#### INSTRUMENTATION

#### 3/4.3.2 ISOLATION ACTUATION INSTRUMENTATION

#### LIMITING CONDITION FOR OPERATION

3.3.2 The isolation actuation instrumentation channels shown in Table 3.3.2-1 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3.2-2 and with ISOLATION SYSTEM RESPONSE TIME as shown in Table 3.3.2-3.

APPLICABILITY: As shown in Table 5.3.2-1.

#### ACTION:

- a. With an isolation actuation instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3.2-2, declare the channel inoperable until the channel is restored to OPERABLE status with its trip setpoint adjusted consistent with the Trip Setpoint value.
- b. With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement for one trip system, place that trip system in the tripped condition\* within one hour. The provisions of Specification 3.0.4 are not applicable.
- c. With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement for both trip systems, place at least one trip system\*\* in the tripped condition within one hour and take the ACTION required by Table 3.3.2-1.

8409250347 840919 PDR ADDCK 05000373

No change only

<sup>\*</sup>With a design providing only one channel per trip system, an inoperable channel need not be placed in the tripped condition where this would cause the Trip Function to occur. In these cases, the inoperable channel shall be restored to OPERABLE status within 2 hours or the ACTION required by Table 3.3.2-1 for that Trip Function shall be taken.

<sup>\*\*</sup>If more channels are inoperable in one trip system than in the other, select that trip system to place in the tripped condition except when this would cause the Trip Function to occur.

#### INSTRUMENTATION

#### SURVEILLANCE REQUIREMENTS

- 4.3.2.1 Each isolation actuation instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION operations for the OPERATIONAL CONDITIONS and at the frequencies shown in Table 4.3.2.1-1.
- 4.3.2.2 LOGIC SYSTEM FUNCTIONAL TESTS and simulated automatic operation of all channels shall be performed at least once per 18 months.
- 4.3.2.3 The ISOLATION SYSTEM RESPONSE TIME of each isolation trip function shown in Table 3.3.2-3 shall be demonstrated to be within its limit at least once per 18 months. Each test shall include at least one channel per trip system 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 isolation trip system.

No change. For reference only

TABLE 3.3.2-1

TRIP	FUN	CTION	VALVE GROUPS OPERATED BY SIGNAL (a)	MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (b)	APPLICABLE OPERATIONAL CONDITION	ACTION
A.	AUT	OMATIC INITIATION				
1.	PRI	MARY CONTAINMENT ISOLATION				
	a.	Reactor Vessel Water Level (1) Low, Level 3 (2) Low Low, Level 2	7 1, 2, 3	2 2	1, 2, 3 1, 2, 3	20 20
	b.	Drywell Pressure - High	2, 7	2	1, 2, 3	20
	c.	Main Steam Line 1) Radiation - High 2) Pressure - Low 3) Flow - High	1 3 1	2 2 2 2/line <sup>(d)</sup>	1, 2, 3 1, 2, 3 1 1, 2, 3	21 22 23 21
	d.	Main Steam Line Tunnel Temperature - High	1	2	1, 2, 3	21
	e.	Mair Steam Line Tunnel Δ Temperature - High	1	2	1(1), 2(1), 3(	1) 21
	f.	Condenser Vacuum - Low	1	2	1, 2*, 3*	21
2.	SEC	ONDARY CONTAINMENT ISOLATION				
	a.	Reactor Building Vent Exhau Plenum Radiation - High	4(c)(e)	2	1, 2, 3 and **	24
	b.	Drywell Pressure - High	4(c)(e)	2	1, 2, 3	24
	c.	Reactor Vessel Water Level - Low Low, Level 2	4(c)(e)	2	1, 2, 3, and #	24
	d.	Fuel Pool Vent Exhaust Radiation - High	4(c)(e)	2	1, 2, 3, and *	* 24

TRIP	FUNC	TION	VALVE GROUPS OPERATED BY SIGNAL (a)	MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (b)	APPLICABLE OPERATIONAL CONDITION	ACTION
3.	REACT	TOR WATER CLEANUP SYSTEM ISOLA	TION			
	d.	Δ Flow - High	5	1	1, 2, 3 .	22
	b.	Heat Exchanger Area Temperature - High	5	1	1, 2, 3	22
	с.	Heat Exchanger Area Ventilation ΔT - High	5	1	1, 2, 3	22
	dr	Pump Area Temperature - High	5-		1, 2, 3	-22-
—		Pump Area Ventilation AT	5		<del>-1, 2, 3</del>	
_	rd	SLCS Initiation	5 <sup>(f)</sup>	NA	1, 2, 3	22
		Reactor Vessel Water Level - Low Low, Level 2 TOR CORE ISOLATION COOLING SYS	5	2	1, 2, 3	22
	a.	RCIC Steam Line Flow - High	8 . 1	1	1, 2, 3	22
	b.	RCIC Steam Supply Pressure - Low	8, 9 <sup>(g)</sup>	2	1, 2, 3	22
	с.	RCIC Turbine Exhaust Diaphragm Pressure - High	8	2 1	1, 2, 3	22
	d.	RCIC Equipment Room Temperature - High	8	1	1, 2, 3	22
	e,	RCIC Steam Line Tunnel Temperature - High	8	1	1, 2, 3	22
	1.	RCIC Steam Line Tunnel	8	1	1, 2, 3	22
	g.	Drywell Pressure - High	<sub>9</sub> (g)	2	1, 2, 3	22 1

4. Outboard Valves 4(c) (e) 1/group 1, 2, 3 and * 5. Inhoard Valves 3, 8, 9 1/valve 1, 2, 3	ACTION	APPLICABLE OPERATIONAL CONDITION	MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (b)	VALVE GROUPS OPERATED BY SIGNAL (a)	FUNCTION	TRIP
D. RIIR Area Temperature - High 8 1 1, 2, 3  b. RIIR Area Temperature - High 8 1 1, 2, 3  c. RIIR Heat Exchanger Steam Supply flow - High 8 1 1, 2, 3  6. RIIR SYSTEM SHUTDOWN COOLING MODE ISOLATION  a. Reactor Vessel Water Level - Low, Level 3 6 2 1, 2, 3  b. Reactor Vessel (RIIR Cut-in Permissive) Pressure - High 6 1 1, 2, 3  c. RIIR Pump Suction Flow - High 6 1 1, 2, 3  d. RIIR Area Temperature - High 6 1 1, 2, 3  e. RIIR Equipment Area ΔT - High 6 1 1, 2, 3  MANNIAI INITIATION  1. Inboard Valves 1, 2, 5, 6, 7 1/group 1, 2, 3  3. Inboard Valves 4 (c) (e) 1/group 1, 2, 3 and 4  4. Outboard Valves 4 (c) (e) 1/group 1, 2, 3 and 4  5. Loboard Valves 3, 8, 9 1/valve 1, 2, 3				SOLATION	RHR SYSTEM STEAM CONDENSING MODE 1	5.
High 8 1 1, 2, 3  C. RHR Heat Exchanger Steam Supply Flow - High 8 1 1, 2, 3  6. RHR SYSTEM SHUTDOWN COOLING MODE ISOLATION  a. Reactor Vessel Water Level - Low, Level 3 6 2 1, 2, 3  b. Reactor Vessel (RHR Cut-in Permissive) Pressure - High 6 1 1, 2, 3  c. RHR Pump Suction Flow - High 6 1 1, 2, 3  d. RHR Area Temperature - High 6 1 1, 2, 3  e. RHR Equipment Area ΔT - High 6 1 1, 2, 3  MANNIAL INITIATION  1. Inboard Valves 1, 2, 5, 6, 7 1/group 1, 2, 3  3. Inboard Valves 4 (c) (e) 1/group 1, 2, 3 and * 4  4. Outboard Valves 4 (c) (e) 1/group 1, 2, 3 and * 5  1. Outboard Valves 3, 8, 9 1/valve 1, 2, 3	22	1, 2, 3	1	8		
Supply Flow - High 8 1 1, 2, 3  6. RHR SYSTEM SHUTDOWN COOLING MODE ISOLATION  a. Reactor Vessel Water Level - Low, Level 3 6 2 1, 2, 3  b. Reactor Vessel (RHR Cut-in Permissive) Pressure - High 6 1 1, 2, 3  c. RHR Pump Suction Flow - High 6 1 1, 2, 3  d. RHR Area Temperature - High 6 1 1, 2, 3  e. RHR Equipment Area ΔT - High 6 1 1, 2, 3  MANHAL INITIATION  1. Inboard Valves 1, 2, 5, 6, 7 1/group 1, 2, 3  3. Inboard Valves 4 (c) (e) 1/group 1, 2, 3 and * 4  4. Outboard Valves 4 (c) (e) 1/group 1, 2, 3 and * 5  Inboard Valves 3, 8, 9 1/valve 1, 2, 3 and * 6  1. Inboard Valves 4 (c) (e) 1/group 1, 2, 3 and * 6  1. Inboard Valves 4 (c) (e) 1/group 1, 2, 3 and * 6  1. Inboard Valves 4 (c) (e) 1/group 1, 2, 3 and * 6  1. Inboard Valves 4 (c) (e) 1/group 1, 2, 3 and * 6  1. Inboard Valves 4 (c) (e) 1/group 1, 2, 3 and * 6  1. Inboard Valves 3, 8, 9 1/valve 1, 2, 3	22	1, 2, 3	1	8		
a. Reactor Vessel Water Level - Low, Level 3 6 2 1, 2, 3  b. Reactor Vessel (RHR Cut-in Permissive) Pressure - High 6 1 1, 2, 3  c. RHR Pump Suction Flow - High 6 1 1, 2, 3  d. RHR Area Temperature - High 6 1 1, 2, 3  e. RHR Equipment Area ΔΤ - High 6 1 1, 2, 3  MANNIAL INITIATION  1. Inboard Valves 1, 2, 5, 6, 7 1/group 1, 2, 3  2. Outboard Valves 1, 2, 5, 6, 7 1/group 1, 2, 3  3. Inboard Valves 4 (c) (e) 1/group 1, 2, 3 and 4  4. Outboard Valves 4(c) (e) 1/group 1, 2, 3 and 4  5. Inboard Valves 3, 8, 9 1/valve 1, 2, 3	22	1, 2, 3	1	8		
Level - Low, Level 3 6 2 1, 2, 3  1. Reactor Vessel (RHR Cut-in Permissive) Pressure - High 6 1 1, 2, 3  c. RHR Pump Suction Flow - High 6 1 1, 2, 3  d. RHR Area Temperature - High 6 1 1, 2, 3  e. RHR Equipment Area ΔΤ - High 6 1 1, 2, 3  MANUAL INITIATION  1. Inboard Valves 1, 2, 5, 6, 7 1/group 1, 2, 3  2. Outboard Valves 1, 2, 5, 6, 7 1/group 1, 2, 3  3. Inboard Valves 4 (c) (e) 1/group 1, 2, 3 and *  4. Outboard Valves 4 (c) (e) 1/group 1, 2, 3 and *  5. Inboard Valves 3, 8, 9 1/valve 1, 2, 3				SOLATION	RIIR SYSTEM SHUTDOWN COOLING MODE I	6.
(RHR Cut-in Permissive) Pressure - High 6 1. 1, 2, 3  c. RHR Pump Suction Flow - High 6 1 1, 2, 3  d. RHR Area Temperature - High 6 1 1, 2, 3  e. RHR Equipment Area ΔT - High 6 1 1, 2, 3  MANUAL INITIATION  1. Inboard Valves 1, 2, 5, 6, 7 1/group 1, 2, 3  2. Dutboard Valves 1, 2, 5, 6, 7 1/group 1, 2, 3  3. Inboard Valves 4 (c) (e) 1/group 1, 2, 3 and 4  4. Outboard Valves 4 (c) (e) 1/group 1, 2, 3 and 4  5. Inboard Valves 3, 8, 9 1/valve 1, 2, 3	25	1, 2, 3	2	6		
C. RHR Pump Suction Flow - High 6 1 1, 2, 3  d. RHR Area Temperature - High 6 1 1, 2, 3  e. RHR Equipment Area ΔΤ - High 6 1 1, 2, 3  MANUAL INITIATION  1. Inboard Valves 1, 2, 5, 6, 7 1/group 1, 2, 3  2. Outboard Valves 1, 2, 5, 6, 7 1/group 1, 2, 3  3. Inboard Valves 4 (c) (e) 1/group 1, 2, 3 and *  4. Outboard Valves 4 (c) (e) 1/group 1, 2, 3 and *  5. Inboard Valves 3, 8, 9 1/valve 1, 2, 3	25	1, 2, 3	1.	6	(RHR Cut-in Permissive)	
High e. RHR Equipment Area ΔT - High 6 1 1, 2, 3  MANUAL INITIATION  1. Inboard Valves 1, 2, 5, 6, 7 1/group 1, 2, 3 2. Outboard Valves 1, 2, 5, 6, 7 1/group 1, 2, 3 3. Inboard Valves 4 (c) (e) 1/group 1, 2, 3 and * 4. Outboard Valves 4 (c) (e) 1/group 1, 2, 3 and * 5. Inboard Valves 3, 8, 9 1/valve 1, 2, 3	25	1, 2, 3	1	6		
MANUAL INITIATION  1. Inboard Valves 1, 2, 5, 6, 7 1/group 1, 2, 3 2. Outboard Valves 1, 2, 5, 6, 7 1/group 1, 2, 3 3. Inboard Valves 4 (c) (e) 1/group 1, 2, 3 and * 4. Outboard Valves 4 (c) (e) 1/group 1, 2, 3 and * 5. Inboard Valves 3, 8, 9 1/valve 1, 2, 3	25	1, 2, 3	1	6		
1. Inboard Valves       1, 2, 5, 6, 7       1/group       1, 2, 3         2. Outboard Valves       1, 2, 5, 6, 7       1/group       1, 2, 3         3. Inboard Valves       4 (c) (e)       1/group       1, 2, 3 and *         4. Outboard Valves       4(c) (e)       1/group       1, 2, 3 and *         5. Inboard Valves       3, 8, 9       1/valve       1, 2, 3	25	1, 2, 3	1	6	e. RHR Equipment Area ΔT - High	
2. Outboard Valves 1, 2, 5, 6, 7 1/group 1, 2, 3 3. Inboard Valves 4 (c) (e) 1/group 1, 2, 3 and * 4. Outboard Valves 4 (c) (e) 1/group 1, 2, 3 and * 5. Inboard Valves 3, 8, 9 1/valve 1, 2, 3					INITIATION .	MANUA
3. Inboard Valves 4 (c) (e) 1/group 1, 2, 3 and * 4. Outboard Valves 4(c) (e) 1/group 1, 2, 3 and * 5. Inboard Valves 3, 8, 9 1/valve 1, 2, 3	26	1, 2, 3	1/group	1, 2, 5, 6, 7	Inboard Valves	1.
4. Outboard Valves 4(c) (e) 1/group 1, 2, 3 and * 5. Inboard Valves 3, 8, 9 1/valve 1, 2, 3	26	1, 2, 3	1/group	1, 2, 5, 6, 7	Duthoard Valves	2.
5. 10board Valves 3, 8, 9 1/valve 1, 2, 3	*,# 26	1, 2, 3 and **	1/group		Inboard Valves	3.
[2] (2] [2] [2] [2] [2] [2] [2] [2] [2] [2] [	*,# 26	1, 2, 3 and **	1/group	4(c) (e)	Outhoard Valves	4.
6. Outboard Valves 3. 8. 9 1/valve 1, 2, 3	26	1, 2, 3	1/valve	3, 8, 9	Inhoard Valves	5.
	26 1	1, 2, 3	1/valve	3, 8, 9	Gutboard Valves	6.
7. Outboard Valve 8 <sup>(h)</sup> 1/group 1, 2, 3	26	1, 2, 3	1/group	8 <sup>(h)</sup>	Outboard Valve	7.

#### ISOLATION ACTUATION INSTRUMENTATION

#### ACTION

- Be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN ACTION 20 with the next 24 hours.
- ACTION 21 -Be in at least STARTUP with the associated isolation valves closed within 6 hours or be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.
- ACTION 22 -Close the affected system isolation valves within 1 hour and declare the affected system inoperable.
- ACTION 23 -Be in at least STARTUP within 6 hours.
- ACTION 24 Establish SECONDARY CONTAINMENT INTEGRITY with the standby gas treatment system operating within 1 hour.
- Lock the affected system isolation valves closed within 1 hour ACTION 25 and declare the affected system inoperable.
- Provided that the manual initiation function is OPERABLE for ACTION 26 each other group valve, inboard or outboard, as applicable, in each line, restore the manual initiation function to OPERABLE status within 24 hours; otherwise, restore the manual initiation function to OPERABLE status within 8 hours; otherwise:
  - Be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours, or
  - Close the affected system isolation valves within the next hour and declare the affected system in operable.

#### NOTES

- May be bypassed with reactor steam pressure ≤ 1043 psig and all turbine stop valves closed.
- When handling irradiated fuel in the secondary containment and during CORE ALTERATIONS and operations with a potential for draining the reactor vessel.
- During CORE ALTERATIONS and operations with a potential for draining the reactor vessel.
- (a) See Specification 3.6.3, Table 3.6.3-1 for valves in each valve group.
- (b) A channel may be placed in an inoperable status for up to 2 hours for required surveillance without placing the trip system in the tripped condition provided at least one other OPERABLE channel in the same trip system is monitoring that parameter.
- Also actuates the standby gas treatment system.
- (d) A channel is OPERABLE if 2 of 4 instruments in that channel are OPERABLE.
- (e) Also actuates secondary containment ventilation isolation dampers per Table 3.6.5.2-1.
- Closes only RWCU system inlet outboard valve.
- (g) Requires RCIC steam supply pressure-low coincident with drywell pressure-high.
- (h) Manual initiation isolates 1E51-F008 only and only with a coincident reactor vessel water level-low, level 3, signal.
- (i) Both channels of each trip system may be placed in an inoperable status for up to 4 hours for required reactor building ventilation filter change and damper cycling without placing the trip system in the tripped condition provided that the ambient temperature channels in the same trip systems are operable.

LA SALLE - UNIT 1

Amendment No. 18

			THULE S. S. E	
5		ISOLATION	ACTUATION INSTRUMENTATION SETPOINTS	
SALLE	TRI	P FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE
_ A.	AUTO	DMATIC INITIATION		
UNIT .	1.	PRIMARY CONTAINMENT ISOLATION		
11		a. Reactor Vessel Water Level 1) Low, Level 3 2) Low Low, Level 2 b. Drywell Pressure - High	≥ 12.5 inches* ≥ -50 inches* ≤ 1.69 psig	> 11.0 inches* > -57 inches* < 1.89 psig
		c. Main Steam Line 1) Radiation - High 2) Pressure - Low 3) Flow - High	3.0 x full power background     854 psig     111 psid	≤ 3.6 x full background ≥ 834 psig ≤ 116 psid
3/		d. Main Steam Line Tunnel Temperature - High e. Main Steam Line Tunnel	≤ 140°F	≤ 146°F
3/4 3-15		Δ Temperature - High f. Condenser Vacuum - Low	< 36°F > 7 inches Hg vacuum	<pre>&lt; 42°F &gt; 5.5 inches Hg vacuum</pre>
Ċ.	2.	SECONDARY CONTAINMENT ISOLATION		
		a. Reactor Building Vent Exhaust Plenum Radiation - High b. Drywell Pressure - High c. Reactor Vessel Water	< 10 mr/hr < 1.69 psig > -50 inches*	< 15 mr/hr < 1.89 psig > -57 inches*
		d. Fuel Pool Vent Exhaust Radiation - High	≥ 10 mr/hr	≤ 15 mr/hr
	3.	REACTOR WATER CLEANUP SYSTEM ISOLATION		
Ame		a. ΔFlow - High	≤ 70 gpm	≤ 87.5 gpm
Amendment		b. Heat Exchanger Area Temperature - High	≤ 181°F	≤ 187°F
it No.		<ul> <li>c. Heat Exchanger Area Ventilation</li> <li>ΔT - High</li> </ul>	< 85°F	≤ 91°F
		d. Pump Area Temperature High	₹ 116°F - ₹ 13°F	- 19°F
18		Pump Area Ventilation ΔΤ High- SLCS Initiation  Area Reactor Vessel Water Level -	ÑA	ÑA
		Low Low, Level 2	> -50 inches*	≥ -57 1nches*

## ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

TRIP	FUN	CTION	TRIP SETPOINT	ALLOWABLE VALUE					
4.	REA	CTOR CORE ISOLATION COOLING SYSTEM	ISOLATION						
	a.	RCIC Steam Line Flow - High	< 290% of rated flow, 178" H <sub>2</sub> 0	<pre>&lt; 295% of rated flow, 185" &gt; 53 psig</pre>	H <sub>2</sub> 0				
	b.	RCIC Steam Supply Pressure - Low	≥ 57 psig	₹ 22 haið					
	c.	RCIC Turbine Exhaust Diaphragm Pressure - High	≤ 10.0 psig	≤ 20.0 psig					
	d.	RCIC Equipment Room Temperature - High	≤ 200°F	≤ 206°F					
	e.	RCIC Steam Line Tunnel							
		Temperature - High	≤ 200°F	≤ 206°F					
	f.	RCIC Steam Line Tunnel	11700	≤ 123°F	1				
		Δ Temperature - High	≤ 117°F < 1.69 psig	₹ 1.89 psig					
	g.	Drywell Pressure - High	1.03 pary						
5.	RHP	RHR SYSTEM STEAM CONDENSING MODE ISOLATION							
	a.	RHR Equipment Area							
		Δ Temperature - High	≤ 50°F	≤ 56°F	1				
	b.	RHR Area Cooler Temperature -							
		High	≤ 200°F	≤ 206°F	'				
	c.	RHR Heat Exchanger Steam							
		Supply Flow - High	< 123" H <sub>2</sub> 0	≤ 128" H <sub>2</sub> 0					

## ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

TRIP	FUNCTION		TRIP SETPOINT	ALLOWABLE VALUE	
	6. RHR	SYSTEM SHUTDOWN COOLING MODE I	SOLATION		
	a.	Reactor Vessel Water Level - Low, Level 3	≥ 12.5 inches*	≥ 11.0 inches*	
	b,	Reactor Vessel (RHR Cut-in Permissive) Pressure - High	≤ 135 psig**	≤ 145 psig**	1
	c.	RHR Pump Suction Flow - High	≤ 180" H <sub>2</sub> 0	≤ 186" H <sub>2</sub> 0	
	d.	RHR Area Cooler Temperature - High	≤ 200°F	≤ 206°F	1
	e.	RHR Equipment Area $\Delta T$ - High	≤ 50°F	≤ 56°F	1
В.	MANUAL I	NITIATION	Not Applicable	Not Applicable	
	2. Out 3. Inb	oard Valves board Valves oard Valves			

- Outboard Valves
- Inboard Valves
- Outboard Valves Outboard Valve 6.

<sup>\*</sup>See Bases Figure B 3/4 3-1.

\*\*Corrected for cold water head with reactor vessel flooded.

## TABLE 3.3.2-3

## ISOLATION SYSTEM INSTRUMENTATION RESPONSE TIME

TRIP	FUNC	TION	ESPONSE TIME (Seconds)#
AUTO	MATIC	INITIATION	
1.	PRIM	MARY CONTAINMENT ISOLATION	
	a.	Reactor Vessel Water Level	
		1) Low, Level 3	NA ≤ 1.0*/≤ 13 <sup>(a)**</sup> ≤ 13 <sup>(a)</sup>
		2) Low Low, Level 2	< 1.0*/< 13 <sup>(a)</sup>
	b.	Drywell Pressure - High	≤ 13(4)
	c.	Main Steam Line	(*)*
		1) Radiation - High(b)	< 1.0*/< 13(a)**
		2) Pressure - Low	<pre>&lt; 1.0*/&lt; 13(a)*; &lt; 1.0*/&lt; 13(a)*; &lt; 0.5*/&lt; 13(a)*; </pre>
		3) Flow - High	< 0.5*/≤ 13(")
	d.	Main Steam Line Tunnel Temperature - High	NA
	e.	Condenser Vacuum - Low	NA NA
	·f.	Main Steam Line Tunnel △ Temperature - Hi	gh NA .
2.	SEC	ONDARY CONTAINMENT ISOLATION	
	a.	Reactor Building (Yent Exhaust Plenum Radiation - High	(a)
		Radiation - High	≤ 13(a)
	b.	Drywell Pressure - High	
	c.	Reactor Vessel Water Level - Low, Level 2	≤ 13(a)
	d.	Fuel Pool Vent Exhaust Radiation - High	≤ 13'-
3.	REA	CTOR WATER CLEANUP SYSTEM ISOLATION	
	a.	Δ Flow - High	< 13 <sup>(a)##</sup>
	b.	Heat Exchanger Area Temperature - High	NA
	c.	Heat Exchanger Area Ventilation AT-High	NA
-	-4-	- Pump Area Temperature High	NA
_	-	Pump Area Ventilation AT - High	NA
		. SLCS Initiation	NA (a)
	and	, Reactor Vessel Water Level - Low Low, Lev	vel 2 ≤ 13 <sup>(a)</sup>
4.	REA	CTOR CORE ISOLATION COOLING SYSTEM ISOLATIO	<u>N</u>
	a.	RCIC Steam Line Flow - High	<pre></pre>
	b.	RCIC Steam Supply Pressure - Low	₹ 13 <sup>(a)</sup>
	c.	RCIC Turbine Exhaust Diaphragm Pressure	High NA
	d.	RCIC Equipment Room Temperature - High	NA NA
	e.	RCIC Steam Line Tunnel Temperature - High	
	f.	RCIC Steam Line Tunnel & Temperature - H	
	g.	Drywell Pressure - High	NA NA
5.	RHI	SYSTEM STEAM CONDENSING MODE ISOLATION	
	a.	RHR Equipment Area & Temperature - High	NA
	b.	RHR Area Cooler Temperature - High	NA NA
		RHR Heat Exchanger Steam Supply Flow Hi	gh NA

#### ISOLATION SYSTEM INSTRUMENTATION RESPONSE TIME

# RHR SYSTEM SHUTDOWN COOLING MODE ISOLATION

RESPONSE TIME (Seconds)

a.	Reactor Vessel Water Level - Low, Level 3	< 13 <sup>(a)</sup>
b.	Reactor Vessel	
	(RHR Cut-In Permissive) Pressure - High	N.A.
c.	RHR Pump Suction Flow - High	N.A.
d.	RHR Area Cooler Temperature High	N.A.
e.	RHR Equipment Area $\Delta T$ High	N.A.

#### B. MANUAL INITIATION

N.A.

Inboard Valves

TRIP FUNCTION

- Outboard Valves
- 3. Inboard Valves
- Outboard Valves 4.
- Inboard Valves
- Outboard Valves 6.
- Outboard Valve
- (a) The isolation system instrumentation response time shall be measured and recorded as a part of the ISOLATION SYSTEM RESPONSE TIME. Isolation system instrumentation response time specified includes the delay for diesel generator starting assumed in the accident analysis.
- (b) Radiation detectors are exempt from response time testing. Response time shall be measured from detector output or the input of the first electronic component in the channel.
- Isolation system instrumentation response time for MSIVs only. No diesel generator delays assumed.
- Isolation system instrumentation response time for associated valves except MSIVs.
- Isolation system instrumentation response time specified for the Trip Function actuating each valve group shall be added to isolation time shown in Table 3.6.3-1 and 3.6.5.2-1 for valves in each valve group to obtain ISOLATION SYSTEM RESPONSE TIME for each valve.
- Without 45+1 second time delay.
- ### Without < 5 second time delay.
- N.A. Not Applicable.

LA SALLE - UNIT 1

3/4 3-19

Amendment No.18

No change. For reference only

TABLE 4.3.2.1-1

			WILLIAM AND SOUTH	EILLANCE REQUIRE	FILMIS
TRIP	FUNCTION	CHANNEL	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
AUT OI4	MATIC INITIATION				
1.	PRIMARY CONTAINMENT ISOLATION				
	a. Reactor Vessel Water Level				
	1) Low, Level 3	S	М	R	1, 2, 3 1, 2, 3 1, 2, 3
	2) Low Low, Level 2	S	H	R	1, 2, 3
	h. Drywell Pressure - High	NA	М	Q	1, 2, 3
	c. Main Steam Line				
	1) Radiation - High	S	M	R	1, 2, 3
	2) Pressure - Low	NA	M	Q	1 2 2 .
	3) Flow - High	S	М	· R	1, 2, 3
	d. Main Steam Line Tunnel Temperature - High	NA	м	R	1. 2. 3
		NA NA	Й	q	1, 2, 3 1, 2*, 3*
	t. Main Steam Line Tunnel	""			
	Δ Temperature - High	NA	M	R	1, 2, 3
2.	SECONDARY CONTAINMENT ISOLATION				
	a. Reactor Building Vent Exhaust	t			
	Plenum Radiation - High	S	H	R .	1, 2, 3 and **
	b. Drywell Pressure - High	NA	M	Q	1, 2, 3
	c. Reactor Vessel Water				1 2 2 and
	Level - Low Low, Level 2.	S	М	R	1, 2, 3, and *
	d. Fuel Pool Vent Exhaust	S	м	. R	1, 2, 3 and **
	Radiation - High		•	• •	1, 2, 3 and
3.	REACTOR WATER CLEANUP SYSTEM ISOLA	ATION			
	a. A Flow - High	S	М	R	1, 2, 3
	b. Heat Exchanger Area				
	Temperature - High	NA	М	Q	1, 2, 3
	c. Heat Exchanger Area				1 2 2
	Ventilation ΔT - High	NA	M	Q	1, 2, 3
	d. Pump Area Temperature High	***			
200	- Temperature High	NA			1-2-3
	SICS Initiation	NA	R	NA	1, 2, 3
-	Reactor Vessel Water				
-	Level - Low Low, Level 2	S	M	R	1, 2, 3

# ISOLATION ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

Fun	CTION	CHANNEL	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
REA	CTOR CORE ISOLATION COOLING SYS	TEM ISOLAT	ION		
a.	RCIC Steam Line Flow - High	NA	м	Q	1, 2, 3
b.	RCIC Steam Supply Pressure -	NA	н	Q	1, 2, 3
c.		nı NA	м	Q	1, 2, 3
d.	RCIC Equipment Room	NA	н	0	1, 2, 3
e.	RCIC Steam Line Tunnel			0	1, 2, 3
f.	RCIC Steam Line Tunnel			•	
g.	Δ Temperature - High Drywell Pressure - High	NA NA	H	q	1, 2, 3
RHR	SYSTEM STEAM CONDENSING MODE 1	SOLATION			
d.	RIIR Equipment Area A				
	Temperature - High	NA	н	Q	1, 2, 3
ь.	High	NA	н	Q	1, 2, 3
с.	RHR Heat Exchanger Steam Supply Flow - High	NA	н	, Q	1, 2, 3
	REA  a. b. c. d. e. f. g. RHR a. b.	a. RCIC Steam Line Flow - High b. RCIC Steam Supply Pressure - Low c. RCIC Turbine Exhaust Diaphrage Pressure - High d. RCIC Equipment Room Temperature - High e. RCIC Steam Line Tunnel Iemperature - High f. RCIC Steam Line Tunnel Δ Temperature - High g. Drywell Pressure - High  RHR SYSTEM STEAM CONDENSING MODE I  a. RHR Equipment Area Δ Temperature - High b. RHR Area Cooler Temperature - High	REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION  a. RCIC Steam Line Flow - High NA b. RCIC Steam Supply Pressure - Low NA c. RCIC Turbine Exhaust Diaphragm Pressure - High NA d. RCIC Equipment Room Temperature - High NA e. RCIC Steam Line Tunnel Temperature - High NA f. RCIC Steam Line Tunnel NA g. Drywell Pressure - High NA RHR SYSTEM STEAM CONDENSING MODE ISOLATION  a. RHR Equipment Area A Temperature - High NA b. RHR Area Cooler Temperature - High NA c. RHR Heat Exchanger Steam	REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION  a. RCIC Steam Line Flow - High NA M b. RCIC Steam Supply Pressure - Lor NA M  c. RCIC Turbine Exhaust Diaphragm Pressure - High NA M d. RCIC Equipment Room Temperature - High NA M e. RCIC Steam Line Tunnel Temperature - High NA M f. RCIC Steam Line Tunnel A Temperature - High NA M g. Drywell Pressure - High NA M RIIR SYSTEM STEAM CONDENSING MODE ISOLATION  a. RIIR Equipment Area A Temperature - High NA M b. RIIR Area Cooler Temperature - High NA M c. RIIR Area Cooler Temperature - High NA M C. RIIR Heat Exchanger Steam	PERICTION  CHANNEL CHECK  CHECK  CHECK  CHANNEL TEST  CALIBRATION  A RCIC Steam Line Flow - High NA M Q  C. RCIC Steam Line Flow - High NA M Q  d. RCIC Turbine Exhaust Diaphragm Pressure - High NA M Q  c. RCIC Steam Line Tunnel Temperature - High NA M Q  f. RCIC Steam Line Tunnel A Temperature - High NA M Q  G. Drywell Pressure - High NA M Q  RIIR SYSTEM STEAM CONDENSING MODE ISOLATION  a. RIIR Equipment Area A Temperature - High NA M Q  C. RIIR Heat Exchanger Steam

#### ISOLATION ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP	FUNCTION	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
6.	RHR SYSTEM SHUTDOWN COOLING MODE I	SOLATION			
	a. Reactor Vessel Water Level -				
	Low, Level 3	5	H	R	1, 2, 3
	b. Reactor Vessel				
	(RHR Cut-in Permissive)				
	Pressure - High	NA	M	Q	1, 2, 3 1, 2, 3 -
	c. RHR Pump Suction Flow - High	NA	M	Q	1, 2, 3 -
	d. RHR Area Temperature - High	NA	M	Q	1, 2, 3
	e. RHR Equipment Area ΔT - High	NA	М	Q	1, 2, 3
MAN	AL INITIATION				
1.	Inboard Valves	NA	R	NA	1, 2, 3
2.	Outboard Valves				1, 2, 3
3.	Inboard Valves				1, 2, 3 and **,#
4.	Outhoard Valves				1, 2, 3 and **,#
5.	Inboard Valves				1, 2, 3
6.	Outboard Valves				1, 2, 3
7.	Outboard Valve				1, 2, 3

<sup>\*</sup>When reactor steam pressure > 1043 psig and/or any turbine stop valve is open.

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

<sup>#</sup>During CORE ALTERATIONS and operations with a potential for draining the reactor vessel.

#### INSTRUMENTATION

#### 3/4.3.2 ISOLATION ACTUATION INSTRUMENTATION

#### LIMITING CONDITION FOR OPERATION

3.3.2 The isolation actuation instrumentation channels shown in Table 3.3.2-1 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3.2-2 and with ISOLATION SYSTEM RESPONSE TIME as shown in Table 3.3.2-3.

APPLICABILITY: As shown in Table 3.3.2-1.

#### ACTION:

- a. With an isolation actuation instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3.2-2, declare the channel inoperable until the channel is restored to OPERABLE status with its trip setpoint adjusted consistent with the Trip Setpoint value.
- b. With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement for one trip system, place that trip system in the tripped condition\* within one hour. The provisions of Specification 3.0.4 are not applicable.
- c. With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement for both trip systems, place at least one trip system\*\* in the tripped condition within one hour and take the ACTION required by Table 3.3.2-1.

No change. For reference only.

<sup>\*</sup>With a design providing only one channel per trip system, an inoperable channel need not be placed in the tripped condition where this would cause the Trip Function to occur. In these cases, the inoperable channel shall be restored to OPERABLE status within 2 hours or the ACTION required by Table 3.3.2-1 for that Trip Function shall be taken.

<sup>\*\*</sup>If more channels are inoperable in one trip system than in the other, select that trip system to place in the tripped condition except when this would cause the Trip Function to occur.

#### INSTRUMENTATION

#### SURVEILLANCE REQUIREMENTS

- 4.3.2.1 Each isolation actuation instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION operations for the OPERATIONAL CONDITIONS and at the frequencies shown in Table 4.3.2.1-1.
- 4.3.2.2 LOGIC SYSTEM FUNCTIONAL TESTS and simulated automatic operation of all channels shall be performed at least once per 18 months.
- 4.3.2.3 The ISOLATION SYSTEM RESPONSE TIME of each isolation trip function shown in Table 3.3.2-3 shall be demonstrated to be within its limit at least once per 18 months. Each test shall include at least one channel per trip system 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 isolation trip system.

No change For reference only.

TABLE 3.3.2-1

# ISOLATION ACTUATION INSTRUMENTATION

TRIP	FUN	CTION	VALVE GROUPS CPERATED BY SIGNAL (a)	MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (b)	APPLICABLE OPERATIONAL CONDITION	ACTION
A.	AUT	OMATIC INITIATION				
1.	PRI	MARY CONTAINMENT ISOLATION				
	a.	Reactor Vessel Water Level (1) Low, Level 3 (2) Low Low, Level 2	7 1, 2, 3	2 2	1, 2, 3 1, 2, 3	20 20
	b.	Drywell Pressure - High	2, 7	2	1, 2, 3	20
	c.	Main Steam Line 1) Radiation - High	1 3	2 2 2	1, 2, 3 1, 2, 3	21 22 23
		2) Pressure - Low 3) Flow - High	1	2/11ne <sup>(d)</sup>	1, 2, 3	21
	d.	Main Steam Line Tunnel Temperature - High	1	2	1, 2, 3	21
	e.	Main Steam Line Tunnel Δ Temperature - High	1	2	1(1), 2(1), 3(	
	f.	Condenser Vacuum - Low	1	2	1, 2*, 3*	21
2.	SEC	ONDARY CONTAINMENT ISCLATION				
	a.	Reactor Building Vent Exhaust Plenum Radiation - High	4(c)(e)	2	1, 2, 3 and **	
	b.	Drywell Pressure - High	4(c)(e)	2	1, 2, 3	24
	c.	Reactor Vessel Water Level - Low Low, Level 2	4(c)(e)	2	1, 2, 3, and	24
	d.	Fuel Pool Vent Exhaust Radiation - High	4(c)(e)	. 2	1, 2, 3, and *	* 24

FUNCT	TION	VALVE GROUPS OPERATED BY SIGNAL (a)	MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (b)	APPLICABLE OPERATIONAL CONDITION	ACTION
REACT	TOR WATER CLEANUP SYSTEM ISOLA	TION			
a.	Δ Flow - High	5	1	1, 2, 3	22
b.	Heat Exchanger Area Temperature - High	5	1	1, 2, 3	22
c.	Heat Exchanger Area Ventilation ΔT - High	5	1	1, 2, 3	22
4-	Pump Area Temperature - High	-5		1, 2, 3	- 22
е:	Pump Area Ventilation Ai-	5	1	1, 2, 3	22-
4.0	SLCS Initiation	5(1)	NA	1, 2, 3	22
9.€	Reactor Vessel Water Level - Low Low, Level 2	5	2	1, 2, 3	22
REAC	TOR CORE ISOLATION COOLING SYS				
a.	RCIC Steam Line Flow - High	8	1	1, 2, 3	22
b.	RCIC Steam Supply Pressure - Low	e, 9(g)	2	1, 2, 3	22
c.	RCIC Turbine Exhaust Diaphragm Pressure - High	8	2	1, 2, 3	22
d.	RCIC Equipment Room Temperature - High	8	1	1, 2, 3	22
e.	RCIC Steam Line Tunnel Temperature - High	8	1	1, 2, 3	22
f.	RCIC Steam Line Tunnel Δ Temperature - High	8	1	1, 2, 3	22
g.	Drywell Pressure - High	9 <sup>(g)</sup>	2	1, 2, 3	22
	REAC  a. b. c. REAC  a. b. c. d. d. c. d. e. f.	a. Δ Flow - High b. Heat Exchanger Area     Temperature - High c. Heat Exchanger Area     Ventilation ΔT - High d. Pump Area Temperature - High e: Pump Area Ventilation ΔI-     High  F. SLCS Initiation  G. Reactor Vessel Water     Level - Low Low, Level 2  REACTOR CORE ISOLATION COOLING SYS a. RCIC Steam Line Flow - High b. RCIC Steam Supply     Pressure - Low c. RCIC Turbine Exhaust     Diaphragm Pressure - High d. RCIC Equipment Room     Temperature - High e. RCIC Steam Line Tunnel     Temperature - High f. RCIC Steam Line Tunnel     Temperature - High	REACTOR WATER CLEANUP SYSTEM ISOLATION  a. A Flow - High 5 b. Heat Exchanger Area Temperature - High 5 c. Heat Exchanger Area Ventilation AI - High 5 d. Pump Area Temperature - High 5 e. Pump Area Ventilation AI - High 5 e. Reactor Vessel Water Level - Low Low, Level 2 5 REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION a. RCIC Steam Line Flow - High 8 b. RCIC Steam Line Flow - High 8 d. RCIC Turbine Exhaust Diaphragm Pressure - High 8 d. RCIC Equipment Room Temperature - High 8 e. RCIC Steam Line Tunnel Temperature - High 8 f. RCIC Steam Line Tunnel Temperature - High 8 f. RCIC Steam Line Tunnel A Temperature - High 8	FUNCTION  OPERATED BY SIGNAL (a)  REACTOR WATER CLEANUP SYSTEM ISOLATION  a. \$\Delta Flow - \text{High} \text{ 5} \\  b. Heat Exchanger Area Temperature - \text{High} \text{ 5} \\  c. Heat Exchanger Area Ventilation \$\Delta T - \text{High} \text{ 5} \\  e: Pump Area Temperature - \text{High} \text{ 5} \\  e: Pump Area Temperature - \text{High} \text{ 5} \\  e: Pump Area Temperature - \text{High} \text{ 5} \\  e: Pump Area Temperature - \text{High} \text{ 5} \\  e: Pump Area Temperature - \text{High} \text{ 5} \\  e: Pump Area Temperature - \text{High} \text{ 5} \\  e: Pump Area Temperature - \text{High} \text{ 5} \\  e: Pump Area Temperature - \text{High} \text{ 5} \\  e: Pump Area Temperature \text{ 5} \\  e: Pump Area Temperature \text{ 5} \\  e: Pump Area Temperature \text{ 8} \\  e: Pump Area Temperature - \text{High} \text{ 8} \\  e: REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION \\  a. RCIC Steam Line Flow - \text{High} \text{ 8} \\  b. RCIC Steam Supply \\  pressure - Low \\  c. RCIC Turbine Exhaust \\  diaphragm Pressure - High \\  d. RCIC Equipment Room \\  Temperature - \text{High} \\  e. RCIC Steam Line Tunnel \\  A Temperature - \text{High} \\  f. RCIC Steam Line Tunnel \\  A Temperature - \text{High} \\  8 \\  1 \\  1 \\  1 \\  1 \\  2 \\  1 \\  2 \\  3 \\  4 \\  1 \\  1 \\  1 \\  2 \\  3 \\  4 \\  1 \\  1 \\  2 \\  3 \\  4 \\  1 \\	FUNCTION   SIGNAL (a)   CHANNELS PER   CHANNELS

# DE CELEBRENCE ON

TABLE 3.3.2-1 (Continued)

TRIP	FUNCTION	VALVE GROUPS OPERATED BY SIGNAL (a)	MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (b)	APPLICABLE OPERATIONAL CONDITION	ACTION
5.	RHR SYSTEM STEAM CONDENSING MODE I	SOLATION			
	a. RHR Equipment Area Δ Temperature - High	8	1	1, 2, 3	22
	b. RHR Area Temperature - High	8	1	1, 2, 3	22
	c. RHR Heat Exchanger Steam Supply Flow - High	8	1	1, 2, 3	22
6.	RHR SYSTEM SHUTDOWN COOLING MODE	ISOLATION			
	a. Reactor Vessel Water Level - Low, Level 3	6	2	1, 2, 3	25
	b. Reactor Vessel (RHR Cut-in Permissive) Pressure - High	6	1	1, 2, 3	25
	c. RHR Pump Suction Flow - High	6	1	1, 2, 3	25
	d. RHR Area Temperature - High	6	1	1, 2, 3	25
	e. RHR Equipment Area ΔT - High	6	1	1, 2, 3	25
. MANI	JAL INITIATION				
1.	Inboard Valves	1, 2, 5, 6, 7	1/group	1, 2, 3	26
2.	Outboard Valves	1, 2, 5, 6, 7	1/group	1, 2, 3	26
3.	Inboard Valves	4 (c) (e)	1/group	1, 2, 3 and	**,# 26
4.	Outboard Valves	4(c) (e)	1/group	1, 2, 3 and	**,# 26
5.	Inboard Valves	3, 8, 9	1/valve	1, 2, 3	26
6.	Outboard Valves	3, 8, 9	1/valve	1, 2, 3	26
7.	Outboard Valve	g(h)	1/group	1, 2, 3	26

#### ISOLATION ACTUATION INSTRUMENTATION

#### ACTION STATEMENTS

- ACTION 20 Be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN with the next 24 hours.
- ACTION 21 Be in at least STARTUP with the associated isolation valves closed within 6 hours or be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.
- ACTION 22 Close the affected system isolation valves within 1 hour and declare the affected system inoperable.
- ACTION 23 Be in at least STARTUP within 6 hours.
- ACTION 24 Establish SECONDARY CONTAINMENT INTEGRITY with the standby gas treatment system operating within 1 hour.
- ACTION 25 Lock the affected system isolation valves closed within 1 hour and declare the affected system inoperable.
- ACTION 26 Provided that the manual initiation function is OPERABLE for each other group valve, inboard or outboard, as applicable, in each line restore the manual initiation function to OPERABLE status within 24 hours; otherwise, restore the manual initiation function to OPERABLE status within 8 hours; otherwise:
  - a. Be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours, or
  - b. Close the affected system isolation valves within the next hour and declare the affected system in operable.

#### TABLE NOTATIONS

- \* May be bypassed with reactor steam pressure ≤ 1043 psig and all turbine stcp valves closed.
- \*\* When handling irradiated fuel in the secondary containment and during CORE ALTERATIONS and operations with a potential for draining the reactor vessel.
- # During CORE ALTERATIONS and operations with a potential for draining the reactor vessel.
- (a) See Specification 3.6.3, Table 3.6.3-1 for valves in each valve group.
- (b) A channel may be placed in an inoperable status for up to 2 hours for required surveillance without placing the trip system in the tripped condition provided at least one other OPERABLE channel in the same trip system is monitoring that parameter.
- (c) Also actuates the standby gas treatment system.
- (d) A channel is OPERABLE if 2 of 4 instruments in that channel are OPERABLE.
- (e) Also actuates secondary containment ventilation isolation dampers per Table 3.6.5.2-1.
- (f) Closes only RWCU system inlet outboard valve.
- (g) Requires RCIC steam supply pressure-low coincident with drywell pressure-high.
- (h) Manual initiation isolates 2E51-F008 only and only with a coincident reactor vessel water level-low, level 3, signal.
- (i) Both channels of each trip system may be placed in an inoperable status for up to 4 hours for required reactor building ventilation filter change and damper cycling without placing the trip system in the tripped condition provided that the ambient temperature channels in the same trip systems are OPERABLE.

TABLE 3.3.2-2

# ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

IP FUN	ICTION	TRIP SETPOINT	ALLGWABLE VALUE				
TOMATI	C INITIATION						
	MARY CONTAINMENT ISOLATION						
a.	Reactor Vessel Water Level						
	1) Low, Level 3	> 12.5 inches*	> 11.0 inches*				
	2) Low Low, Level 2	> -50 inches*	> -57 Inches*				
b.	Drywell Pressure - High	₹ 1.69 psig	< 1.89 psig				
c.	Main Steam Line						
	1) Radiation - High	< 3.0 x full power background	< 3.6 x full background				
	2) Pressure - Low	> 854 psig	> 834 psig				
	3) Flow - High	< 111 psid	< 116 psid				
d.	Main Steam Line Tunnel						
	Temperature - High	< 140°F	< 146°F				
e.	Main Steam Line Tunnel						
	Δ Temperature - High	< 36°F	< 42 °F				
f.	Condenser Vacuum - Low	> 7 inches Hg vacuum	> 5.5 inches Hg vacuum				
SEC	SECONDARY CONTAINMENT ISOLATION						
a.	Reactor Building Vent Exhaust						
	Plenum Radiation - High	≤ 10 mr/h	< 15 mr/h				
b.	Drywell Pressure - High	≤ 1.69 psig	< 1.89 psig				
c.	Reactor Vessel Water						
	Level - Low Low, Level 2	≥ -50 inches*	≥ -57 inches*				
d.	Fuel Pool Vent Exhaust						
	Radiation - High	< 10 mr/h	≤ 15 mr/h				
REA	ACTOR WATER CLEANUP SYSTEM ISOLATION						
a.	ΔFlow - High	< 70 gpm	< 87.5 gpm				
b.	Heat Exchanger Area Temperature						
	- High	< 181°F	< 187°F				
C.	Heat Exchanger Area Ventilation						
	ΔT - High	< 85°	< 91°F				
4.	- Pump Area Temperatura - High	- 116°F	₹ 122°F—				
0.	- Pump Area Ventilation AI - High	₹-13°F	- 19°F				
- The Contract of the Contract	SLCS Initiation	Ñ.A.	Ñ. A.				
8.0	Reactor Vessel Water Level						
	Low Low, Level 2	> -50 inches*	> -57 inches*				

# ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

RIP FUN	CTION	TRIP SETPOINT	ALLOWABLE VALUE
REA	CTOR CORE ISOLATION COOLING SYSTEM	ISOLATION	
a. b.	RCIC Steam Line Flow - High RCIC Steam Supply Pressure - Low	\( \frac{290\%}{2} \) of rated flow, 178" H20     \( \frac{2}{2} \) 57 psig	$\leq$ 295% of rated flow, 185" $H_2O$ $\geq$ 53 psig
c.	RCIC Turbine Exhaust Diaphragm Pressure - High	≤ 10.0 psig	≤ 20.0 psig
d.	RCIC Equipment Room Temperature - High	≤ 200°F	≤ 206°F
e.	RCIC Steam Line Tunnel Temperature - High	< 200°F	≤ 206°F
f.	RCIC Steam Line Tunnel Δ Temperature - High	< 117°F	≤ 123°F
g.	Drywell Pressure - High	₹ 1.69 psig	₹ 1.89 psig
RHR	SYSTEM STEAM CONDENSING MODE ISOLA	TION	
а.	RHR Equipment Area Δ Temperature - High	≤ 50°F	≤ 56°F
b.	RHR Area Cooler Temperature - High	≤ 200°F	≤ 206°F
c.	RHR Heat Exchanger Steam Supply Flow - High	≤ 123" H <sub>2</sub> 0 、	≤ 128" H <sub>2</sub> 0
			10

## ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

ALLOWABLE

TRIP F	UNCTION		TRIP SETPOINT	VALUE
6	. RHR	SYSTEM SHUTDOWN COOLING MODE I	SOLATION	
	a.	Reactor Vessel Water Level - Low, Level 3	≥ 12.5 inches*	≥ 11.0 inches*
	b.	Reactor Vessel (RHR Cut-in Permissive) Pressure - High	≤ 135 psig**	≤ 145 psig**
	c.	RHR Pump Suction Flow - High	≤ 180" H <sub>2</sub> 0	≤ 186" H <sub>2</sub> 0
	d.	RHR Area Cooler Temperature - High	≤ 200°F	≤ 206°F
	e.	RHR Equipment Area AT - High	≤ 50°F	≤ 56°F
в. н	MANUAL I	NITIATION	N.A.	N.A.

- Inboard Valves
- Outboard Valves
- Inboard Valves
- Outboard Valves
- Inboard Valves
- Outboard Valves
- Outboard Valve

<sup>\*</sup>See Bases Figure B 3/4 3-1.

<sup>\*\*</sup>Corrected for cold water head with reactor vessel flooded. N.A. - Not Applicable.

# TABLE 3.3.2-3

## ISOLATION SYSTEM INSTRUMENTATION RESPONSE TIME

TRIP	FUNCTION	RESPONSE TIME (Seconds)#				
AUTO	MATIC INITIATION					
1.	PRIMARY CONTAINMENT ISOLATION					
	a. Reactor Vessel Water Level					
	1) Low, Level 3					
	2) Low Low, Level 2	< 1.0*/< 13 <sup>(a)</sup>				
	b. Drywell Pressure - High	N.A. \( \frac{1}{2} \) \( \frac{1}{2} \) \( \frac{1}{2} \) \( \frac{1}{2} \) \( \frac{1}{2} \)				
	c. Main Steam Line (b)	(2)*				
	1) Radiation - High(b)	$\leq 1.0^{*}/\leq 13^{(a)^{*}}$				
	2) Pressure - Low 3) Flow - High	$ \begin{array}{c} < 1.0^{*}/< 13^{(a)} \\ < 1.0^{*}/< 13^{(a)} \\ < 0.5^{*}/< 13^{(a)} \end{array} $				
	d. Main Steam Line Tunnel Tem	perature - High N.A.				
	e. Condenser Vacuum - Low	N.A.				
	f. Main Steam Line Tunnel & T					
2.	SECONDARY CONTAINMENT ISOLATION					
	a. Reactor Building, Yent Exha	ust Plenum				
	a. Reactor Building (Yent Exha Radiation - High	≤ 13(a)				
	b. Drywell Pressure - High	is the prenum $\frac{13(a)}{413(a)}$ 1 - Low, Level (2) $\frac{13(a)}{413(a)}$ is the prenum $\frac{13(a)}{413(a)}$ is the prenum $\frac{13(a)}{413(a)}$				
	c. Reactor Vessel Water Level	- Low, Level (2) < 13(a)				
	d. Fuel Pool Vent Exhaust Rac	ination - High				
3.	REACTOR WATER CLEANUP SYSTEM ISOLATION					
	a. A Flow - High	≤ 13 <sup>(a)##</sup>				
	b. Heat Exchanger Area Temper	rature - High N.A.				
	c. Heat Exchanger Area Ventil	lation $\Delta T$ -High N.A.				
	d. Pump Area Frimperature H					
	And SLCS Initiation					
	g.e. Reactor Vessel Water Level	I - Low Low, Level 2 ≤ 13(a)				
4.	REACTOR CONE ISOLATION COOLING	SYSTEM ISOLATION				
	a. RCIC Steam Line Flow - Hig	gh < 13(a)### < 13(a)  - Low				
	b. RCIC Steam Supply Pressure	- low = 13(a)				
	c. RCIC Turbine Exhaust Diaph	hragm Pressure - High N.A.				
	d. RCIC Equipment Room Temper					
	e. RCIC Steam Line Tunnel Ten	mperature - High N.A.				
	f. RCIC Steam Line Tunnel Δ 1					
	g. Drywell Pressure - High	N.A.				
5.	RHR SYSTEM STEAM CONDENSING MOD	DE ISOLATION				
	a. RHR Equipment Area Δ Tempe	erature - High N.A.				
	b. RHR Area Cooler Temperatur					
	c. RHR Heat Exchanger Steam	[[[전기 : [[[[전기 및 201 : [] : [] : [[[] : [] : [] : [] : [] :				

#### ISOLATION SYSTEM INSTRUMENTATION RESPONSE TIME

#### TRIP FUNCTION

#### RESPONSE TIME (Seconds)#

#### 6. RHR SYSTEM SHUTDOWN COOLING MODE ISOLATION

a.	Reactor Vessel Water Level - Low, Level 3	< 13 <sup>(a)</sup>
b.	Reactor Vessel	
	(RHR Cut-In Permissive) Pressure - High	N.A.
c.	RHR Pump Suction Flow - High	N.A.
d.	RHR Area Cooler Temperature High	N.A.
e.	RHR Equipment Area AT High	N.A.

#### B. MANUAL INITIATION

N.A.

- 1. Inboard Valves
- 2. Outboard Valves
- 3. Inboard Valves
- 4. Outboard Valves
- 5. Inboard Valves
- 6. Outboard Valves
- 7. Outboard Valve

#### TABLE NOTATIONS

- (a) The isolation system instrumentation response time shall be measured and recorded as a part of the ISOLATION SYSTEM RESPONSE TIME. Isolation system instrumentation response time specified includes the delay for diesel generator starting assumed in the accident analysis.
- (b) Radiation detectors are exempt from response time testing. Response time shall be measured from detector output or the input of the first electronic component in the channel.
- \* Isolation system instrumentation response time for MSIVs only. No diesel generator delays assumed.
- \*\* Isolation system instrumentation response time for associated valves except MSIVs.
- # Isolation system instrumentation response time specified for the Trip Function actuating each valve group shall be added to isolation time shown in Table 3.6.3-1 and 3.6.5.2-1 for valves in each valve group to obtain ISOLATION SYSTEM RESPONSE TIME for each valve.
- ## Without 45+1 second time delay.
- ### Without  $\leq$  5 second time delay.
- N.A. Not Applicable.

_	ISOLATION ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS						
LA SALLE	TRIP	FUNCTION	CHANNEL	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED	
' A.	AUTO	MATIC INITIATION					
LIND	1.	PRIMARY CONTAINMENT ISOLATION					
2		a. Reactor Vessel Water Level 1) Low, Level 3 2) Low Low, Level 2 b. Drywell Pressure - High c. Main Steam Line 1) Radiation - High 2) Pressure - Low 3) Flow - High d. Main Steam Line Tunnel Temperature - High e. Condenser Vacuum - Low	S NA S NA S	M M M M	R R Q R Q R	1, 2, 3 1, 2, 3 1, 2, 3 1, 2, 3 1, 2, 3 1, 2, 3 1, 2*, 3*	
3/4		f. Main Steam Line Tunnel Δ Temperature - High	NA	н	R	1, 2, 3	
3-20	2.	SECONDARY CONTAINMENT ISOLATION					
		a. Reactor Building Vent Exhaust Plenum Radiation - High b. Drywell Pressure - High c. Reactor Vessel Water Level - Low Low, Level 2 d. Fuel Pool Vent Exhaust	S NA S	H H	R Q R	1, 2, 3 and ** 1, 2, 3 1, 2, 3, and #	
		Radiation - High	S	М	R	1, 2, 3 and **	
	3.	REACTOR WATER CLEANUP SYSTEM ISOLO	ATION S	н	R	1, 2, 3	
		b. Heat Exchanger Area Temperature - High	NA	н	Q	1, 2, 3	
		c. Heat Exchanger Area  Ventilation ΔI - High	NA NA	Ľ.	Q	1, 2, 3	
		d. Pump Area Tomperature - High			0	1, 2, 3	
		SLCS Initiation	NA NA	R	NA -	1, 2, 3	
		fg. Reactor Vessel Water Level - Low Low, Level 2	S	н	R	1, 2, 3	

# ISOLATION ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP	FUNCTION		CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
4.	REACTOR CORE IS	DLATION COOLING SYS	TEM ISOLATI	ON		
		Line Flow - High	NA	н	Q	1, 2, 3
	b. RCIC Steam	Supply Pressure -	NA	н	Q	1, 2, 3
	c. RCIC Turbi	ne Exhaust Diaphrag		н	0	1, 2, 3
	d. RCIC Equip					
		ure - High Line Tunnel	NA	н н	Q	1, 2, 3
	Temperatu	re - High	NA	н	Q	1, 2, 3
		Line Tunnel ature - High	NA	н	Q	1, 2, 3 1, 2, 3
		essure - High	NA	н	Q	1, 2, 3
5.	RHR SYSTEM STEA	M CONDENSING MODE	SOLATION			
		ent Area Δ ure - High	NA	н	Q	1, 2, 3
	b. RHR Area C High	ooler Temperature	NA NA	н	Q	1, 2, 3
		xchanger Steam low - High	NA	н	Q	1, 2, 3

## ISOLATION ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

ALLE - U	TRI	P FUNCTION	CHANNEL	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
UNIT 2	6.	RHR SYSTEM SHUTDOWN COOLING MODE IS	SOLATION			
		<ul> <li>Reactor Vessel Water Level -</li> <li>Low, Level 3</li> <li>Reactor Vessel</li> </ul>	s	н	R	1, 2, 3
		(RHR Cut-in Permissive) Pressure - High c. RHR Pump Suction Flow - High d. RHR Area Temperature - High e. RHR Equipment Area ΔT - High	NA NA NA	. H	Q Q Q	1, 2, 3 1, 2, 3 1, 2, 3 1, 2, 3
3/4	MAN	e. RHR Equipment Area Δ1 - High				
4 3-22	1. 2. 3. 4. 5. 6. 7.	Inboard Valves Outboard Valves Inboard Valves Outboard Valves Inboard Valves Outboard Valves Outboard Valves Outboard Valves	NA	R	NA	1, 2, 3 1, 2, 3 1, 2, 3 and **,# 1, 2, 3 and **,# 1, 2, 3 1, 2, 3 1, 2, 3

<sup>\*</sup>When reactor steam pressure > 1043 psig and/or any turbine stop valve is open.

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

<sup>#</sup>During CORE ALTERATIONS and operations with a potential for draining the reactor vessel.