

TABLE 3.3.2-2
ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

<u>TRIP FUNCTION</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
<u>1. PRIMARY CONTAINMENT ISOLATION</u>		
a. Reactor Vessel Water Level - Low, Level 2	≥ 129.8 inches*	≥ 127.6 inches
b. Drywell Pressure - High	≤ 1.68 psig	≤ 1.88 psig
c. Containment and Drywell Purge Exhaust Plenum Radiation - High	≤ 2 mR/hr above background	≤ 4 mR/hr above background
d. Reactor Vessel Water Level - Low, Level 1	≥ 16.5 inches*	≥ 14.3 inches
e. Manual Initiation	NA	NA
<u>2. MAIN STEAM LINE ISOLATION</u>		
a. Reactor Vessel Water Level - Low, Level 1	≥ 16.5 inches*	≥ 14.3 inches
b. Main Steam Line Radiation - High	$\leq 3.0 \times$ full power background	$\leq 3.6 \times$ full power background
c. Main Steam Line Pressure - Low	≥ 807.0 psig	≥ 795.0 psig 795.2
d. Main Steam Line Flow - High	≤ 183 psid	≤ 191 psid 189.3
e. Condenser Vacuum - Low	≥ 8.5 inches Hg. vacuum	≥ 7.6 inches Hg. vacuum
f. Main Steam Line Tunnel Temperature - High	$\leq 154.4^{\circ}\text{F}$	$\leq 158.9^{\circ}\text{F}$
g. Main Steam Line Tunnel Δ Temperature - High	$\leq 103.6^{\circ}\text{F}$	$\leq 107.4^{\circ}\text{F}$
h. Turbine Building Main Steam Line Temperature - High	$\leq 134.4^{\circ}\text{F}$	$\leq 138.9^{\circ}\text{F}$
i. Manual Initiation	NA	NA

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE
A. <u>DIVISION 1 TRIP SYSTEM</u>		
1. <u>RHR-A (LPCI MODE) AND LPCS SYSTEM</u>		
a. Reactor Vessel Water Level - Low, Level 1	≥ 16.5 inches*	≥ 14.3 inches
b. Drywell Pressure - High	≤ 1.68 psig	≤ 1.88 psig
c. LPCS Pump Discharge Flow - Low (Bypass)	≥ 1350 gpm	≥ 1200 gpm
d. Reactor Vessel Pressure - Low (LPCS Injection Valve Permissive)	577.7 ± 15 psig	$577.7 + 30, -95$ psig
e. Reactor Vessel Pressure - Low (LPCI Injection Valve Permissive)	$502.5 \pm 5, -10$ psig ≥ 527.18 and ≤ 532.62	$502.5 \pm 10, -40$ psig ≥ 490.0 and ≤ 537.1
f. LPCI Pump A Start Time Delay Relay	≤ 5 seconds	≤ 5.25 seconds
g. LPCI Pump A Discharge Flow - Low (Bypass)	≥ 1650 gpm	≥ 1450 gpm
h. Manual Initiation	NA	NA
2. <u>AUTOMATIC DEPRESSURIZATION SYSTEM TRIP SYSTEM "A"</u>		
a. Reactor Vessel Water Level - Low, Level 1	≥ 16.5 inches*	≥ 14.3 inches
b. Manual Inhibit	NA	NA
c. ADS Timer	≤ 105 seconds	≤ 117 seconds
d. Reactor Vessel Water Level - Low, Level 3 (Permissive)	≥ 177.7 inches*	≥ 177.1 inches
e. LPCS Pump Discharge Pressure - High (Permissive)	≥ 145 psig, increasing	≥ 125 psig, increasing
f. LPCI Pump A Discharge Pressure - High (Permissive)	≥ 125 psig, increasing	≥ 115 psig, increasing
g. Manual Initiation	NA	NA

TABLE 3.3.3-2 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE
B. DIVISION 2 TRIP SYSTEM		
1. RHR B AND C (LPCI MODE)		
a. Reactor Vessel Water Level - Low, Level 1	≥ 16.5 inches*	≥ 14.3 inches
b. Drywell Pressure - High	< 1.68 psig	< 1.88 psig
c. Reactor Vessel Pressure - Low (LPCI Injection Valve Permissive)	≥ 527.18 and ≤ 532.82	≥ 490.0 and ≤ 531.1
LPCI Pump B	$508.0 + 5, -10$ psig	$508.0 + 10, -40$ psig
LPCI Pump C	$506.6 + 5, -10$ psig	$506.6 + 10, -40$ psig
d. LPCI Pump B Start Time Delay Relay	< 5 seconds	< 5.25 seconds
e. LPCI Pump Discharge Flow - Low (Bypass)	≥ 1650 gpm	≥ 1450 gpm
f. Manual Initiation	NA	NA
2. AUTOMATIC DEPRESSURIZATION SYSTEM TRIP SYSTEM "B"		
a. Reactor Vessel Water Level - Low, Level 1	≥ 16.5 inches*	≥ 14.3 inches
b. Manual Inhibit	NA	NA
c. ADS Timer	< 105 seconds	< 117 seconds
d. Reactor Vessel Water Level - Low, Level 3 (Permissive)	≥ 177.7 inches*	≥ 177.1 inches
e. LPCI Pump B and C Discharge Pressure - High (Permissive)	≥ 125 psig, increasing	≥ 115 psig, increasing
f. Manual Initiation	NA	NA

TABLE 3.3.9-2

PLANT SYSTEMS ACTUATION INSTRUMENTATION SETPOINTS

<u>TRIP FUNCTION</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
1. <u>CONTAINMENT SPRAY SYSTEM</u>		
a. Drywell Pressure - High	< 1.68 psig	< 1.88 psig
b. Containment Pressure - High	< 8.35 psig	< 8.05 psig (8.71)
c. Reactor Vessel Water Level - Low, Level 1	≥ 16.5 inches*	≥ 14.3 inches
d. Timers		
(1) System A and B	10.85 ± 0.3 minutes	10.85 ± 0.6 minutes
(2) System B	35 ± 2 seconds	35 ± 3 seconds
e. Manual Initiation	NA	NA
2. <u>FEEDWATER SYSTEM/MAIN TURBINE TRIP SYSTEM</u>		
a. Reactor Vessel Water Level - High, Level 8	≤ 219.5 inches*	≤ 220.1 inches
3. <u>SUPPRESSION POOL MAKEUP SYSTEM</u>		
a. Drywell Pressure - High	< 1.68 psig	< 1.88 psig
b. Reactor Vessel Water Level - Low, Level 1	≥ 16.5 inches*	≥ 14.3 inches
c. Suppression Pool Water Level - Low	$\geq 591' 6.9"$ elevation	$\geq 591' 5.64"$ elevation
d. Suppression Pool Makeup Timer	< 29.4 minutes	< 30.0 minutes
e. SPMU Manual Initiation	NA	NA

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

Table 3.3.5.1-1 (page 1 of 5)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE * REQUIREMENTS	ALLOWABLE VALUE
1. Low Pressure Coolant Injection-A (LPCI) and Low Pressure Core Spray (LPCS) Subsystems					
a. Reactor Vessel Water Level - Low Low Low, Level 1	1,2,3, 4(a), 5(a)	2(b)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6 SR 3.3.5.1.7	≥ 14.3 inches
b. Drywell Pressure - High	1,2,3	2(b)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6 SR 3.3.5.1.7	≤ 1.88 psig
c. LPCI Pump A Start - Time Delay Relay	1,2,3, 4(a), 5(a)	1	C	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≤ 5.25 seconds
d. Reactor Vessel Pressure - Low (LPCS Injection Valve Permissive)	1,2,3 4(a), 5(a)	1 1	C B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6 SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 482.7 psig and ≤ 607.7 psig ≥ 482.7 psig and ≤ 607.7 psig
e. Reactor Vessel Pressure-Low (LPCI Injection Valve Permissive)	1,2,3 4(a), 5(a)	1 1	C B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6 SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 462.5 psig and ≤ 542.5 psig ≥ 490.0 and ≤ 542.5 psig
f. LPCS Pump Discharge Flow - Low (Bypass)	1,2,3, 4(a), 5(a)	1	E	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 1200 gpm

(continued)

(a) When associated subsystem(s) are required to be OPERABLE.

(b) Also required to initiate the associated diesel generator and AEG1 subsystem.

Table 3.3.5.1-1 (page 2 of 5)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Low Pressure Coolant Injection-A (LPCI) and Low Pressure Core Spray (LPCS) Subsystems (continued)					
g. LPCI Pump A Discharge Flow - Low (Bypass)	1,2,3, 4(a),5(a)	1	E	SL 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 1450 gpm
h. Manual Initiation	1,2,3, 4(a),5(a)	1	C	SR 3.3.5.1.6	NA
2. LPCI B and LPCI - Subsystems					
a. Reactor Vessel Water Level - Low Low Low, Level 1	1,2,3, 4(a),5(a)	2(b)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6 SR 3.3.5.1.7	≥ 14.3 inches
b. Drywell Pressure - High	1,2,3	2(b)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6 SR 3.3.5.1.7	≤ 1.88 psig
c. LPCI Pump B Start - Time Delay Relay	1,2,3, 4(a),5(a)	1	C	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≤ 5.25 seconds
d. Reactor Vessel Pressure - Low (LPCI Injection Valve Permissive)	1,2,3	1 per subsystem	C	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 468.0 psig and ≤ 546.0 psig for LPCI B; and ≥ 466.6 psig and ≤ 546.6 psig for LPCI C
	4(a),5(a)	1 per subsystem	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 468.0 psig and ≤ 546.0 psig for LPCI B; and ≥ 466.6 psig and ≤ 546.6 psig for LPCI C

(continued)

(a) When associated subsystem(s) are required to be OPERABLE.

(b) Also required to initiate the associated diesel generator and AEGT subsystem.

Table 3.3.5.1-1 (page 4 of 5)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	* ALLOWABLE VALUE
3. High Pressure Core Spray (HPCS) System (continued)					
f. HPCS Pump Discharge Pressure - High (Bypass)	1,2,3, 4(a),5(a)	1	E	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 120 psig
g. HPCS System Flow Rate - Low (Bypass)	1,2,3, 4(a),5(a)	1	E	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 600 gpm
h. Manual Initiation	1,2,3, 4(a),5(a)	1	C	SR 3.3.5.1.6	NA
4. Automatic Depressurization System (ADS) Trip System A					
a. Reactor Vessel Water Level - Low Low Low, Level 1	1,2(d),3(d)	2	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 14.3 inches <div style="border: 1px solid black; border-radius: 15px; padding: 5px; display: inline-block;"> ≥ 100.5 seconds and ≤ 109.5 seconds </div>
b. ADS Initiation Timer	1,2(d),3(d)	1	G	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≥ 177 seconds <div style="border: 1px solid black; border-radius: 15px; padding: 5px; display: inline-block;"> = 177 seconds </div>
c. Reactor Vessel Water Level - Low, Level 3 (Confirmatory)	1,2(d),3(d)	1	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 177.1 inches
d. LPCS Pump Discharge Pressure - High	1,2(d),3(d)	2	G	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 125 psig
e. LPCI Pump A Discharge Pressure - High	1,2(d),3(d)	2	G	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 115 psig
f. Manual Initiation	1,2(d),3(d)	2	G	SR 3.3.5.1.6	NA

(continued)

(a) When associated subsystem(s) are required to be OPERABLE.

(d) With reactor steam dome pressure > 150 psig.

Table 3.3.5.1-1 (page 5 of 5)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
5. ADS Trip System B					
a. Reactor Vessel Water Level - Low Low Low, Level 1	1,2(d),3(d)	2	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 14.3 inches <div style="border: 1px solid black; border-radius: 15px; padding: 5px; display: inline-block;"> ≥ 100.5 seconds and ≤ 109.5 seconds </div>
b. ADS Initiation Timer	1,2(d),3(d)	1	G	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≥ 117 seconds <div style="border: 1px solid black; border-radius: 15px; padding: 5px; display: inline-block;"> ≥ 117 seconds </div>
c. Reactor Vessel Water Level - Low, Level 3 (Confirmatory)	1,2(d),3(d)	1	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 177.1 inches
d. LPCI Pumps B & C Discharge Pressure - High	1,2(d),3(d)	2 per pump	G	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 115 psig
e. Manual Initiation	1,2(d),3(d)	2	G	SR 3.3.5.1.6	NA

(d) With reactor steam dome pressure > 150 psig.

Primary Containment and Drywell Isolation Instrumentation
3.3.6.1

Table 3.3.6.1-1 (page 1 of 6)
Primary Containment and Drywell Isolation Instrumentation

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FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	* ALLOWABLE VALUE
1. Main Steam Line Isolation					
a. Reactor Vessel Water Level - Low Low Low, Level 1	1,2,3	2	D	SR 3.3.6.1.1	≥ 14.3 inches
				SR 3.3.6.1.2	
				SR 3.3.6.1.3	
				SR 3.3.6.1.4	
				SR 3.3.6.1.5	
				SR 3.3.6.1.6	
b. Main Steam Line Pressure - Low	1	2	E	SR 3.3.6.1.1	≥ 795.2 psig
				SR 3.3.6.1.2	
				SR 3.3.6.1.3	
				SR 3.3.6.1.4	
				SR 3.3.6.1.5	
				SR 3.3.6.1.6	
c. Main Steam Line Flow - High	1,2,3	2 per MSL	D	SR 3.3.6.1.1	≤ 494 psid
				SR 3.3.6.1.2	
				SR 3.3.6.1.3	
				SR 3.3.6.1.4	
				SR 3.3.6.1.5	
				SR 3.3.6.1.6	
d. Condenser Vacuum - Low	1,2 ^(a) , 3 ^(a)	2	D	SR 3.3.6.1.1	≥ 7.6 inches Hg vacuum
				SR 3.3.6.1.2	
				SR 3.3.6.1.3	
				SR 3.3.6.1.4	
				SR 3.3.6.1.5	
e. Main Steam Line Pipe Temperature - High	1,2,3	2	D	SR 3.3.6.1.1	≤ 158.9°F
				SR 3.3.6.1.2	
				SR 3.3.6.1.4	
				SR 3.3.6.1.5	
f. Main Steam Line Turbine Building Temperature - High	1,2,3	2	D	SR 3.3.6.1.1	≤ 138.9°F
				SR 3.3.6.1.2	
				SR 3.3.6.1.4	
				SR 3.3.6.1.5	
g. Manual Initiation	1,2,3	2	G	SR 3.3.6.1.5	NA
2. Primary Containment and Drywell Isolation					
a. Reactor Vessel Water Level - Low Low, Level 2	1,2,3	2 ^(b)	H	SR 3.3.6.1.1	≥ 127.6 inches
				SR 3.3.6.1.2	
				SR 3.3.6.1.3	
				SR 3.3.6.1.4	
				SR 3.3.6.1.5	

(continued)

(a) With any turbine stop valve not closed.

(b) Required to initiate the associated drywell isolation function.

RHR Containment Spray System Instrumentation 3.3.6.2

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Attachment 2
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Table 3.3.6.2-1 (page 1 of 1)
RHR Containment Spray System Instrumentation

FUNCTION	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Drywell Pressure - High	2	B	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.3 SR 3.3.6.2.4 SR 3.3.6.2.5	≤ 1.88 psig
2. Containment Pressure - High	1	C	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.3 SR 3.3.6.2.4 SR 3.3.6.2.5	≤ 6.85 ^{8.11} psig
3. Reactor Vessel Water Level - Low Low Low, Level 1	2	B	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.3 SR 3.3.6.2.4 SR 3.3.6.2.5	≥ 14.3 inches
4. System A and System B Timers	1	C	SR 3.3.6.2.2 SR 3.3.6.2.4 SR 3.3.6.2.5	≥ 10.25 minutes and ≤ 11.45 minutes
5. System B Timer	1	C	SR 3.3.6.2.2 SR 3.3.6.2.4 SR 3.3.6.2.5	≥ 32 seconds and ≤ 38 seconds
6. Manual Initiation	1	C	SR 3.3.6.2.5	NA

SIGNIFICANT HAZARDS CONSIDERATION

The standards used to arrive at a determination that a request for amendment involves no significant hazards considerations are included in the Commission's Regulations, 10 CFR 50.92, which state that the operation of a facility in accordance with the proposed amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (2) create the possibility of a new or different kind of accident from any accident previously evaluated, or (3) involve a significant reduction in the margin of safety.

The proposed change has been reviewed with respect to these three factors and it has been determined that the proposed change does not involve a significant hazard because:

1. The proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed revised Trip Setpoints and Allowable Values are more conservative than those currently approved in the Technical Specifications. Therefore, any proposed system or component actuations will occur earlier, resulting in a more conservative plant response. Thus, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. The proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed change to the Technical Specifications does not introduce any new components nor does it modify the design of any existing components. Other than making Trip Setpoints and Allowable Values of existing instrumentation more conservative, the change does not affect the design or function of any plant system, structure, or component, nor does it change the way plant systems are operated. Thus, the possibility of a new or different kind of accident previously evaluated is not created.

3. The proposed change does not result in a significant reduction in the margin of safety.

Since the proposed revised Trip Setpoints and Allowable Values are more conservative than the existing values, the margin of safety would be increased by issuance of the changes. Thus, the proposed change does not result in a significant reduction in the margin of safety.