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3/4.3 INSTRUMENTATION

3/4.3.1 REACTOR PROTECTION SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.1 As a minimum, the reactor protection system instrumentation channels shown in Table 3.3.1-1 shall be OPERABLE with the REACTOR PROTECTION SYSTEM RESPONSE TIME as shown in Table 3.3.1-2.

Delete

APPLICABILITY: As shown in Table 3.3.1-1.

ACTION:

a. With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement for one trip system:
   1. If placing the inoperable channel(s) in the tripped condition would cause a scram, the inoperable channel(s) shall be restored to OPERABLE status within 6 hours or the ACTION required by Table 3.3.1-1 for the affected Functional Unit shall be taken; or
   2. If placing the inoperable channel(s) in the tripped condition would not cause a scram, place the inoperable channel(s) and/or that trip system in the tripped condition within 12 hours.

b. 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 1 hour and take the ACTION required by Table 3.3.1-1. The provisions of Specification 3.0.4 are not applicable for entry into Operational Condition 2 or 3 from Operational Condition 1 for the IRMs or the Neutron Flux - Upscale, Setdown function of the APRMs.

SURVEILLANCE REQUIREMENTS

4.3.1.1 Each reactor protection system 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 4.3.1.1-1.

4.3.1.2 LOGIC SYSTEM FUNCTIONAL TESTS and simulated automatic operation of all channels shall be performed at least once per 18 months.

4.3.1.3 The REACTOR PROTECTION SYSTEM RESPONSE TIME of each reactor trip functional unit shown in Table 3.3.1-2 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 reactor trip system.

Delete

Add — (**)

4.3.1.4 The provisions of Specification 4.0.4 are not applicable for entry into Operational Condition 2 or 3 from Operational Condition 1 for the IRMs or the Neutron Flux - Upscale, Setdown function of the APRMs.

---

* If more channels are inoperable in one trip system than in the other, place the trip system with more inoperable channels in the tripped condition, except when this would cause a scram to occur.

Add — ** The neutron detectors are exempt from response time testing.

TABLE 3.3.1-2

REACTOR PROTECTION SYSTEM RESPONSE TIMES

FUNCTIONAL UNIT	RESPONSE TIME (Seconds)
1. Intermediate Range Monitors:	
a. Neutron Flux - High	NA
b. Inoperative	NA
2. Average Power Range Monitor*:	
a. Neutron Flux - Upscale, Setdown	NA
b. Flow Biased Simulated Thermal Power - Upscale	$\leq$ 0.09**
c. Fixed Neutron Flux - Upscale	$\leq$ 0.09
d. Inoperative	NA
3. Reactor Vessel Steam Dome Pressure - High	$\leq$ 0.55
4. Reactor Vessel Water Level - Low, Level 3	$\leq$ 1.05
5. Main Steam Line Isolation Valve - Closure	$\leq$ 0.06
6. Main Steam Line Radiation - High	NA
7. Drywell Pressure - High	NA
8. Scram Discharge Volume Water Level - High	
a. Level Transmitter	NA
b. Float Switch	NA
9. Turbine Stop Valve - Closure	$\leq$ 0.06
10. Turbine Control Valve Fast Closure, Trip Oil Pressure - Low	$\leq$ 0.08#
11. Reactor Mode Switch Shutdown Position	NA
12. Manual Scram	NA

Delete entire table

*Neutron detectors are exempt from response time testing. Response time shall be measured from the detector output or from the input of the first electronic component in the channel.
**Not including simulated thermal power time constant.
#Measured from actuation of fast-acting solenoid.

Delete

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.

Delete

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 the inoperable channel(s) and/or that trip system in the tripped condition* within 1 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 1 hour and take the ACTION required by Table 3.3.2-1.

*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. In addition, for the HPCI system and RCIC system isolation, provided that the redundant isolation valve, inboard or outboard, as applicable, in each line is OPERABLE and all required actuation instrumentation for that valve is OPERABLE, one inoperable channel need not be placed in the tripped condition where this would cause the Trip Function to occur. In these cases, for the HPCI and RCIC systems, the inoperable channel shall be restored to OPERABLE status within 8 hours or the ACTION required by Table 3.3.2-1 for that trip Function shall be taken.

**If more channels are inoperable in one trip system than in the other, place the trip system with more inoperable channels in the tripped condition, except when this would cause the Trip Function to occur.

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.

Delete

*** Add

Add → *** Neutron detectors are exempt from response time testing.

[illegible]

[illegible]

[illegible]

TABLE 3.3.2-3

ISOLATION SYSTEM INSTRUMENTATION RESPONSE TIME

TRIP FUNCTION	RESPONSE TIME (Seconds)#
1. PRIMARY CONTAINMENT ISOLATION	
a. Reactor Vessel Water Level	
1) Low, Level 3	$\leq 10^{(a)}$
2) Low Low, Level 2	$\leq 1.0^{*}/\leq 10^{(a)**}$
3) Low Low Low, Level 1	$\leq 10^{(a)}$
b. Drywell Pressure - High	$\leq 10^{(a)}$
c. Manual Initiation	NA
d. SGTS Exhaust Radiation - High[(b)]	$\leq 10^{(a)}$
e. Main Steam Line Radiation - High[(b)]	$\leq 10^{(a)}$
2. SECONDARY CONTAINMENT ISOLATION	
a. Reactor Vessel Water Level-Low Low, Level 2	$\leq 10^{(a)}$
b. Drywell Pressure - High	$\leq 10^{(a)}$
c. Refuel Floor High Exhaust Duct Radiation - High[(b)]	$\leq 10^{(a)}$
d. Railroad Access Shaft Exhaust Duct Radiation - High[(b)]	$\leq 10^{(a)}$
e. Refuel Floor Wall Exhaust Duct Radiation -High[(b)]	$\leq 10^{(a)}$
f. Manual Initiation	NA
3. MAIN STEAM LINE ISOLATION	
a. Reactor Vessel Water Level- Low Low Low, Level 1	$\leq 10^{(a)}$
b. Main Steam Line Radiation - High[(b)]	$\leq 1.0^{*}/\leq 10^{(a)**}$
c. Main Steam Line Pressure - Low	$\leq 1.0^{*}/\leq 10^{(a)**}$
d. Main Steam Line Flow-High	$\leq 0.5^{*}/\leq 10^{(a)**}$
e. Condenser Vacuum - Low	NA
f. Reactor Building Main Steam Line Tunnel Temperature - High	NA
g. Reactor Building Main Steam Line Tunnel Δ Temperature - High	NA
h. Manual Initiation	NA
i. Turbine Building Main Steam Line Tunnel Temperature - High	NA
4. REACTOR WATER CLEANUP SYSTEM ISOLATION	
a. RWCU Δ Flow - High	$\leq 10^{(a)\#\#}$
b. RWCU Area Temperature - High	NA
c. RWCU Area Ventilation Temperature ΔT - High	NA
d. SLCS Initiation	NA
e. Reactor Vessel Water Level - Low Low, Level 2	$\leq 10^{(a)}$
f. RWCU Flow - High	NA
g. Manual Initiation	NA
5. REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION	
a. RCIC Steam Line Δ Pressure - High	$\leq 10^{(a)\#\#\#}$
b. RCIC Steam Supply Pressure - Low	$\leq 10^{(a)}$
c. RCIC Turbine Exhaust Diaphragm Pressure - High	NA
d. RCIC Equipment Room Temperature - High	NA

Delete entire table →

effective upon startup following 2RC fall refueling outage

TABLE 3.3.2-3 (Continued)

ISOLATION SYSTEM INSTRUMENTATION RESPONSE TIME

TRIP FUNCTION	RESPONSE TIME (seconds)#
e. RCIC Equipment Room Δ Temperature - High	NA
f. RCIC Pipe Routing Area Temperature - High	NA
g. RCIC Pipe Routing Area Δ Temperature - High	NA
h. RCIC Emergency Area Cooler Temperature - High	NA
i. Manual Initiation	NA
j. Drywell Pressure - High	≤10(a)
6. HIGH PRESSURE COOLANT INJECTION SYSTEM ISOLATION	
a. HPCI Steam Flow - High	≤10(a)####
b. HPCI Steam Supply Pressure - Low	≤10(a)
c. HPCI Turbine Exhaust Diaphragm Pressure - High	NA
d. HPCI Equipment Room Temperature - High	NA
e. HPCI Equipment Room Δ Temperature - High	NA
f. HPCI Emergency Area Cooler Temperature - High	NA
g. HPCI Pipe Routing Area Temperature - High	NA
h. HPCI Pipe Routing Area Δ Temperature - High	NA
i. Manual Initiation	NA
j. Drywell Pressure - High	≤10(a)
7. RHR SYSTEM SHUTDOWN COOLING/HEAD SPRAY MODE ISOLATION	
a. Reactor Vessel Water Level - Low, Level 3	≤10(a)
b. Reactor Vessel (RHR Cut-In Permissive) Pressure - High	NA
c. RHR Flow - High	NA
d. Manual Initiation	NA
e. Drywell Pressure - High	≤ 10(a)

Delete entire table →

(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 for MSIV Valves.

** 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.

With time delay of 45 seconds.

With time delay of 3 seconds.

With time delay of 3 seconds.

INSTRUMENTATION

3/4.3.3 EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3 The emergency core cooling system (ECCS) actuation instrumentation channels shown in Table 3.3.3-1 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3.3-2. and with EMERGENCY CORE COOLING SYSTEM RESPONSE TIME as shown in Table 3.3.3-3.

Delete

APPLICABILITY: As shown in Table 3.3.3-1.

ACTION:

a. With an ECCS actuation instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3.3-2, 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 one or more ECCS actuation instrumentation channels inoperable, take the ACTION required by Table 3.3.3-1.

SURVEILLANCE REQUIREMENTS

4.3.3.1 Each ECCS 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 4.3.3.1-1.

4.3.3.2 LOGIC SYSTEM FUNCTIONAL TESTS and simulated automatic operation of all channels shall be performed at least once per 18 months.

Delete

4.3.3.3 The ECCS RESPONSE TIME of each ECCS trip function shown in Table 3.3.3-3 shall be demonstrated to be within the 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 ECCS trip system.

Delete entire table →

TABLE 3.3.3-3

EMERGENCY CORE COOLING SYSTEM RESPONSE TIMES

TRIP FUNCTION	RESPONSE TIME (seconds)
1. CORE SPRAY SYSTEM	
a. Reactor Vessel Water Level - Low Low Low, Level 1	≤ 27
b. Drywell Pressure - High	≤ 27
c. Reactor Vessel Steam Dome Pressure - Low	≤ 27
d. Manual Initiation	NA
2. LOW PRESSURE COOLANT INJECTION MODE OF RHR SYSTEM	
a. Reactor Vessel Water Level - Low Low Low, Level 1	≤ 40
b. Drywell Pressure - High	≤ 40
c. Reactor Vessel Steam Dome Pressure - Low	
1) System Initiation	≤ 40
2) Recirculation Discharge Valve Closure	≤ 40
d. Manual Initiation	NA
3. HIGH PRESSURE COOLANT INJECTION SYSTEM	
a. Reactor Vessel Water Level - Low Low, Level 2	≤ 30
b. Drywell Pressure - High	≤ 30
c. Condensate Storage Tank Level - Low	NA
d. Reactor Vessel Water Level - High, Level 8	NA
e. Suppression Pool Water Level - High	NA
f. Manual Initiation	NA
4. AUTOMATIC DEPRESSURIZATION SYSTEM	
a. Reactor Vessel Water Level - Low Low Low, Level 1	NA
b. Drywell Pressure - High	NA
c. ADS Timer	NA
d. Core Spray Pump Discharge Pressure - High	NA
e. RHR LPCI Mode Pump Discharge Pressure - High	NA
f. Reactor Vessel Water Level - Low, Level 3	NA
g. ADS Drywell Pressure Bypass Timer	NA
h. Manual Inhibit	NA
i. Manual Initiation	NA
5. LOSS OF POWER	
a. 4.16 kV ESS Bus Undervoltage (Loss of Voltage < 20%)	NA
b. 4.16 kV ESS Bus Undervoltage (Degraded Voltage < 65%)	NA
c. 4.16 kV ESS Bus Undervoltage (Degraded Voltage < 93%)	NA
d. 480V ESS Bus 0B565 (Degraded Voltage < 65%)	NA
e. 480V ESS Bus 0B565 (Degraded Voltage < 92%)	NA

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Delete → 3.3.3-3

effective upon Startup following the Unit 2 1R11 refueling outage

3/4.3 INSTRUMENTATION

3/4.3.1 REACTOR PROTECTION SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.1 As a minimum, the reactor protection system instrumentation channels shown in Table 3.3.1-1 shall be OPERABLE with the REACTOR PROTECTION SYSTEM RESPONSE TIME as shown in Table 3.3.1-2. Delete

APPLICABILITY: As shown in Table 3.3.1-1.

ACTION:

a. With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement for one trip system:
   1. If placing the inoperable channel(s) in the tripped condition would cause a scram, the inoperable channel(s) shall be restored to OPERABLE status within 6 hours or the ACTION required by Table 3.3.1-1 for the affected Functional Unit shall be taken; or
   2. If placing the inoperable channel(s) in the tripped condition would not cause a scram, place the inoperable channel(s) and/or that trip system in the tripped condition within 12 hours.

b. 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 1 hour and take the ACTION required by Table 3.3.1-1. The provisions of Specification 3.0.4 are not applicable for entry into Operational Condition 2 or 3 from Operational Condition 1 for the IRMs or the Neutron Flux - Upscale, Setdown function of the APRMs.

SURVEILLANCE REQUIREMENTS

4.3.1.1 Each reactor protection system 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 4.3.1.1-1.

4.3.1.2 LOGIC SYSTEM FUNCTIONAL TESTS and simulated automatic operation of all channels shall be performed at least once per 18 months.

4.3.1.3 The REACTOR PROTECTION SYSTEM RESPONSE TIME of each reactor trip functional unit shown in Table 3.3.1-2 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 reactor trip system.** Delete ** Add

4.3.1.4 The provisions of Specification 4.0.4 are not applicable for entry into Operational Condition 2 or 3 from Operational Condition 1 for the IRMs or the Neutron Flux - Upscale, Setdown function of the APRMs.

---

* If more channels are inoperable in one trip system than in the other, place the trip system with more inoperable channels in the tripped condition, except when this would cause a scram to occur.

** Neutron detectors are exempt from response time testing. Add

TABLE 3.3.1-2

REACTOR PROTECTION SYSTEM RESPONSE TIMES

FUNCTIONAL UNIT	RESPONSE TIME (Seconds)
1. Intermediate Range Monitors:	
a. Neutron Flux - High	NA
b. Inoperative	NA
2. Average Power Range Monitor*:	
a. Neutron Flux - Upscale, Setdown	NA
b. Flow Biased Simulated Thermal Power - Upscale	≤ 0.09**
c. Fixed Neutron Flux - Upscale	≤ 0.09
d. Inoperative	NA
3. Reactor Vessel Steam Dome Pressure - High	≤ 0.55
4. Reactor Vessel Water Level - Low, Level 3	≤ 1.05
5. Main Steam Line Isolation Valve - Closure	≤ 0.06
6. Main Steam Line Radiation - High	NA
7. Drywell Pressure - High	NA
8. Scram Discharge Volume Water Level - High	
a. Level Transmitter	NA
b. Float Switch	NA
9. Turbine Stop Valve - Closure	≤ 0.06
10. Turbine Control Valve Fast Closure, Trip Oil Pressure - Low	≤ 0.08#
11. Reactor Mode Switch Shutdown Position	NA
12. Manual Scram	NA

Delete entire table

*Neutron detectors are exempt from response time testing. Response time shall be measured from the detector output or from the input of the first electronic component in the channel.

**Not including simulated thermal power time constant.

#Measured from actuation of fast-acting solenoid.

Delete

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.

Delete

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 the inoperable channel(s) and/or that trip system in the tripped condition* within 1 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 1 hour and take the ACTION required by Table 3.3.2-1.

*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. In addition, for the HPCI system and RCIC system isolation, provided that the redundant isolation valve, inboard or outboard, as applicable, in each line is OPERABLE and all required actuation instrumentation for that valve is OPERABLE, one inoperable channel need not be placed in the tripped condition where this would cause the Trip Function to occur. In these cases, for the HPCI and RCIC systems, the inoperable channel shall be restored to OPERABLE status within 8 hours or the ACTION required by Table 3.3.2-1 for that trip Function shall be taken.

**If more channels are inoperable in one trip system than in the other, place the trip system with more inoperable channels 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.

Delete

Add

Add ### Neutron detectors are exempt from response time testing.

TABLE 3.3.2-3

ISOLATION SYSTEM INSTRUMENTATION RESPONSE TIME

TRIP FUNCTION	RESPONSE TIME (Seconds)#
1. PRIMARY CONTAINMENT ISOLATION	
a. Reactor Vessel Water Level	
1) Low, Level 3	$\leq 10^{(a)}$
2) Low Low, Level 2	$\leq 1.0^{*}/\leq 10^{(a)**}$
3) Low Low Low, Level 1	$\leq 10^{(a)}$
b. Drywell Pressure - High	$\leq 10^{(a)}$
c. Manual Initiation	NA
d. SGTS Exhaust Radiation - High[(b)]	$\leq 10^{(a)}$
e. Main Steam Line Radiation - High[(b)]	$\leq 10^{(a)}$
2. SECONDARY CONTAINMENT ISOLATION	
a. Reactor Vessel Water Level - Low Low, Level 2	$\leq 10^{(a)}$
b. Drywell Pressure - High	$\leq 10^{(a)}$
c. Refuel Floor High Exhaust Duct Radiation - High[(b)]	$\leq 10^{(a)}$
d. Railroad Access Shaft Exhaust Duct Radiation - High (b)	$\leq 10^{(a)}$
e. Refuel Floor Wall Exhaust Duct Radiation - High[(b)]	$\leq 10^{(a)}$
f. Manual Initiation	NA
3. MAIN STEAM LINE ISOLATION	
a. Reactor Vessel Water Level - Low Low Low, Level 1	$\leq 10^{(a)}$
b. Main Steam Line Radiation - High[(b)]	$\leq 1.0^{*}/\leq 10^{(a)**}$
c. Main Steam Line Pressure - Low	$\leq 1.0^{*}/\leq 10^{(a)**}$
d. Main Steam Line Flow - High	$\leq 0.5^{*}/\leq 10^{(a)**}$
e. Condenser Vacuum - Low	NA
f. Reactor Building Main Steam Line Tunnel Temperature - High	NA
g. Reactor Building Main Steam Line Tunnel Δ Temperature - High	NA
h. Manual Initiation	NA
i. Turbine Building Main Steam Line Tunnel Temperature - High	NA
4. REACTOR WATER CLEANUP SYSTEM ISOLATION	
a. RWCU Δ Flow - High	$\leq 10^{(a)\#\#}$
b. RWCU Area Temperature - High	NA
c. RWCU Area Ventilation Temperature ΔT - High	NA
d. SLCS Initiation	NA
e. Reactor Vessel Water Level - Low Low, Level 2	$\leq 10^{(a)}$
f1. RWCU Flow - High	NA
f2. Non-Regenerative Heat Exchanger Discharge Temperature - High	NA
g. Manual Initiation	NA
5. REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION	
a. RCIC Steam Line Δ Pressure - High	$\leq 10^{(a)\#\#\#}$
b. RCIC Steam Supply Pressure - Low	$\leq 10^{(a)}$
c. RCIC Turbine Exhaust Diaphragm Pressure - High	NA
d. RCIC Equipment Room Temperature - High	NA
e. RCIC Equipment Room Δ Temperature - High	NA
f. RCIC Pipe Routing Area Temperature - High	NA
g. RCIC Pipe Routing Area Δ Temperature - High	NA
h. RCIC Emergency Area Cooler Temperature - High	NA
i. Manual Initiation	NA
j. Drywell Pressure - High	$\leq 10^{(a)}$

Delete entire table

TABLE 3.3.2-3 (Continued)

ISOLATION SYSTEM INSTRUMENTATION RESPONSE TIME

TRIP FUNCTION	RESPONSE TIME (seconds)#
6. HIGH PRESSURE COOLANT INJECTION SYSTEM ISOLATION	
a. HPCI Steam Flow - High	≤10(a)####
b. HPCI Steam Supply Pressure - Low	≤10(a)
c. HPCI Turbine Exhaust Diaphragm Pressure - High	NA
d. HPCI Equipment Room Temperature - High	NA
e. HPCI Equipment Room Δ Temperature - High	NA
f. HPCI Emergency Area Cooler Temperature - High	NA
g. HPCI Pipe Routing Area Temperature - High	NA
h. HPCI Pipe Routing Area Δ Temperature - High	NA
i. Manual Initiation	NA
j. Drywell Pressure - High	≤10(a)
7. RHR SYSTEM SHUTDOWN COOLING/HEAD SPRAY MODE ISOLATION	
a. Reactor Vessel Water Level - Low, Level 3	≤10(a)
b. Reactor Vessel (RHR Cut-In Permissive) Pressure - High	NA
c. RHR Flow - High	NA
d. Manual Initiation	NA
e. Drywell Pressure - High	≤10(a)

(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 for MSIV Valves.

** 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.

With time delay of 45 seconds.

With time delay of 3 seconds.

With time delay of 3 seconds.

Delete entire table

3/4.3.3 EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3 The emergency core cooling system (ECCS) actuation instrumentation channels shown in Table 3.3.3-1 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3.3-2. and with EMERGENCY CORE COOLING SYSTEM RESPONSE TIME as shown in Table 3.3.3-3.

Delete

APPLICABILITY: As shown in Table 3.3.3-1.

ACTION:

a. With an ECCS actuation instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3.3-2, 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 one or more ECCS actuation instrumentation channels inoperable, take the ACTION required by Table 3.3.3-1.

SURVEILLANCE REQUIREMENTS

4.3.3.1 Each ECCS 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 4.3.3.1-1.

4.3.3.2 LOGIC SYSTEM FUNCTIONAL TESTS and simulated automatic operation of all channels shall be performed at least once per 18 months.

Delete

4.3.3.3 The ECCS RESPONSE TIME of each ECCS trip function shown in Table 3.3.3-3 shall be demonstrated to be within the 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 ECCS trip system.

Delete entire table →

TABLE 3.3.3-3

EMERGENCY CORE COOLING SYSTEM RESPONSE TIMES

TRIP FUNCTION	RESPONSE TIME (seconds)
1. CORE SPRAY SYSTEM	
a. Reactor Vessel Water Level - Low Low Low, Level 1	≤ 27
b. Drywell Pressure - High	≤ 27
c. Reactor Vessel Steam Dome Pressure - Low	≤ 27
d. Manual Initiation	NA
2. LOW PRESSURE COOLANT INJECTION MODE OF RHR SYSTEM	
a. Reactor Vessel Water Level - Low Low Low, Level 1	≤ 40
b. Drywell Pressure - High	≤ 40
c. Reactor Vessel Steam Dome Pressure - Low	
1) System Initiation	≤ 40
2) Recirculation Discharge Valve Closure	≤ 40
d. Manual Initiation	NA
3. HIGH PRESSURE COOLANT INJECTION SYSTEM	
a. Reactor Vessel Water Level - Low Low, Level 2	≤ 30
b. Drywell Pressure - High	≤ 30
c. Condensate Storage Tank Level - Low	NA
d. Reactor Vessel Water Level - High, Level 8	NA
e. Suppression Pool Water Level - High	NA
f. Manual Initiation	NA
4. AUTOMATIC DEPRESSURIZATION SYSTEM	
a. Reactor Vessel Water Level - Low Low Low, Level 1	NA
b. Drywell Pressure - High	NA
c. ADS Timer	NA
d. Core Spray Pump Discharge Pressure - High	NA
e. RHR LPCI Mode Pump Discharge Pressure - High	NA
f. Reactor Vessel Water Level - Low, Level 3	NA
g. ADS Drywell Pressure Bypass Timer	NA
h. Manual Inhibit	NA
i. Manual Initiation	NA
5. LOSS OF POWER	
a. 4.16 kV ESS Bus Undervoltage (Loss of Voltage < 20%)	NA
b. 4.16 kV ESS Bus Undervoltage (Degraded Voltage < 65%)	NA
c. 4.16 kV ESS Bus Undervoltage (Degraded Voltage < 93%)	NA
d. 480V ESS Bus 0B565 (Degraded Voltage < 65%)	NA
e. 480V ESS Bus 0B565 (Degraded Voltage < 92%)	NA