

TABLE 3.3.2-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

<u>TRIP FUNCTION</u>	<u>VALVE GROUPS OPERATED BY SIGNAL</u>	<u>MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (a)</u>	<u>APPLICABLE OPERATIONAL CONDITION</u>	<u>ACTION</u>
3. REACTOR WATER CLEANUP SYSTEM ISOLATION				
a. Δ Flow - High	7	1	1, 2, 3	22
b. Heat Exchanger Area Temperature - High	7	1	1, 2, 3	22
c. Heat Exchanger Area Ventilation Δ Temp. - High	7		1, 2, 3	22
d. Pump Area Temperature - High				
1) Pump Room A	7	1	1, 2, 3	22
2) Pump Room B	7	1	1, 2, 3	22
e. Pump Area Ventilation Δ Temp. - High				
1) Pump Room A	7	1	1, 2, 3	22
2) Pump Room B	7	1	1, 2, 3	22
f. SLCS Initiation	7(f)	N.A.	1, 2, 3	22
g. Reactor Vessel Water Level - Low Low, Level 2	7	2	1, 2, 3	22
h. RWCU/RCIC Line Routing Area Temperature - High	7	1	1, 2, 3	22
i. RWCU Line Routing Area Temperature - High	7	1	1, 2, 3	22
j. Manual Initiation	7	1/group	1, 2, 3	24
Room 509	7	1	1, 2, 3	22
Room 511	7	1	1, 2, 3	22
Room 408	7	1	1, 2, 3	22
Room 409	7	1	1, 2, 3	22

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TABLE 3.3.2-1 (Continued)
ISOLATION ACTUATION INSTRUMENTATION

TRIP FUNCTION	VALVE GROUPS OPERATED BY SIGNAL	MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (a)	APPLICABLE OPERATIONAL CONDITION	ACTION
4. REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION				
a. RCIC Steam Line Flow - High	8	1	1, 2, 3	22
b. RCIC/RHR Steam Line Flow - High	8	1	1, 2, 3	22
c. RCIC Steam Supply Pressure - Low	8, 9	2	1, 2, 3	22
d. RCIC Turbine Exhaust Diaphragm Pressure - High	8	2	1, 2, 3	22
e. RCIC Equipment Room Temperature - High	8	1	1, 2, 3	22
f. RCIC Equipment Room Δ Temperature - High	8	1	1, 2, 3	22
g. RWCU/RCIC Steam Line Routing Area Temperature - High	8	1	1, 2, 3	22
h. Drywell Pressure - High	9	2	1, 2, 3	22
i. Manual Initiation(h)	8	1	1, 2, 3	24
5. RHR SYSTEM SHUTDOWN COOLING MODE ISOLATION				
a. Reactor Vessel Water Level - Low, Level 3	6	2	1, 2, 3	26
b. Reactor Vessel (RHR Cut-in Permissive) Pressure - High	6	1	1, 2, 3	26
c. Equipment Area Temperature - High	6	1	1, 2, 3	26
d. Equipment Area Ventilation Δ Temp. - High	6	1	1, 2, 3	26
e. Shutdown Cooling Suction Flow Rate - High	6	1	1, 2, 3	26
f. RHR Heat Exchanger Area Temperature - High	6	1	1, 2, 3	26
g. Manual Initiation	6	1/group	1, 2, 3	24
ROOM 606	6	1	1, 2, 3	26
ROOM 507	6	1	1, 2, 3	26
ROOM 605	6	1	1, 2, 3	26
ROOM 505	6	1	1, 2, 3	26

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TABLE 3.3.2-2

ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

<u>TRIP FUNCTION</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
1. <u>PRIMARY CONTAINMENT ISOLATION</u>		
a. Reactor Vessel Water Level		
1) Low, Level 3	> 13.0 inches*	> 11.0 inches
2) Low Low, Level 2	> -50 inches*	> -57 inches
b. Drywell Pressure - High	< 1.68 psig	< 1.88 psig
c. Main Steam Line		
1) Radiation - High	< 3.0 x full power background	< 3.6 x full power background
2) Pressure - Low	> 811 psig	> 811 psig
3) Flow - High	< 108 psid	< 108 psid
d. Main Steam Line Tunnel		
Temperature - High	< 150°F	< 200°F 170°F
e. Main Steam Line Tunnel		
Δ Temperature - High	< 80°F	< 100°F 90°F
f. Condenser Vacuum - Low	> 23 inches Hg absolute pressure	> 24.5 inches Hg absolute pressure
g. Manual Initiation	N.A.	N.A.
2. <u>SECONDARY CONTAINMENT ISOLATION</u>		
a. Reactor Building Vent Exhaust Plenum		
Radiation - High	13.0 mR/h	16.0 mR/h
b. Drywell Pressure - High	< 5.0 mR/h	< 11.6 mR/h
c. Reactor Vessel Water	< 1.68 psig	< 1.88 psig
Level - Low Low, Level 2	> -50 inches*	> -57 inches
d. Manual Initiation	N.A.	N.A.

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Room 509
Room 511
Room 408
Room 409

$\leq 160^{\circ}\text{F}$
 $\leq 160^{\circ}\text{F}$
 $\leq 160^{\circ}\text{F}$
 $\leq 160^{\circ}\text{F}$

$\leq 175^{\circ}\text{F}$
 $\leq 180^{\circ}\text{F}$
 $\leq 180^{\circ}\text{F}$
 $\leq 175^{\circ}\text{F}$

TABLE 3.3.2-2 (Continued)

ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE
3. REACTOR WATER CLEANUP SYSTEM ISOLATION		
a. Δ Flow - High	≤ 58.5 gpm	≤ 65.5 gpm
b. Heat Exchanger Area Temperature - High	$\leq 135^{\circ}\text{F}^{***} 150^{\circ}\text{F}$	$\leq 200^{\circ}\text{F}^{***} 160^{\circ}\text{F}$
c. Heat Exchanger Area Ventilation Δ Temp. - High	$\leq 20^{\circ}\text{F}^{***} 60^{\circ}\text{F}$	$\leq 95^{\circ}\text{F}^{***} 70^{\circ}\text{F}$
d. Pump Area Temperature - High	$\leq 160^{\circ}\text{F}$	$\leq 150^{\circ}\text{F}^{***} 180^{\circ}\text{F}$
Pump Room A	$\leq 130^{\circ}\text{F}^{***}$	$\leq 150^{\circ}\text{F}^{***} 180^{\circ}\text{F}$
Pump Room B	$\leq 130^{\circ}\text{F}^{***}$	
e. Pump Area Ventilation Δ Temp. - High	$\leq 160^{\circ}\text{F}$	
Pump Room A	$\leq 50^{\circ}\text{F}^{***} 70^{\circ}\text{F}$	$\leq 73^{\circ}\text{F}^{***} 100^{\circ}\text{F}$
Pump Room B	$\leq 50^{\circ}\text{F}^{***} 70^{\circ}\text{F}$	$\leq 73^{\circ}\text{F}^{***} 100^{\circ}\text{F}$
f. SLCS Initiation	N.A.	N.A.
g. Reactor Vessel Water Level - Low Low, Level 2	≥ -50 inches*	≥ -57 inches
h. RWCU/RCIC Line Routing Area Temperature - High	$\leq 110^{\circ}\text{F}^{***} 160^{\circ}\text{F}$	$\leq 116^{\circ}\text{F}^{***} 180^{\circ}\text{F}$
i. RWCU Line Routing Area Temperature - High	$\leq 110^{\circ}\text{F}^{***}$	$\leq 116^{\circ}\text{F}^{***}$
j. Manual Initiation	N.A.	N.A.
4. REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION		
a. RCIC Steam Line Flow - High	$\leq 290\%$ of rated flow	$\leq 300\%$ of rated flow
b. RHR/RCIC Steam Line Flow - High	≤ 101.5 inches H_2O	≤ 107.5 inches H_2O
c. RCIC Steam Supply Pressure - Low	≥ 62 psig	≥ 58 psig
d. RCIC Turbine Exhaust Diaphragm Pressure - High	≤ 10.0 psig	≤ 20.0 psig
e. RCIC Equipment Room Temperature - High	$\leq 130^{\circ}\text{F}^{***} 160^{\circ}\text{F}$	$\leq 200^{\circ}\text{F}^{***} 180^{\circ}\text{F}$

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TABLE 3.3.2-2 (Continued)

ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

<u>TRIP FUNCTION</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
4. <u>REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION</u> (Continued)		
f. RCIC Equipment Room Δ Temperature - High	$\leq 40^{\circ}\text{F}^{**} 50^{\circ}\text{F}$	$\leq 723^{\circ}\text{F} 60^{\circ}\text{F}$
g. RWCU/RCIC Steam Line Routing Area Temperature - High	$\leq 110^{\circ}\text{F}^{**} 160^{\circ}\text{F}$	$\leq 116^{\circ}\text{F}^{**} 180^{\circ}\text{F}$
h. Drywell Pressure - High	≤ 1.65 psig	≤ 1.85 psig
i. Manual Initiation	N.A.	N.A.
5. <u>RHR SYSTEM SHUTDOWN COOLING MODE ISOLATION</u>		
a. Reactor Vessel Water Level - Low, Level 3	≥ 13.5 inches*	≥ 11.0 inches
b. Reactor Vessel (RHR Cut-in Permissive) Pressure - High	≤ 125 psig	≤ 135 psig
c. Equipment Area Temperature - High Pump Room A Pump Room B	$\leq 138^{\circ}\text{F}^{**} 140^{\circ}\text{F}$ $\leq 132^{\circ}\text{F}^{**} 140^{\circ}\text{F}$	$\leq 145^{\circ}\text{F}^{**} 150^{\circ}\text{F}$ $\leq 139^{\circ}\text{F}^{**} 150^{\circ}\text{F}$
d. Equipment Area Ventilation Δ Temp. - High Pump Room A Pump Room B	$\leq 63^{\circ}\text{F}^{**} 55^{\circ}\text{F}$ $\leq 56^{\circ}\text{F}^{**} 55^{\circ}\text{F}$	$\leq 68^{\circ}\text{F}^{**} 70^{\circ}\text{F}$ $\leq 62^{\circ}\text{F}^{**} 70^{\circ}\text{F}$
e. Shutdown Cooling Return Flow Rate - High	≤ 174 inches H_2O^{**} DELETE **	≤ 183 inches H_2O^{**} DELETE **
DELETE Δ f. RHR Heat Exchanger Area * Temperature - High	$\leq 18^{\circ}\text{F}^{**}$	$\leq 24^{\circ}\text{F}^{**}$
g. Manual Initiation	N.A.	N.A.

TABLE NOTATIONS

*See Bases Figure B 3/4 3-1.

~~**Initial setpoint. Final setpoint to be determined during startup test program. Any required change to this setpoint shall be submitted to the Commission within 90 days of test completion.~~

ROOM 606
ROOM 507
ROOM 605
ROOM 505

$\leq 130^{\circ}\text{F}$
 $\leq 150^{\circ}\text{F}$
 $\leq 140^{\circ}\text{F}$
 $\leq 130^{\circ}\text{F}$

$\leq 140^{\circ}\text{F}$
 $\leq 160^{\circ}\text{F}$
 $\leq 150^{\circ}\text{F}$
 $\leq 140^{\circ}\text{F}$

TABLE 3.3.2-3 (Continued)

ISOLATION SYSTEM INSTRUMENTATION RESPONSE TIME

<u>TRIP FUNCTION</u>	<u>RESPONSE TIME (Seconds)#</u>
4. <u>REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION</u>	
a. RCIC Steam Line Flow - High	< 13(a)
b. RHR/RCIC Steam Line Flow - High	< 13(a)
c. RCIC Steam Supply Pressure - Low	< 13(a)
d. RCIC Turbine Exhaust Diaphragm Pressure - High	N.A.
e. RCIC Equipment Room Temperature - High	N.A.
f. RCIC Equipment Room Δ Temperature - High	N.A.
g. RWCU/RCIC Steam Line Routing Area Temperature - High	N.A.
h. Drywell Pressure - High	N.A.
i. Manual Initiation	N.A.
5. <u>RHR SYSTEM SHUTDOWN COOLING MODE ISOLATION</u>	
a. Reactor Vessel Water Level - Low, level 3	$\leq 13(a)$
b. Reactor Vessel (RHR Cut-in Permissive) Pressure - High	N.A.
c. Equipment Area Temperature - High	N.A.
d. Equipment Area Ventilation Δ Temp. - High	N.A.
e. Shutdown Cooling Return Flow Rate - High	N.A.
f. RHR Heat Exchanger Area Δ Temperature - High	N.A.
g. Manual Initiation	N.A.

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TABLE 4.3.2.1-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>TRIP FUNCTION</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>CHANNEL CALIBRATION</u>	<u>OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED</u>
4. <u>REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION</u> (Continued)				
g. RWCU/RCIC Steam Line Routing Area Temperature - High	S	M	R	1, 2, 3
h. Drywell Pressure - High	N.A.	M	R	1, 2, 3
i. Manual Initiation	N.A.	R	N.A.	1, 2, 3
5. <u>RIIR SYSTEM SHUTDOWN COOLING MODE ISOLATION</u>				
a. Reactor Vessel Water Level - Low, Level 3	S	M	R	1, 2, 3
b. Reactor Vessel (RIIR Cut-in Permissive) Pressure - High	N.A.	M	R	1, 2, 3
c. Equipment Area Temperature - High	S	M	R	1, 2, 3
d. Equipment Area Ventilation Δ Temp. - High	S	M	R	1, 2, 3
e. Shutdown Cooling Return Flow Rate - High	N.A.	M	R	1, 2, 3
f. RIIR Heat Exchanger Area Temperature - High	S	M	R	1, 2, 3
g. Manual Initiation	N.A.	R	N.A.	1, 2, 3

DELETE Δ $\rightarrow$ XTABLE NOTATIONS* When reactor steam pressure $\geq$ 1037 psig and/or any turbine stop valve is open.

** When handling irradiated fuel in the secondary containment and during CORE ALTERATIONS and operations with a potential for draining the reactor vessel.

During CORE ALTERATION and operations with a potential for draining the reactor vessel.

