

TABLE 3.3.2-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

<u>TRIP FUNCTION</u>	<u>VALVE GROUPS OPERATED BY SIGNAL***</u>	<u>MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (a)</u>	<u>APPLICABLE OPERATIONAL CONDITION</u>	<u>ACTION</u>
3. <u>SECONDARY CONTAINMENT ISOLATION</u>				
a. Reactor Vessel Water Level-Low Low, Lev 1 2	11, 12, 13 ^{(b)(e)(h)(i)}	2	1, 2, 3	25
b. Drywell Pressure - High	11, 12, 13 ^{(b)(c)(e)(h)(j)}	2	1, 2, 3	25
c. Reactor Building Ventilation Exhaust Radiation - High	13 ^{(e)(h)}	1	A	28
d. Reactor Building Annulus Ventilation Exhaust Radiation - High	12 ^{(b)(e)(i)}	1	1, 2, 3	29
4. <u>REACTOR WATER CLEANUP SYSTEM ISOLATION</u>				
a. Δ Flow - High	7, 15, 16	1	1, 2, 3	27
b. Δ Flow Timer	7, 15, 16	1	1, 2, 3	27
c. Equipment Area Temperature - High	7, 15, 16	1	1, 2, 3	27
d. Equipment Area Δ Temperature High	7, 15, 16	1	1, 2, 3	27
e. Reactor Vessel Water Level - Low Low, Level 2	7, 15, 16	2 ^(m)	1, 2, 3 ^(m)	27
f. Main Steam Line Tunnel Ambient Temperature - High	7, 15, 16	1	1, 2, 3	27

RIVER BEND - UNIT 1

3/4 3-13

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TABLE 3.3.2-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

<u>TRIP FUNCTION</u>	<u>VALVE GROUPS OPERATED BY SIGNAL^{***}</u>	<u>MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (a)</u>	<u>APPLICABLE OPERATIONAL CONDITION</u>	<u>ACTION</u>
5. <u>REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION (continued)</u>				
i. Main Steam Line Tunnel Temperature Timer	2	1	1, 2, 3	27
j. RHR Equipment Room Ambient Temperature - High	2	1	1, 2, 3	27
k. RHR Equipment Room Δ Temperature - High	2	1	1, 2, 3	27
l. RHR/RCIC Steam Line Flow - High	2	1	1, 2, 3	27
m. Drywell Pressure - High	3 ^(g)	1	1, 2, 3	27
n. Manual Initiation	2 ^(k)	1	1, 2, 3	26
6. <u>RHR SYSTEM ISOLATION</u>				
a. RHR Equipment Area Ambient Temperature - High	5, 14	2	1, 2, 3	30
b. RHR Equipment Area Δ Temperature - High	5, 14	2	1, 2, 3	30
c. Reactor Vessel Water Level - Low, Level 3	5, 14	2 ^(m)	1, 2, 3, (m)	30
d. Reactor Vessel Water Level - Low Low Low, Level 1	10	2	1, 2, 3	30

TABLE 3.3.2-1 (Continued)
ISOLATION ACTUATION INSTRUMENTATION
ACTION

NOTES

- * When handling irradiated fuel in the Fuel Building.
- ** May be bypassed with reactor mode switch not in Run and all turbine stop valves closed.
- *** The valve groups listed are designated in Tables 3.6.4-1 and 3.6.5.3-1.
- (a) 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.
- (b) Also actuates the standby gas treatment system.
- (c) Also actuates the main control room air conditioning system in the emergency mode of operation.
- (d) Also trips and isolates the air removal pumps.
- (e) Also actuates secondary containment ventilation isolation dampers per Table 3.6.5.3-1.
- (f) Manual initiation of SLCS pump C001B closes 1G33*MOVFO01, and manual initiation of SLCS pump C001A closes 1G33*MOVFO04.
- (g) Requires RCIC system steam supply pressure-low coincident with drywell pressure-high.
- (h) Also starts the Fuel Building Exhaust Filter Trains A and B.
- (i) Also starts the Annulus Mixing System.
- (j) Also actuates the containment hydrogen analyzer/monitor recorder.
- (k) Manual initiation isolates the outboard steam supply isolation valve only and only following a manual or automatic initiation of the RCIC system.
- (l) Valve 1E22*MOVFO23 does not isolate on the manual initiation.
- (m) Also when the associated division is required under specification 3.5.2 note '#'

TABLE 4.3.2.1-1

ISOLATION ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>TRIP FUNCTION</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>CHANNEL CALIBRATION</u>	<u>OPERATIONAL CONDITIONS IN WHICH SURVEILLANCE REQUIRED</u>
1. PRIMARY CONTAINMENT ISOLATION				
a. Reactor Vessel Water Level - Low Low level 2	S	M	R(b) (b)	1, 2, 3
b. Drywell Pressure - High	S	M	R(b)	1, 2, 3
c. Containment Purge Isolation Radiation - High	S	M	R	1, 2, 3
2. MAIN STEAM LINE ISOLATION				
a. Reactor Vessel Water Level - Low Low Low Level 1	S	M	R(b) (b)	1, 2, 3
b. Main Steam Line Radiation - High	S	M	R (b)	1, 2, 3
c. Main Steam Line Pressure - Low	S	M	R(b)	1
d. Main Steam Line Flow - High	S	M	R(b) (b)	1, 2, 3
e. Condenser Vacuum - Low	S	M	R(b)	1, 2 ²² , 3 ²²
f. Main Steam Line Tunnel Temperature - High	S	M	R	1, 2, 3
g. Main Steam Line Tunnel Δ Temperature - High	S	M	R	1, 2, 3
h. Main Steam Line Area Temperature-High (Turbine Building)	S	M	R(b)	1, 2, 3

RIVER BEND - UNJT 1

3/4 3-26

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TABLE 4.3.2.1-1 (Continued)

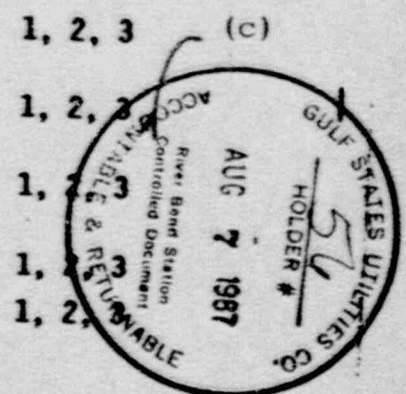
ISOLATION ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

RIVER BEND - UNIT 1

3/4 3-27

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<u>TRIP FUNCTION</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>CHANNEL CALIBRATION</u>	<u>OPERATIONAL CONDITIONS IN WHICH SURVEILLANCE REQUIRED</u>
3. <u>SECONDARY CONTAINMENT ISOLATION</u>				
a. Reactor Vessel Water Level - Low Low Level 2	S	M	R ^(S) Q	1, 2, 3
b. Drywell Pressure - High	S	M	R ^(b)	1, 2, 3
c. Fuel Building Ventilation Exhaust Radiation - High	S	M	R	*
d. Reactor Building Annulus Ventilation Exhaust Radiation - High	S	M	R	1, 2, 3
4. <u>REACTOR WATER CLEANUP SYSTEM ISOLATION</u>				
a. Δ Flow - High	S	M	R	1, 2, 3
b. Δ Flow Timer	NA	M	Q	1, 2, 3
c. Equipment Area Temperature - High	S	M	R	1, 2, 3
d. Equipment Area Δ Temperature - High	S	M	R	1, 2, 3
e. Reactor Vessel Water Level - Low Low Level 2	S	M	R ^(b) Q	1, 2, 3
f. Main Steam Line Tunnel Ambient Temperature - High	S	M	R	1, 2, 3
g. Main Steam Line Tunnel Δ Temperature - High	S	M	R	1, 2, 3
h. SLCS Initiation	NA	M ^(a)	NA	1, 2, 3



EMERGENCY CORE COOLING SYSTEMS

3/4.5.2 ECCS - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.5.2 At least two of the following shall be OPERABLE:

- a. The low-pressure core spray (LPCS) system with a flow path capable of taking suction from the suppression pool and transferring the water through the spray sparger to the reactor vessel.
- b. Low-pressure coolant injection (LPCI) subsystem "A" of the RHR system with a flow path capable of taking suction from the suppression pool and transferring the water to the reactor vessel.
- c. Low-pressure coolant injection (LPCI) subsystem "B" of the RHR system with a flow path capable of taking suction from the suppression pool and transferring the water to the reactor vessel.
- d. Low-pressure coolant injection (LPCI) subsystem "C" of the RHR system with a flow path capable of taking suction from the suppression pool and transferring the water to the reactor vessel.
- e. The high-pressure core spray (HPCS) system with a flow path capable of taking suction from the condensate storage tank or suppression pool, as applicable, when these sources of water are OPERABLE per Specification 3.5.3.b, and transferring the water through the spray sparger to the reactor vessel.

APPLICABILITY: OPERATIONAL CONDITION 4 and 5*.

ACTION:

- a. With one of the above required subsystems/systems inoperable, restore at least two subsystems/systems to OPERABLE status within 4 hours or suspend all operations that have a potential for draining the reactor vessel.
- b. With both of the above required subsystems/systems inoperable, suspend CORE ALTERATIONS and all operations that have a potential for draining the reactor vessel. Restore at least one subsystem/ system to OPERABLE status within 4 hours or establish PRIMARY CONTAINMENT INTEGRITY - FUEL HANDLING within the next 8 hours.

*The ECCS is not required to be OPERABLE provided that the reactor vessel head is removed, the cavity is flooded, the upper containment fuel pool gate is opened, and water level is maintained within the limits of Specifications 3.9.8 and 3.9.9.

One LPCI subsystem may be aligned in the shutdown cooling mode provided at least one division of the necessary RHR and RWCU level isolations are operable per Specification 3/4.3.2

RIVER BEND - UNIT 1

3/4 3-29

TABLE 4.3.2.1-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>TRIP FUNCTION</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>CHANNEL CALIBRATION</u>	<u>OPERATIONAL CONDITIONS IN WHICH SURVEILLANCE REQUIRED</u>
6. <u>RHR SYSTEM ISOLATION</u>				
a. RHR Equipment Area Ambient Temperature - High	S	M	R	1, 2, 3
b. RHR Equipment Area Δ Temperature - High	S	M	R	1, 2, 3
c. Reactor Vessel Water Level - Low Level 3	S	M	R(b)	1, 2, 3, (c)
d. Reactor Vessel Water Level - Low Low Low Level 1	S	M	R(b)(d)	1, 2, 3
e. Reactor Vessel (RHR Cut-in Permissive) Pressure - High	S	M	R(b)(e)	1, 2, 3
f. Drywell Pressure - High	S	M	R(b)(f)	1, 2, 3
7. <u>MANUAL INITIATION</u>	NA	M	NA	1, 2, 3

*When handling irradiated fuel in the Fuel Building.

**When the reactor mode switch is in Run and/or any turbine stop valve is open.

- (a) Each train or logic channel shall be tested at least every other 31 days.
- (b) Calibrate trip unit setpoint at least once per 31 days.
- (c) May be extended to the first refueling outage, scheduled to begin 9-15-87.
- (d) May be extended to the completion of the first refueling outage, scheduled to begin 9-15-87.

(c) Also when the associated division is required under specification 3.5.2 note '#'

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