System 1

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2 **INSERT 6**

Condition B applies to the manual initiation channels. If one or more required manual initiation channels are inoperable, 48 hours is allowed to restore the required channels to OPERABLE status. The specified Completion Time is reasonable considering that there are two automatic actuation trains OPERABLE for each Function, and the low probability of an event occurring during this interval.

2 **INSERT 7**

If one or more Automatic Actuation Logic and Actuation Relay trains are inoperable, one or more SI Input to ESFAS trains are inoperable, two or more required radiation monitoring channels are inoperable, or the Required Action and associated Completion Time of Condition A or B are not met, operation may continue provided the containment purge supply and exhaust isolation valves are placed in the closed position immediately. Placing the containment purge supply and exhaust isolation valves in the closed position accomplishes the safety function of the inoperable trains or channels.

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Supply System

1

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.6.1

Performance of the CHANNEL CHECK once every 12 hours ensures that a gross failure of instrumentation has not occurred. A CHANNEL CHECK is normally a comparison of the parameter indicated on one channel to a similar parameter on other channels. It is based on the assumption that instrument channels monitoring the same parameter should read approximately the same value. Significant deviations between the two instrument channels could be an indication of excessive instrument drift in one of the channels or of something even more serious. A CHANNEL CHECK will detect gross channel failure; thus, it is key to verifying the instrumentation continues to operate properly between each CHANNEL CALIBRATION.

Agreement criteria are determined by the unit staff, based on a combination of the channel instrument uncertainties, including indication and readability. If a channel is outside the criteria, it may be an indication that the sensor or the signal processing equipment has drifted outside its limit.

The Frequency is based on operating experience that demonstrates channel failure is rare. The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with the LCO required channels.

2
TSTF-411 Rev. 1 changes not shown

SR 3.3.6.2

May be

SR 3.3.6.2 is the performance of an ACTUATION LOGIC TEST. The train being tested ~~is~~ placed in the bypass condition, thus preventing ~~inadvertent~~ actuation. Through the semiautomatic tester, all possible logic combinations, with and without applicable permissives, ~~are~~ tested for each protection function. In addition, the master relay coil ~~is~~ pulse tested for continuity. This verifies that the logic modules are OPERABLE and there is an intact voltage signal path to the master relay coils. This test is performed every ~~31~~ days ~~on a STAGGERED TEST BASIS~~. The Surveillance interval is acceptable based on instrument reliability and ~~industry~~ operating experience.

may be
May be
1
92
2

SR 3.3.6.3

SR 3.3.6.3 is the performance of a MASTER RELAY TEST. The MASTER RELAY TEST is the energizing of the master relay, verifying contact operation and a low voltage continuity check of the slave relay

Supply System 1

BASES

SURVEILLANCE REQUIREMENTS (continued)

coil. Upon master relay contact operation, a low voltage is injected to the slave relay coil. This voltage is insufficient to pick up the slave relay, but large enough to demonstrate signal path continuity. This test is performed every ~~31~~ 92 days ~~on a STAGGERED TEST BASIS~~. The Surveillance interval is acceptable based on instrument reliability and ~~industry~~ operating experience. 2 1

2

SR 3.3.6.~~4~~ 6 2

A COT is performed every ~~92~~ 184 days on each required channel to ensure the entire channel will perform the intended Function. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable ~~CHANNEL OPERATIONAL TEST~~ COT of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions. The Frequency is based on ~~the staff recommendation for increasing the availability of radiation monitors according to NUREG-1366 (Ref. 2)~~ instrument reliability and operating experience. This test verifies the capability of the instrumentation to provide the containment purge supply and exhaust system isolation. The setpoint shall be left consistent with the current unit specific calibration procedure tolerance. 3 1

SR 3.3.6.~~5~~ 4 2

move to page B3.3.6-8 after SR 3.3.6.5 and SR 3.3.6.7

SR 3.3.6.~~5~~ 4 is the performance of a SLAVE RELAY TEST. The SLAVE RELAY TEST is the energizing of the slave relays. Contact operation is verified in one of two ways. Actuation equipment that may be operated in the design mitigation mode is either allowed to function or is placed in a condition where the relay contact operation can be verified without operation of the equipment. Actuation equipment that may not be operated in the design mitigation mode is prevented from operation by the SLAVE RELAY TEST circuit. For this latter case, contact operation is verified by a continuity check of the circuit containing the slave relay. This test is performed every ~~[92]~~ days. The Frequency is acceptable based on instrument reliability and ~~industry~~ operating experience. 4 2

SR 3.3.6.~~6~~ 5 and SR 3.3.6.7 2

2

SR 3.3.6.~~6~~ 5 ~~is~~ are the performance of a TADOT. This test is a check of the Manual ~~Actuation~~ Initiation Functions and SI Input from ESFAS ~~and is performed every [18] months~~. INSERT 8 Each 2 1

2

INSERT 8

The TADOT of the SI Input from ESFAS Function is performed every 92 days on a STAGGERED TEST BASIS. The TADOT of the Manual Initiation Function is performed every 24 months.

Supply System (1)

BASES

SURVEILLANCE REQUIREMENTS (continued)

Initiation

Manual ~~Actuation~~ Function is tested up to, and including, the master relay coils. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable TADOT of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions. In some instances, the test includes actuation of the end device (i.e., ~~pump starts,~~ valve ~~s~~ cycle ~~s, etc~~). (1) (1)

~~The test also includes trip devices that provide actuation signals directly to the SSPS, bypassing the analog process control equipment. The SR is modified by a Note that excludes verification of setpoints during the TADOT. The Functions tested have no setpoints associated with them.~~ (2)

ies are

The Frequenc~~y is~~ based on the known reliability of the Function~~s~~ and the redundancy available, and ~~has~~ been shown to be acceptable through operating experience. (2) (2)

have

(2) INSERT SR3.3.6.6 from page B 3.3.6-7

SR 3.3.6.~~7~~ 8 (2)

24 (4)

A CHANNEL CALIBRATION is performed every ~~18~~ months~~, or approximately at every refueling~~. CHANNEL CALIBRATION is a complete check of the instrument loop, including the sensor. The test verifies that the channel responds to a measured parameter within the necessary range and accuracy. (1)

The Frequency is based on operating experience ~~and is consistent with the typical industry refueling cycle~~. (1) (1)

REFERENCES

~~1~~ (2) 10 CFR 100.11.

~~2. NUREG-1366, [date].~~

TSTF-411 Rev.1 changes not shown

1. UFSAR, Section 5.5.3. (1)

JUSTIFICATION FOR DEVIATIONS
ITS 3.3.6 BASES, CONTAINMENT PURGE SUPPLY AND EXHAUST SYSTEM ISOLATION INSTRUMENTATION

1. Changes are made (additions, deletions, and/or changes) to the ISTS Bases, which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.

2. Changes are made to reflect changes made to the Specification.

3. Grammatical/typographical error corrected.

4. The brackets are removed and the proper plant specific information/value is provided.

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Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.3.6, CONTAINMENT PURGE SUPPLY AND EXHAUST SYSTEM ISOLATION INSTRUMENTATION

10 CFR 50.92 EVALUATION
FOR
LESS RESTRICTIVE CHANGE L.10

CNP is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." The proposed change involves making the Current Technical Specifications (CTS) less restrictive. Below is the description of this less restrictive change and the determination of No Significant Hazards Considerations for conversion to NUREG-1431.

CTS Table 3.3-3, Functional Units 9.b and 9.c (Manual Containment Purge and Exhaust Isolation) require a total of 2 channels per train to be OPERABLE (1 channel per train for Functional Unit 9.b and 1 channel per train for Functional Unit 9.c). ITS Table 3.3.6-1, Function 1 (Manual Initiation) requires only one channel per train to be OPERABLE. This changes the CTS be decreasing the number of manual channels required OPERABLE from two per train to one per train.

The purpose of the Containment Purge Supply and Exhaust Manual Initiation Function is to ensure the capability exists to manually isolate the Containment Purge Supply and Exhaust System isolation valves. The Containment Purge Supply and Exhaust System Manual Initiation Function at CNP is provided by four switches, two per train. Each switch will actuate all Containment Purge Supply and Exhaust System isolation valves in its associated train (i.e., the two train A switches are fully redundant to each other and the two train B switches are fully redundant to each other). The differences between the two switches within a train are their location within the control room, and one of the two switches also actuates Containment Isolation Phase A while the other switch also actuates the Containment Spray subsystem and Containment Isolation Phase B. There is no manual switch that only initiates a Containment Purge Supply and Exhaust System isolation at CNP. One train A switch and one train B switch are located on the Containment Spray System panel, while one train A switch and one train B switch are located on the Ventilation System panel. The CTS requires both channels per train OPERABLE because the CTS groups the Containment Purge Supply and Exhaust manual initiation function by switch function. Therefore, it is listed twice in CTS Table 3.3-3, Functional Unit 9: once for the Containment Spray subsystem and Containment Isolation Phase B switch (Functional Unit 9.b) and once for the Containment Isolation Phase A switch (Functional Unit 9.c). NUREG-1431 only requires two Manual Initiation channel to be OPERABLE, since a typical Westinghouse plant only has two channels installed. This change is acceptable since each channel within a train is fully redundant to the other channel in that train for the Containment Purge Supply and Exhaust System Manual Initiation Function, and the fact that it is consistent with the NUREG-1431 requirements. In addition, if the single required manual initiation switch does not function, then the associated Containment Purge Supply and Exhaust System valves can still be closed using individual valve control switches that exist in the control room. This change is designated as less restrictive because less stringent LCO requirements are being applied in the ITS than were applied in the CTS.

Indiana Michigan Power Company (I&M) has evaluated whether or not a significant hazards consideration is involved with these proposed Technical Specification changes by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.3.6, CONTAINMENT PURGE SUPPLY AND EXHAUST SYSTEM ISOLATION INSTRUMENTATION

1. **Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?**

   Response: No.

   The proposed change decreases the number of manual initiation channels required OPERABLE from two per train to one per train. This change will not affect the probability of an accident, since the manual initiation instrumentation is not considered as an initiator of an analyzed accident. The consequences of an analyzed accident are not affected by this change since manual initiation instrumentation is not assumed to mitigate the consequences of an accident previously evaluated. Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. **Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?**

   Response: No.

   The proposed change decreases the number of manual initiation channels required OPERABLE from two per train to one per train. This change will not physically alter the plant (no new or different type of equipment will be installed). Both channels per train will remain installed in the plant and will normally be available to manually actuate the Containment Purge Supply and Exhaust System isolation valves. No new or revised operator actions are required as a result of this change. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. **Does the proposed change involve a significant reduction in a margin of safety?**

   Response: No.

   The proposed change decreases the number of manual initiation channels required OPERABLE from two per train to one per train. The margin of safety is not affected by this change because the safety analysis assumptions are not affected. In addition, if the single required manual initiation switch does not function, the associated Containment Purge Supply and Exhaust System valves can still be closed using individual valve control switches that exist in the control room. Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, I&M concludes that the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

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DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.3.6, CONTAINMENT PURGE SUPPLY AND EXHAUST SYSTEM ISOLATION INSTRUMENTATION

10 CFR 50.92 EVALUATION
FOR
LESS RESTRICTIVE CHANGE L.11

CNP is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." The proposed change involves making the Current Technical Specifications (CTS) less restrictive. Below is the description of this less restrictive change and the determination of No Significant Hazards Considerations for conversion to NUREG-1431.

CTS Table 4.3-3 footnote * requires performance of a SOURCE CHECK as part of the shiftly CHANNEL CHECK requirements for Containment Radiation instrumentation (Instruments 2.A.i, 2.A.ii, 2.A.iii, 2.B.i, 2.B.ii, and 2.B.iii). ITS 3.3.6 does not include this requirement. This changes the CTS by deleting the shiftly SOURCE CHECK requirement on the Containment Radiation instrumentation.

A SOURCE CHECK is a qualitative assessment of channel response when the channel sensor is exposed to a radioactive source. The purpose for performing the SOURCE CHECK on these instruments is to ensure on-scale reading of the instruments. However, the background radiation levels in the vicinity of these instruments is sufficiently high enough to provide an on-scale reading for the instruments. Thus, the required routine (every 12 hours) CHANNEL CHECK (ITS SR 3.3.6.1) will ensure the on-scale reading of the instruments (i.e., the instruments are not "pegged-low"). In addition, the Containment Radiation instruments have a low failure alarm to alert the operators of a failed-low radiation detector. Therefore, the deletion of this specific requirement is acceptable. This change is designated as less restrictive because a Surveillance Requirement is being deleted.

Indiana Michigan Power Company (I&M) has evaluated whether or not a significant hazards consideration is involved with these proposed Technical Specification changes by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. **Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?**

   Response: No.

   The proposed change deletes the requirement to perform a shiftly SOURCE CHECK of the Containment Radiation instrumentation. This change will not affect the probability of an accident, since the Containment Radiation instrumentation is not considered as an initiator of an analyzed accident. The consequences of an analyzed accident are not affected by this change since Containment Radiation instrumentation are assumed to be the backup signal to the SI Input from ESFAS signal for actuating Containment Purge Supply and Exhaust System isolation; it is not assumed to mitigate the consequences of an accident previously evaluated. Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.3.6, CONTAINMENT PURGE SUPPLY AND EXHAUST SYSTEM ISOLATION INSTRUMENTATION

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed change deletes the requirement to perform a shiftly SOURCE CHECK of the Containment Radiation instrumentation. This change will not physically alter the plant (no new or different type of equipment will be installed). Two channels per train will remain required OPERABLE and will normally be available to actuate the Containment Purge Supply and Exhaust System isolation valves. No new or revised operator actions are required as a result of this change. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

The proposed change deletes the requirement to perform a shiftly SOURCE CHECK of the Containment Radiation instrumentation. The margin of safety is not affected by this change because the safety analyses assumptions are not affected. In addition, if the Containment Radiation instrumentation does not function, the associated Containment Purge Supply and Exhaust System valves can still be automatically closed using the SI Input from ESFAS signal. Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, I&M concludes that the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

ATTACHMENT 7

ITS 3.3.7, Control Room Emergency Ventilation (CREV) System Actuation Instrumentation

Current Technical Specification (CTS) Markup and Discussion of Changes (DOCs)

ITS 3.3.7

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.7 PLANT SYSTEMS

3/4.7.5 CONTROL ROOM VENTILATION SYSTEM

CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

LCO 3.3.7 3.7.5.1 The control room emergency ventilation system (CREVS) shall be OPERABLE with:

a. Two independent pressurization trains, and

b. One charcoal adsorber/HEPA filter unit.

----------NOTE----------
The control room envelope/pressure boundary may be opened intermittently under administrative control.

See ITS 3.7.10

APPLICABILITY: MODES 1, 2, 3, 4, and during the movement of irradiated fuel assemblies.

ACTION:

Add proposed ACTIONS Note

MODES 1, 2, 3, and 4:

place

in pressurization/cleanup mode

L.1

ACTION A a. With one pressurization train inoperable, ~~restore~~ the inoperable train ~~to OPERABLE status~~ within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD

ACTION C SHUTDOWN within the following 30 hours.

Add proposed ACTION B

b. With the filter unit inoperable, restore the filter unit to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With two CREVS pressurization trains inoperable due to an inoperable control room envelope/pressure boundary, restore the control room envelope/pressure boundary to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

During the movement of irradiated fuel assemblies:

d. With one pressurization train inoperable, restore the inoperable pressurization train to OPERABLE status within 7 days, or initiate and maintain operation of the remaining OPERABLE train in the pressurization/cleanup alignment.

e. With any of the following: (1) both pressurization trains inoperable; (2) the filter unit inoperable; or (3) the control room envelope/pressure boundary inoperable, immediately suspend all operations involving the movement of irradiated fuel assemblies.

f. The provisions of Specification 3.0.4 are not applicable to movement of irradiated fuel assemblies.

See ITS 3.7.10

A.1

ITS 3.3.7

ITS

SURVEILLANCE REQUIREMENTS (Continued)

24 L.2

SR 3.3.7.1

e. At least once per 18 months by:

1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6 inches Water Gauge while operating the ventilation system at a flow rate of 6000 cfm plus or minus 10%.

See ITS 5.5

Table 3.3.7.1 Function 1

SR 3.3.7.1

2. a. Verifying that on a Safety Injection Signal from Unit 1, the system automatically operates in the pressurization/cleanup mode.

See ITS 3.7.10

Table 3.3.7.1 Function 2

SR 3.3.7.1

b. Verifying that on a Safety Injection Signal from Unit 2, the system automatically operates in the pressurization/cleanup mode.

3. Verifying that the system maintains the control room envelope/pressure boundary at a positive pressure of greater than or equal to 1/16 inch W. G. relative to the outside atmosphere at a system flow rate of 6000 cfm plus or minus 10%, with a makeup air flow rate of ≤ 1000 cfm.

See ITS 3.7.10

f. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove greater than or equal to 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm plus or minus 10%.

g. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove greater than or equal to 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm plus or minus 10%.

See ITS 5.5

A.1

ITS 3.3.7

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.7 PLANT SYSTEMS

3/4.7.5 CONTROL ROOM VENTILATION SYSTEM

CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

LCO 3.3.7 3.7.5.1 The control room emergency ventilation system (CREVS) shall be OPERABLE with:

a. Two independent pressurization trains, and

b. One charcoal adsorber/HEPA filter unit.

-----NOTE-----
The control room envelope/pressure boundary may be opened intermittently under administrative control.

See ITS 3.7.10

APPLICABILITY: MODES 1, 2, 3, 4, and during the movement of irradiated fuel assemblies.

ACTION:

Add proposed ACTIONS Note

MODES 1, 2, 3, and 4:

place

in pressurization/cleanup mode

L.1

ACTION A a. With one pressurization train inoperable, ~~restore~~ the inoperable train to ~~OPERABLE status~~ within 7 days or be in at least HOT STANDBY within the next 6 hours and in

ACTION C COLD SHUTDOWN within the following 30 hours.

Add proposed ACTION B

b. With the filter unit inoperable, restore the filter unit to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With two CREVS pressurization trains inoperable due to an inoperable control room envelope/pressure boundary, restore the control room envelope/pressure boundary to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

During the movement of irradiated fuel assemblies:

d. With one pressurization train inoperable, restore the inoperable pressurization train to OPERABLE status within 7 days, or initiate and maintain operation of the remaining OPERABLE train in the pressurization/cleanup alignment.

e. With any of the following: (1) both pressurization trains inoperable; (2) the filter unit inoperable; or (3) the control room envelope/pressure boundary inoperable, immediately suspend all operations involving the movement of irradiated fuel assemblies.

f. The provisions of Specification 3.0.4 are not applicable to movement of irradiated fuel assemblies.

See ITS 3.7.10

ITS 3.3.7

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.7 PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

24 L.2

SR 3.3.7.1

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

1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6 inches Water Gauge while operating the ventilation system at a flow rate of 6000 cfm plus or minus 10%. See ITS 5.5

Table 3.3.7.1 Function 2

SR 3.3.7.1

2. a. Verifying that on a Safety Injection Signal from Unit 1, the system automatically operates in the pressurization/cleanup mode.

Table 3.3.7.1 Function 1

SR 3.3.7.1

b. Verifying that on a Safety Injection Signal from Unit 2, the system automatically operates in the pressurization/cleanup mode.

See ITS 3.7.10

3. Verifying that the system maintains the control room envelope/pressure boundary at a positive pressure of greater than or equal to 1/16 inch W. G. relative to the outside atmosphere at a system flow rate of 6000 cfm plus or minus 10% with a makeup air flow rate of $\leq$ 1000 cfm. See ITS 3.7.10

f. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove greater than or equal to 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm plus or minus 10%.

g. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove greater than or equal to 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm plus or minus 10%.

See ITS 5.5

DISCUSSION OF CHANGES
ITS 3.3.7, CONTROL ROOM EMERGENCY VENTILATION (CREV) SYSTEM ACTUATION INSTRUMENTATION

ADMINISTRATIVE CHANGES

A.1 In the conversion of the CNP Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1431, Rev. 2, "Standard Technical Specifications-Westinghouse Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

None

LESS RESTRICTIVE CHANGES

L.1 *(Category 4 – Relaxation of Required Action)* CTS 3.7.5.1 Action a requires, with one train of the SI Input from ESFAS actuation instrumentation inoperable (i.e., the associated CREV pressurization train is inoperable), to either restore the pressurization train to OPERABLE status (i.e., by restoring the SI Input from ESFAS actuation instrumentation train to OPERABLE status) within 7 days or the unit must be placed in MODE 3 in the next 6 hours and in MODE 5 within the following 30 hours. In addition, the CTS does not provide any Actions when both trains of the SI Input for ESFAS actuation instrumentation are inoperable (i.e., both CREV trains are inoperable) in MODES 1, 2, 3, and 4. Thus a CTS 3.0.3 entry is required, which requires action to be initiated within 1 hour to place the unit in MODE 3 within 7 hours, MODE 4 within 13 hours, and MODE 5 within 37 hours. ITS 3.3.7 ACTION A allows 7 days to place the associated CREV train in the pressurization/cleanup mode when one SI Input from ESFAS actuation instrumentation train is inoperable. When both SI Input from ESFAS actuation instrumentation trains are inoperable, ITS 3.3.7 ACTION B allows either immediately placing one CREV train in the pressurization/cleanup mode and declaring the other CREV train inoperable (and taking the actions of the ITS 3.7.10 for an inoperable CREV train) or immediately placing both CREV trains in the pressurization/cleanup mode. Alternately, if the CREV trains are not placed in the pressurization/cleanup mode, ITS 3.3.7 ACTION C requires shutting down the unit to MODE 3 within 6 hours and MODE 5 within 36 hours.

DISCUSSION OF CHANGES
ITS 3.3.7, CONTROL ROOM EMERGENCY VENTILATION (CREV) SYSTEM ACTUATION INSTRUMENTATION

In addition, since there are two SI Input from ESFAS Functions required (one from each unit), and each of them affect both CREV trains, a Note is included that allows separate Condition entry for each Function. This changes the CTS by allowing the associated CREV System trains to be placed in the pressurization/cleanup mode, in lieu of requiring a unit shutdown. In addition, separate Condition entry is allowed for each of the two SI Input from ESFAS Functions.

The purpose of the requirements for the SI Input from ESFAS Functions is to ensure the associated CREV trains are capable of being automatically placed in the pressurization/cleanup mode. The proposed ACTIONS ensure that the function of each inoperable SI Input from ESFAS actuation instrumentation train is satisfied by requiring the associated CREV train to be placed in the pressurization/cleanup mode, since this places the associated CREV train in the post accident operating condition. The ACTIONS are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation. This change is acceptable because the ACTIONS are consistent with safe operation under the specified Condition, considering the status of the associated CREV System train(s) (i.e., the associated train(s) are in the post accident operating condition), and the low probability of a DBA occurring during the time period. If the associated train(s) are not placed in the pressurization/cleanup mode, the ITS ACTIONS will require the unit to be shut down, consistent with current requirements. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

L.2 *(Category 10 – 18 to 24 Month Surveillance Frequency Change, Non-Channel Calibration Type)* CTS 4.7.5.1.e.2.a requires the verification that on a Safety Injection Signal from the associated unit, the system automatically operates. CTS 4.7.5.1.e.2.b requires the verification that on a Safety Injection Signal from the other unit, the system automatically operates. ITS SR 3.3.7.1 requires a TADOT to be performed every 24 months. The TADOT is performed on each of the trains for the Unit 1 and Unit 2 SI Input from ESFAS Function. This changes the CTS by extending the Frequency of the Surveillance from 18 months (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.2 and ITS SR 3.0.2) to 24 months (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.2 and ITS SR 3.0.2). It also changes the CTS by defining this test as a TADOT.

The purpose of CTS 4.7.5.1.e.2 is to ensure the CREV System trains start automatically. This change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. Reviews of historical surveillance data and maintenance data sufficient to determine failure modes have not revealed any time-based failure mechanisms. An evaluation has been performed using this data, and it has been determined that the effect on safety due to the extended Surveillance Frequency will be minimal. Extending the Surveillance test interval for the CREV trains is acceptable because the CREV trains are verified to be operating properly throughout the operating cycle by requiring each CREV train to be operated for

DISCUSSION OF CHANGES
ITS 3.3.7, CONTROL ROOM EMERGENCY VENTILATION (CREV) SYSTEM
ACTUATION INSTRUMENTATION

$\geq$ 15 minutes every 184 days. This testing ensures that a significant portion of the CREV circuitry is operating properly and will detect significant failures of this circuitry. Additional justification for extending the Surveillance test interval is that the CREV trains, including the actuating logic, is designed to be single failure, therefore ensuring system availability in the event of a failure of one CREV train. Based on the inherent system and component reliability and the testing performed during the operating cycle, the impact, if any, from this change on system availability is minimal. The review of historical surveillance data also demonstrated that there are no failures that would invalidate this conclusion. In addition, the proposed 24 month Surveillance Frequency, if performed at the maximum interval allowed by ITS SR 3.0.2 (30 months) does not invalidate any assumptions in the plant licensing basis. The change defining the test as a TADOT is acceptable because it is essentially the same requirement; it is ensuring the CREV System receives the applicable automatic start signals. The actual actuation of the CREV System components (e.g., fans) is verified in an ITS 3.7.10 Surveillance. This change is designated as less restrictive because Surveillances will be performed less frequently under the ITS than under the CTS.

Improved Standard Technical Specifications (ISTS) Markup and Justification for Deviations (JFDs)

 1

CTS

3.3 INSTRUMENTATION 1

Ventilation V

3.3.7 Control Room Emergency Filtration System (CREFS) Actuation Instrumentation

V System

3.7.5.1 LCO 3.3.7 The CREFS actuation instrumentation for each Function in Table 3.3.7-1 shall be OPERABLE. 1

APPLICABILITY: According to Table 3.3.7-1.

ACTIONS

- NOTE -

Doc L.1 Separate Condition entry is allowed for each Function.

	CONDITION	REQUIRED ACTION	COMPLETION TIME	
Action a	A. One or more required Functions with one channel or train inoperable.	A.1 ------- NOTE ------- [Place in toxic gas protection mode if automatic transfer to toxic gas protection mode is inoperable.] ---------------- associated Place one CREFS V train in emergency [radiation protection] mode. pressurization / cleanup	7 days	2 3 2 1 4
Doc L.1	B. One or more required Functions with two channels or two trains inoperable.	------- NOTE ------- [Place in the toxic gas protection mode if automatic transfer to toxic gas protection mode is inoperable.] ---------------- B.1.1 Place one CREFS V train in emergency [radiation protection] mode. pressurization / cleanup AND	Immediately	2 3 1 4

V System

CTS

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	B.1.2 Enter applicable Conditions and Required Actions for one CREFS V train made inoperable by inoperable CREFS V actuation instrumentation.	Immediately
	OR	
	B.2 Place both trains in emergency [radiation protection] mode. pressurization/cleanup	Immediately
C. Required Action and associated Completion Time for Condition A or B not met in MODE 1, 2, 3, or 4.	C.1 Be in MODE 3.	6 hours
	AND	
	C.2 Be in MODE 5.	36 hours
D. Required Action and associated Completion Time for Condition A or B not met during movement of [recently] irradiated fuel assemblies.	D.1 Suspend movement of [recently] irradiated fuel assemblies.	Immediately
E. [Required Action and associated Completion Time for Condition A or B not met in MODE 5 or 6.	E.1 Initiate action to restore one CREFS train to OPERABLE status.	Immediately]

DOC L.1

Action a

1

1

4

5

5

V Systems

1

CREFS Actuation Instrumentation
3.3.7

CTS

SURVEILLANCE REQUIREMENTS

- NOTE -
Refer to Table 3.3.7-1 to determine which SRs apply for each CREFS Actuation Function.

7

SURVEILLANCE		FREQUENCY
SR 3.3.7.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.7.2	Perform COT.	92 days
SR 3.3.7.3	Perform ACTUATION LOGIC TEST.	31 days on a STAGGERED TEST BASIS
SR 3.3.7.4	Perform MASTER RELAY TEST.	31 days on a STAGGERED TEST BASIS
SR 3.3.7.5	Perform SLAVE RELAY TEST.	[92] days
4.7.5.1.e.2 SR 3.3.7.6 1	- NOTE - Verification of setpoint is not required. Perform TADOT for each required Function	[18] 24 months
SR 3.3.7.7	Perform CHANNEL CALIBRATION.	[18] months

7

TSTF-411 Rev. 1 changes not shown

8

7

3

7

V System 1

CTS

3.7.5.1

Table 3.3.7-1 (page 1 of 1)
CREFS Actuation Instrumentation

V System 1

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	TRIP SETPOINT
1. Manual Initiation	1, 2, 3, 4, [5, 6], (a)	2 trains	SR 3.3.7.6	NA
2. Automatic Actuation Logic and Actuation Relays	1, 2, 3, 4, [5, 6], (a)	2 trains	SR 3.3.7.3 SR 3.3.7.4 SR 3.3.7.5	NA
3. Control Room Radiation				
a. Control Room Atmosphere	1, 2, 3, 4 [5, 6], (a)	[2]	SR 3.3.7.1 SR 3.3.7.2 SR 3.3.7.7	≤ [2] mR/hr
b. Control Room Air Intakes	1, 2, 3, 4, [5, 6], (a)	[2]	SR 3.3.7.1 SR 3.3.7.2 SR 3.3.7.7	≤ [2] mR/hr
4. Safety Injection	Refer to LCO 3.3.2, "ESFAS Instrumentation," Function 1, for all initiation functions and requirements.			

7 ALLOWABLE VALUE 9

6 INSERT 1

(a) During movement of [recently] irradiated fuel assemblies.

6 INSERT 2

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6

INSERT 1
(Unit 1 only)

1. Safety Injection (SI) Input from Engineered Safety Features Actuation System (ESFAS)	1, 2, 3, 4	2 trains	NA
2. Unit 2 SI Input from ESFAS	(a)	2 trains	NA

6

INSERT 1
(Unit 2 only)

1. Safety Injection (SI) Input from Engineered Safety Features Actuation System (ESFAS)	1, 2, 3, 4	2 trains	NA
2. Unit 1 SI Input from ESFAS	(a)	2 trains	NA

6

INSERT 2
(Unit 1 only)

(a) When Unit 2 is in MODE 1, 2, 3, or 4 and Unit 1 is in MODE 1, 2, 3, or 4.

6

INSERT 2
(Unit 2 only)

(a) When Unit 1 is in MODE 1, 2, 3, or 4 and Unit 2 is in MODE 1, 2, 3, or 4.

JUSTIFICATION FOR DEVIATIONS
ITS 3.3.7, CONTROL ROOM EMERGENCY VENTILATION (CREV) SYSTEM ACTUATION INSTRUMENTATION

1. The title of ISTS 3.3.7, Control Room Emergency Filtration System (CREFS) Actuation Instrumentation, has been revised in ITS 3.3.7 to reflect the plant specific nomenclature (i.e., Control Room Emergency Ventilation (CREV) System Actuation Instrumentation). Corresponding changes have also been made to the ISTS 3.3.7 Header, LCO, Required Actions, Surveillance Requirements Note and Table 3.3.7-1.

2. The plant specific design of the CREV System actuation instrumentation includes two trains of Safety Injection (SI) Input from Engineered Safety Features Actuation System (ESFAS) Function and two trains of SI Input from ESFAS Function from the opposite unit. These Functions are arranged such that any one of the four trains will initiate actuation of an associated CREV train. However, the opposite unit SI Input from ESFAS Function is only required to be OPERABLE when the opposite unit is in MODE 1, 2, 3, or 4. Therefore, the opposite unit SI Input from ESFAS will not always be required to be OPERABLE. As a result, the word "required" is added to ISTS 3.3.7 Conditions A and B to reflect that each of the Functions may not always be required to be OPERABLE to meet the LCO and ISTS 3.3.7 Required Action A.1 is revised to reflect placing the "associated" CREV train in pressurization/cleanup mode of operation. In addition, the references to "channels" in ISTS 3.3.7 Conditions A and B are deleted since the requirements for each of the Functions are presented on a "train" basis, not a "channel" basis.

3. The brackets are removed and the proper plant specific information/value is provided.

4. The references to the "emergency [radiation protection] mode" in ISTS 3.3.7 ACTIONS A and B are revised to "pressurization/cleanup mode" in ITS 3.3.7 ACTIONS A and B. This change reflects the CNP Units 1 and 2 specific nomenclature.

5. ISTS 3.3.7 ACTIONS D and E provide requirements that are applicable during movement of [recently] irradiated fuel assemblies and in MODE 5 or 6, respectively. These ACTIONS are not included in ITS 3.3.7, consistent with CNP Unit 1 and Unit 2 specific design, analysis, and licensing basis for CREV System actuation. During movement of irradiated fuel assemblies, the fuel handling accident analysis assumes manual actuation of the CREV trains. Individual component controls are used for manually isolating the normal fresh-air intake and manually starting the emergency pressurization/cleanup filter unit of the CREV System. During other times in MODE 5 or 6, the CREV System is not required OPERABLE; thus, the Functions are not required. Therefore, ITS 3.3.7 does not include requirements that are applicable during these MODES or specified conditions. As a result of the deletion of ISTS 3.3.7 ACTIONS D and E (which reference MODES or conditions other than MODES 1, 2, 3, and 4), the reference to "MODE 1, 2, 3, or 4" in ISTS 3.3.7 Condition C is unnecessary and is deleted.

6. ISTS Table 3.3.7-1 is revised to reflect the plant specific nomenclature, design, analysis, and licensing basis for Functions in ITS Table 3.3.7-1, CREV System Actuation Instrumentation. This includes the deletion of ISTS Table 3.3.7-1 Functions 1 (Manual Initiation), 2 (Automatic Actuation Logic and Actuation Relays), and 3 (Control Room Radiation). ISTS Table 3.3.7-1 Function 4 (ITS Table 3.3.7-1 Functions 1 and 2) is revised to reflect that the SI Input from ESFAS Functions from

JUSTIFICATION FOR DEVIATIONS
ITS 3.3.7, CONTROL ROOM EMERGENCY VENTILATION (CREV) SYSTEM ACTUATION INSTRUMENTATION

both units provide the CREV System actuation. In addition, ISTS Table 3.3.7-1 Footnote (a) is revised to reflect the plant specific design and analysis basis for the SI Input from ESFAS Functions.

7. The ISTS 3.3.7 Surveillance Requirements are revised to reflect the CNP Units 1 and 2 current licensing basis and testing practices for the CREV System Actuation Instrumentation Functions. The Functions included in ITS Table 3.3.7-1 are the SI Input from ESFAS Functions. For these Functions, the applicable Surveillance Requirement is the performance of a TRIP ACTUATING DEVICE OPERATIONAL TEST (TADOT), ISTS SR 3.3.7.6. The other ISTS 3.3.7 Surveillance Requirements (ISTS SRs 3.3.7.1, 3.3.7.2, 3.3.7.3, 3.3.7.4, 3.3.7.5, and 3.3.7.7) are not applicable to the SI Input to ESFAS Functions and are deleted. In addition, ISTS SR 3.3.7.6 is renumbered (ITS SR 3.3.7.1). Due to the deletion of all but one of the SRs, the Note to the SRs is not necessary. Thus, the Note has been deleted, as well as the Surveillance Requirements column in Table 3.3.7-1, and ISTS SR 3.3.7.6 has been revised to state it is applicable to all required Functions, similar to the SRs in ISTS 3.3.3.

8. ISTS SR 3.3.7.6 (ITS SR 3.3.7.1) requires the performance of a TADOT for the SI Input from ESFAS Functions. ISTS SR 3.3.7.6 is modified by a note, which states "Verification of setpoint is not required." The SI Input from ESFAS Functions do not have required setpoints. The ISTS definition of TADOT states “The TADOT shall include adjustment, as necessary, of the trip actuating device so that it actuates at the required setpoint within the necessary accuracy.” Since no required setpoints apply for the SI Input from ESFAS Functions, the TADOT definition does not require verification of setpoints. Therefore, the Note to ISTS SR 3.3.7.6 is unnecessary and is deleted.

9. ISTS Table 3.3.7-1 includes requirements for Trip Setpoints for the CREV System actuation instrumentation. The term "TRIP SETPOINT" is revised to "ALLOWABLE VALUE" in ITS Table 3.3.7-1 to reflect OPERABILITY limits for the channels of the CREV System Actuation Instrumentation Functions. This change achieves consistency with the OPERABILITY requirements for other actuation instrumentation channels in ISTS Section 3.3.

Improved Standard Technical Specifications (ISTS) Bases Markup and Justification for Deviations (JFDs)

1 All changes on this page

B 3.3 INSTRUMENTATION

Ventilation V

B 3.3.7 Control Room Emergency Filtration System (CREFS) Actuation Instrumentation

V System unit protected

BASES

BACKGROUND

The CREFS provides an enclosed control room environment from which the unit can be operated following an uncontrolled release of radioactivity. During normal operation, ~~the Auxiliary Building Ventilation System provides control room ventilation.~~ INSERT 1 Upon receipt of an actuation signal, the CREFS initiates filtered ventilation and pressurization of the control room. This system is described in the Bases for LCO 3.7.10, "Control Room Emergency Filtration System."

V System

Ventilation (CREV)

~~The actuation instrumentation consists of redundant radiation monitors in the air intakes and control room area. A high radiation signal from any of these detectors will initiate both trains of the CREFS. The control room operator can also initiate CREFS trains by manual switches in the control room. The CREFS is also actuated by a safety injection (SI) signal.~~ is from either unit The SI Function is discussed in LCO 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation."

APPLICABLE SAFETY ANALYSES

The control room must be kept habitable for the operators stationed there during accident recovery and post accident operations.

V System

The CREFS acts to terminate the supply of unfiltered outside air to the control room, initiate filtration, and pressurize the control room. These actions are necessary to ensure the control room is kept habitable for the operators stationed there during accident recovery and post accident operations by minimizing the radiation exposure of control room personnel.

~~In MODES 1, 2, 3, and 4, the radiation monitor actuation of the CREFS is a backup for the SI signal actuation. This ensures initiation of the CREFS during a loss of coolant accident or steam generator tube rupture.~~

~~The radiation monitor actuation of the CREFS in MODES 5 and 6, and during movement of [recently] irradiated fuel assemblies are the primary means to ensure control room habitability in the event of a fuel handling or waste gas decay tank rupture accident.~~

V System

The CREFS actuation instrumentation satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii).

1 **INSERT 1**

the Control Room Air Conditioning (CRAC) System portion of the Control Room Ventilation System is operated in the air conditioning mode, which is further described in the Bases of LCO 3.7.11, “Control Room Air Conditioning (CRAC) System.”

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BASES ①

V System

LCO

The LCO requirements ensure that instrumentation necessary to initiate the CR~~EFS~~ is OPERABLE.

INSERT 2 ②

~~1. Manual Initiation~~

~~The LCO requires two channels OPERABLE. The operator can initiate the CREFS at any time by using either of two switches in the control room. This action will cause actuation of all components in the same manner as any of the automatic actuation signals.~~

~~The LCO for Manual Initiation ensures the proper amount of redundancy is maintained in the manual actuation circuitry to ensure the operator has manual initiation capability.~~

~~Each channel consists of one push button and the interconnecting wiring to the actuation logic cabinet.~~

~~2. Automatic Actuation Logic and Actuation Relays~~

~~The LCO requires two trains of Actuation Logic and Relays OPERABLE to ensure that no single random failure can prevent automatic actuation.~~

~~Automatic Actuation Logic and Actuation Relays consist of the same features and operate in the same manner as described for ESFAS Function 1.b., SI, in LCO 3.3.2. The applicable MODES and specified conditions for the CREFS portion of these functions are different and less restrictive than those specified for their SI roles. If one or more of the SI functions becomes inoperable in such a manner that only the CREFS function is affected, the Conditions applicable to their SI function need not be entered. The less restrictive Actions specified for inoperability of the CREFS Functions specify sufficient compensatory measures for this case.~~

~~3. Control Room Radiation~~

~~The LCO specifies two required Control Room Atmosphere Radiation Monitors and two required Control Room Air Intake Radiation Monitors to ensure that the radiation monitoring instrumentation necessary to initiate the CREFS remains OPERABLE.~~

~~For sampling systems, channel OPERABILITY involves more than OPERABILITY of channel electronics. OPERABILITY may also require correct valve lineups, sample pump operation, and filter~~

2 **INSERT 2**

1. Safety Injection (SI) Input from Engineered Safety Features Actuation System (ESFAS)

   The SI Input from ESFAS ensures that the ESFAS automatic actuation logic will actuate the CREV System upon any signal that initiates SI. Actuation of the CREV System on an SI signal ensures that, in the event of conditions that may result in a radiological release, the control room will be maintained habitable. Allowable Values are not applicable to this Function. The SI Input from ESFAS signal directly inputs to CREV System actuation logic. There are two trains of SI Input from ESFAS, with each train inputting to the associated CREV train (i.e., one SI Input from ESFAS signal starts one CREV train while the other SI Input from ESFAS signal starts the other CREV train). The LCO requires two trains of SI Input from ESFAS to be OPERABLE in MODE 1, 2, 3, or 4.

2. Unit 2 (Unit 1) and Unit 1 (Unit 2) SI Input from ESFAS

   Unit 2 (Unit 1) and Unit 1 (Unit 2) SI Input from ESFAS ensures the Unit 2 (Unit 1) and Unit 1 (Unit 2) ESFAS automatic actuation logic will actuate the CREV System upon any signal that initiates Unit 2 (Unit 1) and Unit 1 (Unit 2) SI. Actuation of the CREV System on a Unit 2 (Unit 1) and Unit 1 (Unit 2) SI signal ensures that, in the event of conditions that may result in a radiological release from Unit 2 (Unit 1) and Unit 1 (Unit 2), the control room will be maintained habitable. Allowable Values are not applicable to this Function. The Unit 2 (Unit 1) and Unit 1 (Unit 2) SI Input from ESFAS signal directly inputs to CREV System actuation logic. There are two trains of Unit 2 (Unit 1) and Unit 1 (Unit 2) SI Input from ESFAS, with each train inputting to the associated CREV train (i.e., one SI Input from ESFAS signal starts one CREV train while the other SI Input from ESFAS signal starts the other CREV train). The LCO requires two trains of Unit 2 (Unit 1) and Unit 1 (Unit 2) SI Input from ESFAS to be OPERABLE when Unit 2 (Unit 1) and Unit 1 (Unit 2) is in MODE 1, 2, 3, or 4 and Unit 1 (Unit 1) and Unit 2 (Unit 2) is in MODE 1, 2, 3, or 4.

V System ①

CREFS Actuation Instrumentation
B 3.3.7

BASES

LCO (continued)

~~motor operation, as well as detector OPERABILITY, if these supporting features are necessary for trip to occur under the conditions assumed by the safety analyses.~~ ②

~~4. Safety Injection~~

~~Refer to LCO 3.3.2, Function 1, for all initiating Functions and requirements.~~

APPLICABILITY

① V System Actuation Instrumentation

The CREFS Functions must be OPERABLE in MODES 1, 2, 3, 4, ~~and~~ INSERT 3 ~~movement of [recently] irradiated fuel assemblies. The Functions must also be OPERABLE in MODES [5 and 6] when required for a waste gas decay tank rupture accident,~~ ② or ③ to ensure a habitable environment for the control room operators. INSERT 4 ① ②

~~The Applicability for the CREFS actuation on the ESFAS Safety Injection Functions are specified in LCO 3.3.2. Refer to the Bases for LCO 3.3.2 for discussion of the Safety Injection Function Applicability.~~ ①

ACTIONS

~~The most common cause of channel inoperability is outright failure or drift of the bistable or process module sufficient to exceed the tolerance allowed by the unit specific calibration procedures. Typically, the drift is found to be small and results in a delay of actuation rather than a total loss of function. This determination is generally made during the performance of a COT, when the process instrumentation is set up for adjustment to bring it within specification. If the Trip Setpoint is less conservative than the tolerance specified by the calibration procedure, the channel must be declared inoperable immediately and the appropriate Condition entered.~~ ②

A Note has been added to the ACTIONS indicating that separate Condition entry is allowed for each Function. The Conditions of this Specification may be entered independently for each Function listed in Table 3.3.7-1 in the accompanying LCO. The Completion Time(s) of the inoperable ~~channel(s)~~/train(s) of a Function will be tracked separately for each Function starting from the time the Condition was entered for that Function. ②

A.1

2

INSERT 3

and when Unit 2 (Unit 1) and Unit 1 (Unit 2) is in MODE 1, 2, 3, or 4

1 2

INSERT 4

The CREV System Actuation Instrumentation is not required in MODES 5 and 6 since the CREV System is not required OPERABLE in these MODES. During movement of irradiated fuel assemblies, CREV System Actuation Instrumentation Functions are not required to be OPERABLE since the fuel handling accident analysis assumes manual actuation of the CREV trains. The controls for manually isolating the normal fresh-air intake and manually starting the emergency pressurization/cleanup filter unit of the CREV System are located in the control room and the air conditioning equipment room and can be manually actuated from either room.

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V System 1

BASES

ACTIONS (continued)

Condition A applies to the actuation logic train Function of the CREFS, the radiation monitor channel Functions, and the manual channel Functions. 2

required

If one train is inoperable, or one radiation monitor channel is inoperable in one or more Functions, 7 days are permitted to restore it to OPERABLE status. The 7 day Completion Time is the same as is allowed if one train of the mechanical portion of the system is inoperable. The basis for this Completion Time is the same as provided in LCO 3.7.10. If the channel/train cannot be restored to OPERABLE status, one CREFS train must be placed in the emergency radiation protection mode of operation. This accomplishes the actuation instrumentation Function and places the unit in a conservative mode of operation. 2 2 3 2

the associated

V

pressurization/cleanup

within 7 days

The Required Action for Condition A is modified by a Note that requires placing one CREFS train in the toxic gas protection mode instead of the [radiation protection] mode of operation if the automatic transfer to toxic gas protection mode is inoperable. This ensures the CREFS train is placed in the most conservative mode of operation relative to the OPERABILITY of the associated actuation instrumentation. 2

B.1.1, B.1.2, and B.2

in one or more required Functions 2

Condition B applies to the failure of two CREFS actuation trains, two radiation monitor channels, or two manual channels. The first Required Action is to place one CREFS train in the emergency [radiation protection] mode of operation immediately. This accomplishes the actuation instrumentation Function that may have been lost and places the unit in a conservative mode of operation. The applicable Conditions and Required Actions of LCO 3.7.10 must also be entered for the CREFS train made inoperable by the inoperable actuation instrumentation. This ensures appropriate limits are placed upon train inoperability as discussed in the Bases for LCO 3.7.10. 1 1

V

pressurization/cleanup

V

Alternatively, both trains may be placed in the emergency [radiation protection] mode. This ensures the CREFS function is performed even in the presence of a single failure. 1 1

pressurization/cleanup

V System

The Required Action for Condition B is modified by a Note that requires placing one CREFS train in the toxic gas protection mode instead of the [radiation protection] mode of operation if the automatic transfer to toxic gas protection mode is inoperable. This ensures the CREFS train is placed in the most conservative mode of operation relative to the OPERABILITY of the associated actuation instrumentation. 2

V System

1

BASES

ACTIONS (continued)

C.1 and C.2

Condition C applies when the Required Action and associated Completion Time for Condition A or B have not been met ~~and the unit is in MODE 1, 2, 3, or 4~~. The unit must be brought to a MODE in which the LCO requirements are not applicable. To achieve this status, the unit must be brought to MODE 3 within 6 hours and MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems. 2

~~D.1~~

~~Condition D applies when the Required Action and associated Completion Time for Condition A or B have not been met when [recently] irradiated fuel assemblies are being moved. Movement of [recently] irradiated fuel assemblies must be suspended immediately to reduce the risk of accidents that would require CREFS actuation.~~ 2

~~E.1~~

~~Condition E applies when the Required Action and associated Completion Time for Condition A or B have not been met in MODE 5 or 6. Actions must be initiated to restore the inoperable train(s) to OPERABLE status immediately to ensure adequate isolation capability in the event of a waste gas decay tank rupture.~~

SURVEILLANCE REQUIREMENTS

~~A Note has been added to the SR Table to clarify that Table 3.3.7-1 determines which SRs apply to which CREFS Actuation Functions.~~ 2

~~SR 3.3.7.1~~

~~Performance of the CHANNEL CHECK once every 12 hours ensures that a gross failure of instrumentation has not occurred. A CHANNEL CHECK is normally a comparison of the parameter indicated on one channel to a similar parameter on other channels. It is based on the assumption that instrument channels monitoring the same parameter should read approximately the same value. Significant deviations between the two instrument channels could be an indication of excessive instrument drift in one of the channels or of something even more serious. A CHANNEL CHECK will detect gross channel failure; thus, it is key to verifying the instrumentation continues to operate properly between each CHANNEL CALIBRATION.~~ 2

V System

1

BASES

SURVEILLANCE REQUIREMENTS (continued)

Agreement criteria are determined by the unit staff, based on a combination of the channel instrument uncertainties, including indication and readability. If a channel is outside the criteria, it may be an indication that the sensor or the signal processing equipment has drifted outside its limit.

The Frequency is based on operating experience that demonstrates channel failure is rare. The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with the LCO required channels.

SR 3.3.7.2

A COT is performed once every 92 days on each required channel to ensure the entire channel will perform the intended function. This test verifies the capability of the instrumentation to provide the CREFS actuation. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable CHANNEL OPERATIONAL TEST of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions. The setpoints shall be left consistent with the unit specific calibration procedure tolerance. The Frequency is based on the known reliability of the monitoring equipment and has been shown to be acceptable through operating experience.

2

TSTF-411 Rev. 1 changes not shown

SR 3.3.7.3

SR 3.3.7.3 is the performance of an ACTUATION LOGIC TEST. The train being tested is placed in the bypass condition, thus preventing inadvertent actuation. Through the semiautomatic tester, all possible logic combinations, with and without applicable permissives, are tested for each protection function. In addition, the master relay coil is pulse tested for continuity. This verifies that the logic modules are OPERABLE and there is an intact voltage signal path to the master relay coils. This test is performed every 31 days on a STAGGERED TEST BASIS. The Frequency is justified in WCAP-10271-P-A, Supplement 2, Rev.1.

SR 3.3.7.4

SR 3.3.7.4 is the performance of a MASTER RELAY TEST. The MASTER RELAY TEST is the energizing of the master relay, verifying

1

V System

BASES

SURVEILLANCE REQUIREMENTS (continued)

~~contact operation and a low voltage continuity check of the slave relay coil. Upon master relay contact operation, a low voltage is injected to the slave relay coil. This voltage is insufficient to pick up the slave relay, but large enough to demonstrate signal path continuity. This test is performed every 31 days on a STAGGERED TEST BASIS. The Frequency is acceptable based on instrument reliability and industry operating experience.~~

~~SR 3.3.7.5~~

~~SR 3.3.7.5 is the performance of a SLAVE RELAY TEST. The SLAVE RELAY TEST is the energizing of the slave relays. Contact operation is verified in one of two ways. Actuation equipment that may be operated in the design mitigation MODE is either allowed to function or is placed in a condition where the relay contact operation can be verified without operation of the equipment. Actuation equipment that may not be operated in the design mitigation MODE is prevented from operation by the SLAVE RELAY TEST circuit. For this latter case, contact operation is verified by a continuity check of the circuit containing the slave relay. This test is performed every [92] days. The Frequency is acceptable based on instrument reliability and industry operating experience.~~ 2

SR 3.3.7.~~6~~ 1 2

SR 3.3.7.~~6~~ is the performance of a TADOT. This test is a check of the ~~Manual Actuation~~ required SI Input to ESFAS Functions and is performed every ~~[18]~~ 24 months. ~~Each Manual Actuation Function is tested up to, and including, the master relay coils.~~ A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable TADOT of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions. ~~In some instances,~~ the test ~~includes~~ may include actuation of the end device (~~i.e.~~ e.g., ~~pump~~ fans start~~s~~, ~~valve cycles~~ dampers realign, etc.). 2 1 1

~~The test also includes trip devices that provide actuation signals directly to the Solid State Protection System, bypassing the analog process control equipment.~~ The Frequency is based on the known reliability of the Function~~s~~ and the redundancy available, and has been shown to be acceptable through operating experience. ~~The SR is modified by a Note that excludes verification of setpoints during the TADOT. The Functions tested have no setpoints associated with them.~~ 1 1 2 2

V System

1

BASES

SURVEILLANCE REQUIREMENTS (continued)

~~SR 3.3.7.7~~

~~A CHANNEL CALIBRATION is performed every [18] months, or approximately at every refueling. CHANNEL CALIBRATION is a complete check of the instrument loop, including the sensor. The test verifies that the channel responds to a measured parameter within the necessary range and accuracy.~~ 2

~~The Frequency is based on operating experience and is consistent with the typical industry refueling cycle.~~

REFERENCES None.

TSTF-411 Rev. 1 changes not shown 2

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JUSTIFICATION FOR DEVIATIONS
ITS 3.3.7 BASES, CONTROL ROOM EMERGENCY VENTILATION (CREV) SYSTEM ACTUATION INSTRUMENTATION

1. Changes are made (additions, deletions, and/or changes) to the ISTS Bases, which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.

2. Changes are made to reflect changes made to the Specification.

3. Changes are made to reflect the Specification.

Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.3.7, CONTROL ROOM EMERGENCY VENTILATION (CREV) SYSTEM ACTUATION INSTRUMENTATION

There are no specific NSHC discussions for this Specification.

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ATTACHMENT 8

ITS 3.3.8, Boron Dilution Monitoring Instrumentation (BDMI)

Current Technical Specification (CTS) Markup and Discussion of Changes (DOCs)

ITS 3.3.8

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

3/4.3.1 REACTOR TRIP SYSTEM INSTRUMENTATION

A.2

LIMITING CONDITION FOR OPERATION

LCO 3.3.8 3.3.1.1 As a minimum, the reactor trip system instrumentation channels and interlocks of Table 3.3-1 shall be OPERABLE.

See ITS 3.3.1

APPLICABILITY: As shown in Table 3.3-1.

ACTION:

As shown in Table 3.3-1.

SURVEILLANCE REQUIREMENTS

SR 3.3.8.1, SR 3.3.8.2 4.3.1.1.1 Each reactor trip system instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations for the MODES and at the frequencies shown in Table 4.3-1.

A.3

4.3.1.1.2 The logic for the interlocks shall be demonstrated OPERABLE prior to each reactor startup unless performed during the preceding 92 days. The total interlock function shall be demonstrated OPERABLE at least once per 18 months during CHANNEL CALIBRATION testing of each channel affected by interlock operation.

See ITS 3.3.1

4.3.1.1.3 ~~The REACTOR TRIP SYSTEM RESPONSE TIME of each reactor trip function shall be demonstrated to be within its limit at least once per 18 months. Each test shall include at least one logic train such that both logic trains are tested at least once per 36 months and one channel per function such that all channels are tested at least once every N times 18 months where N is the total number of redundant channels in a specific reactor trip function as shown in the "Total No. of Channels" column of Table 3.3-1.*~~

A.4

~~* Neutron detectors are exempt from response time testing. Response time of the neutron flux signal portion of the channel shall be measured from detector output or input of first electronic component in channel.~~

A.4

A.1

TABLE 3.3-1

REACTOR TRIP SYSTEM INSTRUMENTATION

LA.1

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
1. Manual Reactor Trip	2	1	2	1, 2 and *	12
2. Power Range, Neutron Flux	4	2	3	1, 2 and *	2#
3. Power Range, Neutron Flux, High Positive Rate	4	2	3	1, 2	2#
4. Power Range, Neutron Flux, High Negative Rate	4	2	3	1, 2	2#
5. Intermediate Range, Neutron Flux	2	1	2	1, 2 and *	3
6. Source Range, Neutron Flux					
A. Startup	2	1	2	2## and *	4
B. Shutdown	2	0	1	3, 4 and 5	5
7. Overtemperature ΔT Four Loop Operation	4	2	3	1, 2	6#
8. Overpower ΔT Four Loop Operation	4	2	3	1, 2	6#

See ITS 3.3.1

See ITS 3.3.1

LA.1

See ITS 3.3.1

ITS

LCO 3.3.8, Applicability, and ACTION A

ITS 3.3.8

A.1

ITS

TABLE 3.3-1 (Continued)

a. Below P-6, restore the inoperable channel to OPERABLE status prior to increasing THERMAL POWER above the P-6 Setpoint.

b. Above P-6 but below 5% of RATED THERMAL POWER, restore the inoperable channel to OPERABLE status prior to increasing THERMAL POWER above 5% of RATED THERMAL POWER.

c. Above 5% of RATED THERMAL POWER, POWER OPERATION may continue.

See ITS 3.3.1

ACTION 4 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement and with the THERMAL POWER level:

a. Below P-6, restore the inoperable channel to OPERABLE status prior to increasing THERMAL POWER above the P-6 Setpoint.

b. Above P-6, operation may continue.

ACTION A

ACTION 5 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement:

L.1 Add proposed Note 1 to Required Action A.1

a. Immediately suspend operations involving positive reactivity changes except addition of water from the RWST, provided the boron concentration in the RWST is greater than the minimum required by Specification 3.1.2.8.b.2 (MODES 3 or 4) or 3.1.2.7.b.2 (MODE 5), and

L.2 or equal to

LA.2 required limit

b. Verify compliance with the SHUTDOWN MARGIN requirements of Specification 3.1.1.1 or 3.1.1.2, as applicable, within 1 hour and at least once per 12 hours thereafter, and

A.1 SR 3.1.1.1

c. Close the isolation valves for unborated water sources to the chemical and volume control system within 1 hour. In MODE 5, if the RWST boron concentration is less than the reactor coolant system boron concentration and less than the boron concentration required by Specification 3.1.2.7.b.2, isolate the RWST from the reactor coolant system within 1 hour.

LA.3

LA.2 required limit

LA.3

ACTION 6 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:

a. The inoperable channel is placed in the tripped condition within 1 hour.

b. The Minimum Channels OPERABLE requirement is met; however, the inoperable channel may be bypassed for up to 2 hours for surveillance testing of the other channels per Specification 4.3.1.1.1.

See ITS 3.3.1

ACTION 7 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed until performance of the next required CHANNEL FUNCTIONAL TEST provided the inoperable channel is placed in the tripped condition within 1 hour.

ITS 3.3.8

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

TABLE 4.3-1

REACTOR TRIP SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

A.3

FUNCTIONAL UNIT	SR 3.3.8.1 CHANNEL CHECK	SR 3.3.8.2 CHANNEL CALIBRATION	~~CHANNEL FUNCTIONAL TEST~~	MODE IN WHICH SURVEILLANCE REQUIRED
1. Manual Reactor Trip				
A. Shunt Trip Function	N.A.	N.A.	S/U(1)(10)	1, 2, 3*, 4*, 5*
B. Undervoltage Trip Function	N.A.	N.A.	S/U(1)(10)	1, 2, 3*, 4*, 5*
2. Power Range, Neutron Flux	S	D(2,8), M(3,8), and Q(6,8)	Q and S/U(1)	1, 2 and *
3. Power Range, Neutron Flux, High Positive Rate	N.A.	R(6)	Q	1, 2
4. Power Range, Neutron Flux, High Negative Rate	N.A.	R(6)	Q	1, 2
5. Intermediate Range, Neutron Flux	S	R(6,8)	S/U(17)	1, 2, and *
6. Source Range, Neutron Flux	S -1	2- R(6,14)	M(14) and S/U(1)	2(7), 3(7), 4 and 5
7. Overtemperature delta T	S	R(9)	SA	1, 2
8. Overpower delta T	S	R(9)	SA	1, 2
9. Pressurizer Pressure -- Low	S	R	SA	1, 2
10. Pressurizer Pressure -- High	S	R	SA	1, 2
11. Pressurizer Water Level -- High	S	R	SA	1, 2
12. Loss of Flow-Single Loop	S	R(8)	SA	1

See ITS 3.3.1

SR 3.3.8.1, SR 3.3.8.2, Applicability

See ITS 3.3.1

24 months — L.3

See ITS 3.3.1

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ITS 3.3.8

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

TABLE 4.3-1 (Continued)

NOTATION

* - With the reactor trip system breakers closed and the control rod drive system capable of rod withdrawal.

(1) - If not performed in previous 7 days.

(2) - Heat balance only, above 15% of RATED THERMAL POWER. Adjust channel if absolute difference greater than 2 percent.

(3) - Compare incore to excore axial imbalance above 15% of RATED THERMAL POWER. Recalibrate if absolute difference greater than or equal to 3 percent.

(4) - Manual ESF functional input check every 18 months.

(5) - Each train tested at least every other 62 days.

See ITS 3.3.1

Note to SR 3.3.8.2

(6) - Neutron detectors may be excluded from CHANNEL CALIBRATION.

(7) - Below P-6 (BLOCK OF SOURCE RANGE REACTOR TRIP) setpoint.

(8) - The provisions of Specification 4.0.4 are not applicable.

(9) - The provisions of Specification 4.0.4 are not applicable for f_1 (delta I) and f_2 (delta I) penalties, or for measurement of delta T. (See also Table 2.2-1).

(10) - The CHANNEL FUNCTIONAL TEST shall independently verify the OPERABILITY of the undervoltage and shunt trip circuits for the Manual Reactor Trip Function. The test shall also verify the OPERABILITY of the Bypass Breaker trip circuit(s).

(11) - The CHANNEL FUNCTIONAL TEST shall independently verify the OPERABILITY of the undervoltage and shunt trip attachments of the Reactor Trip Breakers.

(12) - Local manual shunt trip prior to placing breaker in service.

(13) - Automatic Undervoltage Trip.

(14) - The provisions of Specification 4.0.4 are not applicable when leaving MODE 1. In such an event, the calibration and/or functional test shall be performed within 24 hours after leaving MODE 1.

(15) - Each train tested at least every other 92 days.

(16) - Not Used.

(17) - If not performed in previous 184 days.

See ITS 3.3.1

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ITS 3.3.8

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

3/4.3.1 REACTOR TRIP SYSTEM INSTRUMENTATION

A.2

LIMITING CONDITION FOR OPERATION

LCO 3.3.8 3.3.1.1 As a minimum, the reactor trip system instrumentation channels and interlocks of Table 3.3-1 shall be OPERABLE.

See ITS 3.3.1

APPLICABILITY: As shown in Table 3.3-1.

ACTION:

As shown in Table 3.3-1.

SURVEILLANCE REQUIREMENTS

SR 3.3.8.1, SR 3.3.8.2 4.3.1.1.1 Each reactor trip system instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION ~~and CHANNEL FUNCTIONAL TEST~~ operations during the MODES and at the frequencies shown in Table 4.3-1.

A.3

4.3.1.1.2 The logic for the interlocks shall be demonstrated OPERABLE prior to each reactor startup unless performed during the preceding 92 days. The total interlock function shall be demonstrated OPERABLE at least once per 18 months during CHANNEL CALIBRATION testing of each channel affected by interlock operation.

See ITS 3.3.1

~~4.3.1.1.3 The REACTOR TRIP SYSTEM RESPONSE TIME of each reactor trip function shall be demonstrated to be within its limit at least once per 18 months. Each test shall include at least one logic train such that both logic trains are tested at least once per 36 months and one channel per function such that all channels are tested at least once every N times 18 months where N is the total number of redundant channels in a specific reactor trip function as shown in the "Total No. of Channels" column of Table 3.3-1.*~~

A.4

~~* Neutron detectors are exempt from response time testing. Response time of the neutron flux signal portion of the channel shall be measured from detector output or input of first electronic component in channel.~~

A.4

A.1

TABLE 3.3-1

REACTOR TRIP SYSTEM INSTRUMENTATION

LA.1

	FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
1.	Manual Reactor Trip	2	1	2	1, 2 and *	12
2.	Power Range, Neutron Flux	4	2	3	1, 2 and *	$2^{\#}$
3.	Power Range, Neutron Flux High Positive Rate	4	2	3	1, 2	$2^{\#}$
4.	Power Range, Neutron Flux High Negative Rate	4	2	3	1, 2	$2^{\#}$
5.	Intermediate Range, Neutron Flux	2	1	2	1, 2 and *	3
6.	Source Range, Neutron Flux					
	A. Startup	2	1	2	$2^{\#\#}$ and *	4
	B. Shutdown	2	0	1	3, 4 and 5	5
7.	Overtemperature ΔT Four Loop Operation	4	2	3	1, 2	$6^{\#}$
8.	Overpower ΔT Four Loop Operation	4	2	3	1, 2	$6^{\#}$

See ITS 3.3.1

See ITS 3.3.1

LA.1

See ITS 3.3.1

ITS

LCO 3.3.8, Applicability, and ACTION A

ITS 3.3.8

A.1

ITS

TABLE 3.3-1 (Continued)

a. Below P-6, restore the inoperable channel to OPERABLE status prior to increasing THERMAL POWER above the P-6 Setpoint.

b. Above P-6 but below 5% of RATED THERMAL POWER, restore the inoperable channel to OPERABLE status prior to increasing THERMAL POWER above 5% of RATED THERMAL POWER

c. Above 5% of RATED THERMAL POWER, POWER OPERATION may continue.

ACTION 4 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement and with the THERMAL POWER level:

a. Below P-6, restore the inoperable channel to OPERABLE status prior to increasing THERMAL POWER above the P-6 Setpoint.

b. Above P-6, operation may continue.

See ITS 3.3.1

ACTION A

ACTION 5 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement:

Add proposed Note 1 to Required Action A.1

L.1

a. Immediately suspend operations involving positive reactivity changes except addition of water from the RWST, provided the boron concentration in the RWST is greater than the ~~minimum required by Specification 3.1.2.8.b.2 (MODES 3 or 4) or 3.1.2.7.b.2 (MODE 5),~~ and

or equal to

L.2

required limit

LA.2

b. Verify compliance with ~~the SHUTDOWN MARGIN requirements of Specification 3.1.1.1 or 3.1.1.2, as applicable,~~ within 1 hour and at least once per 12 hours thereafter, and

SR 3.1.1.1

A.1

c. Close the isolation valves for unborated water sources ~~to the chemical and volume control system~~ within 1 hour. In MODE 5, if the RWST boron concentration is less than the ~~reactor coolant system boron concentration~~ and less than the ~~boron concentration required by Specification 3.1.2.7.b.2~~, isolate the RWST ~~from the reactor coolant system~~ within 1 hour.

LA.3

required limit

LA.2

LA.3

ACTION 6 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:

a. The inoperable channel is placed in the tripped condition within 1 hour.

b. The Minimum Channels OPERABLE requirement is met; however, the inoperable CHANNEL may be bypassed for up to 2 hours for surveillance testing of the other channels per Specification 4.3.1.1.1.

See ITS 3.3.1

ACTION 7 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed until performance of the next required CHANNEL FUNCTIONAL TEST provided the inoperable channel is placed in the tripped condition within 1 hour.

ITS

A.3

A.1

L.3

TABLE 4.3-1

REACTOR TRIP SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	SR 3.3.8.1 CHANNEL CHECK	SR 3.3.8.2 CHANNEL CALIBRATION	~~CHANNEL FUNCTIONAL TEST~~	MODES IN WHICH SURVEILLANCE REQUIRED
1. Manual Reactor Trip				
A. Shunt Trip Function	N.A.	N.A.	S/U(1)(10)	1, 2, 3*, 4*, 5*
B. Undervoltage Trip Function	N.A.	N.A.	S/U(1)(10)	1, 2, 3*, 4*, 5*
2. Power Range, Neutron Flux	S	D(2,8), M(3,8), and Q(6,8)	Q and S/U(1)	1, 2 and *
3. Power Range, Neutron Flux, High Positive Rate	N.A.	R(6)	Q	1, 2
4. Power Range, Neutron Flux, High Negative Rate	N.A.	R(6)	Q	1, 2
5. Intermediate Range, Neutron Flux	S	R(6,8)	S/U(17)	1, 2, and *
6. Source Range, Neutron Flux	S -1	2- R(6,14) 24 months	M(14) and S/U(1)	2(7), 3(7), 4 and 5
7. Overtemperature ΔT	S	R(9)	SA	1, 2
8. Overpower ΔT	S	R(9)	SA	1, 2
9. Pressurizer Pressure -- Low	S	R	SA	1, 2
10. Pressurizer Pressure -- High	S	R	SA	1, 2
11. Pressurizer Water Level -- High	S	R	SA	1, 2
12. Loss of Flow-Single Loop	S	R(8)	SA	1

See ITS 3.3.1

See ITS 3.3.1

See ITS 3.3.1

SR 3.3.8.1, SR 3.3.8.2, Applicability

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ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

TABLE 4.3-1 (Continued)

NOTATION

*	-	With the reactor trip system breakers closed and the control rod drive system capable of rod withdrawal.
(1)	-	If not performed in previous 7 days.
(2)	-	Heat balance only, above 15% of RATED THERMAL POWER. Adjust channel if absolute difference greater than 2 percent.
(3)	-	Compare incore to excore axial offset above 15% of RATED THERMAL POWER. Recalibrate if absolute difference greater than or equal to 3 percent.
(4)	-	Manual ESF functional input check every 18 months.
(5)	-	Each train tested at least every other 62 days.

See ITS 3.3.1

Note to SR 3.3.8.2

(6)	-	Neutron detectors may be excluded from CHANNEL CALIBRATION.

(7)	-	Below P-6 (BLOCK OF SOURCE RANGE REACTOR TRIP) setpoint.
(8)	-	The provisions of Specification 4.0.4 are not applicable.
(9)	-	The provisions of Specification 4.0.4 are not applicable for f_1 (delta I) and f_2 (delta I) penalties, or for measurement of delta T. (See also Table 2.2-1).
(10)	-	The CHANNEL FUNCTIONAL TEST shall independently verify the OPERABILITY of the undervoltage and shunt trip circuits for the Manual Reactor Trip Function. The test shall also verify the OPERABILITY of the Bypass Breaker trip circuit(s).
(11)	-	The CHANNEL FUNCTIONAL TEST shall independently verify the OPERABILITY of the undervoltage and shunt trip attachments of the Reactor Trip Breakers.
(12)	-	Local manual shunt trip prior to placing breaker in service.
(13)	-	Automatic Undervoltage Trip.
(14)	-	The provisions of Specification 4.0.4 are not applicable when leaving MODE 1. In such an event, the calibration and/or functional test shall be performed within 24 hours after leaving MODE 1.
(15)	-	Each train tested at least every other 92 days.
(16)	-	Not Used.
(17)	-	If not performed in previous 184 days.

See ITS 3.3.1

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DISCUSSION OF CHANGES
ITS 3.3.8, BORON DILUTION MONITORING INSTRUMENTATION (BDMI)

ADMINISTRATIVE CHANGES

A.1 In the conversion of the CNP Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1431, Rev. 2, "Standard Technical Specifications-Westinghouse Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

A.2 CTS 3.3.1, "Reactor Trip System Instrumentation," requires the Reactor Trip System instrumentation channels and interlocks shown in Table 3.3-1 to be OPERABLE. ITS 3.3.8, "Boron Dilution Monitoring Instrumentation (BDMI)," requires one source range neutron flux monitoring channel to be OPERABLE. This changes the CTS by having a separate Specification for the Boron Dilution Monitoring Instrumentation, in lieu of including it with the Reactor Trip System Instrumentation Specification.

This change is acceptable because the technical requirements for the source range neutron flux monitoring channel of the Boron Dilution Monitoring Instrumentation are maintained with the change in format. The Boron Dilution Monitoring Instrumentation Specification continues to require the OPERABILITY of the source range neutron flux monitoring channel of the Boron Dilution Monitoring Instrumentation. This change is designated as administrative because it does not result in a technical change to the CTS.

A.3 CTS 4.3.1.1.1 and Table 4.3-1 require that the source range neutron flux monitoring channel be demonstrated OPERABLE by performance of a CHANNEL FUNCTIONAL TEST once per 31 days and each unit startup, if not performed in the previous 7 days. ITS 3.3.8 does not include this Surveillance Requirement. This changes the CTS by deleting the CHANNEL FUNCTIONAL TEST requirement for the source range neutron flux monitoring channel of the Boron Dilution Monitoring Instrumentation.

The CTS requirement to perform a CHANNEL FUNCTIONAL TEST only applies to the Reactor Trip System function of the source range neutron flux monitor channels. For the Boron Dilution Monitoring Instrumentation requirements, the source range neutron flux channel only provides indication; there is no trip or alarm feature assumed. Thus, to meet the Boron Dilution Monitoring Instrumentation requirements, a CHANNEL FUNCTIONAL TEST is not required. This is also consistent with the MODE 6 source range neutron flux monitoring requirements in ITS 3.9.2. ITS 3.9.2 does not require a CHANNEL FUNCTIONAL TEST, since the source range neutron flux monitors safety function requirements in MODE 6 do not require any trip or alarm features. This change is designated as administrative because it does not result in technical changes to the CTS.

A.4 CTS 4.3.1.1.3 and the * footnote require REACTOR TRIP SYSTEM RESPONSE TIME testing of "each" reactor trip function. ITS 3.3.8 does not include response time testing for the source range neutron flux monitoring channel of the Boron

DISCUSSION OF CHANGES
ITS 3.3.8, BORON DILUTION MONITORING INSTRUMENTATION (BDMI)

Dilution Monitoring Instrumentation. This changes the CTS by clearly identifying that the REACTOR TRIP SYSTEM RESPONSE TIME testing does not apply to the source range neutron flux monitoring channel of the Boron Dilution Monitoring Instrumentation.

The purpose of the CTS 4.3.1.1.3 requirements is to ensure that the actuation response times are less than or equal to the maximum values assumed in the accident analysis. UFSAR Table 7.2-6, which was previously in CTS 3.3.1 as Table 3.3-2, only specifies response times for those Reactor Trip System Functions assumed in the CNP safety analysis. CTS Table 3.3-2 did not include response times for any of the CTS 3.3.1 Source Range Neutron Flux Functions. Therefore, this change is acceptable since REACTOR TRIP SYSTEM RESPONSE TIME testing of the Source Range Neutron Flux Functions was not required. These response times were removed from CTS 3.3.1 and placed under CNP control as documented in the NRC Safety Evaluation for License Amendments 202 (Unit 1) and 187 (Unit 2). In addition, UFSAR Table 7.2-6 currently does not require response time testing of any of the CTS 3.3.1 Source Range Neutron Flux Functions. This change is designated as administrative because it does not result in technical changes to the CTS.

<u>MORE RESTRICTIVE CHANGES</u>

None

<u>RELOCATED SPECIFICATIONS</u>

None

<u>REMOVED DETAIL CHANGES</u>

LA.1 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS Table 3.3-1 for Reactor Trip System instrumentation has three columns stating various requirements for the Source Range Neutron Flux Functions. These columns are labeled, "TOTAL NO. OF CHANNELS," "CHANNELS TO TRIP," and "MINIMUM CHANNELS OPERABLE." For CTS Table 3.3-1 Function 6.b, the "CHANNELS TO TRIP" column entry is "0" (i.e., the Function is required to provide an indication only function and is not required to have a trip function). ITS 3.3.8 does not retain the "TOTAL NO. OF CHANNELS" and "CHANNELS TO TRIP" columns. This changes the CTS by moving the information of the "TOTAL NO. OF CHANNELS" and "CHANNELS TO TRIP" columns to the Bases. The "CHANNELS TO TRIP" information is presented in the form of a description of the indication requirements for the source range neutron flux channel of the Boron Dilution Monitoring Instrumentation.

The removal of these details, which are related to system design, from the Technical Specifications, is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement for

DISCUSSION OF CHANGES
ITS 3.3.8, BORON DILUTION MONITORING INSTRUMENTATION (BDMI)

the number of required channels and the appropriate Condition to enter if a required channel becomes inoperable. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

LA.2 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS Table 3.3-1 Action 5.a provides the allowance to continue to add water from the Refueling Water Storage Tank (RWST) provided the RWST boron concentration is greater than the minimum required by other Technical Specifications. CTS Table 3.3-1 Action 5.c provides the allowance to not isolate the RWST in MODE 5 provided RWST boron concentration is greater than or equal to Reactor Coolant System (RCS) boron concentration or greater than or equal to the minimum required by another Technical Specification. Note 2 to ITS 3.3.8 Required Action A.1 and ITS 3.3.8 Required Action A.4.1 provide these same allowances, but require that RWST boron concentration be greater than or equal to required limit. This changes the CTS by moving the details of the required RWST boron concentration limits from the Technical Specifications to the Bases.

The removal of these details for performing actions from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement for the RWST boron concentration to be within required limits in order to utilize the allowances to continue to add water from the RWST and to not require isolation of the RWST in MODE 5. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

LA.3 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS Table 3.3-1 Action 5.c requires closure of the isolation valves for unborated sources "to the Chemical and Volume Control System." CTS Table 3.3-1 Action 5.c also requires the RWST to be isolated "from the Reactor Coolant System" if RWST boron concentration is not within the required limit in MODE 5. ITS 3.3.8 Required Action A.2 requires the unborated water source valves to be closed and ITS 3.3.8 Required Action A.4.2 requires the RWST to be isolated. This changes the CTS by moving the details of which unborated water source isolation valves and RWST valves to close from the Technical Specifications to the Bases.

The removal of these details for performing actions from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirements for closure of the unborated water source isolation valves and isolation of the RWST. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

LESS RESTRICTIVE CHANGES

L.1 *(Category 4 – Relaxation of Required Action)* CTS Table 3.3-1 Action 5.a specifies the compensatory action for an inoperable required source range neutron flux monitoring channel of the Boron Dilution Monitoring Instrumentation. One of the compensatory actions is the immediate suspension of positive reactivity changes. ITS 3.3.8 Required Action A.1 requires the immediate suspension of operations involving positive reactivity additions. ITS 3.3.8 Required Action A.1 is modified by Note 1, which states that unit temperature changes are allowed provided the temperature change is accounted for in the calculated SHUTDOWN MARGIN (SDM). This changes the CTS compensatory actions by allowing a positive reactivity change due to unit temperature changes, as long as SDM limitations are met.

The purpose of this CTS Table 3.3-1 Action 5.a is to suspend any positive reactivity additions that could affect the SDM of the reactor core. This change is acceptable because the Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. The Required Actions are consistent with safe operation under the specified Condition. Note 1 to ITS 3.3.8 Required Action A.1 will allow positive reactivity changes that are associated with temperature changes, provided the change is accounted for in the SDM calculation. The applicable requirements for SDM are specified in ITS LCO 3.1.1, "SHUTDOWN MARGIN (SDM)." The current and proposed actions may result in an overall reduction in SDM, but continue to ensure the required SDM is maintained and provides acceptable margin to maintaining subcritical operation. Therefore, these limitations are considered acceptable. The ITS Bases also indicate that introduction of temperature changes including temperature increases when operating with a positive moderator temperature coefficient must also be evaluated to ensure they do not result in a loss of required SDM. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

L.2 *(Category 4 – Relaxation of Required Action)* CTS Table 3.3-1 Action 5.a provides the allowance to add water from the Refueling Water Storage Tank (RWST) provided the RWST boron concentration is "greater than" the minimum required by other Technical Specifications. Note 2 to ITS 3.3.8 Required Action A.1 allows water to be added from the RWST provided the RWST boron concentration is "greater than or equal to" the required limit. This changes the

DISCUSSION OF CHANGES
ITS 3.3.8, BORON DILUTION MONITORING INSTRUMENTATION (BDMI)

CTS by allowing water to be added from the RWST provided the RWST boron concentration is "greater than or equal to" the required limit, instead of "greater than" the required limit.

The purpose of this CTS Table 3.3-1 Action 5.a is to suspend any positive reactivity additions that could affect the SDM of the reactor core. This change is acceptable because the Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. The Required Actions are consistent with safe operation under the specified Condition. Note 2 to ITS 3.3.8 Required Action A.1 will allow water to be added from the RWST provided the RWST boron concentration is greater than or equal to the required limit. These required RWST boron concentration limits are established to ensure that SDM is maintained. This change is acceptable since the addition of water from the RWST, with RWST concentration equal to the required limit, ensures the required SDM is maintained and provides acceptable margin to maintaining subcritical operation. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

L.3 *(Category 11 – 18 to 24 Month Surveillance Frequency Change, Channel Calibration Type)* CTS Table 4.3-1 requires a CHANNEL CALIBRATION of the Source Range Neutron Flux instrumentation every 18 months. ITS SR 3.3.8.2 requires the performance of a CHANNEL CALIBRATION for the required source range neutron flux monitoring channel every 24 months. This changes the CTS by extending the Frequency of the Surveillance from 18 months (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.2 and ITS SR 3.0.2) to 24 months (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.2 and ITS SR 3.0.2).

The purpose of the CHANNEL CALIBRATION requirement of CTS Table 4.3-1 is to ensure the required source range neutron flux monitoring channel of the Boron Dilution Monitoring Instrumentation will function as designed during an analyzed event. Extending the SR Frequency is acceptable because the source range neutron flux monitoring channel of the Boron Dilution Monitoring Instrumentation is designed to be highly reliable. Furthermore, a CHANNEL CHECK for the required source range neutron flux monitoring channel of the Boron Dilution Monitoring Instrumentation is performed on a more frequent basis (ITS SR 3.3.8.1). The CHANNEL CHECK provides a qualitative demonstration of the OPERABILITY of the instrument.

This change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. The impacted source range neutron flux monitoring instrumentation was evaluated through a failure analysis and a qualitative drift analysis:

CTS Table 4.3-1, Functional Unit 6, Source Range, Neutron Flux

This function is performed by SRM Neutron Flux Detectors (Westinghouse Model WL-23706), SRM Neutron Flux Drawers (Westinghouse Model 6051D50G01), a

DISCUSSION OF CHANGES
ITS 3.3.8, BORON DILUTION MONITORING INSTRUMENTATION (BDMI)

Weschler HX-252 Indicator, and a Tracor Westronics Recorders (Model 4200 (Unit 1) and Model 4220 (Unit 2)). These system components were not evaluated for drift but were justified for extension based on engineering judgment. SRMs satisfy their design function if calibration is sufficient to ensure neutron level is observable when the reactor is shutdown. This is verified by CHANNEL CHECKS at least every 12 hours when the reactor is shutdown. The SRMs must be operational in MODE 2 below the P-6 interlock. SRM response to reactivity changes is distinctive and well known to plant operators, and SRM response is closely monitored during these reactivity changes. Additionally, since there is very little neutron activity during loading, refueling, shutdown, and approach to criticality, a neutron source is placed in the reactor during approach to criticality to provide a minimum observable SRM neutron count rate attributable to core neutrons of at least 2 counts per second. During plant shutdowns and startups, overlap between the IRM channels and the SRM channels is routinely verified to ensure performance of the SRM channels. There is also more frequent testing, including a COT every 184 days in MODES 1 and 2 and every 31 days in MODES 3, 4, and 5, to verify operation of the electronics for the source range trip. Therefore, any substantial degradation of the SRMs will be evident and long term drift has no impact on the accuracy of this circuit. The results of these analyses will support a 24 month Surveillance interval.

Based on the design of the instrumentation and the qualitative drift evaluations, it is concluded that the impact, if any, from this change on system availability is minimal. A review of the Surveillance test history was performed to validate the above conclusion. Those tests that were classified as failures were evaluated and primarily involved components found with out of tolerance calibration data. The other failures were reviewed and those failures did not invalidate the conclusion that the impact, if any, on system availability from this change is minimal. In addition, the proposed 24 month Surveillance Frequency, if performed at the maximum interval allowed by ITS SR 3.0.2 (30 months) does not invalidate any assumptions in the unit licensing basis. This change is designated as less restrictive because Surveillances will be performed less frequently under the ITS than under the CTS.

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Improved Standard Technical Specifications (ISTS) Markup and Justification for Deviations (JFDs)

BDMS
3.3.8
(1)

CTS

3.3 INSTRUMENTATION (1)

3.3.8 Boron Dilution Monitoring Instrumentation (BDMS) (1)

3.3.1.1, Table 3.3-1 Function 6.B

LCO 3.3.8 ~~Two trains of the BDPS~~ shall be OPERABLE.

INSERT 1 (2)

APPLICABILITY: MODES ~~2,~~ 3, 4, and 5. (3)

~~- NOTE -~~
~~The boron dilution flux doubling signal may be blocked in MODES 2 and 3 during reactor startup.~~ (4)

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
~~A. One train inoperable.~~	~~A.1~~	~~Restore train to OPERABLE status.~~	~~72 hours~~
A. ~~B.~~ ~~Two trains~~ The required channel inoperable. ~~OR~~ ~~Required Action and associated Completion Time of Condition A not met.~~		- NOTE - 1. ~~Plant~~ Unit temperature changes are allowed provided the temperature change is accounted for in the calculated SDM. INSERT 2	
	A.1 ~~B.1~~	Suspend operations involving positive reactivity additions.	Immediately
	AND		
	~~B.2.1~~	~~Restore one train to OPERABLE status.~~	~~1 hour~~
	~~OR~~		

Table 3.3-1 Action 5

(2) (2) (9) (5) (5) (2) (6)

(1)

3.3.8

CTS

2 **INSERT 1**

LCO 3.3.1.1, Table 3.3-1 Function 6.B

One source range neutron flux monitoring channel

5 **INSERT 2**

Table 3.3-1 Action 5

2. Addition of water from the refueling water storage tank (RWST) is allowed provided RWST boron concentration is greater than or equal to required limit.

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I M BDPS 3.3.9 8 ① ①

CTS

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME	
Table 3.3-1 Action 5 A.2	~~B.2.2.1~~ Close unborated water source isolation valves, except RWST isolation valves.	1 hour	2 6
	~~AND~~		7 6
A.3	~~B.2.2.2~~ Perform SR 3.1.1.1.	1 hour AND Once per 12 hours thereafter	2 6

INSERT 3 7

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE		FREQUENCY	
4.3.1.1.1, Table 4.3-1 Function 6 8	SR 3.3.9.1	Perform CHANNEL CHECK.	12 hours	1
	~~SR 3.3.9.2~~	~~Perform COT.~~	~~[92] days~~	TSTF-411 Rev. 1 changes not shown 2
4.3.1.1.1, Table 4.3-1 Function 6, Table 4.3-1 Note (6)	SR 3.3.9.3 2	- NOTE - Neutron detectors are excluded from CHANNEL CALIBRATION. Perform CHANNEL CALIBRATION.	[18] 24 months	2 3 8

CTS

9 **INSERT 3**

Table 3.3-1 Action 5	AND ------------------------------------- - NOTE - Required Actions A.4.1 and A.4.2 are only applicable in MODE 5. -------------------------------------	
	A.4.1 Verify RWST boron concentration is greater than or equal to required limit. OR	1 hour
	A.4.2 Isolate RWST.	1 hour

JUSTIFICATION FOR DEVIATIONS
ITS 3.3.8, BORON DILUTION MONITORING INSTRUMENTATION (BDMI)

1. The numbering of ISTS 3.3.9, Boron Dilution Protection System (BDPS), has been revised to reflect the plant specific numbering (i.e., ITS 3.3.8). Corresponding changes have also been made to the ISTS 3.3.9 Header, LCO, Surveillance Requirements and page numbers. Also, the title of the Specification has been changed since an actual "Protection System" does not exist at CNP.

2. ISTS LCO 3.3.9 requires two trains of the BDPS to be OPERABLE. At CNP Units 1 and 2, mitigation of boron dilution accidents is provided by operator action in response to source range neutron flux monitor indication. Therefore, to achieve consistency with the CNP Units 1 and 2 design, analysis, and licensing basis, the ISTS 3.3.9 requirements are revised, in ITS LCO 3.3.8, to require one source range neutron flux monitoring channel to be OPERABLE. At CNP Units 1 and 2 there are two source range neutron flux monitoring channels. However, only one is required to be OPERABLE to meet the requirements of the CTS LCO. As a result, ISTS 3.3.9 ACTION A and the second Condition of ISTS 3.3.9 ACTION B, which address one of the two BDPS trains inoperable are deleted. In addition, ISTS 3.3.9 ACTION B requirements are renumbered as ITS 3.3.8 ACTION A and have been applied to the condition of one required channel inoperable. Furthermore, since the source range neutron flux monitor provides indication only, ISTS SR 3.3.9.2, the COT, has been deleted and the subsequent SR has been renumbered.

3. The brackets are removed and the proper plant specific information/value is provided.

4. The ISTS 3.3.9 Applicability Note allows the boron dilution flux doubling signal to be blocked in MODES 2 and 3 during reactor startup. This Note is not included in ITS 3.3.8 since the CNP Units 1 and 2 design does not include a boron dilution flux doubling signal.

5. A second Note is added to ISTS 3.3.9 Required Action B.1 (ITS 3.3.8 Required Action A.1) to allow the addition of water from the Refueling Water Storage Tank (RWST) provided RWST boron concentration is greater than or equal to required limits. This change is made to reflect the allowances of the CNP Units 1 and 2 CTS. As a result of this addition, the existing ISTS 3.3.9 Required Action A.1 Note is renumbered as Note 1.

6. ISTS 3.3.9 Required Action B.2.1 specifies, as an optional requirement, to restore one train to OPERABLE status. ITS 3.3.8 ACTION A does not include this requirement consistent with the CNP Units 1 and 2 CTS. In addition, the option to restore inoperable equipment within the specified Completion Times for Required Actions is always available. As stated in LCO 3.0.2, if the LCO is met or is no longer applicable prior to expiration of Completion Time(s), completion of Required Actions is not required unless otherwise stated. As a result of this change, the subsequent Required Actions are renumbered.

7. The ISTS 3.3.9 Required Action B.2.2.1 (ITS 3.3.8 Required Action A.2) is revised to reflect the CNP Units 1 and 2 current licensing basis and CTS Actions for closure of unborated water source isolation valves, which do not require RWST isolation valves to be closed in MODES 3 or 4. The Technical Specification Change Request (dated May 21, 1999) that provided these actions also added the requirement to isolate the RWST if minimum RWST boron concentration was not met in MODE 5. ITS 3.3.8

JUSTIFICATION FOR DEVIATIONS
ITS 3.3.8, BORON DILUTION MONITORING INSTRUMENTATION (BDMI)

Required Action A.4.1 requires verification that RWST boron concentration is greater than or equal to the required limit within 1 hour. If RWST boron concentration is less than the required limit, the RWST is considered a dilution source and is required to be isolated in accordance with ITS 3.3.8 Required Action A.4.2. ITS 3.3.8 Required Actions A.4.1 and A.4.2 are modified by a Note which states these Required Actions are only applicable in MODE 5. This Technical Specification Change Request stated that the requirement to isolate the RWST was not included for MODES 3 and 4 since, with RWST boron concentration not within limits, the Actions for CTS 3/4.1.2.8 (which are included in the ACTIONS of ITS LCO 3.5.4) would require a shutdown to MODE 5 if RWST boron concentration was not restored to within limits in the required allowed outage time. After the shutdown is complete, the MODE 5 requirement to isolate the RWST from the RCS would apply. These allowances were approved in License Amendments 230 (Unit 1) and 213 (Unit 2), dated October 21, 1999.

8. This format correction has been made consistent with the Writer's Guide for the Improved Standard Technical Specifications, NEI 01-03.

9. The reference to "Plant" in the Note to ISTS 3.3.9 Required Action B.1 is changed to "Unit" in Note 1 to ITS 3.3.8 Required Action A.1 to reflect CNP Units 1 and 2 specific nomenclature.

Improved Standard Technical Specifications (ISTS) Bases Markup and Justification for Deviations (JFDs)

B 3.3 INSTRUMENTATION

B 3.3.~~9~~ 8 Boron Dilution ~~Protection System~~ Monitoring Instrumentation (BD~~PS~~ MI) 1

BASES

BACKGROUND

INSERT 1

~~The primary purpose of the BDPS is to mitigate the consequences of the inadvertent addition of unborated primary grade water into the Reactor Coolant System (RCS)~~ ~~when the reactor is in a shutdown condition (i.e., MODES 2, 3, 4, and 5).~~ 1 2

The BD~~PS~~ MI utilizes ~~two~~ one of two channels of Westinghouse source range instrumentation. ~~Each source range channel provides a signal to both trains of the BDPS. A unit computer is used to continuously record the counts per minute provided by these signals. At the end of each minute, an algorithm compares the counts per minute value (flux rate) of that 1 minute interval with the counts per minute value for the previous nine, 1 minute intervals. If the flux rate during a 1 minute interval is greater than or equal to twice the flux rate during any of the prior nine 1 minute intervals, the BDPS provides a signal to initiate mitigating actions.~~ 1 2

INSERT 2 2

~~Upon detection of a flux doubling by either source range instrumentation train, an alarm is sounded to alert the operator and valve movement is automatically initiated to terminate the dilution and start boration. Valves that isolate the refueling water storage tank (RWST) are opened to supply 2000 ppm borated water to the suction of the charging pumps, and valves which isolate the Chemical and Volume Control System (CVCS) are closed to terminate the dilution.~~ 2

APPLICABLE SAFETY ANALYSES

INSERT 3

~~The BDPS senses abnormal increases in source range counts per minute (flux rate) and actuates CVCS and RWST valves to mitigate the consequences of an inadvertent boron dilution event as described in FSAR, Chapter 15 (Ref. 1).~~ The accident analyses rely on ~~automatic BDPS actuation~~ operator action to mitigate the consequences of inadvertent boron dilution events. 2 2

The BD~~PS~~ MI satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii). 1

LCO

LCO 3.3.~~9~~ 8 provides the requirements for OPERABILITY of ~~the instrumentation and controls that mitigate the consequences of a boron dilution event. Two redundant trains are required to be OPERABLE to provide protection against single failure.~~ 1 2

INSERT 4

~~Because the BDPS utilizes the source range instrumentation as its detection system, the OPERABILITY of the detection system, (i.e., the~~ 2

2 **INSERT 1**

provide indication of inadvertent positive reactivity changes when the reactor is in a shutdown condition (i.e., MODES 3, 4, and 5). Based on this indication, operator action can be taken to

2 **INSERT 2**

The source range neutron flux monitors are used to monitor the core reactivity condition. The installed source range neutron flux monitors are part of the Nuclear Instrumentation System. These detectors are located external to the reactor vessel and detect neutrons leaking from the core.

The installed source range neutron flux monitors are BF3 detectors operating in the proportional region of the gas filled detector characteristic curve. The detectors monitor the neutron flux in counts per second. The instrument range covers six decades of neutron flux (1E+6 cps). The detectors also provide continuous visual indication in the control room and an audible count rate (selectable between the source range neutron flux monitor channels) to alert operators to a possible dilution accident.

2 **INSERT 3**

The source range neutron flux monitor channel of the BDMI is credited in the boron dilution accident analysis in the UFSAR (Ref. 1) to alert the operators of an event that could lead to an inadvertent criticality.

1 2 **INSERT 4**

one source range neutron flux monitor channel. To be considered OPERABLE, the source range neutron flux monitor channel must provide visual neutron flux indication in the control room.

(I) (M) BD~~PS~~ (1)
B 3.3.~~9~~ (8) (1)

BASES

LCO (continued)

~~flux doubling algorithm, the alarms, and signals to the various valves) for one SRM is also required for each train in the system to be considered OPERABLE. Therefore, with both SRMs inoperable for supporting the BDPS, both trains are inoperable.~~ (2)

APPLICABILITY (MI) The BD~~PS~~ must be OPERABLE in MODES ~~[2]~~, 3, 4, and 5 because the safety analysis identifies this system as the primary means to mitigate an inadvertent boron dilution of the RCS. (1) (3) (2)

INSERT 5

(MI) The BD~~PS~~ OPERABILITY requirements are not applicable in MODE~~S~~ ~~1~~ 1 ~~and 2~~ because an inadvertent boron dilution would be terminated by a source range trip, a trip on the Power Range Neutron Flux - High (low setpoint nominally 25% RTP), or Overtemperature ΔT. These RTS Functions are discussed in LCO 3.3.1, "RTS Instrumentation." (1) (3) (3) (2)

INSERT 6

In MODE 6, ~~a dilution event is precluded by locked valves that isolate the RCS from the potential source of unborated water (according to LCO 3.9.2, "Unborated Water Source Isolation Valves").~~ (1)

~~The Applicability is modified by a Note that allows the boron dilution flux doubling signal to be blocked during reactor startup in MODES 2 and 3. Blocking the flux doubling signal is acceptable during startup while in MODE 3, provided the reactor trip breakers are closed with the intent to withdraw rods for startup.~~ (1)

ACTIONS

~~The most common cause of channel inoperability is outright failure or drift of the bistable or process module sufficient to exceed the tolerance allowed by the unit specific calibration procedure. Typically, the drift is found to be small and results in a delay of actuation rather than a total loss of function. This determination of setpoint drift is generally made during the performance of a COT when the process instrumentation is set up for adjustment to bring it to within specification. If the Trip Setpoint is less conservative than the tolerance specified by the calibration procedure, the channel must be declared inoperable immediately and the appropriate Condition entered.~~ (1)

~~A.1~~

~~With one train of the BDPS OPERABLE, Required Action A.1 requires that the inoperable train must be restored to OPERABLE status within 72 hours. In this Condition, the remaining the BDPS train is adequate to provide protection. The 72 hour Completion Time is based on the BDPS~~ (1)

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2 **INSERT 5**

to indicate the need for operator action

1 **INSERT 6**

the requirements of LCO 3.9.2, "Nuclear Instrumentation," ensure that adequate instrumentation is available to indicate the need for operator action to mitigate an inadvertent dilution of the RCS.

I M 1

BDPS
B 3.3.9

8 1

BASES

ACTIONS (continued)

Function and is consistent with Engineered Safety Feature Actuation System Completion Times for loss of one redundant train. Also, the remaining OPERABLE train provides continuous indication of core power status to the operator, has an alarm function, and sends a signal to both trains of the BDPS to assure system actuation. 1

A 4.2

B.1, B.2.1, B.2.2.1, and B.2.2.2 1

3 A.4.1,

INSERT 7

With two trains inoperable, or the Required Action and associated Completion Time of Condition A not met, the initial action (Required Action B.1) is to suspend all operations involving positive reactivity additions immediately. This includes withdrawal of control or shutdown rods and intentional boron dilution. A Completion Time of 1 hour is provided to restore one train to OPERABLE status. 1 1 4 1

A.2

As an alternate to restoring one train to OPERABLE status (Required Action B.2.1), Required Action B.2.2.1 requires valves listed in LCO 3.9.2 (Required Action A.2) to be secured to prevent the flow of unborated water into the RCS. Once it is recognized that two trains of the BDPS are inoperable, the operators will be aware of the possibility of a boron dilution, and the 1 hour Completion Time is adequate to complete the requirements of LCO 3.9.2. 2 1 1

INSERT 8

INSERT 9

MI is

Required Action A.2

A.3 its

Required Action B.2.2.2 accompanies Required Action B.2.2.1 to verify the SDM according to SR 3.1.1.1 within 1 hour and once per 12 hours thereafter. This backup action is intended to confirm that no unintended boron dilution has occurred while the BDPS was inoperable, and that the required SDM has been maintained. The specified Completion Time takes into consideration sufficient time for the initial determination of SDM and other information available in the control room related to SDM. 1 2 1 1

INSERT 9A

MI

INSERT 10

A.1 two Notes. Note 1

Required Action B.1 is modified by a note which permits plant temperature changes provided the temperature change is accounted for in the calculated SDM. Introduction of temperature changes, including temperature increases when a positive MTC exists, must be evaluated to ensure they do not result in a loss of required SDM. 3 1 1

unit

INSERT 11

6

SURVEILLANCE REQUIREMENTS

The BDPS trains are subject to a COT and a CHANNEL CALIBRATION. 4

SR 3.3.9.1 1

8

Performance of the CHANNEL CHECK once every 12 hours ensures that gross failure of instrumentation has not occurred. A CHANNEL CHECK

B 3.3.8

1 **INSERT 7**

With the required source range neutron flux monitor channel of BDMI

2 **INSERT 8**

isolation valves for unborated water sources to the Chemical and Volume Control System, except refueling water storage tank (RWST) isolation valves,

1 **INSERT 9**

the required source range neutron flux monitor channel

2 **INSERT 9A**

1 hour action is intended to confirm that the required SDM has been maintained and the periodic 12 hour

1 **INSERT 10**

Required Action A.4.1 requires verification that RWST boron concentration is greater than or equal to the required limit. The required limit is the minimum boron concentration limit specified in LCO 3.5.4, "Refueling Water Storage Tank (RWST)," (when the unit is in MODE 3 or 4) or the minimum RWST boron concentration limit specified in the TRM (when the unit is in MODE 5). If RWST boron concentration is not within the required limit, the RWST is considered a dilution source and is required to be isolated from the RCS in accordance with Required Action A.4.2. The 1 hour Completion Times are adequate to complete the requirements of Required Actions A.4.1 and A.4.2.

1 **INSERT 11**

Note 2 permits addition of water from the RWST provided the RWST boron concentration is greater than or equal to required limit. The required limit is the minimum boron concentration limit specified in LCO 3.5.4, "Refueling Water Storage Tank (RWST)," (when the unit is in MODE 3 or 4) or the minimum RWST boron concentration limit specified in the TRM (when the unit is in MODE 5). These boron concentration limits are established to meet SDM requirements. Therefore, SDM is maintained when water is added to the RCS from the RWST provided RWST boron concentration is greater than or equal to the required limit.

Required Actions A.4.1 and A.4.2 are modified by a Note stating that these actions are only applicable in MODE 5. In MODES 3 and 4, these actions are not applicable since, with RWST boron concentration not within limits, the ACTIONS of LCO 3.5.4 would require a shutdown to MODE 5 if RWST boron concentration cannot be restored to within limits in 8 hours. After the shutdown to MODE 5 is complete, Required Actions A.4.1 and A.4.2 would apply.

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BASES

SURVEILLANCE REQUIREMENTS (continued)

is normally a comparison of the parameter indicated on one channel to a similar parameter on other channels. It is based on the assumption that instrument channels monitoring the same parameter should read approximately the same value. Significant deviations between the two instrument channels could be an indication of excessive instrument drift in one of the channels or of something even more serious. A CHANNEL CHECK will detect gross channel failure; thus, it is key to verifying that the instrumentation continues to operate properly between each CHANNEL CALIBRATION. 3 5

Agreement criteria are determined by the unit staff based on a combination of the channel instrument uncertainties, including indication and readability. If a channel is outside the criteria, it may be an indication that the senor or the signal processing equipment has drifted outside its limit.

The Frequency is based on operating experience that demonstrates channel failure is rare. The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with the LCO required channels.

~~SR 3.3.9.2~~

~~SR 3.3.9.2 requires the performance of a COT every [92] days, to ensure that each train of the BDPS and associated trip setpoint are fully operational. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable CHANNEL OPERATIONAL TEST of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions. This test shall include verification that the boron dilution alarm setpoint is equal to or less than an increase of twice the count rate within a 10 minute period. The Frequency of [92] days is consistent with the requirements for source range channels in WCAP-10271-P-A (Ref. 2).~~ 1

TSTF-411 Rev. 1 changes not shown

SR 3.3.9.3 8.2

SR 3.3.9.3 is the performance of a CHANNEL CALIBRATION every [18] months. CHANNEL CALIBRATION is a complete check of the instrument loop, including the sensor ~~except the neutron detector of the SRM circuit~~. The test verifies that the channel responds to a measured 1 3 4
24

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I M BDPS 8 B 3.3.9 8 1 1

BASES

SURVEILLANCE REQUIREMENTS (continued)

4 INSERT 12

parameter within the necessary range and accuracy. ~~For the BDPS, the CHANNEL CALIBRATION shall include verification that on a simulated or actual boron dilution flux doubling signal the centrifugal charging pump suction valves from the RWST open, and the normal CVCS volume control tank discharge valves close in the required closure time of ≤ 20 seconds.~~ 1

The Frequency is based on operating experience ~~and consistency with the typical industry refueling cycle~~. 2

REFERENCES

1. U FSAR, ~~Chapter [15]~~ Section 14.1.5. 2

~~2. WCAP-10271-P-A, Supplement 2, Revision 1, June 1990.~~ TSTF-411 Rev. 1 changes not shown 2

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4 **INSERT 12**

The CHANNEL CALIBRATION also includes obtaining the detector plateau or preamp discriminator curves, evaluating those curves, and comparing the curves to the manufacturer's data. This SR is modified by a Note that states that neutron detectors are excluded from the CHANNEL CALIBRATION.

JUSTIFICATION FOR DEVIATIONS
ITS 3.3.8 BASES, BORON DILUTION MONITORING INSTRUMENTATION (BDMI)

1. Changes are made to reflect changes made to the Specification.
2. Changes are made (additions, deletions, and/or changes) to the ISTS Bases, which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.
3. The brackets are removed and the proper plant specific information/value is provided.
4. Changes are made to reflect the Specification and for consistency with similar Bases for the source range monitors.
5. Grammatical/typographical error corrected.
6. The paragraph has been moved since it is discussing modifications to Required Action A.1.

Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.3.8, BORON DILUTION MONITORING INSTRUMENTATION (BDMI)

There are no specific NSHC discussions for this Specification.

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ATTACHMENT 9

Relocated/Deleted Current Technical Specifications (CTS)

CTS 3/4.3.3.1, RADIATION MONITORING INSTRUMENTATION

Current Technical Specification (CTS) Markup and Discussion of Changes (DOCs)

CTS 3/4.3.3.1

INSTRUMENTATION

3/4.3.3 MONITORING INSTRUMENTATION

RADIATION MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.1 The radiation monitoring instrumentation channels shown in Table 3.3-6 shall be OPERABLE with their alarm/trip setpoints within the specified limits.

APPLICABILITY: As shown in Table 3.3-6.

LA.1

ACTION:

a. With a radiation monitoring channel alarm/trip setpoint exceeding the value shown in Table 3.3-6, adjust the setpoint to within the limit within 4 hours or declare the channel inoperable.

LA.2

b. With one or more radiation monitoring channels inoperable, take the ACTION shown in Table 3.3-6.

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

SURVEILLANCE REQUIREMENTS

4.3.3.1 Each radiation monitoring instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations during the modes and at the frequencies shown in Table 4.3-3.

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CTS 3/4.3.3.1

TABLE 3.3-6
RADIATION MONITORING INSTRUMENTATION
(OPERABILITY BASES DISCUSSED IN BASES SECTION 3/4 3.3.1)

OPERATION MODE/INSTRUMENT	MINIMUM CHANNELS OPERABLE	ALARM SETPOINT	TRIP SETPOINT	ACTION
1. Modes 1, 2, 3 & 4				
A. Area Monitors				
i. Upper Containment⁺ (VRS 1101/1201)	1	N/A	≤ 54 mR/hr	21
ii. Containment High Range (VRA 1310/1410)	2	≤ 10R/hr	N/A	22A
B. Process Monitors				
i. Particulate Channel⁺ (ERS 1301/1401)	1	N/A	≤ 2.52 μCi	20
ii. Noble Gas Channel⁺ (ERS 1305/1405)	1	N/A	≤ $4.4\times10^{-3}\frac{\mu Ci}{cc}$	20
C. Noble Gas Effluent Monitors				
i. Unit Vent Effluent Monitors				
a. Low Range (VRS 1505)	------------(see the ODCM)------------			
b. Mid Range (VRS 1507)	1	N/A	N/A	22B
c. High Range (VRS 1509)	1	N/A	N/A	22B
ii. Steam Generator PORV				
a. MRA 1601 (Loop 1)	1	N/A	N/A	22B
b. MRA 1602 (Loop 4)	1	N/A	N/A	22B
c. MRA 1701 (Loop 2)	1	N/A	N/A	22B
d. MRA 1702 (Loop 3)	1	N/A	N/A	22B
iii. Gland Steam Condenser Vent Monitor				
a. Low Range (SRA 1805)	------------(see the ODCM)------------			
iv. Steam Jet Air Ejector Vent Monitors				
a. Low Range (SRA 1905)	------------(see the ODCM)------------			
b. Mid Range (SRA 1907)	1	N/A	N/A	22B
c. High Range (SRA 1909)	1	N/A	N/A	22B

LA.1

See ITS 3.3.3

See ITS 3.3.6 and ITS 3.4.15

LA.1

LA.2

LA.2

LA.1

LA.2

LA.1

LA.2

LA.2

LA.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

TABLE 3.3-6 (Continued)
RADIATION MONITORING INSTRUMENTATION
(OPERABILITY BASES DISCUSSED IN BASES SECTION 3/4 3.3.1)

LA.1

OPERATION MODE/INSTRUMENT	MINIMUM CHANNELS OPERABLE	ALARM SETPOINT	TRIP SETPOINT	ACTION
2. Mode 6				
A. Train A	any 2/3 channels			22
i. Containment Area+ Radiation Channel (VRS-1101)		N/A	≤ 54 mR/hr	
ii. Particulate Channel+ (ERS-1301)		N/A	≤ 2.52 μCi	
iii. Noble Gas Channel+ (ERS-1305)		N/A	$\leq 4.4\text{x}10^{-3} \frac{\mu\text{Ci}}{\text{cc}}$	
B. Train B	any 2/3 channels			22
i. Containment Area+ Radiation Channel (VRS-1201)		N/A	≤ 54 mR/hr	
ii. Particulate Channel+ (ERS-1401)		N/A	≤ 2.52 μCi	
iii. Noble Gas Channel+ (ERS-1405)		N/A	$\leq 4.4\text{x}10^{-3} \frac{\mu\text{Ci}}{\text{cc}}$	
3. Mode ***				
A. Spent Fuel Storage (RRC-330)	1	≤ 15 mR/hr	≤ 15 mR/hr	21

See ITS 3.3.6

LA.1

\+ This specification only applies during PURGE
*** With fuel in storage pool or building

LA.1

CTS 3/4.3.3.1

TABLE 3.3-6 (Continued)

TABLE NOTATION

ACTION 20 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, comply with the ACTION requirements of Specification 3.4.6.1. See ITS 3.4.15

ACTION 21 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, perform area surveys of the monitored area with portable monitoring instrumentation at least once per day. LA.1

ACTION 22 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirements, comply with the ACTION requirements of Specification 3.9.9. This ACTION is not required during the performance of containment integrated leak rate test. See ITS 3.3.6

ACTION 22A- With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirements: See ITS 3.3.3

1. either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or

2. prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status. See ITS 5.6

3. Technical Specification Sections 3.0.3 and 3.0.4 Not Applicable. See ITS 3.3.3

ACTION 22B- With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirements.

1. either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or

2. prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status. LA.1

3. In the event of an accident involving radiological releases initiate the preplanned alternate method of monitoring the appropriate parameter(s) within 72 hours.

4. Technical Specification Sections 3.0.3 and 3.0.4 Not Applicable.

CTS 3/4.3.3.1

TABLE 4.3-3

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

OPERATION MODE/INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	APPLICABLE MODES
1. Modes 1, 2, 3 & 4				
A. Area Monitors				
i. Upper Containment (VRS 1101/1201)	S*	R	Q	1, 2, 3, 4
ii. Containment High Range (VRA 1310/1410)	S	R	Q	1, 2, 3, 4
B. Process Monitors				
i. Particulate Channel (ERS 1301/1401)	S*	R	Q	1, 2, 3, 4
C. Noble Gas Effluent Monitors				
i. Unit Vent Effluent Monitors				
a. Low Range (VRS 1505)	-------------(see the ODCM)-------------			
b. Mid Range (VRS 1507)	S	R	N/A	1, 2, 3, 4
c. High Range (VRS 1509)	S*	R	N/A	1, 2, 3, 4
ii. Steam Generator PORV				
a. MRA 1601 (Loop 1)	S*	R	Q	1, 2, 3, 4
b. MRA 1602 (Loop 4)	S*	R	Q	1, 2, 3, 4
c. MRA 1701 (Loop 2)	S*	R	Q	1, 2, 3, 4
d. MRA 1702 (Loop 3)	S*	R	Q	1, 2, 3, 4
iii. Gland Steam Condenser Vent Monitor				
a. Low Range (SRA 1805)	-------------(see the ODCM)-------------			
iv. Steam Jet Air Ejector Vent Monitors				
a. Low Range (SRA 1905)	-------------(see the ODCM)-------------			
b. Mid Range (SRA 1907)	S	R	Q	1, 2, 3, 4
c. High Range (SRA 1909)	S*	R	N/A	1, 2, 3, 4

LA.2

See ITS 3.3.3

See ITS 3.4.15

LA.1

LA.2

LA.2

LA.1

LA.2

LA.1

LA.2

LA.2

LA.1

CTS 3/4.3.3.1

TABLE 4.3-3 (Continued)
RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

OPERATION MODE/INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	APPLICABLE MODES	
					LA.1
2. Mode 6					
A. Train A				6	See ITS 3.3.6
i. Containment Area Radiation Channel (VRS 1101)	S*	R	Q		
ii. Particulate Channel (ERS 1301)	S*	R	Q		See ITS 3.3.6 and ITS 3.4.15
iii. Noble Gas Channel (ERS 1305)	S*	R	Q		
B. Train B				6	See ITS 3.3.6
i. Containment Area Radiation Channel (VRS 1201)	S*	R	Q		
ii. Particulate Channel (ERS 1401)	S*	R	Q		See ITS 3.3.6 and ITS 3.4.15
iii. Noble Gas Channel (ERS 1405)	S*	R	Q		
3. Mode **					
A. Spent Fuel Storage (RRC-330)	S	R	Q	**	LA.1

* To include SOURCE CHECK per T/S Section 1.27 — See ITS 3.3.6 and ITS 3.4.15

** With fuel in storage pool or building — LA.1

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3/4.3.3 MONITORING INSTRUMENTATION

RADIATION MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.1 The radiation monitoring instrumentation channels shown in Table 3.3-6 shall be OPERABLE with their alarm/trip setpoints within the specified limits.

APPLICABILITY: As shown in Table 3.3-6.

ACTION:

a. With a radiation monitoring channel alarm/trip setpoint exceeding the value shown in Table 3.3-6, adjust the setpoint to within the limit within 4 hours or declare the channel inoperable. LA.1

b. With one or more radiation monitoring channels inoperable, take the ACTION shown in Table 3.3-6. LA.2

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

SURVEILLANCE REQUIREMENTS

4.3.3.1 Each radiation monitoring instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations during the modes and at the frequencies shown in Table 4.3-3.

CTS 3/4.3.3.1

TABLE 3.3-6
RADIATION MONITORING INSTRUMENTATION
(OPERABILITY BASES DISCUSSED IN BASES SECTION 3/4 3.3.1)

OPERATION MODE/INSTRUMENT	MINIMUM CHANNELS OPERABLE	ALARM SETPOINT	TRIP SETPOINT	ACTION
1. Modes 1, 2, 3 & 4				
A. Area Monitors				
i. Upper Containment⁺ (VRS 2101/2201)	1	N/A	≤ 54 mR/hr	21
ii. Containment High Range (VRA 2310/2410)	2	≤ 10R/hr	N/A	22A
B. Process Monitors				
i. Particulate Channel⁺ (ERS 2301/2401)	1	N/A	≤ 2.52 μCi	20
ii. Noble Gas Channel⁺ (ERS 2305/2405)	1	N/A	≤ 4.4×10^{-3} $\frac{\mu Ci}{cc}$	20
C. Noble Gas Effluent Monitors				
i. Unit Vent Effluent Monitors				
a. Low Range (VRS 2505)	------------(see the ODCM)------------			
b. Mid Range (VRS 2507)	1	N/A	N/A	22B
c. High Range (VRS 2509)	1	N/A	N/A	22B
ii. Steam Generator PORV				
a. MRA 2601 (Loop 1)	1	N/A	N/A	22B
b. MRA 2602 (Loop 4)	1	N/A	N/A	22B
c. MRA 2701 (Loop 2)	1	N/A	N/A	22B
d. MRA 2702 (Loop 3)	1	N/A	N/A	22B
iii. Gland Steam Condenser Vent Monitor				
a. Low Range (SRA 2805)	------------(see the ODCM)------------			
iv. Steam Jet Air Ejector Vent Monitors				
a. Low Range (SRA 2905)	------------(see the ODCM)------------			
b. Mid Range (SRA 2907)	1	N/A	N/A	22B
c. High Range (SRA 2909)	1	N/A	N/A	22B

LA.1

See ITS 3.3.3

See ITS 3.3.6 and ITS 3.4.15

LA.1

LA.2

LA.2

LA.1

LA.2

LA.1

LA.2

LA.2

LA.1

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TABLE 3.3-6 (Continued)

RADIATION MONITORING INSTRUMENTATION
(OPERABILITY BASES DISCUSSED IN BASES SECTION 3/4 3.3.1)

OPERATION MODE/INSTRUMENT	MINIMUM CHANNELS OPERABLE	ALARM SETPOINT	TRIP SETPOINT	ACTION
2. Mode 6				
A. Train A	any 2/3 channels			22
i. Containment Area+ Radiation Channel (VRS 2101)		N/A	≤ 54 mR/hr	
ii. Particulate Channel+ (ERS 2301)		N/A	≤ 2.52 μCi	
iii. Noble Gas Channel+ (ERS 2305)		N/A	≤ 4.4×10^{-3} μCi/cc	
B. Train B	any 2/3 channels			22
i. Containment Area+ Radiation Channel (VRS 2201)		N/A	≤ 54 mR/hr	
ii. Particulate Channel+ (ERS 2401)		N/A	≤ 2.52 μCi	
iii. Noble Gas Channel+ (ERS 2405)		N/A	≤ 4.4×10^{-3} μCi/cc	
3. Mode ***				
A. Spent Fuel Storage (RRC 330)	1	≤ 15 mR/hr	≤ 15 mR/hr	21

LA.1

See ITS 3.3.6

LA.1

*** With fuel in storage pool or building
+ This specification only applies during PURGE

LA.1

CTS 3/4.3.3.1

TABLE 3.3-6 (Continued)

TABLE NOTATION

ACTION 20 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, comply with the ACTION requirements of Specification 3.4.6.1.

See ITS 3.4.15

ACTION 21 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, perform area surveys of the monitored area with portable monitoring instrumentation at least once per day.

LA.1

ACTION 22 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, comply with the ACTION requirements of Specification 3.9.9. This ACTION is not required during the performance of containment integrated leak rate test.

See ITS 3.3.6

ACTION 22A- With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirements:

1. either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or

2. prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

See ITS 3.3.3

See ITS 5.6

3. Technical Specification Sections 3.0.3 and 3.0.4 Not Applicable.

See ITS 3.3.3

ACTION 22B- With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirements.

1. either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or

2. prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

3. In the event of an accident involving radiological releases initiate the preplanned alternate method of monitoring the appropriate parameter(s) within 72 hours.

4. Technical Specification Sections 3.0.3 and 3.0.4 Not Applicable.

LA.1

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CTS 3/4.3.3.1

TABLE 4.3-3
RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

OPERATION MODE/INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	APPLICABLE MODES
1. Modes 1, 2, 3 & 4				
A. Area Monitors				
i. Upper Containment (VRS 2101/2201)	S*	R	Q	1, 2, 3, 4
ii. Containment High Range (VRA 2310/2410)	S	R	Q	1, 2, 3, 4
B. Process Monitors				
i. Particulate Channel (ERS 2301/2401)	S*	R	Q	1, 2, 3, 4
C. Noble Gas Effluent Monitors				
i. Unit Vent Effluent Monitors				
a. Low Range (VRS 2505)	--------------(see the ODCM)--------------			
b. Mid Range (VRS 2507)	S	R	N/A	1, 2, 3, 4
c. High Range (VRS 2509)	S*	R	N/A	1, 2, 3, 4
ii. Steam Generator PORV				
a. MRA 2601 (Loop 1)	S*	R	Q	1, 2, 3, 4
b. MRA 2602 (Loop 4)	S*	R	Q	1, 2, 3, 4
c. MRA 2701 (Loop 2)	S*	R	Q	1, 2, 3, 4
d. MRA 2702 (Loop 3)	S*	R	Q	1, 2, 3, 4
iii. Gland Steam Condenser Vent Monitor				
a. Low Range (SRA 2805)	--------------(see the ODCM)--------------			
iv. Steam Jet Air Ejector Vent Monitors				
a. Low Range (SRA 2905)	--------------(see the ODCM)--------------			
b. Mid Range (SRA 2907)	S	R	Q	1, 2, 3, 4
c. High Range (SRA 2909)	S*	R	N/A	1, 2, 3, 4

LA.1

See ITS 3.3.3

See ITS 3.4.15

LA.1

LA.2

LA.2

LA.1

LA.2

LA.1

LA.2

LA.2

LA.1

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CTS 3/4.3.3.1

TABLE 4.3-3 (Continued)

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

OPERATION MODE/INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	APPLICABLE MODES	
					LA.1
2. Mode 6					
A. Train A				6	See ITS 3.3.6
i. Containment Area Radiation Channel (VRS 2101)	S*	R	Q		
ii. Particulate Channel (ERS 2301)	S*	R	Q		See ITS 3.3.6 and ITS 3.4.15
iii. Noble Gas Channel (ERS 2305)	S*	R	Q		
B. Train B				6	See ITS 3.3.6
i. Containment Area Radiation Channel (VRS 2201)	S*	R	Q		
ii. Particulate Channel (ERS 2401)	S*	R	Q		See ITS 3.3.6 and ITS 3.4.15
iii. Noble Gas Channel (ERS 2405)	S*	R	Q		
3. Mode **					LA.1
A. Spent Fuel Storage (RRC-330)	S	R	Q	**	

* To include SOURCE CHECK per T/S Section 1.27 — See ITS 3.3.6 and ITS 3.4.15

** With fuel in storage pool or building — LA.1

COOK NUCLEAR PLANT - UNIT 2   3/4 3-37a   AMENDMENT NO. ~~80~~, ~~119~~, ~~168~~, 175

DISCUSSION OF CHANGES
CTS 3/4.3.3.1, RADIATION MONITORING INSTRUMENTATION

ADMINISTRATIVE CHANGES

None

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA.1 *(Type 4 – Removing Performance Requirements for Indication-Only Instrumentation and Alarms)* CTS 3/4.3.3.1 provides requirements for the radiation monitoring instrumentation in CTS Tables 3.3-6 and 4.3-3. CTS Table 3.3-6 and Table 4.3-3 provide requirements for the following radiation monitoring instruments: Upper Containment Area Monitor (Instrument 1.A.i); Noble Gas Effluent Monitors (Instruments 1.C.i.b, 1.C.i.c, 1C.ii.a, 1C.ii.b, 1C.ii.c, 1C.ii.d, 1.C.iv.b, and 1.C.iv.c); and Spent Fuel Storage Radiation Monitor (Instrument 3.A). The ITS does not include requirements for these radiation monitoring instruments. The Technical Specification function of these radiation monitoring instruments is only to provide indication and alarms. This changes the CTS by relocating the requirements for these radiation monitoring instruments to the Technical Requirements Manual (TRM).

The removal of requirements for indication-only instrumentation and alarms from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. These instruments and alarms are not required to be OPERABLE to support OPERABILITY of the Technical Specification systems or components. Therefore, the availability of this instrumentation and alarms is more appropriately specified in the plant procedures that are required by ITS 5.4.1. Also, this change is acceptable because the removed information will be adequately controlled in the TRM. The TRM is incorporated by reference into the UFSAR and any changes to the TRM are made under 10 CFR 50.59, which ensures changes are properly evaluated. This change is designated as a less restrictive removal of detail change because performance requirements for indication-only instrumentation and alarms are being removed from the Technical Specifications.

LA.2 *(Type 6 - Removal of LCO, SR, or other TS requirement to the TRM, UFSAR, ODCM, QAPD, or IIP)* CTS 3/4.3.3.1 provides requirements for the radiation monitoring instrumentation in CTS Tables 3.3-6 and 4.3-3. CTS Table 3.3-6 and Table 4.3-3 provide requirements for the following radiation monitoring instruments: Noble Gas Effluent Monitors (Instruments 1.C.i.a, 1.C.iii.a, and 1.C.iv.a). These instruments ensure 10 CFR 20 limits are met. The ITS does not include requirements for these radiation monitoring instruments. This changes the CTS by moving the requirements for these radiation monitoring instrumentation to the Offsite Dose Calculation Manual (ODCM).

The purpose of the radiation monitoring channels is to ensure the 10 CFR 20 limits are met. The removal of these requirements for radiation monitoring instrumentation from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. This change is acceptable because these types of requirements will be adequately controlled in the ODCM. Changes to the ODCM are controlled by the ODCM change control process in ITS Section 5.5, which ensures changes are properly evaluated. This change is designated as a less restrictive removal of detail change because the requirements for a program are being removed from the Technical Specifications.

LESS RESTRICTIVE CHANGES

None

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Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
CTS 3/4.3.3.1, RADIATION MONITORING INSTRUMENTATION

There are no specific NSHC discussions for this Specification.

CTS 3/4.3.3.2, MOVABLE INCORE DETECTORS

Current Technical Specification (CTS) Markup and Discussion of Changes (DOCs)

INSTRUMENTATION

MOVABLE INCORE DETECTORS

LIMITING CONDITION FOR OPERATION

3.3.3.2 The movable incore detection system shall be OPERABLE with:

a. At least 75% of the detector thimbles,

b. A minimum of 2 detector thimbles per core quadrant, and

c. Sufficient movable detectors, drive, and readout equipment to map these thimbles.

APPLICABILITY: When the movable incore detection system is used for:

a. Recalibration of the axial flux difference detection system,

b. Monitoring the QUADRANT POWER TILT RATIO, or

c. Measurement of $F^N_{\Delta H}$ and $F_Q(Z,\ell)$

R.1

ACTION:

With the movable incore detection system inoperable, do not use the system for the above applicable monitoring or calibration functions. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.2 The movable incore detection system shall be demonstrated OPERABLE by normalizing each detector output to be used during its use when required for:

a. Recalibration of the excore axial flux difference detection system, or

b. Monitoring the QUADRANT POWER TILT RATIO, or

c. Measurement of $F^N_{\Delta H}$ and $F_Q(Z,\ell)$.

INSTRUMENTATION

MOVABLE INCORE DETECTORS

LIMITING CONDITION FOR OPERATION

3.3.3.2 The movable incore detection system shall be OPERABLE with:

a. At least 75% of the detector thimbles,

b. A minimum of 2 detector thimbles per core quadrant, and

c. Sufficient movable detectors, drive, and readout equipment to map these thimbles.

APPLICABILITY: When the movable incore detection system is used for:

a. Recalibration of the excore neutron flux detection system,

b. Monitoring the QUADRANT POWER TILT RATIO, or

c. Measurement of $F^N_{\Delta H}$ and $F_Q(Z)$.

ACTION:

With the movable incore detection system inoperable, do not use the system for the above applicable monitoring or calibration functions. The provisions of Specification 3.0.3 and 3.0.4 are not applicable.

R.1

SURVEILLANCE REQUIREMENTS

4.3.3.2 The movable incore detection system shall be demonstrated OPERABLE by normalizing each detector output when required for:

a. Recalibration of the excore neutron flux detection system, or

b. Monitoring the QUADRANT POWER TILT RATIO, or

c. Measurement of $F^N_{\Delta H}$ and $F_Q(Z)$.

DISCUSSION OF CHANGES
CTS 3/4.3.3.2, MOVABLE INCORE DETECTORS

ADMINISTRATIVE CHANGES

None

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

R.1 CTS 3/4.3.3.2 ensures the OPERABILITY of movable incore detector instrumentation when required to monitor the flux distribution within the core. The instrumentation is used for periodic Surveillance of the reactor core power distribution, and calibration of the excore neutron flux detectors, but is not assumed in any design basis accident (DBA) analysis and does not mitigate an accident. This Specification does not meet the criteria for retention in the Improved Technical Specifications (ITS); therefore, it will be retained in the Technical Requirements Manual (TRM).

This change is acceptable because CTS 3/4.3.3.2 does not meet the 10 CFR 50.36(c)(2)(ii) criteria for inclusion into the ITS.

10 CFR 50.36(c)(2)(ii) Criteria Evaluation:

1. The movable incore detectors are not used for, nor capable of, detecting a significant abnormal degradation of the reactor coolant pressure boundary prior to a DBA. The Movable Incore Detectors Specification does not satisfy criterion 1.

2. The movable incore detectors are not used to indicate status of, or monitor a process variable, design feature, or operating restriction that is an initial condition of a DBA or transient. The Movable Incore Detectors Specification does not satisfy criterion 2.

3. The movable incore detectors are not part of a primary success path in the mitigation of a DBA or transient. The Movable Incore Detectors Specification does not satisfy criterion 3.

4. As discussed in Section 4.0 (Appendix A, page A-12) and summarized in Table 1 of WCAP-11618, the loss of movable incore detectors was found to be a non-significant risk contributor to core damage frequency and offsite releases. I&M has reviewed this evaluation, considers it applicable to CNP Units 1 and 2, and concurs with the assessment. The Movable Incore Detectors Specification does not satisfy criterion 4.

Since the 10 CFR 50.36(c)(2)(ii) criteria have not been met, the Movable Incore Detectors LCO and Surveillances may be relocated out of the Technical Specifications. The Movable Incore Detectors Specification will be relocated to the TRM. Changes to the TRM will be controlled by the provisions of

DISCUSSION OF CHANGES
CTS 3/4.3.3.2, MOVABLE INCORE DETECTORS

10 CFR 50.59. This change is designated as a relocation because the Specification did not meet the criteria in 10 CFR 50.36(c)(2)(ii) and has been relocated to the TRM.

REMOVED DETAIL CHANGES

None

LESS RESTRICTIVE CHANGES

None

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Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
CTS 3/4.3.3.2, MOVABLE INCORE DETECTORS

There are no specific NSHC discussions for this Specification.

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CTS 3/4.3.3.3, SEISMIC INSTRUMENTATION

Current Technical Specification (CTS) Markup and Discussion of Changes (DOCs)

INSTRUMENTATION

SEISMIC INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.3 The seismic monitoring instrumentation shown in Table 3.3-7 shall be OPERABLE.

APPLICABILITY: At all times.

ACTION:

a. With the number of OPERABLE seismic monitoring instruments less than required by Table 3.3-7, restore the inoperable instrument(s) to OPERABLE status within 30 days.

b. With one or more seismic monitoring instruments inoperable for more than 30 days, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 10 days outlining the cause of the malfunction and the plans for restoring the instrument(s) to OPERABLE status.

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

R.1

SURVEILLANCE REQUIREMENTS

4.3.3.3.1 Each of the above seismic monitoring instruments shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations at the frequencies shown in Table 4.3-4.

4.3.3.3.2 Each of the above seismic monitoring instruments actuated during a seismic event shall be restored to OPERABLE status and a CHANNEL CALIBRATION performed within 24 hours following the seismic event. Data shall be retrieved from actuated instruments and analyzed to determine the magnitude of the vibratory ground motion. A Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 10 days describing the magnitude, frequency spectrum and resultant effect upon facility features important to safety.

TABLE 3.3-7

SEISMIC MONITORING INSTRUMENTATION

INSTRUMENTS AND SENSOR LOCATIONS	MEASUREMENT RANGE	MINIMUM INSTRUMENTS OPERABLE
1. STRONG MOTION TRIAXIAL ACCELEROGRAPHS		
a. Reactor Pit FLoor	0-1 g	1
b. Top of Crane Wall	0-1 g	1
c. Free Field	0-1 g	1
2. PEAK RECORDING ACCELEROGRAPHS		
a. Containment Spring Line	0-2 g	1
b. Diesel Generator Room Floor	0-2 g	1
c. Spent Fuel Pool	0-2 g	1

R.1

CTS 3/4.3.3.3

TABLE 4.3-4

SEISMIC MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT CHANNEL	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST
1. STRONG MOTION TRIAXIAL ACCELEROGRAPHS			
a. Reactor Pit Floor			
1. Time History Recorder	M	R	M
2. Seismic Trigger	NA	R	NA
b. Top of Crane Wall			
1. Time History Recorder	M	R	M
c. Free Field			
1. Time History Recorder	M	R	M
2. Seismic Trigger	NA	R	NA
2. PEAK RECORDING ACCELEROGRAPHS			
a. Containment Spring Line	NA	R	NA
b. Diesel Generator Room Floor	NA	R	NA
c. Spent Fuel Pool	NA	R	NA

R.1

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INSTRUMENTATION

SEISMIC INSTRUMENTATION*

LIMITING CONDITION FOR OPERATION

3.3.3.3 The seismic monitoring instrumentation shown in Table 3.3-7 shall be OPERABLE.

APPLICABILITY: At all times.

ACTION:

a. With the number of OPERABLE seismic monitoring instruments less than required by Table 3.3-7, restore the inoperable instrument(s) to OPERABLE status within 30 days.

b. With one or more seismic monitoring instruments inoperable for more than 30 days, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 10 days outlining the cause of the malfunction and the plans for restoring the instrument(s) to OPERABLE status.

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

R.1

SURVEILLANCE REQUIREMENTS

4.3.3.3.1 Each of the above seismic monitoring instruments shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations at the frequencies shown in Table 4.3-4.

4.3.3.3.2 Each of the above seismic monitoring instruments actuated during a seismic event shall be restored to OPERABLE status and a CHANNEL CALIBRATION performed within 24 hours following the seismic event. Data shall be retrieved from actuated instruments and analyzed to determine the magnitude of the vibratory ground motion. A Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 10 days describing the magnitude, frequency spectrum and resultant effect upon facility features important to safety.

*Shared System with D. C. Cook Unit 1.

CTS 3/4.3.3.3

TABLE 3.3-7

SEISMIC MONITORING INSTRUMENTATION

INSTRUMENTS AND SENSOR LOCATIONS	MEASUREMENT RANGE	MINIMUM INSTRUMENTS OPERABLE
1. STRONG MOTION TRIAXIAL ACCELEROGRAPHS		
a. Reactor Pit FLoor	0-1 g	1
b. Top of Crane Wall	0-1 g	1
c. Free Field	0-1 g	1
2. PEAK RECORDING ACCELEROGRAPHS		
a. Containment Spring Line	0-2 g	1
b. Diesel Generator Room Floor	0-2 g	1
c. Spent Fuel Pool	0-2 g	1

R.1

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CTS 3/4.3.3.3

TABLE 4.3-4

SEISMIC MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT CHANNEL	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST
1. STRONG MOTION TRIAXIAL ACCELEROGRAPHS			
a. Reactor Pit Floor			
1. Time History Recorder	M	R	M
2. Seismic Trigger	NA	R	NA
b. Top of Crane Wall			
1. Time History Recorder	M	R	M
c. Free Field			
1. Time History Recorder	M	R	M
2. Seismic Trigger	NA	R	NA
2. PEAK RECORDING ACCELEROGRAPHS			
a. Containment Spring Line	NA	R	NA
b. Diesel Generator Room Floor	NA	R	NA
c. Spent Fuel Pool	NA	R	NA

R.1

DISCUSSION OF CHANGES
CTS 3/4.3.3.3, SEISMIC INSTRUMENTATION

ADMINISTRATIVE CHANGES

None

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

R.1 CTS 3/4.3.3.3 provides requirements for seismic instrumentation. In the event of an earthquake, seismic instrumentation is required to permit comparison of the measured response to that used in the design basis of the facility to determine if plant shutdown is required pursuant to Appendix A of 10 CFR 100. Since this is determined after the event has occurred, it has no bearing on the mitigation of any design basis accident (DBA). This Specification does not meet the criteria for retention in the Improved Technical Specifications (ITS); therefore, it will be retained in the Technical Requirements Manual (TRM).

This change is acceptable because CTS 3/4.3.3.3 does not meet the 10 CFR 50.36(c)(2)(ii) criteria for inclusion into the ITS.

10 CFR 50.36(c)(2)(ii) Criteria Evaluation:

1. Seismic instrumentation is not used for, nor capable of, detecting a significant abnormal degradation of the reactor coolant pressure boundary prior to a DBA. The Seismic Instrumentation Specification does not satisfy criterion 1.

2. Seismic instrumentation is not used to indicate status of, or monitor a process variable, design feature, or operating restriction that is an initial condition of a DBA or transient. The Seismic Instrumentation Specification does not satisfy criterion 2.

3. Seismic instrumentation is not part of a primary success path in the mitigation of a DBA or transient. The Seismic Instrumentation Specification does not satisfy criterion 3.

4. As discussed in Section 4.0 (Appendix A, page A-22), and summarized in Table 1 of WCAP-11618, the loss of seismic instrumentation was found to be a non-significant risk contributor to core damage frequency and offsite releases. I&M has reviewed this evaluation, considers it applicable to CNP Units 1 and 2, and concurs with the assessment. The Seismic Instrumentation Specification does not satisfy criterion 4.

Since the 10 CFR 50.36(c)(2)(ii) criteria have not been met, the Seismic Instrumentation LCO and Surveillances may be relocated out of the Technical Specifications. The Seismic Instrumentation Specification will be relocated to the TRM. Changes to the TRM will be controlled by the provisions of 10 CFR 50.59.

DISCUSSION OF CHANGES
CTS 3/4.3.3.3, SEISMIC INSTRUMENTATION

This change is designated as a relocation because the Specification did not meet the criteria in 10 CFR 50.36(c)(2)(ii) and has been relocated to the TRM.

REMOVED DETAIL CHANGES

None

LESS RESTRICTIVE CHANGES

None

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Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
CTS 3/4.3.3.3, SEISMIC INSTRUMENTATION

There are no specific NSHC discussions for this Specification.

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CTS 3/4.3.3.4, METEOROLOGICAL INSTRUMENTATION

Current Technical Specification (CTS) Markup and Discussion of Changes (DOCs)

INSTRUMENTATION

METEOROLOGICAL INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.4 The meteorological monitoring instrumentation channels shown in Table 3.3-8 shall be OPERABLE.

APPLICABILITY: At all times.

ACTION:

a. With the number of OPERABLE meteorological monitoring channels less than required by Table 3.3-8, suspend all release of gaseous radioactive material from the radwaste gas decay tanks until the inoperable channel(s) is restored to OPERABLE status.

b. With one or more required meteorological monitoring channels inoperable for more than 7 days, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 10 days outlining the cause of the malfunction and the plans for restoring the channel(s) to OPERABLE status. R.1

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

SURVEILLANCE REQUIREMENTS

4.3.3.4 Each of the above meteorological monitoring instrumentation channels shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3-5.

TABLE 3.3-8

METEOROLOGICAL MONITORING INSTRUMENTATION

INSTRUMENT	LOCATION	INSTRUMENT MINIMUM ACCURACY	MINIMUM OPERABLE
1. WIND SPEED			Any 1/3 channels
	a. Primary or Backup Meteorological Tower, Nominal Elev. 10 m	(1),(2)	
	b. Primary Meteorological Tower, Nominal Elev. 60 m	(1),(2)	
2. WIND DIRECTION			Any 1/3 channels
	a. Primary or Backup Meteorological Tower, Nominal Elev. 10 m	$\pm 5^{\circ}$	
	b. Primary Meteorological Tower, Nominal Elev. 60 m	$\pm 5^{\circ}$	
3. AIR TEMPERATURE (for 60 m to 10 m delta T)			NA(3)
	a. Primary Meteorological Tower, Nominal Elev. 10 m	$\pm 0.15^{\circ}C$	
	b. Primary Meteorological Tower, Nominal Elev. 60 m	$\pm 0.15^{\circ}C$	

R.1

(1) Starting speed of anemometer shall be $\leq$ 1 mph.
(2) $\pm$ 1% or 0.5 mph, whichever is greater.
(3) With delta T information unavailable, sigma theta (standard deviation of the horizontal wind direction as determined from emergency procedures) is to be used for the determination of stability class.

CTS 3/4.3.3.4

TABLE 4.3-5

METEOROLOGICAL MONITORING INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION
1. WIND SPEED		
a. Nominal Elev. 10 m	D	SA
b. Nominal Elev. 60 m	D	SA
2. WIND DIRECTION		
a. Nominal Elev. 10 m	D	SA
b. Nominal Elev. 60 m	D	SA
3. AIR TEMPERATURE - DELTA T		
a. Nominal Elev. 10 m	D	SA
b. Nominal Elev. 60 m	D	SA

R.1

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CTS 3/4.3.3.4

INSTRUMENTATION

METEOROLOGICAL INSTRUMENTATION*

LIMITING CONDITION FOR OPERATION

3.3.3.4 The meteorological monitoring instrumentation channels shown in Table 3.3-8 shall be OPERABLE.

APPLICABILITY: At all times.

ACTION:

a. With the number of OPERABLE meteorological monitoring channels less than required by Table 3.3-8, suspend all release of gaseous radioactive material from the radwaste gas decay tanks until the inoperable channel(s) is restored to OPERABLE status.

b. With one or more required meteorological monitoring channels inoperable for more than 7 days, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 10 days outlining the cause of the malfunction and the plans for restoring the channel(s) to OPERABLE status.

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

R.1

SURVEILLANCE REQUIREMENTS

4.3.3.4 Each of the above meteorological monitoring instrumentation channels shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3-5.

*Shared system with D. C. COOK - UNIT 1.

CTS 3/4.3.3.4

TABLE 3.3-8

METEOROLOGICAL MONITORING INSTRUMENTATION

INSTRUMENT	LOCATION	INSTRUMENT MINIMUM ACCURACY	MINIMUM OPERABLE
1. WIND SPEED			Any 1/3 channels
	a. Primary or Backup Meteorological Tower, Nominal Elev. 10 m	(1),(2)	
	b. Primary Meteorological Tower, Nominal Elev. 60 m	(1),(2)	
2. WIND DIRECTION			Any 1/3 channels
	a. Primary or Backup Meteorological Tower, Nominal Elev. 10 m	$\pm 5^{\circ}$	
	b. Primary Meteorological Tower, Nominal Elev. 60 m	$\pm 5^{\circ}$	
3. AIR TEMPERATURE (for 60 m to 10 m delta T)			NA(3)
	a. Primary Meteorological Tower, Nominal Elev. 10 m	$\pm 0.15^{\circ}C$	
	b. Primary Meteorological Tower, Nominal Elev. 60 m	$\pm 0.15^{\circ}C$	

R.1

(1) Starting speed of anemometer shall be $\leq$ 1 mph.
(2) $\pm$ 1% or 0.5 mph, whichever is greater.
(3) With delta T information unavailable, sigma theta (standard deviation of the horizontal wind direction as determined from emergency procedures) is to be used for the determination of stability class.

TABLE 4.3-5

METEOROLOGICAL MONITORING INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION
1. WIND SPEED		
a. Nominal Elev. 10 m	D	SA
b. Nominal Elev. 60 m	D	SA
2. WIND DIRECTION		
a. Nominal Elev. 10 m	D	SA
b. Nominal Elev. 60 m	D	SA
3. AIR TEMPERATURE - DELTA T		
a. Nominal Elev. 10 m	D	SA
b. Nominal Elev. 60 m	D	SA

R.1

DISCUSSION OF CHANGES
CTS 3/4.3.3.4, METEOROLOGICAL INSTRUMENTATION

ADMINISTRATIVE CHANGES

None

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

R.1 CTS 3/4.3.3.4 provides requirements for meteorological instrumentation. Meteorological instrumentation is used to measure environmental parameters that may affect distribution of fission products and gases following a design basis accident (DBA), but it is not an input assumption for any DBA analysis and does not mitigate the accident. Meteorological information is required to evaluate the need for initiating protective measures to protect the health and safety of the public. This Specification does not meet the criteria for retention in the Improved Technical Specifications (ITS); therefore, it will be retained in the Technical Requirements Manual (TRM).

This change is acceptable because CTS 3/4.3.3.4 does not meet the 10 CFR 50.36(c)(2)(ii) criteria for inclusion into the ITS.

10 CFR 50.36(c)(2)(ii) Criteria Evaluation:

1. Meteorological instrumentation is not used for, nor capable of, detecting a significant abnormal degradation of the reactor coolant pressure boundary prior to a DBA. The Meteorological Instrumentation Specification does not satisfy criterion 1.

2. Meteorological instrumentation is not used to indicate status of, or monitor a process variable, design feature, or operating restriction that is an initial condition of a DBA or transient. The Meteorological Instrumentation Specification does not satisfy criterion 2.

3. Meteorological instrumentation is not part of a primary success path in the mitigation of a DBA or transient. The Meteorological Instrumentation Specification does not satisfy criterion 3.

4. As discussed in Section 4.0 (Appendix A, page A-23), and summarized in Table 1 of WCAP-11618, the loss of meteorological monitoring instrumentation was found to be a non-significant risk contributor to core damage frequency and offsite releases. I&M has reviewed this evaluation, considers it applicable to CNP Units 1 and 2, and concurs with the assessment. The Meteorological Instrumentation Specification does not satisfy criterion 4.

Since the 10 CFR 50.36(c)(2)(ii) criteria have not been met, Meteorological Instrumentation LCO and Surveillances may be relocated out of the Technical

DISCUSSION OF CHANGES
CTS 3/4.3.3.4, METEOROLOGICAL INSTRUMENTATION

Specifications. The Meteorological Instrumentation Specification will be relocated to the TRM. Changes to the TRM will be controlled by the provisions of 10 CFR 50.59. This change is designated as a relocation because the Specification did not meet the criteria in 10 CFR 50.36(c)(2)(ii) and has been relocated to the TRM.

REMOVED DETAIL CHANGES

None

LESS RESTRICTIVE CHANGES

None

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Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
CTS 3/4.3.3.4, METEOROLOGICAL INSTRUMENTATION

There are no specific NSHC discussions for this Specification.

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CTS 3/4.3.3.5.1, APPENDIX R REMOTE SHUTDOWN INSTRUMENTATION

Current Technical Specification (CTS) Markup and Discussion of Changes (DOCs)

INSTRUMENTATION

APPENDIX R REMOTE SHUTDOWN INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.5.1

The Appendix R remote shutdown instrumentation channels shown in Table 3.3-9A be OPERABLE with an opposite unit power supply available and with read out capability at the LSI panels.

APPLICABILITY MODES 1, 2, and 3

ACTION

a. With the number of OPERABLE Appendix R remote shutdown monitoring channels less than required by Table 3.3-9A, either restore the inoperable channel to OPERABLE status within 30 days, or be in HOT SHUTDOWN within the next 12 hours.

b. With the opposite unit power supply not available, restore the power supply to available status within 7 days, or provide fire watches in the affected areas and restore the inoperable channel to OPERABLE status within the next 60 days, or be in HOT STANDBY within the next 12 hours and HOT SHUTDOWN within the following 24 hours.

c. The provisions of Specification 3.0.4 are not applicable.

R.1

SURVEILLANCE REQUIREMENTS

4.3.3.5.1 Each Appendix R remote shutdown monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3-6A.

CTS 3/4.3.3.5.1

TABLE 3.3-9A

APPENDIX R REMOTE SHUTDOWN MONITORING INSTRUMENTATION

INSTRUMENT	READOUT LOCATION	MEASUREMENT RANGE	MINIMUM CHANNELS OPERABLE
1. Steam Generators 1 and 4 Level	LSI Cabinet 1 and LSI Cabinet 4	0-100% wide range instrument span	one on each LSI cabinet for each steam generator
2. Steam Generators 2 and 3 Level	LSI Cabinet 2 and LSI Cabinet 4	0-100% wide range instrument span	one on each LSI cabinet for each steam generator
3. Steam Generators 1 and 4 Pressure	LSI Cabinet 4 and LSI Cabinet 5	0-1500 psig	one on each LSI cabinet for each steam generator
4. Steam Generators 2 and 3 Pressure	LSI Cabinet 4 and LSI Cabinet 6	0-1500 psig	one on each LSI cabinet for each steam generator
5. Reactor Coolant Loop 4 Temperature (Cold)	LSI Cabinet 4 and LSI Cabinet 5	0-700°F	one on each LSI cabinet
6. Reactor Coolant Loop 4 Temperature (Hot)	LSI Cabinet 4 and LSI Cabinet 5	0-700°F	one on each LSI cabinet
7. Reactor Coolant Loop 2 Temperature (Cold)	LSI Cabinet 4 and LSI Cabinet 6	0-700°F	one on each LSI cabinet
8. Reactor Coolant Loop 2 Temperature (Hot)	LSI Cabinet 4 and LSI Cabinet 6	0-700°F	one on each LSI cabinet

R.1

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R.1

TABLE 3.3-9A (cont.)

APENDIX R REMOTE SHUTDOWN MONITORING INSTRUMENTATION

INSTRUMENT	READOUT LOCATION	MEASUREMENT RANGE	MINIMUM CHANNELS OPERABLE
9. Presurizer Level	LSI Cabinet 3	0-100% of instrument span	1
10. Reactor Coolant System Pressure	LSI Cabinet 3	0-3000 psig	1
11. Charging Cross-Flow Between Units	Corridor Elev. 587'	0-150 gpm	1
12. Source Range Neutron Detector (N-23)	LSI Cabinet 4	1-1 X 10^6 cps	1

TABLE 4.3-6A

APPENDIX R REMOTE SHUTDOWN MONITORING INSTRUMENTATION

SURVEILLANCE REQUIREMENTS

INSTRUMENT	LOCATION	CHANNEL CHECK	CHANNEL CALIBRATION
1. Steam Generators 1 and 4 Level	LSI Cabinet 1 and LSI Cabinet 4	M	R
2. Steam Generators 2 and 3 Level	LSI Cabinet 2 and LSI Cabinet 4	M	R
3. Steam Generators 1 and 4 Pressure	LSI Cabinet 4 and LSI Cabinet 5	M	R
4. Steam Generators 2 and 3 Pressure	LSI Cabinet 4 and LSI Cabinet 6	M	R
5. Reactor Coolant Loop 4 Temperature (Cold)	LSI Cabinet 4 and LSI Cabinet 5	M	R
6. Reactor Coolant Loop 4 Temperature (Hot)	LSI Cabinet 4 and LSI Cabinet 5	M	R
7. Reactor Coolant Loop 2 Temperature (Cold)	LSI Cabinet 4 and LSI Cabinet 6	M	R
8. Reactor Coolant Loop 2 Temperature (Hot)	LSI Cabinet 4 and LSI Cabinet 6	M	R
9. Pressurizer Level	LSI Cabinet 3	M	R
10. Reactor Coolant System Pressure	LSI Cabinet 3	M	R
11. Charging Cross-Flow Between Units	Corridor Elev. 587'	n/a	R*
12. Source Range Neutron Detector (N-23)	LSI Cabinet 4	n/a	R

* Charging Cross-Flow between Units is an instrument common to both Unit 1 and 2. This surveillance will only be conducted on an interval consistent with Unit 1 refueling.

INSTRUMENTATION

APPENDIX R REMOTE SHUTDOWN INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.5.1

The Appendix R remote shutdown instrumentation channels shown in Table 3.3-9A shall be OPERABLE with an opposite unit power supply available and with read out capability at the LSI panels.

APPLICABILITY MODES 1, 2, and 3

ACTION

a. With the number of OPERABLE Appendix R remote shutdown monitoring channels less than required by Table 3.3-9A, either restore the inoperable channel to OPERABLE status within 30 days, or be in HOT SHUTDOWN within the next 12 hours.

b. With the opposite unit power supply not available, restore the power supply to available status within 7 days, or provide fire watches in the affected areas and restore the inoperable channel to OPERABLE status within the next 60 days, or be in HOT STANDBY within the next 12 hours and HOT SHUTDOWN within the following 24 hours.

c. The provisions of Specification 3.0.4 are not applicable.

R.1

SURVEILLANCE REQUIREMENTS

4.3.3.5.1 Each Appendix R remote shutdown monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3-6A.

TABLE 3.3-9A

APPENDIX R REMOTE SHUTDOWN MONITORING INSTRUMENTATION

INSTRUMENT	READOUT LOCATION	MEASUREMENT RANGE	MINIMUM CHANNELS OPERABLE
1. Steam Generators 1 and 4 Level	LSI Cabinet 1 and LSI Cabinet 4	0-100% wide range instrument span	one on each LSI cabinet for each steam generator
2. Steam Generators 2 and 3 Level	LSI Cabinet 2 and LSI Cabinet 4	0-100% wide range instrument span	one on each LSI cabinet for each steam generator
3. Steam Generators 1 and 4 Pressure	LSI Cabinet 4 and LSI Cabinet 5	0-1500 psig	one on each LSI cabinet for each steam generator
4. Steam Generators 2 and 3 Pressure	LSI Cabinet 4 and LSI Cabinet 6	0-1500 psig	one on each LSI cabinet for each steam generator
5. Reactor Coolant Loop 4 Temperature (Cold)	LSI Cabinet 4 and LSI Cabinet 5	0-700°F	one on each LSI cabinet
6. Reactor Coolant Loop 4 Temperature (Hot)	LSI Cabinet 4 and LSI Cabinet 5	0-700°F	one on each LSI cabinet
7. Reactor Coolant Loop 2 Temperature (Cold)	LSI Cabinet 4 and LSI Cabinet 6	0-700°F	one on each LSI cabinet
8. Reactor Coolant Loop 2 Temperature (Hot)	LSI Cabinet 4 and LSI Cabinet 6	0-700°F	one on each LSI cabinet

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R.1

TABLE 3.3-9A (cont.)

APPENDIX R REMOTE SHUTDOWN MONITORING INSTRUMENTATION

INSTRUMENT	READOUT LOCATION	MEASUREMENT RANGE	MINIMUM CHANNELS OPERABLE
9. Pressurizer Level	LSI Cabinet 3	0-100% of instrument span	1
10. Reactor Coolant System Pressure	LSI Cabinet 3	0-3000 psig	1
11. Charging Cross-Flow Between Units	Corridor Elev. 587'	0-150 gpm	1
12. Source Range Neutron Detector (N-23)	LSI Cabinet 4	1-1 X 10^6 cps	1

R.1

CTS 3/4.3.3.5.1

TABLE 4.3-6A

APPENDIX R REMOTE SHUTDOWN MONITORING INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

	INSTRUMENT	LOCATION	CHANNEL CHECK	CHANNEL CALIBRATION
1.	Steam Generators 1 and 4 Level	LSI Cabinet 1 and LSI Cabinet 4	M	R
2.	Steam Generators 2 and 3 Level	LSI Cabinet 2 and LSI Cabinet 4	M	R
3.	Steam Generators 1 and 4 Pressure	LSI Cabinet 4 and LSI Cabinet 5	M	R
4.	Steam Generators 2 and 3 Pressure	LSI Cabinet 4 and LSI Cabinet 6	M	R
5.	Reactor Coolant Loop 4 Temperature (Cold)	LSI Cabinet 4 and LSI Cabinet 5	M	R
6.	Reactor Coolant Loop 4 Temperature (Hot)	LSI Cabinet 4 and LSI Cabinet 5	M	R
7.	Reactor Coolant Loop 2 Temperature (Cold)	LSI Cabinet 4 and LSI Cabinet 6	M	R
8.	Reactor Coolant Loop 2 Temperature (Hot)	LSI Cabinet 4 and LSI Cabinet 6	M	R
9.	Pressurizer Level	LSI Cabinet 3	M	R
10.	Reactor Coolant System Pressure	LSI Cabinet 3	M	R
11.	Charging Cross-Flow Between Units	Corridor Elev 587'	N/A	R*
12.	Source Range Neutron Detector (N-23)	LSI Cabinet 4	N/A	R

* Charging Cross-Flow between Units is an instrument common to both Unit 1 and 2. This surveillance will only be conducted on an interval consistent with Unit 1 refueling.

R.1

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DISCUSSION OF CHANGES
CTS 3/4.3.3.5.1, APPENDIX R REMOTE SHUTDOWN INSTRUMENTATION

ADMINISTRATIVE CHANGES

None

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

R.1 CTS 3/4.3.3.5.1 provides requirements for Appendix R remote shutdown instrumentation. The Appendix R remote shutdown instrumentation is used to ensure that a fire will not preclude achieving safe shutdown. This instrumentation is independent of areas where a fire could damage systems normally used to shutdown the reactor. However, the instrumentation is not used to detect a degradation of the reactor coolant pressure boundary, and is not assumed to mitigate a design basis accident (DBA) or transient event. The Appendix R remote shutdown instrumentation capability is consistent with the requirements of 10 CFR 50, Appendix R. The acceptability of the relocation of the Appendix R Technical Specification requirements from the plant Technical Specifications has already been endorsed by the NRC as indicated in Generic Letter 86-10. This Specification does not meet the criteria for retention in the Improved Technical Specifications (ITS); therefore, it will be retained in the Technical Requirements Manual (TRM).

This change is acceptable because CTS 3/4.3.3.5.1 does not meet the 10 CFR 50.36(c)(2)(ii) criteria for inclusion into the ITS.

10 CFR 50.36(c)(2)(ii) Criteria Evaluation:

1. Appendix R remote shutdown instrumentation is not used for, nor capable of, detecting a significant abnormal degradation of the reactor coolant pressure boundary prior to a DBA. The Appendix R Remote Shutdown Instrumentation Specification does not satisfy criterion 1.

2. Appendix R remote shutdown instrumentation is not used to indicate status of, or monitor a process variable, design feature, or operating restriction that is an initial condition of a DBA or transient. The Appendix R Remote Shutdown Instrumentation Specification does not satisfy criterion 2.

3. Appendix R remote shutdown instrumentation is not part of a primary success path in the mitigation of a DBA or transient. The Appendix R Remote Shutdown Instrumentation Specification does not satisfy criterion 3.

4. Although the Appendix R remote shutdown instrumentation has not been specifically evaluated for risk significance either generically or on a plant specific basis, insight based on a review of CNP Units 1 and 2 licensing

basis documentation (including the CNP Probabilistic Risk Assessment Final Report) indicates that the instrumentation is not risk dominant with regards to core damage frequency or off-site health effects. The Appendix R Remote Shutdown Instrumentation Specification does not satisfy criterion 4.

Since the 10 CFR 50.36(c)(2)(ii) criteria have not been met, Appendix R Remote Shutdown Instrumentation LCO and Surveillances may be relocated out of the Technical Specifications. The Appendix R Remote Shutdown Instrumentation Specification will be relocated to the TRM. Changes to the TRM will be controlled by the provisions of 10 CFR 50.59. This change is designated as a relocation because the Specification did not meet the criteria in 10 CFR 50.36(c)(2)(ii) and has been relocated to the TRM.

REMOVED DETAIL CHANGES

None

LESS RESTRICTIVE CHANGES

None

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Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
CTS 3/4.3.3.5.1, APPENDIX R REMOTE SHUTDOWN INSTRUMENTATION

There are no specific NSHC discussions for this Specification.

CTS 3/4.3.3.9, EXPLOSIVE GAS MONITORING INSTRUMENTATION

Current Technical Specification (CTS) Markup and Discussion of Changes (DOCs)

INSTRUMENTATION

EXPLOSIVE GAS MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.9 The explosive gas monitoring instrumentation channels shown in Table 3.3-12 shall be OPERABLE with their alarm/trip setpoints set to ensure that the limits of Specification 3.11.2.1 are not exceeded.

APPLICABILITY: As shown in Table 3.3-12.

ACTION:

a. With an explosive gas monitoring instrumentation channel alarm/trip setpoint less conservative than the above specification, declare the channel inoperable and take the ACTION shown in Table 3.3-12.

b. With less than the minimum number of explosive gas monitoring instrumentation channels OPERABLE, take the ACTION shown in Table 3.3-12. Restore the inoperable instrumentation to OPERABLE status within 30 days. If unsuccessful, prepare and submit a SPECIAL REPORT to the Commission pursuant to Specification 6.9.2 to explain why this inoperability was not corrected in a timely manner. R.1

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

SURVEILLANCE REQUIREMENTS

4.3.3.9 Each explosive gas monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, CHANNEL CALIBRATION, and analog CHANNEL FUNCTIONAL TEST at the frequencies shown in Table 4.3-8.

TABLE 3.3-12

Explosive Gas Monitoring Instrumentation

Instrument (Instrument #)	Minimum Channels OPERABLE	Applicability	ACTION
1. Waste Gas Holdup System Explosive Gas Monitoring System[1]			
a. Hydrogen Monitor (QC-1400)	1	**	23
b. Oxygen Monitor (QC-1400, QC-370)	2	**	24

R.1

ACTION Statements

Action 23 With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, operation of this system may continue for up to 14 days, provided grab samples are taken and analyzed every 12 hours.

Action 24 With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, operation of this system may continue for up to 30 days. With 2 channels inoperable, operation of this system may continue for up to 30 days, provided grab samples are taken and analyzed every 12 hours.

** During waste gas holdup system operation.

[1] The waste gas holdup system explosive gas monitoring system may be inoperable for up to 160 days on a one-time basis for the purpose of replacing one oxygen monitor. During this time, grab samples for oxygen are to be taken and analyzed every 12 hours.

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TABLE 4.3-8

Explosive Gas Monitoring Instrumentation Surveillance Requirements

Instrument (Instrument #)	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	Applicability
1. Waste Gas Holdup System Explosive Gas Monitoring System				
a. Hydrogen Monitor (QC-1400)	D	M	Q(1)	**
b. Oxygen Monitor (QC-1400, QC-370*)	D	M	Q(2)	**

Table Notation

(1) The CHANNEL CALIBRATION shall include the use of standard gas samples containing a nominal:

a. One volume percent hydrogen, balance nitrogen, and

b. Four volume percent hydrogen, balance nitrogen.

(2) The CHANNEL CALIBRATION shall include the use of standard gas samples containing a nominal:

a. One volume percent oxygen, balance nitrogen, and

b. Four volume percent oxygen, balance nitrogen.

** During waste gas holdup system operation.

R.1

* These surveillances are not required during the 160-day period in which this monitor is being replaced.

INSTRUMENTATION

EXPLOSIVE GAS MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.9 The explosive gas monitoring instrumentation channels shown in Table 3.3-12 shall be OPERABLE with their alarm/trip setpoints set to ensure that the limits of Specifications 3.11.2.1 are not exceeded.

APPLICABILITY: As shown in Table 3.3-12.

ACTION:

a. With an explosive gas monitoring instrumentation channel alarm/trip setpoint less conservative than the above specification, declare the channel inoperable and take the ACTION shown in Table 3.3-12.

b. With less than the minimum number of explosive gas monitoring instrumentation channels OPERABLE, take the ACTION shown in Table 3.3-12. Restore the inoperable instrumentation to OPERABLE status within 30 days. If unsuccessful, prepare and submit a SPECIAL REPORT to the Commission pursuant to Specification 6.9.2 to explain why this inoperability was not corrected in a timely manner.

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

R.1

SURVEILLANCE REQUIREMENTS

4.3.3.9.1 Each explosive gas monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, CHANNEL CALIBRATION, and analog CHANNEL FUNCTIONAL TEST at the frequencies shown in Table 4.3-8.

TABLE 3.3-12

Explosive Gas Monitoring Instrumentation

Instrument (Instrument #)	Minimum Channels OPERABLE	Applicability	ACTION
1. Waste Gas Holdup System Explosive Gas Monitoring System[1]			
a. Hydrogen Monitor (QC-1400)	1	**	23
b. Oxygen Monitor (QC-1400, QC-370)	2	**	24

R.1

ACTION STATEMENTS

Action 23 With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, operation of this system may continue for up to 14 days, provided grab samples are taken and analyzed every 12 hours.

Action 24 With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, operation of this system may continue for up to 30 days. With 2 channels inoperable, operation of this system may continue for up to 30 days, provided grab samples are taken and analyzed every 12 hours.

** During waste gas holdup system operation.

1 The waste gas holdup system explosive gas monitoring system may be inoperable for up to 160 days on a one-time basis for the purpose of replacing one oxygen monitor. During this time, grab samples for oxygen are to be taken and analyzed every 12 hours.

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TABLE 4.3-8

Explosive Gas Monitoring Instrumentation Surveillance Requirements

Instrument (Instrument #)	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	Applicability
1. Waste Gas Holdup System Explosive Gas Monitoring System				
a. Hydrogen Monitor (QC-1400)	D	M	Q(1)	**
b. Oxygen Monitor (QC-1400, QC-370*)	D	M	Q(2)	**

Table Notation

(1) The CHANNEL CALIBRATION shall include the use of standard gas samples containing a nominal:

a. One volume percent hydrogen, balance nitrogen, and

b. Four volume percent hydrogen, balance nitrogen.

(2) The CHANNEL CALIBRATION shall include the use of standard gas samples containing a nominal:

a. One volume percent oxygen, balance nitrogen, and

b. Four volume percent oxygen, balance nitrogen.

** During waste gas holdup system operation.

* These surveillances are not required during the 160-day period in which this monitor is being replaced.

R.1

DISCUSSION OF CHANGES
CTS 3/4.3.3.9, EXPLOSIVE GAS MONITORING INSTRUMENTATION

ADMINISTRATIVE CHANGES

None

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

R.1 CTS 3/4.3.3.9 provides requirements for explosive gas monitoring instrumentation. The Explosive Gas Monitoring Instrumentation Specification is provided to ensure that the concentration of potentially explosive gas mixtures contained in the gaseous waste processing system is adequately monitored, which will help ensure that the concentration is maintained below the flammability limit. However, the system is designed to contain detonations, and detonations would not affect the function of any safety related equipment. The concentration of oxygen in the gaseous Waste Processing System is not an initial assumption of any design basis accident (DBA) or transient analysis. This Specification does not meet the criteria for retention in the Improved Technical Specifications (ITS); therefore, it will be retained in the Technical Requirements Manual (TRM).

This change is acceptable because CTS 3/4.3.3.9 does not meet the 10 CFR 50.36(c)(2)(ii) criteria for inclusion into the ITS.

10 CFR 50.36(c)(2)(ii) Criteria Evaluation:

1. Explosive gas monitoring instrumentation is not used for, nor capable of, detecting a significant abnormal degradation of the reactor coolant pressure boundary prior to a DBA. The Explosive Gas Monitoring Instrumentation Specification does not satisfy criterion 1.

2. Explosive gas monitoring instrumentation is not used to indicate status of, or monitor a process variable, design feature, or operating restriction that is an initial condition of a DBA or transient. In addition, excessive system oxygen is not an indication of a DBA or transient. The Explosive Gas Monitoring Instrumentation Specification does not satisfy criterion 2.

3. Explosive gas monitoring instrumentation is not part of a primary success path in the mitigation of a DBA or transient. In addition, excessive oxygen discharge is not part of a primary success path in mitigating a DBA or transient. The Explosive Gas Monitoring Instrumentation Specification does not satisfy criterion 3.

4. As discussed in Section 4.0 (Appendix A, page A-69) and summarized in Table 1 of WCAP-11618, the loss of the explosive gas monitoring instrumentation was found to be a non-significant risk contributor to core damage frequency and offsite releases. I&M has reviewed this evaluation, considers it applicable to CNP Units 1 and 2, and concurs with

DISCUSSION OF CHANGES
CTS 3/4.3.3.9, EXPLOSIVE GAS MONITORING INSTRUMENTATION

the assessment. The Explosive Gas Monitoring Instrumentation Specification does not satisfy criterion 4.

Since the 10 CFR 50.36(c)(2)(ii) criteria have not been met, Explosive Gas Monitoring Instrumentation LCO and Surveillances may be relocated out of the Technical Specifications. The Explosive Gas Monitoring Instrumentation Specification will be relocated to the TRM. Changes to the TRM will be controlled by the provisions of 10 CFR 50.59. This change is designated as a relocation because the Specification did not meet the criteria in 10 CFR 50.36(c)(2)(ii) and has been relocated to the TRM.

REMOVED DETAIL CHANGES

None

LESS RESTRICTIVE CHANGES

None

Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
CTS 3/4.3.3.9, EXPLOSIVE GAS MONITORING INSTRUMENTATION

There are no specific NSHC discussions for this Specification.

ATTACHMENT 10

Improved Standard Technical Specifications (ISTS) not adopted in the CNP ITS

ISTS 3.3.8, FUEL BUILDING AIR CLEANUP SYSTEM (FBACS) ACTUATION SYSTEM

ISTS 3.3.8 Markup and Justification for Deviations (JFDs)

(1)

3.3 INSTRUMENTATION

3.3.8 Fuel Building Air Cleanup System (FBACS) Actuation Instrumentation

LCO 3.3.8 The FBACS actuation instrumentation for each Function in Table 3.3.8-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.8-1.

ACTIONS

- NOTES -

1. LCO 3.0.3 is not applicable.
2. Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions with one channel or train inoperable.	A.1 Place one FBACS train in operation.	7 days
B. One or more Functions with two channels or two trains inoperable.	B.1.1 Place one FBACS train in operation.	Immediately
	AND	
	B.1.2 Enter applicable Conditions and Required Actions of LCO 3.7.13, "Fuel Building Air Cleanup System (FBACS)," for one train made inoperable by inoperable actuation instrumentation.	Immediately
	OR	
	B.2 Place both trains in emergency [radiation protection] mode.	Immediately

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ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
C. Required Action and associated Completion Time for Condition A or B not met during movement of [recently] irradiated fuel assemblies in the fuel building.	C.1	Suspend movement of [recently] irradiated fuel assemblies in the fuel building.	Immediately
D. [Required Action and associated Completion Time for Condition A or B not met in MODE 1, 2, 3, or 4.	D.1 AND D.2	Be in MODE 3. Be in MODE 5.	6 hours 36 hours]

SURVEILLANCE REQUIREMENTS

- NOTE -

Refer to Table 3.3.8-1 to determine which SRs apply for each FBACS Actuation Function.

SURVEILLANCE		FREQUENCY
SR 3.3.8.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.8.2	Perform COT.	92 days
SR 3.3.8.3	[Perform ACTUATION LOGIC TEST.	31 days on a STAGGERED TEST BASIS]
SR 3.3.8.4	- NOTE - Verification of setpoint is not required. Perform TADOT.	[18] months

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SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.8.5	Perform CHANNEL CALIBRATION.	[18] months

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Table 3.3.8-1 (page 1 of 1)
FBACS Actuation Instrumentation

FUNCTION	APPLICABLE MODES OR SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	TRIP SETPOINT
1. Manual Initiation	[1,2,3,4], (a)	2	SR 3.3.8.4	NA
2. [Automatic Actuation Logic and Actuation Relays	1,2,3,4, (a)	2 trains	SR 3.3.8.3	NA]
3. Fuel Building Radiation				
a. Gaseous	[1,2,3,4], (a)	[2]	SR 3.3.8.1 SR 3.3.8.2 SR 3.3.8.5	≤ [2] mR/hr
b. Particulate	[1,2,3,4], (a)	[2]	SR 3.3.8.1 SR 3.3.8.2 SR 3.3.8.5	≤ [2] mR/hr

(a) During movement of [recently] irradiated fuel assemblies in the fuel building.

JUSTIFICATION FOR DEVIATIONS
ISTS 3.3.8, FUEL BUILDING AIR CLEANUP SYSTEM (FBACS) ACTUATION INSTRUMENTATION

1. ISTS 3.3.8, "FBACS Actuation Instrumentation," is not being adopted at CNP Units 1 and 2 because it does not meet any of the 10 CFR 50.36(c)(2)(ii) criteria for retention in the ITS. ITS 3.7.13, "Fuel Handling Area Exhaust Ventilation (FHAEV) System," requires the FHAEV System to be in operation during movement of irradiated fuel assemblies in the auxiliary building, and no automatic actuation is required. The CNP Units 1 and 2 safety analyses assume that the FHAEV System is operating when a Fuel Handling Accident occurs. For this reason, FBACS Actuation Instrumentation is not required for accident mitigation, and does not meet Criterion 3 of 10 CFR 50.36(c)(2)(ii) for inclusion in the Technical Specifications.

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ISTS 3.3.8 Bases Markup and Justification for Deviations (JFDs)

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B 3.3 INSTRUMENTATION

B 3.3.8 Fuel Building Air Cleanup System (FBACS) Actuation Instrumentation

BASES

BACKGROUND

The FBACS ensures that radioactive materials in the fuel building atmosphere following a fuel handling accident [involving handling recently irradiated fuel] or a loss of coolant accident (LOCA) are filtered and adsorbed prior to exhausting to the environment. The system is described in the Bases for LCO 3.7.13, "Fuel Building Air Cleanup System." The system initiates filtered ventilation of the fuel building automatically following receipt of a high radiation signal (gaseous or particulate) or a safety injection (SI) signal. Initiation may also be performed manually as needed from the main control room.

High gaseous and particulate radiation, each monitored by either of two monitors, provides FBACS initiation. Each FBACS train is initiated by high radiation detected by a channel dedicated to that train. There are a total of two channels, one for each train. Each channel contains a gaseous and particulate monitor. High radiation detected by any monitor or an SI signal from the Engineered Safety Features Actuation System (ESFAS) initiates fuel building isolation and starts the FBACS. These actions function to prevent exfiltration of contaminated air by initiating filtered ventilation, which imposes a negative pressure on the fuel building. Since the radiation monitors include an air sampling system, various components such as sample line valves, sample line heaters, sample pumps, and filter motors are required to support monitor OPERABILITY.

APPLICABLE SAFETY ANALYSES

The FBACS ensures that radioactive materials in the fuel building atmosphere following a fuel handling accident [involving handling recently irradiated fuel] or a LOCA are filtered and adsorbed prior to being exhausted to the environment. This action reduces the radioactive content in the fuel building exhaust following a LOCA or fuel handling accident so that offsite doses remain within the limits specified in 10 CFR 100 (Ref. 1).

The FBACS actuation instrumentation satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

The LCO requirements ensure that instrumentation necessary to initiate the FBACS is OPERABLE.

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BASES

LCO (continued)

1. Manual Initiation

   The LCO requires two channels OPERABLE. The operator can initiate the FBACS at any time by using either of two switches in the control room. This action will cause actuation of all components in the same manner as any of the automatic actuation signals.

   The LCO for Manual Initiation ensures the proper amount of redundancy is maintained in the manual actuation circuitry to ensure the operator has manual initiation capability.

   Each channel consists of one push button and the interconnecting wiring to the actuation logic cabinet.

2. Automatic Actuation Logic and Actuation Relays

   The LCO requires two trains of Actuation Logic and Relays OPERABLE to ensure that no single random failure can prevent automatic actuation.

   Automatic Actuation Logic and Actuation Relays consist of the same features and operate in the same manner as described for ESFAS Function 1.b., SI, in LCO 3.3.2. The applicable MODES and specified conditions for the FBACS portion of these functions are different and less restrictive than those specified for their SI roles. If one or more of the SI functions becomes inoperable in such a manner that only the FBACS function is affected, the Conditions applicable to their SI function need not be entered. The less restrictive Actions specified for inoperability of the FBACS functions specify sufficient compensatory measures for this case.

3. Fuel Building Radiation

   The LCO specifies two required Gaseous Radiation Monitor channels and two required Particulate Radiation Monitor channels to ensure that the radiation monitoring instrumentation necessary to initiate the FBACS remains OPERABLE.

   For sampling systems, channel OPERABILITY involves more than OPERABILITY of channel electronics. OPERABILITY may also require correct valve lineups, sample pump operation, filter motor operation, detector OPERABILITY, if these supporting features are

(1)

BASES

LCO (continued)

necessary for actuation to occur under the conditions assumed by the safety analyses.

Only the Trip Setpoint is specified for each FBACS Function in the LCO. The Trip Setpoint limits account for instrument uncertainties, which are defined in the Unit Specific Setpoint Calibration Procedure (Ref. 2).

APPLICABILITY

The manual FBACS initiation must be OPERABLE in MODES [1, 2, 3, and 4] and when moving [recently] irradiated fuel assemblies in the fuel building, to ensure the FBACS operates to remove fission products associated with leakage after a LOCA or a fuel handling accident [involving handling recently irradiated fuel]. The automatic FBACS actuation instrumentation is also required in MODES [1, 2, 3, and 4] to remove fission products caused by post LOCA Emergency Core Cooling Systems leakage.

High radiation initiation of the FBACS must be OPERABLE in any MODE during movement of [recently] irradiated fuel assemblies in the fuel building to ensure automatic initiation of the FBACS when the potential for the limiting fuel handling accident exists. [Due to radioactive decay, the FBACS instrumentation is only required to be OPERABLE during fuel handling involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous [ ] days).]

While in MODES 5 and 6 without fuel handling [involving handling recently irradiated fuel] in progress, the FBACS instrumentation need not be OPERABLE since a fuel handling accident [involving handling recently irradiated fuel] cannot occur.

ACTIONS

The most common cause of channel inoperability is outright failure or drift of the bistable or process module sufficient to exceed the tolerance allowed by unit specific calibration procedures. Typically, the drift is found to be small and results in a delay of actuation rather than a total loss of function. This determination is generally made during the performance of a COT, when the process instrumentation is set up for adjustment to bring it within specification. If the Trip Setpoint is less conservative than the tolerance specified by the calibration procedure, the channel must be declared inoperable immediately and the appropriate Condition entered.

LCO 3.0.3 is not applicable while in MODE 5 or 6. However, since irradiated fuel assembly movement can occur in MODE 1, 2, 3, or 4, the

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BASES

ACTIONS (continued)

ACTIONS have been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 5 or 6, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in MODE 1, 2, 3, or 4, the fuel movement is independent of reactor operations. Entering LCO 3.0.3, while in MODE 1, 2, 3, or 4 would require the unit to be shutdown unnecessarily.

A second Note has been added to the ACTIONS to clarify the application of Completion Time rules. The Conditions of this Specification may be entered independently for each Function listed in Table 3.3.8-1 in the accompanying LCO. The Completion Time(s) of the inoperable channel(s)/train(s) of a Function will be tracked separately for each Function starting from the time the Condition was entered for that Function.

A.1

Condition A applies to the actuation logic train function of the Solid State Protection System (SSPS), the radiation monitor functions, and the manual function. Condition A applies to the failure of a single actuation logic train, radiation monitor channel, or manual channel. If one channel or train is inoperable, a period of 7 days is allowed to restore it to OPERABLE status. If the train cannot be restored to OPERABLE status, one FBACS train must be placed in operation. This accomplishes the actuation instrumentation function and places the unit in a conservative mode of operation. The 7 day Completion Time is the same as is allowed if one train of the mechanical portion of the system is inoperable. The basis for this time is the same as that provided in LCO 3.7.13.

B.1.1, B.1.2, B.2

Condition B applies to the failure of two FBACS actuation logic trains, two radiation monitors, or two manual channels. The Required Action is to place one FBACS train in operation immediately. This accomplishes the actuation instrumentation function that may have been lost and places the unit in a conservative mode of operation. The applicable Conditions and Required Actions of LCO 3.7.13 must also be entered for the FBACS train made inoperable by the inoperable actuation instrumentation. This ensures appropriate limits are placed on train inoperability as discussed in the Bases for LCO 3.7.13.

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BASES

ACTIONS (continued)

Alternatively, both trains may be placed in the emergency [radiation protection] mode. This ensures the FBACS Function is performed even in the presence of a single failure.

C.1

Condition C applies when the Required Action and associated Completion Time for Condition A or B have not been met and [recently] irradiated fuel assemblies are being moved in the fuel building. Movement of [recently] irradiated fuel assemblies in the fuel building must be suspended immediately to eliminate the potential for events that could require FBACS actuation.

D.1 and D.2

Condition D applies when the Required Action and associated Completion Time for Condition A or B have not been met and the unit is in MODE 1, 2, 3, or 4. The unit must be brought to a MODE in which the LCO requirements are not applicable. To achieve this status, the unit must be brought to MODE 3 within 6 hours and MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE REQUIREMENTS

A Note has been added to the SR Table to clarify that table 3.3.8-1 determines which SRs apply to which FBACS Actuation Functions.

SR 3.3.8.1

Performance of the CHANNEL CHECK once every 12 hours ensures that a gross failure of instrumentation has not occurred. A CHANNEL CHECK is normally a comparison of the parameter indicated on one channel to a similar parameter on other channels. It is based on the assumption that instrument channels monitoring the same parameter should read approximately the same value. Significant deviations between the two instrument channels could be an indication of excessive instrument drift in one of the channels or of something even more serious. A CHANNEL CHECK will detect gross channel failure; thus, it is key to verifying the instrumentation continues to operate properly between each CHANNEL CALIBRATION.

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SURVEILLANCE REQUIREMENTS (continued)

Agreement criteria are determined by the unit staff, based on a combination of the channel instrument uncertainties, including indication and readability. If a channel is outside the criteria, it may be an indication that the sensor or the signal processing equipment has drifted outside its limit.

The Frequency is based on operating experience that demonstrates channel failure is rare. The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with the LCO required channels.

SR 3.3.8.2

A COT is performed once every 92 days on each required channel to ensure the entire channel will perform the intended function. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable CHANNEL OPERATIONAL TEST of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions. This test verifies the capability of the instrumentation to provide the FBACS actuation. The setpoints shall be left consistent with the unit specific calibration procedure tolerance. The Frequency of 92 days is based on the known reliability of the monitoring equipment and has been shown to be acceptable through operating experience.

SR 3.3.8.3

[SR 3.3.8.3 is the performance of an ACTUATION LOGIC TEST. The actuation logic is tested every 31 days on a STAGGERED TEST BASIS. All possible logic combinations, with and without applicable permissives, are tested for each protection function. The Frequency is based on the known reliability of the relays and controls and the multichannel redundancy available, and has been shown to be acceptable through operating experience.]

SR 3.3.8.4

SR 3.3.8.4 is the performance of a TADOT. This test is a check of the manual actuation functions and is performed every [18] months. Each manual actuation function is tested up to, and including, the master relay

BASES

SURVEILLANCE REQUIREMENTS (continued)

coils. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable TADOT of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions. In some instances, the test includes actuation of the end device (e.g., pump starts, valve cycles, etc.). The Frequency is based on operating experience and is consistent with the typical industry refueling cycle. The SR is modified by a Note that excludes verification of setpoints during the TADOT. The Functions tested have no setpoints associated with them.

SR 3.3.8.5

A CHANNEL CALIBRATION is performed every [18] months, or approximately at every refueling. CHANNEL CALIBRATION is a complete check of the instrument loop, including the sensor. The test verifies that the channel responds to a measured parameter within the necessary range and accuracy. The Frequency is based on operating experience and is consistent with the typical industry refueling cycle.

REFERENCES

1. 10 CFR 100.11.
2. Unit Specific Setpoint Calibration Procedure.

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JUSTIFICATION FOR DEVIATIONS
ISTS 3.3.8 BASES, FUEL BUILDING AIR CLEANUP SYSTEM (FBACS) ACTUATION INSTRUMENTATION

1. Changes are made to be consistent with changes made to the Specification.