

TABLE 3.3.2-2  
ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE
<u>1. PRIMARY CONTAINMENT ISOLATION</u>		
a. Reactor Vessel Water Level - Low, Level 2	$\geq 129.8$ inches*	$\geq 127.6$ inches
b. Drywell Pressure - High	$\leq 1.68$ psig	$\leq 1.88$ psig
c. Containment and Drywell Purge Exhaust Plenum Radiation - High	$\leq 2$ mR/hr above background	$\leq 4$ mR/hr above background
d. Reactor Vessel Water Level - Low, Level 1	$\geq 16.5$ inches*	$\geq 14.3$ inches
e. Manual Initiation	NA	NA
<u>2. MAIN STEAM LINE ISOLATION</u>		
a. Reactor Vessel Water Level - Low, Level 1	$\geq 16.5$ inches*	$\geq 14.3$ 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	$\geq 807.0$ psig	$\geq 795.0$ psig
d. Main Steam Line Flow - High	$\leq 183$ psid	$\leq 191$ psid
e. Condenser Vacuum - Low	$\geq 8.5$ inches Hg. vacuum	$\geq 7.6$ 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 $\Delta$ 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

<u>TRIP FUNCTION</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
A. DIVISION 1 TRIP SYSTEM		
1. RHR-A (LPCI MODE) AND LPCS SYSTEM		
a. Reactor Vessel Water Level - Low, Level 1	$\geq 16.5$ inches*	$\geq 14.3$ inches
b. Drywell Pressure - High	$\geq 1.68$ psig	$\geq 1.88$ psig
c. LPCS Pump Discharge Flow - Low (Bypass)	$\geq 1350$ gpm	$\geq 1200$ gpm
d. Reactor Vessel Pressure - Low (LPCS Injection Valve Permissive)	$577.7 \pm 15$ psig	$577.7 + 30, -95$ psig
e. Reactor Vessel Pressure - Low (LPCI Injection Valve Permissive)	$502.5 + 5, -10$ psig $\geq 527.18$ and $\leq 532.62$ $\leq 5$ seconds	$502.5 + 10, -40$ psig $\geq 490.0$ and $\leq 537.1$ $< 5.25$ seconds
f. LPCI Pump A Start Time Delay Relay		
g. LPCI Pump A Discharge Flow - Low (Bypass)	$> 1650$ gpm	$> 1450$ gpm
h. Manual Initiation	NA	NA
2. AUTOMATIC DEPRESSURIZATION SYSTEM TRIP SYSTEM "A"		
a. Reactor Vessel Water Level - Low, Level 1	$\geq 16.5$ inches*	$\geq 14.3$ inches
b. Manual Inhibit	NA	$\geq 100.5$ and $\leq 109.5$
c. ADS Timer	$< 105$ seconds	$< 117$ seconds
d. Reactor Vessel Water Level - Low, Level 3 (Permissive)	$\geq 177.7$ inches*	$\geq 177.1$ inches
e. LPCS Pump Discharge Pressure - High (Permissive)	$\geq 145$ psig, increasing	$\geq 125$ psig, increasing
f. LPCI Pump A Discharge Pressure - High (Permissive)	$\geq 125$ psig, increasing	$\geq 115$ psig, increasing
g. Manual Initiation	NA	NA

TABLE 3.3.3-2 (Continued)

## EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

<u>TRIP FUNCTION</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
<u>B. DIVISION 2 TRIP SYSTEM</u>		
<u>1. RHR B AND C (LPCI MODE)</u>		
a. Reactor Vessel Water Level - Low, Level 1	$\geq 16.5$ inches*	$\geq 14.3$ inches
b. Drywell Pressure - High	$< 1.68$ psig	$< 1.88$ psig
c. Reactor Vessel Pressure - Low (LPCI Injection Valve Permissive) LPCI Pump B LPCI Pump C	$\geq 527.16$ and $\leq 532.82$ $508.0 + 5, - 10$ psig $506.6 + 5, - 10$ psig	$\geq 490.0$ and $\leq 537.1$ $508.0 + 10, - 40$ 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
<u>2. AUTOMATIC DEPRESSURIZATION SYSTEM TRIP SYSTEM "B"</u>		
a. Reactor Vessel Water Level - Low, Level 1	$\geq 16.5$ inches*	$\geq 14.3$ inches
b. Manual Inhibit	NA	$\geq 100.5$ and $\leq 109.5$
c. ADS Timer	$< 105$ seconds	$< 117$ seconds
d. Reactor Vessel Water Level - Low, Level 3 (Permissive)	$\geq 177.7$ inches*	$\geq 177.1$ inches
e. LPCI Pump B and C Discharge Pressure - High (Permissive)	$\geq 125$ psig, increasing	$\geq 115$ 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>
<u>1. CONTAINMENT SPRAY SYSTEM</u>		
a. Drywell Pressure - High	< 1.68 psig	< 1.88 psig
b. Containment Pressure - High	> 8.35 psig	> 8.05 psig
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
<u>2. FEEDWATER SYSTEM/MAIN TURBINE TRIP SYSTEM</u>		
a. Reactor Vessel Water Level - High, Level 8	≤ 219.5 inches*	≤ 220.1 inches
<u>3. 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	> 591' 6.9" elevation	> 591' 5.64" elevation
d. Suppression Pool Makup 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 *	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	$\geq 14.3$ 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	$\leq 1.88$ 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	$\leq 5.25$ seconds
d. Reactor Vessel Pressure - Low (LPCS Injection Valve Permissive)	1,2,3 4(a), 5(a)	1	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	$\geq 482.7$ psig and $\leq 607.7$ psig
e. Reactor Vessel Pressure-Low (LPCI Injection Valve Permissive)	1,2,3 4(a), 5(a)	1	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	$\geq 482.7$ psig and $\leq 607.7$ psig 490.0 <del>482.5</del> psig and <del>512.5</del> psig 537.1
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	$\geq 1200$ gpm 490.0 <del>482.7</del> psig and <del>512.5</del> psig 537.1

(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 2 of 5)  
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Low Pressure Coolant Injection A (LPCI) and Low Pressure Core Spray (LPSC) Subsystems (continued)					
g. LPCI Pump A 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	$\geq 1450 \text{ gpm}$
h. Manual Initiation	1,2,3, 4(a),5(a)	1	C	SR 3.3.5.1.6	NA
2. LPCI B and LPCI C 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	$\geq 14.3 \text{ inches}$
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	$\leq 1.88 \text{ psig}$
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	$\leq 5.25 \text{ seconds}$ <i>490.0</i>
d. Reactor Vessel Pressure - Low (LPCI) Injection Valve Permissive	1,2,3 4(a),5(a)	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	$\geq 468.0 \text{ psig}$ and $\geq 510.0 \text{ psig}$ for LPCI B; and $\geq 468.0 \text{ psig}$ and $\leq 546.6 \text{ psig}$ for LPCI C $\geq 468.0 \text{ psig}$ and $\leq 510.0 \text{ psig}$ for LPCI B; and $\geq 468.0 \text{ psig}$ and $\leq 546.6 \text{ psig}$ for LPCI 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	<i>537.1</i>

(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	$\geq 120$ 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	$\geq 600$ 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	$\geq 14.3$ inches <i><math>\geq 100.5</math> seconds and <math>\leq 109.5</math> seconds</i> <i><math>\pm 447</math> seconds</i>
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	
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	$\geq 177.1$ 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	$\geq 125$ 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	$\geq 115$ 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 <sup>(d)</sup> ,3 <sup>(d)</sup>	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	$\geq 14.3$ inches <i><math>\geq 100.5</math> seconds and <math>\leq 109.5</math> seconds</i> <del><math>\leq 117</math> seconds</del>
b. ADS Initiation Timer	1,2 <sup>(d)</sup> ,3 <sup>(d)</sup>	1	G	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	
c. Reactor Vessel Water Level - Low, Level 3 (Confirmatory)	1,2 <sup>(d)</sup> ,3 <sup>(d)</sup>	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	$\geq 177.1$ inches
d. LPCI Pumps B & C Discharge Pressure - High	1,2 <sup>(d)</sup> ,3 <sup>(d)</sup>	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	$\geq 115$ psig
e. Manual Initiation	1,2 <sup>(d)</sup> ,3 <sup>(d)</sup>	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

PY-CEI/NRR-1969L

Attachment 2

Page 9 of 10

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

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
<b>1. Main Steam Line Isolation</b>					
a. Reactor Vessel Water Level - Low Low Low, Level 1	1,2,3	2	D	SR 3.3.6.1.1 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	<i>795.2</i> $\geq 14.3$ inches
b. Main Steam Line Pressure - Low	1	2	E	SR 3.3.6.1.1 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	<i>189.3</i> $\geq 795.0$ psig
c. Main Steam Line Flow - High	1,2,3	2 per MSL	D	SR 3.3.6.1.1 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	<i>494</i> psid
d. Condenser Vacuum - Low	1,2(a), 3(a)	2	D	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.4 SR 3.3.6.1.5	$\geq 7.6$ inches Hg vacuum
e. Main Steam Line Pipe Tunnel Temperature - High	1,2,3	2	D	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	$\leq 158.9^{\circ}\text{F}$
f. Main Steam Line Turbine Building Temperature-High	1,2,3	2	D	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	$\leq 138.9^{\circ}\text{F}$
g. Manual Initiation	1,2,3	2	G	SR 3.3.6.1.5	NA
<b>2. Primary Containment and Drywell Isolation</b>					
a. Reactor Vessel Water Level - Low Low, Level 2	1,2,3	2 <sup>(b)</sup>	H	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.4 SR 3.3.6.1.5	$\geq 127.6$ inches

(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

PY-CE1/NRR-1969L  
Attachment 2  
Page 10 of 10

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	$\leq 1.88$ psig  <i>8.11</i>
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	$\leq 0.05$ 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	$\geq 14.3$ 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	$\geq 10.25$ minutes and $\leq 11.45$ 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	$\geq 32$ seconds and $\leq 38$ 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.