

DEFINITIONSTABLE 1.2OPERATIONAL CONDITIONS

<u>CONDITION</u>	<u>MODE SWITCH POSITION</u>	<u>AVERAGE REACTOR COOLANT TEMPERATURE</u>
1. POWER OPERATION	Run	Any temperature
2. STARTUP	Startup/Hot Standby	Any temperature
3. HOT SHUTDOWN	Shutdown# ***	> 200°F
4. COLD SHUTDOWN	Shutdown# ## ***	≤ 200°F ****
5. REFUELING*	Shutdown or Refuel** #	NA

#The reactor mode switch may be placed in the Run or Startup/Hot Standby position to test the switch interlock functions provided that the control rods are verified to remain fully inserted by a second licensed operator or other technically qualified member of the unit technical staff.

##The reactor mode switch may be placed in the Refuel position while a single control rod drive is being removed from the reactor pressure vessel per Specification 3.9.10.1.

\*Fuel in the reactor vessel with the vessel head closure bolts less than fully tensioned or with the head removed.

\*\*See Special Test Exceptions 3.10.1 and 3.10.3.

\*\*\*The reactor mode switch may be placed in the Refuel position while a single control rod is being moved provided that the one-rod-out interlock is OPERABLE.

\*\*\*\*See Special Test Exception 3.10.8.

TABLE 3.3.1-1

REACTOR PROTECTION SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>APPLICABLE OPERATIONAL CONDITIONS</u>	<u>MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (a)</u>	<u>ACTION</u>
1. Intermediate Range Monitors <sup>(b)</sup> :			
a. Neutron Flux - High	2 3(i), 4(i) 5(i)	3 3 3(d)	1 2 3
b. Inoperative	2 3(i), 4(i) 5(i)	3 3 3(d)	1 2 3
2. Average Power Range Monitor <sup>(e)</sup> :			
a. Neutron Flux - Upscale (Setdown)	2	3(m)	1
b. Simulated Thermal Power - Upscale	1	3(m)	4
c. Neutron Flux - Upscale	1	3(m)	4
d. Inoperative	1, 2	3(m)	1
e. 2-Out-Of-4 Voter	1, 2	2	1
3. Reactor Vessel Steam Dome Pressure - High	1, 2(f)	2	1
4. Reactor Vessel Water Level - Low, Level 3	1, 2	2	1
5. Main Steam Line Isolation Valve- Closure	1(g)	1/valve	4

TABLE 3.3.1-1 (Continued)  
REACTOR PROTECTION SYSTEM INSTRUMENTATION  
ACTION STATEMENTS

- ACTION 1 - Be in at least HOT SHUTDOWN within 12 hours.
- ACTION 2 - Verify all insertable control rods to be inserted in the core and lock the reactor mode switch in the SHUTDOWN position within 1 hour.
- ACTION 3 - Suspend all operations involving CORE ALTERATIONS and insert all insertable control rods within 1 hour.
- ACTION 4 - Be in at least STARTUP within 6 hours.
- ACTION 5 - Be in STARTUP with the main steam line isolation valves closed within 6 hours or in at least HOT SHUTDOWN within 12 hours.
- ACTION 6 - Initiate a reduction in THERMAL POWER within 15 minutes and reduce turbine first stage pressure until the function is automatically bypassed, within 2 hours.
- ACTION 7 - Verify all insertable control rods to be inserted within 1 hour.
- ACTION 8 - Lock the reactor mode switch in the Shutdown position within 1 hour.
- ACTION 9 - Suspend all operations involving CORE ALTERATIONS, and insert all insertable control rods and lock the reactor mode switch in the SHUTDOWN position within 1 hour.

TABLE 4.3.1.1-1

REACTOR PROTECTION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>CHANNEL CALIBRATION(a)</u>	<u>OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED</u>	
1. Intermediate Range Monitors:					
a. Neutron Flux - High	S(b) S	W W(j)	R R	2 3(i), 4(i), 5(i)	
b. Inoperative	N.A.	W(j)	N.A.	2, 3(i), 4(i), 5(i)	
2. Average Power Range Monitor(f):					
a. Neutron Flux - Upscale (Setdown)	D(b)	SA(l)	R	2	
b. Simulated Thermal Power - Upscale	D	SA(e)	W(d), R(g)	1	
c. Neutron Flux - Upscale	D	SA	W(d), R	1	
d. Inoperative	N.A.	SA	N.A.	1, 2	
e. 2-Out-Of-4 Voter	D	SA	N.A.	1, 2	
3. Reactor Vessel Steam Dome Pressure - High	S	Q	R	1, 2(h)	
4. Reactor Vessel Water Level- Low, Level 3	S	Q	R	1, 2	
5. Main Steam Line Isolation Valve - Closure	N.A.	Q	R	1	
6. DELETED	DELETED	DELETED	DELETED	DELETED	
7. Drywell Pressure - High	S	Q	R	1, 2	
8. Scram Discharge Volume Water Level - High					
a. Level Transmitter	S	Q	R	1, 2, 5(i)	
b. Float Switch	N.A.	Q	R	1, 2, 5(i)	

### 3.4.9 REFUELING OPERATIONS

#### 3.4.9.1 REACTOR MODE SWITCH

##### LIMITING CONDITION FOR OPERATION

3.9.1 The reactor mode switch shall be OPERABLE and locked in the Shutdown or Refuel position. When the reactor mode switch is locked in the Refuel position:

- a. The Refuel position one-rod-out interlock shall be OPERABLE.
- b. The following Refuel position interlocks shall be OPERABLE:
  1. All rods in.
  2. Refuel Platform (over-core) position.
  3. Refuel Platform hoists fuel-loaded.
  4. Service Platform hoist fuel-loaded (with Service Platform installed).

APPLICABILITY: OPERATIONAL CONDITION 5\* \*\*, OPERATIONAL CONDITIONS 3 AND 4 when the reactor mode switch is in the Refuel position.

##### ACTION:

- a. With the reactor mode switch not locked in the Shutdown or Refuel position as specified, suspend CORE ALTERATIONS and lock the reactor mode switch in the Shutdown or Refuel position.
- b. With the one-rod-out interlock inoperable, verify all control rods are fully inserted and disable withdraw capabilities of all control rods \*\*\*, or lock the reactor mode switch in the Shutdown position.
- c. With any of the above required Refuel Platform Refuel position interlocks inoperable, take one of the ACTIONS listed below, or suspend CORE ALTERATIONS.
  1. Verify control rods are fully inserted and disable withdraw capabilities of all control rods\*\*\*, or
  2. Verify Refuel Platform is not over-core (limit switches not reached) and disable Refuel Platform travel over-core, or
  3. Verify that no Refuel Platform hoist is loaded and disable all Refuel Platform hoists from picking up (grappling) a load.
- d. With the Service Platform installed over the vessel and any of the above required Service Platform Refuel position interlocks inoperable, take one of the ACTIONS listed below, or suspend CORE ALTERATIONS.
  1. Verify all control rods are fully inserted and disable withdraw capabilities of all control rods\*\*\*, or
  2. Verify Service Platform hoist is not loaded and disable Service Platform hoist from picking up (grappling) a load.

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\* See Special Test Exceptions 3.10.1 and 3.10.3.

\*\* The reactor shall be maintained in OPERATIONAL CONDITION 5 whenever fuel is in the reactor vessel with the vessel head closure bolts less than fully tensioned or with the head removed.

\*\*\* Except control rods removed per Specification 3.9.10.1 or 3.9.10.2.

## DEFINITIONS

TABLE 1.2  
OPERATIONAL CONDITIONS

<u>CONDITION</u>	<u>MODE SWITCH POSITION</u>	<u>AVERAGE REACTOR COOLANT TEMPERATURE</u>
1. POWER OPERATION	Run	Any temperature
2. STARTUP	Startup/Hot Standby	Any temperature
3. HOT SHUTDOWN	Shutdown# ***	> 200°F
4. COLD SHUTDOWN	Shutdown# ## ***	≤ 200°F ****
5. REFUELING*	Shutdown or Refuel** #	NA

#The reactor mode switch may be placed in the Run or Startup/Hot Standby position to test the switch interlock functions provided that the control rods are verified to remain fully inserted by a second licensed operator or other technically qualified member of the unit technical staff.

##The reactor mode switch may be placed in the Refuel position while a single control rod drive is being removed from the reactor pressure vessel per Specification 3.9.10.1.

\*Fuel in the reactor vessel with the vessel head closure bolts less than fully tensioned or with the head removed.

\*\*See Special Test Exceptions 3.10.1 and 3.10.3.

\*\*\*The reactor mode switch may be placed in the Refuel position while a single control rod is being moved provided that the one-rod-out interlock is OPERABLE.

\*\*\*\*See Special Test Exception 3.10.8.

TABLE 3.3.1-1

## REACTOR PROTECTION SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>APPLICABLE OPERATIONAL CONDITIONS</u>	<u>MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (a)</u>	<u>ACTION</u>
1. Intermediate Range Monitors <sup>(b)</sup> :			
a. Neutron Flux - High	2 3(i), 4(i) 5(i)	3 3 3(d)	1 2 3
b. Inoperative	2 3(i), 4(i) 5(i)	3 3 3(d)	1 2 3
2. Average Power Range Monitor <sup>(c)</sup> :			
a. Neutron Flux - Upscale (Setdown)	2	3(m)	1
b. Simulated Thermal Power - Upscale	1	3(m)	4
c. Neutron Flux - Upscale	1	3(m)	4
d. Inoperative	1, 2	3(m)	1
e. 2-Out-Of-4 Voter	1, 2	2	1
3. Reactor Vessel Steam Dome Pressure - High	1, 2(f)	2	1
4. Reactor Vessel Water Level - Low, Level 3	1, 2	2	1
5. Main Steam Line Isolation Valve- Closure	1(g)	1/valve	4

TABLE 3.3.1-1 (Continued)

REACTOR PROTECTION SYSTEM INSTRUMENTATION

ACTION STATEMENTS

- ACTION 1 - Be in at least HOT SHUTDOWN within 12 hours.
- ACTION 2 - Verify all insertable control rods to be inserted in the core and lock the reactor mode switch in the SHUTDOWN position within 1 hour.
- ACTION 3 - Suspend all operations involving CORE ALTERATIONS and insert all insertable control rods within 1 hour.
- ACTION 4 - Be in at least STARTUP within 6 hours.
- ACTION 5 - Be in STARTUP with the main steam line isolation valves closed within 6 hours or in at least HOT SHUTDOWN within 12 hours.
- ACTION 6 - Initiate a reduction in THERMAL POWER within 15 minutes and reduce turbine first stage pressure until the function is automatically bypassed, within 2 hours.
- ACTION 7 - Verify all insertable control rods to be inserted within 1 hour.
- ACTION 8 - Lock the reactor mode switch in the Shutdown position within 1 hour.
- ACTION 9 - Suspend all operations involving CORE ALTERATIONS, and insert all insertable control rods and lock the reactor mode switch in the SHUTDOWN position within 1 hour.



TABLE 4.3.1.1-1

## REACTOR PROTECTION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>CHANNEL CALIBRATION(a)</u>	<u>CONDITIONS FOR WHICH SURVEILLANCE REQUIRED</u>
1. Intermediate Range Monitors:				
a. Neutron Flux - High	S(b) S	W W(j)	R R	2 3(i), 4(i), 5(i)
b. Inoperative	N.A.	W(j)	N.A.	2, 3(i), 4(i), 5(i)
2. Average Power Range Monitor(f):				
a. Neutron Flux - Upscale (Setdown)	D(b)	SA(l)	R	2
b. Simulated Thermal Power - Upscale	D	SA(e)	W(d), R(g)	1
c. Neutron Flux - Upscale	D	SA	W(d), R	1
d. Inoperative	N.A.	SA	N.A.	1, 2
e. 2-Out-Of-4 Voter	D	SA	N.A.	1, 2
3. Reactor Vessel Steam Dome Pressure - High	S	Q	R	1, 2(h)
4. Reactor Vessel Water Level- Low, Level 3	S	Q	R	1, 2
5. Main Steam Line Isolation Valve - Closure	N.A.	Q	R	1
6. DELETED	DELETED	DELETED	DELETED	DELETED
7. Drywell Pressure - High	S	Q	R	1, 2
8. Scram Discharge Volume Water Level - High				
a. Level Transmitter	S	Q	R	1, 2, 5(i)
b. Float Switch	N.A.	Q	R	1, 2, 5(i)

### 3.4.9 REFUELING OPERATIONS

#### 3/4.9.1 REACTOR MODE SWITCH

##### LIMITING CONDITION FOR OPERATION

3.9.1 The reactor mode switch shall be OPERABLE and locked in the Shutdown or Refuel position. When the reactor mode switch is locked in the Refuel position:

- a. The Refuel position one-rod-out interlock shall be OPERABLE.
- b. The following Refuel position interlocks shall be OPERABLE:
  1. All rods in.
  2. Refuel Platform (over-core) position.
  3. Refuel Platform hoists fuel-loaded.
  4. Service Platform hoist fuel-loaded (with Service Platform installed).

APPLICABILITY: OPERATIONAL CONDITION 5\* \*\*, OPERATIONAL CONDITIONS 3 AND 4 when the reactor mode switch is in the Refuel position.

##### ACTION:

- a. With the reactor mode switch not locked in the Shutdown or Refuel position as specified, suspend CORE ALTERATIONS and lock the reactor mode switch in the Shutdown or Refuel position.
- b. With the one-rod-out interlock inoperable, verify all control rods are fully inserted and disable withdraw capabilities of all control rods \*\*\*, or lock the reactor mode switch in the Shutdown position.
- c. With any of the above required Refuel Platform Refuel position interlocks inoperable, take one of the ACTIONS listed below, or suspend CORE ALTERATIONS.
  1. Verify control rods are fully inserted and disable withdraw capabilities of all control rods\*\*\*, or
  2. Verify Refuel Platform is not over-core (limit switches not reached) and disable Refuel Platform travel over-core, or
  3. Verify that no Refuel Platform hoist is loaded and disable all Refuel Platform hoists from picking up (grappling) a load.
- d. With the Service Platform installed over the vessel and any of the above required Service Platform Refuel position interlocks inoperable, take one of the ACTIONS listed below, or suspend CORE ALTERATIONS.
  1. Verify all control rods are fully inserted and disable withdraw capabilities of all control rods\*\*\*, or
  2. Verify Service Platform hoist is not loaded and disable Service Platform hoist from picking up (grappling) a load.

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\* See Special Test Exceptions 3.10.1 and 3.10.3.

\*\* The reactor shall be maintained in OPERATIONAL CONDITION 5 whenever fuel is in the reactor vessel with the vessel head closure bolts less than fully tensioned or with the head removed.

\*\*\* Except control rods removed per Specification 3.9.10.1 or 3.9.10.2.