

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>
<b>3. REACTOR WATER CLEANUP SYSTEM ISOLATION</b>				
a. $\Delta$ 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 $\Delta$ 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 $\Delta$ 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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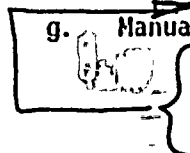
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TABLE 3.3.2-1 (Continued)  
ISOLATION ACTUATION INSTRUMENTATION

<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>
<u>4. REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION</u>				
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
<u>5. RHR SYSTEM SHUTDOWN COOLING MODE ISOLATION</u>				
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	< <del>200°F</del> 170°F
e. Main Steam Line Tunnel		
Δ Temperature - High	< <del>50°F</del> 80°F	< <del>100°F</del> 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	< <del>5.0 mR/h</del>	< <del>11.6 mR/h</del>
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
<b>3. REACTOR WATER CLEANUP SYSTEM ISOLATION</b>		
a. $\Delta$ Flow - High	$\leq 58.5$ gpm	$\leq 65.5$ 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 $\Delta$ 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	$\leq 160^{\circ}\text{F}$	
Pump Room A	$\leq 130^{\circ}\text{F}^{***}$	$\leq 150^{\circ}\text{F}^{***} 180^{\circ}\text{F}$
Pump Room B	$\leq 130^{\circ}\text{F}^{***}$	$\leq 150^{\circ}\text{F}^{***} 180^{\circ}\text{F}$
e. Pump Area Ventilation $\Delta$ 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	$\geq -50$ inches*	$\geq -57$ 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.
<b>4. REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION</b>		
a. RCIC Steam Line Flow - High	$\leq 290\%$ of rated flow	$\leq 300\%$ of rated flow
b. RHR/RCIC Steam Line Flow - High	$\leq 101.5$ inches $\text{H}_2\text{O}$	$\leq 107.5$ inches $\text{H}_2\text{O}$
c. RCIC Steam Supply Pressure - Low	$\geq 62$ psig	$\geq 58$ psig
d. RCIC Turbine Exhaust Diaphragm Pressure - High	$\leq 10.0$ psig	$\leq 20.0$ 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 $\Delta$ 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	$\leq 1.65$ psig	$\leq 1.85$ 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	$\geq 13.5$ inches*	$\geq 11.0$ inches
b. Reactor Vessel (RHR Cut-in Permissive) Pressure - High	$\leq 125$ psig	$\leq 135$ psig
c. Equipment Area Temperature - High Pump Room A	$\leq 138^{\circ}\text{F}^{**} 140^{\circ}\text{F}$	$\leq 145^{\circ}\text{F}^{**} 150^{\circ}\text{F}$
Pump Room B	$\leq 132^{\circ}\text{F}^{**} 140^{\circ}\text{F}$	$\leq 139^{\circ}\text{F}^{**} 150^{\circ}\text{F}$
d. Equipment Area Ventilation $\Delta$ Temp. - High Pump Room A	$\leq 63^{\circ}\text{F}^{**} 55^{\circ}\text{F}$	$\leq 68^{\circ}\text{F}^{**} 70^{\circ}\text{F}$
Pump Room B	$\leq 56^{\circ}\text{F}^{**} 55^{\circ}\text{F}$	$\leq 62^{\circ}\text{F}^{**} 70^{\circ}\text{F}$
e. Shutdown Cooling Return Flow Rate - High	$\leq 174$ inches $\text{H}_2\text{O}^{**}$ <del>DELETE **</del>	$\leq 183$ inches $\text{H}_2\text{O}^{**}$ <del>DELETE **</del>
<del>DELETE <math>\Delta</math></del> f. RHR Heat Exchanger Area <del>*</del> 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>
<u>4. 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 $\Delta$ 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.
<u>5. 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 $\Delta$ Temp. - High	N.A.
e. Shutdown Cooling Return Flow Rate - High	N.A.
f. RHR Heat Exchanger Area $\Delta$ 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 $\Delta$ 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  $\Delta$   $\rightarrow$  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.

