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Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Intermediate Range Monitors					
a. Neutron Flux—High	2	3	G	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.6 SR 3.3.1.1.7 SR 3.3.1.1.11 SR 3.3.1.1.15	≤ 122/125 divisions of full scale
	5 ^(a)	3	H	SR 3.3.1.1.1 SR 3.3.1.1.5 SR 3.3.1.1.11 SR 3.3.1.1.15	≤ 122/125 divisions of full scale
b. Inop	2	3	G	SR 3.3.1.1.4 SR 3.3.1.1.15	NA
	5 ^(a)	3	H	SR 3.3.1.1.5 SR 3.3.1.1.15	NA
2. Average Power Range Monitors					
a. Neutron Flux—High, Setdown	2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.7 SR 3.3.1.1.8 SR 3.3.1.1.11 SR 3.3.1.1.15	≤ 20% RTP
b. Flow Biased Simulated Thermal Power—High	1	2	F	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.3 SR 3.3.1.1.8 SR 3.3.1.1.9 SR 3.3.1.1.11 SR 3.3.1.1.14 SR 3.3.1.1.15 SR 3.3.1.1.17	≤ 0.58 W + 62% RTP ^(b) and ≤ 115.5% RTP

(continued)

(a) With any control rod withdrawn from a core cell containing one or more fuel assemblies.

(b) 0.58 W + 57% RTP when reset for single loop operation per LCO 3.4.1, "Recirculation Loops Operating."

SURVEILLANCE REQUIREMENTS

NOTES

1. Refer to Table 3.3.5.1-1 to determine which SRs apply for each ECCS Function.
2. When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed as follows: (a) for up to 6 hours for Functions 3.c and 3.e; and (b) for up to 6 hours for Functions other than 3.c and 3.e provided the associated Function or the redundant Function maintains ECCS initiation capability.

SURVEILLANCE		FREQUENCY
SR 3.3.5.1.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.5.1.2	A test of all required contacts does not have to be performed.	92 days
	Perform CHANNEL FUNCTIONAL TEST.	
SR 3.3.5.1.3	Perform CHANNEL CALIBRATION.	92 days
SR 3.3.5.1.4	Perform CHANNEL CALIBRATION.	24 months
SR 3.3.5.1.5	Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.3 Restore offsite circuit to OPERABLE status.	72 hours <u>AND</u> 6 days from discovery of failure to meet LCO
B. One required DG inoperable.	B.1 Perform SR 3.8.1.1 for OPERABLE offsite circuits. <u>AND</u> B.2 Declare required feature(s), supported by the inoperable DG, inoperable when the redundant required feature(s) are inoperable. <u>AND</u>	1 hour <u>AND</u> Once per 8 hours thereafter 4 hours from discovery of Condition B concurrent with inoperability of redundant required feature(s)
		(continued)

3.8 ELECTRICAL POWER SYSTEMS

3.8.2 AC Sources—Shutdown

LCO 3.8.2 The following AC electrical power sources shall be OPERABLE:

- a. One qualified circuit between the offsite transmission network and the onsite Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.8, "Distribution Systems—Shutdown"; and
- b. Two diesel generators (DGs) capable of supplying the onsite Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.8.

APPLICABILITY: MODES 4 and 5

During movement of irradiated fuel assemblies in the secondary containment.

3.8 ELECTRICAL POWER SYSTEMS

3.8.7 Distribution Systems—Operating

LCO 3.8.7 The electrical power distribution subsystems in Table 3.8.7-1 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. -----NOTE----- Not applicable to DG E DC electrical power subsystem. ----- One or more Unit 1 AC electrical power distribution subsystems inoperable.	-----Note----- Enter applicable Conditions and Required Actions of LCO 3.8.4, "DC Sources - Operating," for DC source(s) made inoperable by inoperable power distribution subsystem(s). ----- A.1 Restore Unit 1 AC electrical power distribution subsystem(s) to OPERABLE status.	8 hours <u>AND</u> 16 hours from discovery of failure to meet LCO 3.8.7 except for Condition D or E
B. -----NOTE----- Not applicable to DG E DC electrical power subsystem. ----- One or more Unit 1 DC electrical power distribution subsystems inoperable.	B.1 Restore Unit 1 DC electrical power distribution subsystem(s) to OPERABLE status.	2 hours <u>AND</u> 16 hours from discovery of failure to meet LCO 3.8.7 except for Condition D or E

(continued)

3.8 ELECTRICAL POWER SYSTEMS

3.8.8 Distribution Systems—Shutdown

LCO 3.8.8 The necessary portions of the AC and DC electrical power distribution subsystems listed in Table 3.8.7-1 shall be OPERABLE to support equipment required to be OPERABLE.

APPLICABILITY: MODES 4 and 5,
 During movement of irradiated fuel assemblies in the secondary containment.

ACTIONS

-----NOTE-----
LCO 3.0.3 is not applicable.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. -----NOTE----- Not applicable to DG E DC electrical power subsystem. ----- One or more required AC or DC electrical power distribution subsystems inoperable.	A.1 Declare associated supported required feature(s) inoperable. <u>OR</u>	Immediately (continued)

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4.2	Reactor Core	TS/4.0-1
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Table 3.3.1.1-1 (page 1 of 3)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Intermediate Range Monitors					
a. Neutron Flux—High	2	3	G	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.6 SR 3.3.1.1.7 SR 3.3.1.1.11 SR 3.3.1.1.15	≤ 122/125 divisions of full scale
	5 ^(a)	3	H	SR 3.3.1.1.1 SR 3.3.1.1.5 SR 3.3.1.1.11 SR 3.3.1.1.15	≤ 122/125 divisions of full scale
b. Inop	2	3	G	SR 3.3.1.1.4 SR 3.3.1.1.15	NA
	5 ^(a)	3	H	SR 3.3.1.1.5 SR 3.3.1.1.15	NA
2. Average Power Range Monitors					
a. Neutron Flux—High, Setdown	2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.7 SR 3.3.1.1.8 SR 3.3.1.1.11 SR 3.3.1.1.15	≤ 20% RTP
b. Flow Biased Simulated Thermal Power—High	1	2	F	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.3 SR 3.3.1.1.8 SR 3.3.1.1.9 SR 3.3.1.1.11 SR 3.3.1.1.14 SR 3.3.1.1.15 SR 3.3.1.1.17	≤ 0.58 W + 62% RTP ^(b) and ≤ 115.5% RTP
(continued)					

(a) With any control rod withdrawn from a core cell containing one or more fuel assemblies.

(b) 0.58 W + 57% RTP when reset for single loop operation per LCO 3.4.1, "Recirculation Loops Operating."

SURVEILLANCE REQUIREMENTS

NOTES

1. Refer to Table 3.3.5.1-1 to determine which SRs apply for each ECCS Function.
2. When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed as follows: (a) for up to 6 hours for Functions 3.c and 3.e; and (b) for up to 6 hours for Functions other than 3.c and 3.e provided the associated Function or the redundant Function maintains ECCS initiation capability.

SURVEILLANCE	FREQUENCY
SR 3.3.5.1.1 Perform CHANNEL CHECK.	12 hours
SR 3.3.5.1.2 ----- A test of all required contacts does not have to be performed. ----- Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.5.1.3 Perform CHANNEL CALIBRATION.	92 days
SR 3.3.5.1.4 Perform CHANNEL CALIBRATION.	24 months
SR 3.3.5.1.5 Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.2 Declare required feature(s) with no offsite power available inoperable when the redundant required feature(s) are inoperable. <u>AND</u>	24 hours from discovery of no offsite power to one 4.16 kV ESS bus concurrent with inoperability of redundant required feature(s).
	A.3 Restore offsite circuit to OPERABLE status.	72 hours <u>AND</u> 6 days from discovery of failure to meet LCO

(continued)

3.8 ELECTRICAL POWER SYSTEMS

3.8.2 AC Sources—Shutdown

LCO 3.8.2 The following AC electrical power sources shall be OPERABLE:

- a. One qualified circuit between the offsite transmission network and the onsite Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.8, "Distribution Systems—Shutdown"; and
- b. Two diesel generators (DGs) capable of supplying the onsite Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.8.
- c. One qualified circuit between the offsite transmission network and the Unit 1 onsite Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.8, Distribution Systems—Shutdown; and
- d. The DG(s) capable of supplying the Unit 1 onsite Class 1E electrical power distribution subsystem(s) required by LCO 3.8.8.

APPLICABILITY: MODES 4 and 5

During movement of irradiated fuel assemblies in the secondary containment.

3.8 ELECTRICAL POWER SYSTEMS

3.8.7 Distribution Systems—Operating

LCO 3.8.7 The electrical power distribution subsystems in Table 3.8.7-1 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. -----NOTE----- Not applicable to DG E DC Bus 0D597 ----- One or more Unit 2 AC electrical power distribution subsystems inoperable.	-----Note----- Enter applicable Conditions and Required Actions of LCO 3.8.4, "DC Sources - Operating," for DC source(s) made inoperable by inoperable power distribution subsystem(s). ----- A.1 Restore Unit 2 AC electrical power distribution subsystem(s) to OPERABLE status.	8 hours <u>AND</u> 16 hours from discovery of failure to meet LCO 3.8.7 except for Condition E or F
B. -----NOTE----- Not applicable to DG E DC Bus 0D597 ----- One or more Unit 2 DC electrical power distribution subsystems inoperable.	B.1 Restore Unit 2 DC electrical power distribution subsystem(s) to OPERABLE status.	2 hours <u>AND</u> 16 hours from discovery of failure to meet LCO 3.8.7 except for Condition E or F
C. One or more Unit 1 AC electrical power distribution subsystems inoperable.	C.1 Restore Unit 1 AC electrical power distribution subsystem to OPERABLE status.	72 hours

(continued)