PACKAGE 3.3

INSTRUMENTATION

PART E

MARKUP OF NUREG-1431
IMPROVED STANDARD TECHNICAL SPECIFICATIONS AND BASES

List of Pages

3.3.1-1	3.3.2-9	3.3.7x-1	B 3.3.1-27	B 3.3.1-66	B 3.3.2-16	B 3.3.2-55	B 3.3.3-11
3.3.1-2	3.3.2-10	3.3.7x-2	B 3.3.1-28	B 3.3.1-67	B 3.3.2-17	B 3.3.2-56	B 3.3.3-12
3.3.1-3	3.3.2-11	3.3.7x-3	B 3.3.1-29	B 3.3.1-68	B 3.3.2-18	B 3.3.2-57	B 3.3.3-13
3.3.1-4	3.3.2-12	3.3.7x-4	B 3.3.1-30	B 3.3.1-69	B 3.3.2-19	B 3.3.2-58	B 3.3.3-14
3.3.1-5	3.3.2-13	3.3.7x-5	B 3.3.1-31	B 3.3.1-70	B 3.3.2-20	B 3.3.2-59	B 3.3.3-15
3.3.1-6	3.3.2-14	3.3.8x-1	B 3.3.1-32	B 3.3.1-71	B 3.3.2-21	B 3.3.2-60	B 3.3.3-16
3.3.1-7	3.3.2-15	3.3.8x-2	B 3.3.1-33	B 3.3.1-72	B 3.3.2-22	B 3.3.2-61	B 3.3.3-17
3.3.1-8	3.3.2-16	3.3.8x-3	B 3.3.1-34	B 3.3.1-73	B 3.3.2-23	B 3.3.2-62	B 3.3.3-18
3.3.1-9	3.3.2-17	3.3.8x-4	B 3.3.1-35	B 3.3.1-74	B 3.3.2-24	B 3.3.2-63	B 3.3.3-19
3.3.1-10	3.3.2-18	3.3.8x-5	B 3.3.1-36	B 3.3.1-75	B 3.3.2-25	B 3.3.2-64	B 3.3.3-20
3.3.1-11	3.3.2-19	3.3.9x-1	B 3.3.1-37	B 3.3.1-76	B 3.3.2-26	B 3.3.2-65	B 3.3.3-21
3.3.1-12	3.3.2-20	3.3.9x-2	B 3.3.1-38	B 3.3.1-77	B 3.3.2-27	B 3.3.2-66	B 3.3.3-22
3.3.1-13	3.3.2-21	3.3.9x-3	B 3.3.1-39	B 3.3.1-78	B 3.3.2-28	B 3.3.2-67	B 3.3.3-23
3.3.1-14	3.3.2-22	B 3.3.1-1	B 3.3.1-40	B 3.3.1-79	B 3.3.2-29	B 3.3.2-68	B 3.3.3-24
3.3.1-15	3.3.2-23	B 3.3.1-2	B 3.3.1-41	B 3.3.1-80	B 3.3.2-30	B 3.3.2-69	B 3.3.3-25
3.3.1-16	3.3.2-24	B 3.3.1-3	B 3.3.1-42	B 3.3.1-81	B 3.3.2-31	B 3.3.2-70	B 3.3.4-1
3.3.1-17	3.3.2-25	B 3.3.1-4	B 3.3.1-43	B 3.3.1-82	B 3.3.2-32	B 3.3.2-71	B 3.3.4-2
3.3.1-18	3.3.3-1	B 3.3.1-5	B 3.3.1-44	B 3.3.1-83	B 3.3.2-33	B 3.3.2-72	B 3.3.4-3
3.3.1-19	3.3.3-2	B 3.3.1-6	B 3.3.1-45	B 3.3.1-84	B 3.3.2-34	B 3.3.2-73	B 3.3.4-4
3.3.1-20	3.3.3-3	B 3.3.1-7	B 3.3.1-46	B 3.3.1-85	B 3.3.2-35	B 3.3.2-74	B 3.3.4-5
3.3.1-21	3.3.3-4	B 3.3.1-8	B 3.3.1-47	B 3.3.1-86	B 3.3.2-36	B 3.3.2-75	B 3.3.4-6
3.3.1-22	3.3.3-5	B 3.3.1-9	B 3.3.1-48	B 3.3.1-87	B 3.3.2-37	B 3.3.2-76	B 3.3.4-7
3.3.1-23	3.3.3-6	B 3.3.1-10	B 3.3.1-49	B 3.3.1-88	B 3.3.2-38	B 3.3.2-77	B 3.3.4-8
3.3.1-24	3.3.3-7	B 3.3.1-11	B 3.3.1-50	B 3.3.1-89	B 3.3.2-39	B 3.3.2-78	B 3.3.4-9
3.3.1-25	3.3.4x-1	B 3.3.1-12	B 3.3.1-51	B 3.3.2-1	B 3.3.2-40	B 3.3.2-79	B 3.3.4-10
3.3.1-26	3.3.4x-2	B 3.3.1-13	B 3.3.1-52	B 3.3.2-2	B 3.3.2-41	B 3.3.2-80	B 3.3.4-11
3.3.1-27	3.3.4x-3	B 3.3.1-14	B 3.3.1-53	B 3.3.2-3	B 3.3.2-42	B 3.3.2-81	B 3.3.4-12
3.3.1-28	3.3.4-1	B 3.3.1-15	B 3.3.1-54	B 3.3.2-4	B 3.3.2-43	B 3.3.2-82	B 3.3.5-1
3.3.1-29	3.3.4-2	B 3.3.1-16	B 3.3.1-55	B 3.3.2-5	B 3.3.2-44	B 3.3.2-83	B 3.3.5-2
3.3.1-30	3.3.4-3	B 3.3.1-17	B 3.3.1-56	B 3.3.2-6	B 3.3.2-45	B 3.3.3-1	B 3.3.5-3
3.3.1-31	3.3.4-4	B 3.3.1-18	B 3.3.1-57	B 3.3.2-7	B 3.3.2-46	B 3.3.3-2	B 3.3.5-4
3.3.2-1	3.3.4-5	B 3.3.1-19	B 3.3.1-58	B 3.3.2-8	B 3.3.2-47	B 3.3.3-3	B 3.3.5-5
3.3.2-2	3.3.5-1	B 3.3.1-20	B 3.3.1-59	B 3.3.2-9	B 3.3.2-48	B 3.3.3-4	B 3.3.5-6
3.3.2-3	3.3.5-2	B 3.3.1-21	B 3.3.1-60	B 3.3.2-10	B 3.3.2-49	B 3.3.3-5	B 3.3.5-7
3.3.2-4	3.3.5-3	B 3.3.1-22	B 3.3.1-61	B 3.3.2-11	B 3.3.2-50	B 3.3.3-6	B 3.3.5-8
3.3.2-5	3.3.5-4	B 3.3.1-23	B 3.3.1-62	B 3.3.2-12	B 3.3.2-51	B 3.3.3-7	B 3.3.5-9
3.3.2-6	3.3.5-5	B 3.3.1-24	B 3.3.1-63	B 3.3.2-13	B 3.3.2-52	B 3.3.3-8	B 3.3.5-10
3.3.2-7	3.3.5-6	B 3.3.1-25	B 3.3.1-64	B 3.3.2-14	B 3.3.2-53	B 3.3.3-9	B 3.3.5-11
3.3.2-8	3.3.5-7	B 3.3.1-26	B 3.3.1-65	B 3.3.2-15	B 3.3.2-54	B 3.3.3-10	B 3.3.5-12

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
UNITS 1 AND 2

Improved Technical Specifications
Conversion Submittal

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One Power Range Neutron Flux – ~~High~~ channel inoperable.	----------NOTES---------- 1. The inoperable channel may be bypassed for up to 4 hours for surveillance testing and setpoint adjustment of other channels. 2. An additional power range instrumentation channel may be made inoperable for low power PHYSICS TESTS. ---------- D.1.1 Place channel in trip. AND ~~D.1.2 Reduce THERMAL POWER to ≤ 75% RTP.~~ ~~OR~~ ~~D.2.1 Place channel in trip.~~ ~~AND~~	R-4 CL3.3-170 R-4 6 hours CL3.3-152 ~~12 hours~~ ~~6 hours~~

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. One channel inoperable.	----------NOTES---------- 1. The inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels. 2. An additional power range instrumentation channel may be made inoperable for low power PHYSICS TESTS. ----------	CL3.3-170 R-4
	E.1 Place channel in trip. OR E.2 Be in MODE 3.	6 hours 12 hours
F. ~~THERMAL POWER > P-6 and < P-10,~~ One Intermediate Range Neutron Flux channel inoperable.	F.1 Reduce THERMAL POWER to < P-6. OR F.2 Increase THERMAL POWER to > P-10.	TA3.3-151 TA3.3-154 R-1 24 hours 24 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
M~~Θ~~. One Reactor Coolant Pump Breaker Open~~Position~~ channel inoperable.	~~NOTE~~ ~~The inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels.~~	CL3.3-157 R-4
	M~~Θ~~.1 Restore channel to OPERABLE status.	48~~6~~ hours
	OR	
	M~~Θ~~.2 Reduce THERMAL POWER to < P-7 and P-8.	CL3.3-158 54~~10~~ hours

(continued)

N~~P~~.	One Turbine Trip channel inoperable.	NOTE The inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channel(s).	
		N~~P~~.1 Place channel in trip.	6 hours
		OR	
		N~~P~~.2 Reduce THERMAL POWER to < ~~[~~P-9~~]~~.	12~~0~~ hours CL3.3-169

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
PR. One RTB train inoperable.	----------NOTES---------- 1. One train may be bypassed for up to 42 hours for surveillance testing, provided the other train is OPERABLE. 2. One RTB may be bypassed for up to 62 hours for maintenance on undervoltage or shunt trip mechanisms, provided the other train is OPERABLE. ----------	CL3.3-162 CL3.3-163 R-4
	PR.1 Restore train to OPERABLE status. OR	1 hour R-4
	PR.2 Be in MODE 3.	7 hours
QS. One or more channels inoperable.	QS.1 Verify interlock is in required state for existing unit conditions. OR	1 hour TA3.3-151
	QS.2 Be in MODE 3.	7 hours

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.3.1.3 ----------NOTES---------- 1. Adjust NIS channel if absolute difference is ≥ ~~23~~%. 2. Only~~Not~~ required to be performed with ~~until [24] hours after~~ THERMAL POWER ~~is~~ ≥ ~~[~~15~~]~~% RTP. ---------- Compare results of the incore detector measurements to NIS AFD.	CL3.3-187 R-4 PA3.3-168 Prior to exceeding 75% RTP after each refueling AND 31 effective full power days (EFPD)

(continued)

SR 3.3.1.4	----------NOTE---------- This Surveillance must be performed on the reactor trip bypass breaker prior to placing the bypass breaker in service. ---------- Perform TADOT.	31 days on a STAGGERED TEST BASIS R-4

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.5	Perform ACTUATION LOGIC TEST.	31 days on a STAGGERED TEST BASIS
SR 3.3.1.6	----------NOTE---------- Not required to be performed until ~~[~~24~~]~~ hours after THERMAL POWER is ≥ 75~~50~~% RTP. ---------- Calibrate excore channels to agree with incore detector measurements.	CL3.3-164 ~~[~~92~~]~~ EFPD
SR 3.3.1.7	----------NOTE---------- Not required to be performed for source range instrumentation prior to entering MODE 3 from MODE 2 until 4 hours after entry into MODE 3. ---------- Perform COT.	R-4 ~~[~~92~~]~~ days

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.8	----------NOTE---------- 1. This Surveillance shall include verification that interlocks P-6 and P-10 are in their required state for existing unit conditions. 2. Not required to be performed for intermediate and source range instrumentation prior to reactor startup following shutdown ≤ 48 hours. ---------- Perform COT.	-----NOTE----- Only required when not performed within previous ~~[~~92~~]~~ days --------- ------ CL3.3-217 Prior to reactor startup AND TA3.3-166 Twelve~~Four~~ hours after reducing power below P-10 for power and intermediate range instrumentation AND Four hours after reducing power below P-6 for source range instrumentation AND Every 92 days thereafter

R-4

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
	(continued)
SR 3.3.1.9 ----------NOTE---------- Verification of setpoint is not required. ---------- Perform TADOT.	~~[~~92~~]~~ days
SR 3.3.1.10 ----------NOTE---------- This Surveillance shall include verification that the time constants are adjusted to the prescribed values. ---------- Perform CHANNEL CALIBRATION.	CL3.3-172 R-2 24~~[18]~~ months
SR 3.3.1.11 ----------NOTE---------- Neutron detectors are excluded from CHANNEL CALIBRATION. ---------- Perform CHANNEL CALIBRATION.	CL3.3-172 R-4 R-2 24~~[18]~~ months

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.12	----------NOTE---------- This Surveillance shall include verification of Reactor Coolant System resistance temperature detector bypass loop flow rate. ---------- Perform CHANNEL CALIBRATION.	CL3.3-172 24~~[18]~~ months R-4 R-2
SR 3.3.1.13	Perform COT.	X3.3-174 24~~18~~ months R-2
SR 3.3.1.14	----------NOTE---------- Verification of setpoint is not required. ---------- Perform TADOT.	CL3.3-172 24~~[18]~~ months R-2

(continued)

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.3.1.15	----------NOTE---------- Verification of setpoint is not required. ----------	~~----NOTE----~~ ~~Only required when not performed within previous 31 days~~ ~~----------~~
	Perform TADOT.	TA3.3-175 Prior to exceeding the P-9 interlock whenever the unit has been in MODE 3, if not performed within the previous 31 days ~~reactor startup~~ R-4
SR 3.3.1.16	~~----------NOTE----------~~ ~~Neutron detectors are excluded from response time testing.~~ ~~----------~~	CL3.3-178 CL3.3-172
	Verify RTS RESPONSE TIME is within limits.	24~~[18]~~ months ~~on a STAG~~ CL3.3-179 ~~GERE D TEST BASIS~~ R-2 R-4

Table 3.3.1-1 (page 1 of 8)
Reactor Trip System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	TA3.3-176 ~~TRIP SETPOINT (a)~~
1. Manual Reactor Trip	1,2	2	B	SR 3.3.1.14	NA	~~NA~~
	3 (ab), 4 (ab), 5 (ab)	2	C	SR 3.3.1.14	NA	~~NA~~
2. Power Range Neutron Flux						
a. High	1,2	4	D	SR 3.3.1.1 SR 3.3.1.2 SR 3.3.1.7 SR 3.3.1.11 SR 3.3.1.16	≤ 110 ~~[111.2]~~ % RTP	X3.3-177 ~~≤ [109]% RTP~~
b. Low	1 (bc), 2	4	CL3.3-475 DE	SR 3.3.1.1 SR 3.3.1.8 SR 3.3.1.11 SR 3.3.1.16	≤ 40 ~~[27.2]~~% RTP	CL3.3-181 ~~≤ [25]% RTP~~
3. Power Range Neutron Flux Rate						
a. High Positive Rate	1,2	4	CL3.3-475 DE	SR 3.3.1.7 SR 3.3.1.11 SR 3.3.1.16 CL3.3-182	X3.3-177 ≤ 6 ~~[6.8]~~% RTP with time constant ≥ ~~[2]~~ sec	~~≤ [5]% RTP with time constant ≥ [2] sec~~
b. High Negative Rate	1,2	4	CL3.3-475 DE	SR 3.3.1.7 SR 3.3.1.11 SR 3.3.1.16	X3.3-177 ≤ 8 ~~[6.8]~~% RTP with time constant ≥ ~~[2]~~ sec	~~≤ [5]% RTP with time constant ≥ [2] sec~~ R-4
4. Intermediate Range Neutron Flux	1 (bc), 2 (cd)	2	F,G	SR 3.3.1.1 SR 3.3.1.8 SR 3.3.1.11	CL3.3-184 ≤ 40 ~~[31]~~% RTP	~~≤ [25]% RTP~~
	~~2 (e)~~	~~2~~	~~H~~	~~SR 3.3.1.1 SR 3.3.1.8 SR 3.3.1.11~~	~~≤ [31]% RTP~~	TA3.3-151 ~~≤ [25]% RTP~~

(continued)

~~(a) Reviewer's Note: Unit specific implementations may contain only Allowable Value depending on Setpoint Study methodology used by the unit.~~ TA3.3-176

(ab) With ~~Reactor Trip Breakers (RTBs) closed and~~ Rod Control System capable of rod withdrawal or one or more rods

Table 3.3.1-1 (page 2 of 8)
Reactor Trip System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	TA3.3-176 ~~TRIP SETPOINT~~ ~~(a)~~
					CL3.3-185	
5. Source Range Neutron Flux	2 (de)	2	~~H, I, J~~	SR 3.3.1.1 SR 3.3.1.8 SR 3.3.1.11 SR 3.3.1.16	≤ 1.0E6 ~~[1.4 E5]~~ cps	~~≤ [1.0 E5]~~ ~~cps~~
	3 (ab), 4 (ab), 5 (ab)	2	~~I, J, K~~	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.11 SR 3.3.1.16	≤ 1.0E6 ~~[1.4 E5]~~ cps	~~≤ [1.0 E5]~~ ~~cps~~ R-4
	~~3 (f), 4 (f), 5 (f)~~	~~[1]~~	~~E~~	~~SR 3.3.1.1~~ ~~SR 3.3.1.11~~	~~N/A~~	CL3.3-183 ~~N/A~~ R-4
6. Overtemperature ΔT	1,2	~~[4]~~	E	SR 3.3.1.1 SR 3.3.1.3 SR 3.3.1.6 SR 3.3.1.7 SR 3.3.1.12 SR 3.3.1.16	Refer to Note 1 (Page 3.3.1-243)	~~Refer to Note 1 (Page 3.3-21)~~ R-4
7. Overpower ΔT	1,2	~~[4]~~	E	SR 3.3.1.1 CL3.3-164 SR 3.3.1.3 SR 3.3.1.6 SR 3.3.1.7 SR 3.3.1.12 SR 3.3.1.16	Refer to Note 2 (Page 3.3.1-224)	~~Refer to Note 2 (Page 3.3-22)~~ R-4

(continued)

~~(a) Reviewer's Note: Unit specific implementations may contain only Allowable Value depending on Setpoint Study methodology used by the unit.~~ TA3.3-176

(ab) With ~~RTBs closed and~~ Rod Control System capable of rod withdrawal or one or more rods not fully inserted. TA3.3-151

(de) Below the P-6 (Intermediate Range Neutron Flux) interlocks.

~~(f) With the RTBs open. In this condition, source range function does not provide reactor trip but does provide [input to the Boron Dilution Protection System (LCO 3.3.9), and] indication.~~ TA3.3-151

Table 3.3.1-1 (page 4 of 8)
Reactor Trip System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	TA3.3-176 ~~TRIP SETPOINT~~ ~~(a)~~
11. Loss of Reactor Coolant Pump (RCP) ~~Breaker Position~~ CL3.3-195						
a. RCP Breaker Open~~Single Loop~~ CL3.3-196	$1^{(fh)}$	1 per RCP	MO	SR 3.3.1.14	NA	~~NA~~
b. Underfrequency 4 kV Buses 11 and 12 (21 and 22)~~Two Loops~~	$1^{(ff)}$	2 per bus~~1 per RCP~~	CL3.3-156 LM	SR 3.3.1.9 SR 3.3.1.10 ~~SR 3.3.1.14~~	CL3.3-197 ≥ 58.2 Hz~~NA~~	~~NA~~
12. Undervoltage on 4 kV Buses 11 and 12 (21 and 22)~~RCPs~~ CL3.3-201	$1^{(eg)}$	CL3.3-202 2~~[3]~~ per bus	CL3.3-156 LM	SR 3.3.1.9 SR 3.3.1.10 CL3.3-186 ~~SR 3.3.1.16~~	X3.3-177 ≥ 76% bus voltage~~[4760] V~~	≥ ~~[4830]~~ V
~~13. Underfrequency RCPs~~ CL3.3-195	~~$1^{(g)}$~~	~~[3] per bus~~	M	~~SR 3.3.1.9 SR 3.3.1.10 SR 3.3.1.16~~	≥ ~~[57.1] Hz~~	≥ ~~[57.5]~~ Hz
134. Steam Generator (SG) Water Level - Low Low	1,2	~~[3]4~~ per SG~~]~~	E	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10 CL3.3-186 ~~SR 3.3.1.16~~	CL3.3-203 ≥ 5~~[30.4]~~%	≥ ~~[32.3]~~%
~~15. SG Water Level - Low~~	~~1,2~~	~~2 per SG~~	E	~~SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10 SR 3.3.1.16~~	CL3.3-204 ~~≥ [30.4]%~~	≥ ~~[32.3]~~%
~~Coincident with Steam Flow/Feedwater Flow Mismatch~~	~~1,2~~	~~2 per SG~~	E	~~SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10 SR 3.3.1.16~~	~~≤ [42.5]% full steam flow at RTP~~	~~≤ [40]% full steam flow at RTP~~

(continued)

~~(a) Reviewer's Note: Unit specific implementations may contain only Allowable Value depending on Setpoint Study methodology used by the unit.~~ TA3.3-176

(eg) Above the P-7 (Low Power Reactor Trips Block) interlock.

(fh) Above the P-8 (Power Range Neutron Flux) or P-7 (Low Power Reactor Trips Block) interlocks. CL3.3-189

~~(i) Above the P-7 (Low Power Reactor Trips Block) interlock and below the P-8 (Power Range Neutron Flux) interlock.~~ CL3.3-196 R-4

Table 3.3.1-1 (page 5 of 8)
Reactor Trip System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	TA3.3-176 TRIP SETPOINT(a)
146. Turbine Trip						
a. Low Autostop Fluid Oil Pressure PA3.3-205	1(gj)	3	NP	SR 3.3.1.10 SR 3.3.1.15	CL3.3-206 ≥ 45 [750] psig	≥ [800] psig
b. Turbine Stop Valve Closure	1(gj)	24	CL3.3-167 NP	CL3.3-207 SR 3.3.1.10 SR 3.3.1.15	NA ≥ [1]% open	≥ [1]% open
157. Safety Injection (SI) Input from Engineered Safety Feature Actuation System (ESFAS)	1,2	2 trains	Q	SR 3.3.1.14	NA	NA
168. Reactor Trip System Interlocks					CL3.3-211	
a. Intermediate Range Neutron Flux, P-6	2(de)	2	Q	SR 3.3.1.11 SR 3.3.1.13	≥ 1.0E-10 [6E-11] amp	≥ [1E-10] amp
b. Low Power Reactor Trips Block, P-7						
1. Power Range Neutron Flux	1	4 per train	R	SR 3.3.1.11 SR 3.3.1.13	≤ 12% RTP NA	NA CL3.3-212
2. Turbine Impulse Pressure	1	2	R	SR 3.3.1.10 SR 3.3.1.13	X3.3-177 ≤ 12% Full Load	PA3.3-476
c. Power Range Neutron Flux, P-8	1	4	R	SR 3.3.1.11 SR 3.3.1.13	X3.3-177 ≤ 11 [50.2]% RTP	≤ [40]% RTP
d. Power Range Neutron Flux, P-9	1	4	R	SR 3.3.1.11 SR 3.3.1.13	X3.3-177 ≤ 12 [52.2]% RTP	≤ [50]% RTP
e. Power Range Neutron Flux, P-10	1,2	4	Q	SR 3.3.1.11 SR 3.3.1.13	≥ 9 [7.8]% RTP and ≤ [12.2]% RTP	≥ [10]% RTP
f. Turbine Impulse Pressure, P-13	1	2	T	[SR 3.3.1.11] SR 3.3.1.10 SR 3.3.1.13	≤ [12.2]% turbine power	CL3.3-213 ≤ [10]% turbine power

R-4

R-4

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	TA3.3-176 ~~TRIP SETPOINT (a)~~

(continued)

~~(a) Reviewer's Note: Unit specific implementations may contain only Allowable Value depending on Setpoint Study methodology used by the unit.~~ TA3.3-176

(de) Below the P-6 (Intermediate Range Neutron Flux) interlocks.

(gf) Above the P-9 (Power Range Neutron Flux) interlock.

R-4

Table 3.3.1-1 (page 6 of 8)
Reactor Trip System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	TA3.3-176 ~~TRIP SETPOINT(a)~~
179. Reactor Trip Breakers(hk) (RTBs)	1,2	2 trains	~~PR~~	SR 3.3.1.4	NA	~~NA~~
	$3^{(ab)}$, $4^{(a}5^{(ab)}$	2 trains	C	SR 3.3.1.4	NA	~~NA~~
~~1820.~~ Reactor Trip Breaker Undervoltage and Shunt Trip Mechanisms	1,2	1 each per RTB	~~SU~~	SR 3.3.1.4	NA	~~NA~~
	$3^{(ab)}$, $4^{(a}5^{(ab)}$	1 each per RTB	C	SR 3.3.1.4	NA	~~NA~~
~~1921.~~ Automatic Trip Logic	1,2	2 trains	~~OG~~	SR 3.3.1.5	NA	~~NA~~
	$3^{(ab)}$, $4^{(a}5^{(ab)}$	2 trains	C	SR 3.3.1.5	NA	~~NA~~

R-4

R-4

R-4

~~(a) Reviewer's Note: Unit specific implementations may contain only Allowable Value depending on Setpoint Study methodology used by the unit.~~ TA3.3-176

(ab) With ~~RTBs closed and~~ Rod Control System capable of rod withdrawal or one or more rods not fully inserted. TA3.3-151

(hk) Including any reactor trip bypass breakers that are racked in and closed for bypassing an RTB.

Table 3.3.2-1 (page 7 of 8)
Engineered Safety Feature Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	TA3.3-176 ~~TRIP SETPOINT~~ ~~(a)~~
6. Auxiliary Feedwater (continued)						
cd. Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.					
~~e. Loss of Offsite Power~~	~~1,2,3~~	~~[3] per bus~~	~~F~~	~~SR 3.3.2.7~~ ~~SR 3.3.2.9~~ ~~SR 3.3.2.10~~	CL3.3-263 ~~≥ [2912] V with ≤ 0.8 sec time delay~~	~~≥ [2975] V with ≤ 0.8 sec time delay~~
df. Undervoltage CL3.3-241 on 4 kV Buses 11 and 12 (21 and 22) ~~Reactor Coolant Pump~~ (f)	1,2	CL3.3-202 2 ~~[3]~~ per bus	CL3.3-226 ~~H~~	CL3.3-237 SR 3.3.2.~~47~~ SR 3.3.2.69 ~~SR 3.3.2.10~~	X3.3-177 ≥ 76~~[69]~~% bus voltage	~~≥ [70]% bus voltage~~
eg. Trip of both ~~alt~~ Main Feedwater Pumps CL3.3-241	1,2 (g)	~~[2]~~ per pump	CL3.3-227 ~~I~~	SR 3.3.2.~~48~~ CL3.3-265 ~~SR 3.3.2.9~~ ~~SR 3.3.2.10~~	CL3.3-265 NA ~~≥ [ ] psig~~	~~≥ [ ] psig~~
~~h. Auxiliary Feedwater Pump Suction Transfer on Suction Pressure Low~~	~~1,2,3~~	~~[2]~~	~~F~~	~~SR 3.3.2.1~~ ~~SR 3.3.2.7~~ ~~SR 3.3.2.9~~	CL3.3-266 ~~≥ [20.53] fpsia~~	~~≥ [ ] fpsia~~
~~7. Automatic Switchover to Containment Sump~~						
~~a. Automatic Actuation Logic and Actuation Relays~~	~~1,2,3,4~~	~~2 trains~~	~~G~~	~~SR 3.3.2.2~~ ~~SR 3.3.2.4~~ ~~SR 3.3.2.6~~	CL3.3-267 ~~NA~~	~~NA~~
~~b. Refueling Water Storage Tank (RWST) Level Low Low~~	~~1,2,3,4~~	~~4~~	~~K~~	~~SR 3.3.2.1~~ ~~SR 3.3.2.5~~ ~~SR 3.3.2.9~~ ~~SR 3.3.2.10~~	~~≥ [15]% and ≤ [ ]%~~	~~≥ [ ] and ≤ [ ]~~
~~Coincident with Safety Injection~~	~~Refer to Function 1 (Safety Injection) for all initiation functions and requirements.~~					

R-4

(continued)

BASES

PA3.3-356

Range Neutron Flux–Low ~~Setpoint~~ trip will provide core protection for reactivity ~~accidents~~events. Above the P-6 setpoint, the NIS source range detectors are de-energized ~~and inoperable~~.

PA3.3-367

In MODEs 3, 4, ~~or~~and 5 with all rods fully inserted and the Rod Control System not capable of rod withdrawal, and in MODE 6, the outputs from the Function to RTS logic are not required to be OPERABLE~~the reactor shut down, the Source Range Neutron Flux trip Function must also be OPERABLE. If the CRD System is capable of rod withdrawal, the Source Range Neutron Flux trip must be~~

CL3.3-183

R-4

~~APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY~~

~~5. Source Range Neutron Flux (continued)~~

~~OPERABLE to provide core protection against a rod withdrawal accident. If the CRD System is not capable of rod withdrawal, the source range detectors are not required to trip the reactor. However, their monitoring Function must be OPERABLE~~ The requirements for the NIS source range detectors to monitor core neutron levels and provide indication of reactivity changes that may occur as a result of events like a boron dilution are addressed in LCO 3.9.3, "Nuclear Instrumentation," for MODE 6. ~~These inputs are provided to the BDPS. The requirements for the NIS source range detectors in MODE 6 are addressed in LCO 3.9.3, "Nuclear Instrumentation."~~

CL3.3-183

R-4

CL3.3-368

6. Overtemperature ΔT

The Overtemperature ΔT trip Function is provided to ensure that the design limit DNBR is met. ~~This trip Function also limits the range over which the Overpower ΔT trip Function must provide protection.~~ The inputs to the Overtemperature ΔT trip include ~~all~~

CL3.3-371

(continued)

BASES

PA3.3-356

the safety valve to lift before the reactor high pressure trip.

In MODE 1, when there is a potential for transients such as a load rejection causing overfill~~ing~~ of the pressurizer, the Pressurizer Water Level – High trip must be OPERABLE. This trip Function is automatically enabled on increasing power by the P-7 interlock. On decreasing power, this trip Function is automatically blocked below P-7. Below the P-7 setpoint, transients that could raise the pressurizer water level will be slow and the operator will have sufficient time to evaluate unit conditions and take corrective actions.

10. Reactor Coolant Flow – Low

TA3.3-155

~~a. Reactor Coolant Flow – Low (Single Loop)~~

The Reactor Coolant Flow – Low ~~(Single Loop)~~ trip Function ensures that protection is provided against violating the DNBR limit due to low flow in one or more RCS loops, while avoiding reactor trips due to normal variations in loop flow. Above the P-8 setpoint, ~~which is approximately 48% RTP,~~ a loss of flow in ~~any~~either RCS loop will actuate a reactor trip. Above the P-7 setpoint, a loss of flow in both RCS loops will actuate a reactor trip. Each RCS loop has three flow detectors to monitor flow. The flow signals are not used for any control system input. This flow is a percent of normal indicated loop flow as measured at loop elbow tap.

PA3.3-376

CL3.3-373

R-4

~~APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY~~

~~a. Reactor Coolant Flow – Low (Single Loop) (continued)~~

The LCO requires three Reactor Coolant Flow – Low channels per loop to be OPERABLE in MODE 1 above P-7 or P-8.

TA3.3-155

(continued)

BASES

PA3.3-356

~~Flow - Low trip alone provides sufficient protection of unit SLs for loss of flow events. The RCP Breaker Position trip serves only to anticipate the low flow trip, minimizing the thermal transient associated with loss of an RCP.~~

~~This Function measures only the discrete position (open or closed) of the RCP breaker, using a position switch. Therefore, the Function has no adjustable trip setpoint with which to associate an LSSS.~~

~~In MODE 1 above the P-7 setpoint and below the P-8 setpoint, the RCP Breaker Position (Two Loops) trip must be OPERABLE.~~ Below the P-7 and P-8 setpoints, ~~all~~RCP Breaker Open reactor trips ~~on loss of flow~~ are automatically blocked since ~~no conceivable power distributions could occur that would cause a DNB concern~~the AOO's meet their DNB criteria without requiring this trip function at this low power level. Above the P-7 or P-8 setpoints, the RCP Breaker Open reactor trips are ~~on loss of flow in two RCS loops is~~ automatically enabled. ~~Above the P-8 setpoint, a loss of flow in any one loop will actuate a reactor trip because of the higher power level and the reduced margin to the design limit DNBR.~~

CL3.3-196

PA3.3-379

~~APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY~~

12. Undervoltage on 4 kV Buses 11 and 12 (21 and 22) ~~Reactor Coolant Pumps~~

CL3.3-201

The Undervoltage on 4 kV Buses 11 and 12 (21 and 22)~~RCPs reactor trip~~ Function ~~ensures~~ ~~that~~provides protection ~~is provided~~ against violating the DNBR

R-4

(continued)

BASES

PA3.3-356

(continued)

limit due to a loss of flow in two or moreboth RCS loops. The voltage to each RCP is monitored. Above the P-7 setpoint, a loss of voltage detected on bothtwo or more RCP buses will initiate a reactor trip. This trip Function will generate a reactor trip before the Reactor Coolant Flow–Low (Two Loops) Ttrip Ssetpoint is reached. Time delays are incorporated into the Uundervoltage RCPs channels to prevent reactor trips due to momentary electrical power transients.

The LCO requires threetwo Uundervoltage RCPs channels (one per phase) per bus to be OPERABLE.

In MODE 1 above the P-7 setpoint, the Uundervoltage RCP trip must be OPERABLE. Below the P-7 setpoint, all reactor trips on loss of flowundervoltage are automatically blocked since no conceivable power distributions could occur that would cause a DNB concernthe AOO's meet their DNB criteria without requiring this trip function at this low power level. Above the P-7 setpoint, the reactor trip on loss of flowundervoltage in bothtwo or more RCS loops is automatically enabled. This Function uses the same relays as the ESFAS Function 6.df, "Undervoltage on 4 kV Buses 11 and 12 (21 and 22)Reactor Coolant Pump (RCP)" start of the turbine driven auxiliary feedwater (AFW) pumps.

PA3.3-379

R-4

11.b13.

Underfrequency 4 kV Buses 11 and 12 (21 and 22)Reactor Coolant Pumps

CL3.3-195

The Underfrequency RCPs4 kV Buses 11 and 12 (21 and 22) breakerreactor trip Function ensures thatprovides protection is provided against violating the DNBR limit due to a loss of flow in bothtwo or more RCS

R-4

(continued)

BASES

PA3.3-356

loops from a major network frequency disturbance. An underfrequency condition will slow down the pumps, thereby reducing their coastdown time following a pump trip. The proper coastdown time is required so that reactor heat can be removed immediately after reactor trip. The frequency of each RCP bus is monitored. ~~Above the P-7 setpoint, a~~A loss of frequency detected on both~~two or more~~ RCP buses will initiate a ~~reactor~~ trip of both RCP breakers. This trip ~~Function~~ will generate a reactor trip before the Reactor Coolant Flow – Low ~~(Two Loops)~~ Ttrip Ssetpoint is reached. Time delays are incorporated into the Underfrequency 4 kV Buses 11 and 12 (21 and 22)~~RCPs~~ channels to prevent RCP breaker~~reactor~~ trips due to momentary electrical power transients.

CL3.3-195

R-4

~~APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY~~

~~13. Underfrequency Reactor Coolant Pumps (continued)~~

The LCO requires ~~two~~~~three~~ ~~U~~underfrequency ~~RCPs~~ channels per bus to be OPERABLE.

In MODE 1 above the P-7 or P-8 setpoints, the Underfrequency 4 kV Buses 11 and 12 (21 and 22)~~RCPs~~ trip Function must be OPERABLE. Below the P-7 and P-8 setpoints, ~~all~~ reactor trips on RCP breaker open~~loss of flow~~ are automatically blocked since ~~no conceivable power distributions could occur that would cause a DNB concern~~the AOO's meet their DNB criteria without requiring this trip function at this low power level. Above the P-7 or P-8 setpoints, the reactor trips on ~~loss of flow in two or more RCS loops is~~RCP breaker open are automatically enabled.

CL3.3-195

R-4

PA3.3-379

(continued)

PA3.3-356

BASES

~~SAFETY ANALYSES, LCO, and APPLICABILITY~~ In MODE 3, 4, 5, or 6, the P-6 interlock does not have to be OPERABLE because the NIS Source Range is providing core protection.

b. Low Power Reactor Trips Block, P-7

The Low Power Reactor Trips Block, P-7 interlock is actuated by input from either ~~the~~ Power Range Neutron Flux~~, P-10,~~ or ~~the~~ Turbine Impulse Pressure~~, P-13 interlock~~. The LCO requirement for the P-7 interlock ensures that the following Functions are performed: CL3.3-212

(1) on increasing power, the P-7 interlock automatically enables reactor trips on the following Functions:

- Pressurizer Pressure – Low;
- Pressurizer Water Level – High;
- Reactor Coolant Flow – Low (~~Two~~ both ~~l~~Loops);
- RCPs Breaker Open (~~Two~~both ~~l~~Loops); and
- Undervoltage 4 kV Buses 11 and 12 (21 and 22). ~~RCPs; and~~ CL3.3-201 R-4
- ~~Underfrequency RCPs.~~ CL3.3-195

These reactor trips are only required when operating above the P-7 setpoint ~~(approximately 10% power)~~. The reactor trips provide protection against violating the DNBR limit. Below the P-7 setpoint, PA3.3-376

(continued)

BASES

PA3.3-356

the RCS is capable of providing sufficient natural circulation without any RCP running.

(2) on decreasing power, the P-7 interlock automatically blocks reactor trips on the following Functions:

- Pressurizer Pressure – Low;

APPLICABLE SAFETY, ANALYSES, LCO, and APPLICABILITY

b. Low Power Reactor Trips Block, P-7 (continued)

- Pressurizer Water Level – High;
- Reactor Coolant Flow – Low (~~Two~~ both ~~l~~Loops);
- RCP Breaker Position (~~Two~~ both ~~l~~Loops); and

CL3.3-201

- Undervoltage 4 kV Buses 11 and 12 (21 and 22)~~RCPs; and~~.

R-4

- ~~Underfrequency RCPs.~~

CL3.3-195

~~Trip Setpoint and Allowable Value are not applicable to the P-7 interlock because it is a logic Function and thus has no parameter with which to associate an LSSS.~~

CL3.3-212

~~The P-7 interlock is a logic Function with train and not channel identity. Therefore, the LCO requires one channel per train of Low Power Reactor Trips Block, P-7 interlock to be OPERABLE in MODE 1.~~

(continued)

PA3.3-356

BASES

This action addresses the train orientation of the ~~SSPS~~RTS for these Functions. With one channel or train inoperable, the inoperable channel or train must be restored to OPERABLE status within 48 hours. If the affected Function(s) cannot be restored to OPERABLE status within the allowed 48 hour Completion Time, the unit must be placed in a MODE in which the requirement does not apply. To achieve this status, ~~the RTBs must be opened within the next hour.~~action must be initiated within the same 48 hours to ensure that all rods are fully inserted and the Rod Control System must be placed in a condition incapable of rod withdrawal within the next hour. The additional hour provides sufficient time to accomplish the action in an orderly manner. With rods fully inserted and the Rod Control System incapable of rod withdrawal, ~~the RTBs open,~~ these Functions are no longer required.

CL3.3-359

TA3.3-151

The Completion Time is reasonable considering that in this Condition, the remaining OPERABLE train is adequate to perform the safety function, and given the low probability of an event occurring during this interval.

D.1.1, D.1.2~~, D.2.1, D.2.2~~, and D.~~3~~2

Condition D applies to the following reactor trip Functions:

- Power Range Neutron Flux – High Function;~~.~~
- Power Range Neutron Flux – Low;
- Power Range Neutron Flux – High Positive Rate;
- Power Range Neutron Flux – High Negative Rate.

CL3.3-475

R-4

The NIS power range detectors provide input to the reactor control~~CRD S~~system ~~and the SG Water Level Control System~~ and, therefore, have a two-out-of-four trip logic. A

CL3.3-366

(continued)

PA3.3-356

BASES

known inoperable channel must be placed in the tripped condition. This results in a partial trip condition requiring only one-out-of-three logic for actuation. The 6 hours allowed to place the inoperable channel in the tripped condition is justified in WCAP-10271-P-A (Ref. ~~67~~).

In addition to placing the inoperable channel in the tripped condition, ~~THERMAL POWER must be reduced to ≤ 75% RTP within 12 hours. Reducing the power level prevents operation of the core with radial power distributions beyond the design~~

CL3.3-152

~~ACTIONS~~ ~~D.1.1, D.1.2, D.2.1, D.2.2, and D.3 (continued) limits. With one of the NIS power range detectors inoperable, 1/4 of the radial power distribution monitoring capability is lost.~~

~~As an alternative to the above actions, the inoperable channel can be placed in the tripped condition within 6 hours and~~monitor the QPTR ~~monitored~~ once every 12 hours as per SR 3.2.4.2, QPTR verification. Calculating QPTR every 12 hours compensates for the lost monitoring capability due to the inoperable NIS power range channel and allows continued unit operation at power levels ~~≥~~ 85~~75~~% RTP. The ~~6 hour Completion Time and the~~ 12 hour Frequency ~~are~~is consistent with LCO 3.2.4, "QUADRANT POWER TILT RATIO (QPTR)."

CL3.3-152

As an alternative to the above Actions, the plant must be placed in a MODE where this Function is no longer required OPERABLE. Twelve hours are allowed to place the plant in MODE 3. This is a reasonable time, based on operating experience, to reach MODE 3 from full power in an orderly manner and without challenging plant systems. If Required Actions cannot be completed within their allowed Completion Times, LCO 3.0.3 must be entered.

(continued)

PA3.3-356

BASES

The Required Actions have been modified by ~~a~~two Notes. ~~that~~ Note 1 allows placing the inoperable channel in the bypass condition for up to 4 hours while performing routine surveillance testing of other channels. ~~The~~This Note also allows placing the inoperable channel in the bypass condition to allow setpoint adjustments of other channels when required to reduce the setpoint in accordance with other Technical Specifications. The 4 hour time limit is justified in Reference ~~7~~6. Note 2 allows an additional power range instrument channel to be made inoperable only during low power PHYSICS TESTS.

CL3.3-170

Required Action ~~D.2.2~~D.1.2 has been modified by a Note which only requires SR 3.2.4.2 to be performed if THERMAL POWER is > 85% RTP and the Power Range Neutron Flux input to QPTR becomes inoperable. Failure of a component in the Power Range Neutron Flux Channel which renders the High Flux Trip Function inoperable may not affect the capability to monitor QPTR. As such, determining QPTR using the~~is~~ movable incore detectors once per 12 hours may not be necessary.

CL3.3-152

ACTIONS (continued)

E.1 and E.2

Condition E applies to the following reactor trip Functions:

- ~~Power Range Neutron Flux – Low;~~
- Overtemperature ΔT;
- Overpower ΔT;
- ~~Power Range Neutron Flux – High Positive Rate;~~
- ~~Power Range Neutron Flux – High Negative Rate;~~
- Pressurizer Pressure – High; and

CL3.3-475

R-4

(continued)

PA3.3-356

BASES

- SG Water Level – Low Low.~~; and~~

- ~~SG Water Level – Low coincident with Steam Flow/ Feedwater Flow Mismatch.~~ CL3.3-204

A known inoperable channel must be placed in the tripped condition within 6 hours. Placing the channel in the tripped condition results in a partial trip condition requiring only one-out-of-two logic for actuation of the two-out-of-three trips and one-out-of-three logic for actuation of the two-out-of-four trips. The 6 hours allowed to place the inoperable channel in the tripped condition is justified in Reference ~~7~~6.

If the operable channel cannot be placed in the trip condition within the specified Completion Time, the unit must be placed in a MODE where these Functions are not required OPERABLE. An additional 6 hours is allowed to place the unit in MODE 3. Six hours is a reasonable time, based on operating experience, to place the unit in MODE 3 from full power in an orderly manner and without challenging unit systems.

The Required Actions have been modified by ~~a~~two Notes. Note 1~~that~~ allows placing the inoperable channel in the bypassed condition for up to 4 hours while performing routine surveillance testing of the other channels. The 4 hour time limit is justified in Reference ~~7~~6. Note 2 allows an additional power range instrument channel to be made inoperable only for low power PHYSICS TESTS. CL3.3-170 R-4

ACTIONS (continued)

F.1 and F.2

Condition F applies to the Intermediate Range Neutron Flux trip when ~~THERMAL POWER is above the P-6 setpoint and below the P-10 setpoint and~~ one channel is inoperable. TA3.3-151 PA3.3-375

(continued)

PA3.3-356

BASES

~~N~~L.1 and ~~N~~L.2

TA3.3-151

Condition L~~N~~ applies to the Loss of Reactor Coolant Pump Underfrequency 4 kV Buses 11 and 12 (21 and 22) and Undervoltage on 4 kV Buses 11 and 12 (21 and 22)~~Reactor Coolant Flow - Low (Single Loop) reactor trip Function~~. With one or both channels inoperable on one bus, the inoperable channel(s) must be placed in trip within 6 hours. If the channel(s) cannot be restored to OPERABLE status or the channel(s) placed in trip within the 6 hours, then THERMAL POWER must be reduced below the P-7 and P-8 setpoints within the next ~~4~~6 hours. This places the unit in a MODE where the LCO is no longer applicable. The~~i~~se trip Functions do~~es~~ not have to be OPERABLE below the P-7 and P-8 setpoints because ~~other RTS trip Functions provide core protection below the P-8 setpoint.~~the AOO's meet their DNB criteria without requiring these trip functions at this low power level. The 6 hours allowed to restore the channel(s) to OPERABLE status or place in trip and the ~~4~~6 additional hours allowed to reduce THERMAL POWER to below the P-7 and P-8 setpoints are justified in Reference ~~7~~6.

CL3.3-156

R-4

TA3.3-155

CL3.3-373

PA3.3-379

The Required Actions have been modified by a Note that allows placing ~~the~~one inoperable channel in the bypassed condition for up to 4 hours while performing routine surveillance testing of the other channels. The 4 hour time limit is justified in Reference ~~7~~6.

~~0~~M.1 and ~~0~~M.2

TA3.3-151

Condition ~~0~~M applies to the RCP Breaker Open~~Position (Single Loop)~~ reactor trip Function. There is one breaker position device per RCP breaker. With one channel inoperable, the inoperable channel must be restored to OPERABLE status within ~~6~~48 hours. The Completion Time of 48 hours is

R-4

CL3.3-157

(continued)

PA3.3-356

BASES

reasonable considering that there are two automatic actuation trains, other breaker position channels, other flow related trip Functions and the low probability of an event occurring during this interval.

If the channel cannot be restored to OPERABLE status within the ~~6~~48 hours, then THERMAL POWER must be reduced below the P-7 and P-8 setpoints within the next ~~4~~6 hours.

CL3.3-157
CL3.3-158

~~ACTIONS~~ ~~0.1 and 0.2 (continued)~~

This places the unit in a MODE where the LCO is no longer applicable. This Function does not have to be OPERABLE below the P-7 and P-8 setpoints because the AOO's meet their DNB criteria without requiring this trip function at this low power level~~other RTS Functions provide core protection below the P-8 setpoint~~. ~~The 6 hours allowed to restore the channel to OPERABLE status and the 4 additional hours allowed to reduce THERMAL POWER to below the P-8 setpoint are justified in Reference 7.~~
~~The Required Actions have been modified by a Note that allows placing the inoperable channel in the bypassed condition for up to 4 hours while performing routine surveillance testing of the other channels. The 4 hour time limit is justified in Reference 7.~~

PA3.3-379
CL3.3-373

~~P~~N.1 and ~~P~~N.2

TA3.3-151

Condition ~~P~~N applies to Turbine Trip on Low Autostop~~Fluid~~ Oil Pressure or on Turbine Stop Valve Closure. With one channel inoperable, the inoperable channel must be placed in the trip condition within 6 hours. If placed in the tripped condition, this results in a partial trip condition requiring only one additional channel to initiate a reactor trip. If the channel cannot be restored to

CL3.3-169

(continued)

BASES

PA3.3-356

OPERABLE status or placed in the trip condition, then power must be reduced below the P-9 setpoint within the next ~~6~~4 hours. The 6 hours allowed to place the inoperable channel in the tripped condition and the ~~6~~4 hours allowed for reducing power are justified in Reference ~~7~~6.

The Required Actions have been modified by a Note that allows placing the inoperable channel in the bypassed condition for up to 4 hours while performing routine surveillance testing of the other channel(s). The 4 hour time limit is justified in Reference ~~7~~6.

~~θ~~0.1 and ~~θ~~0.2

TA3.3-151

Condition ~~θ~~0 applies to the SI Input from ESFAS reactor trip and the RTS Automatic Trip Logic in MODES 1 and 2. These actions address the train orientation of the RTS for these Functions. With one train inoperable, 6 hours are allowed to restore the train to OPERABLE status (Required Action ~~θ~~0.1) or the unit must be placed in MODE 3 within the

~~ACTIONS~~ ~~Q.1 and Q.2 (continued)~~

~~next~~ 6 hours. The Completion Time of 6 hours (Required Action ~~θ~~0.1) is reasonable considering that in this Condition, the remaining OPERABLE train is adequate to perform the safety function and given the low probability of an event during this interval. The Completion Time of an additional 6 hours (Required Action ~~θ~~0.2) is reasonable, based on operating experience, to reach MODE 3 from full power in an orderly manner and without challenging unit systems.

CL3.3-161

The Required Actions have been modified by a Note that allows bypassing one train up to ~~[4]~~8 hours for surveillance testing, provided the other train is

PA3.3-394

(continued)

BASES

PA3.3-356

and opening the associated RTB. The RTB remains OPERABLE under these conditions so that entry into Condition P is not required while performing testing allowed by this Note.

~~RP~~.1 and ~~RP~~.2

Condition ~~RP~~ applies to the RTBs in MODES 1 and 2. These actions address the train orientation of the RTS for the RTBs. With one RTB train inoperable, 1 hour is allowed to restore the train to OPERABLE status or the unit must be placed in MODE 3 within the next 6 hours. The Completion Time of an additional 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power in an orderly manner and without challenging unit systems. The 1 hour and ~~7~~6 hour Completion Times are equal to the time allowed by LCO 3.0.3 for shutdown actions in the event of a complete loss of RTS Function. Placing the unit in MODE 3 ~~removes the requirement for this particular Function.~~results in Action C entry while RTB(s) are inoperable.

TA3.3-151

R-4

TA3.3-151

The Required Actions have been modified by two Notes. Note 1 allows one ~~channel~~train to be bypassed for up to ~~2~~4 hours for surveillance testing, provided the other ~~channel~~train is OPERABLE. Note 2 allows one RTB to be bypassed for up to ~~6~~2 hours for maintenance on undervoltage or shunt trip mechanisms if the other ~~RTB~~ train is OPERABLE. ~~The 2 hour time limit is justified in Reference 7.~~

CL3.3-162

CL3.3-163

R-4

~~SQ~~.1 and ~~SQ~~.2

TA3.3-151

Condition ~~SQ~~ applies to the P-6 and P-10 interlocks. With one or more channel(s) inoperable for one-out-of-two or two-out-of-four coincidence logic, the associated interlock must be verified to be in its required state for the existing unit condition

(continued)

BASES

PA3.3-356

SURVEILLANCE REQUIREMENTS

SR 3.3.1.2 (continued)

allowed for performing the first Surveillance after reaching 15% RTP. At lower power levels, calorimetric data are inaccurate.

The Frequency of every 24 hours is adequate. It is based on unit operating experience, considering instrument reliability and operating history data for instrument drift. Together these factors demonstrate the change in the absolute difference between NIS and heat balance calculated powers rarely exceeds 2% in any 24 hour period.

In addition, control room operators periodically monitor redundant indications and alarms to detect deviations in channel outputs.

SR 3.3.1.3

SR 3.3.1.3 compares the incore system to the NIS channel output prior to exceeding 75% RTP after each refueling and every 31 Effective Full Power Days (EFPD). If the absolute difference is ≥ ~~2~~3%, the NIS channel is still OPERABLE, but must be readjusted.

PA3.3-168

CL3.3-187

R-4

If the NIS channel cannot be properly readjusted, the channel is declared inoperable. This Surveillance is performed to verify the f(ΔI) input to the overtemperature and overpower ΔT Functions.

CL3.3-214

Two Notes modify SR 3.3.1.3. Note 1 indicates that the excore NIS channel shall be adjusted if the absolute difference between the incore and excore AFD is ≥ ~~2~~3%. Note 2 clarifies that the Surveillance is required only if reactor power is ≥ ~~[~~15%~~]~~ RTP ~~and that 24 hours is allowed~~

R-4

(continued)

BASES

PA3.3-356

provided for performing such a test ~~at power. The independent test for bypass breakers is included in SR 3.3.1.14. The bypass breaker test shall include a local shunt trip~~. When performing this SR, manually trip the UV trip attachment remotely (i.e., from the protection system racks). A Note has been added to indicate that this test must be performed on the bypass breaker prior to placing it in service.

R-4

The Frequency of every 31 days on a STAGGERED TEST BASIS is adequate. It is based on industry operating experience, considering instrument reliability and operating history data.

SR 3.3.1.5

R-4

SR 3.3.1.5 is the performance of an ACTUATION LOGIC TEST. The ~~SSPS~~RTS relay logic is tested every 31 days on a STAGGERED TEST BASIS~~, using the semiautomatic tester~~. The train being tested is placed in the bypass condition, thus preventing inadvertent actuation. ~~Through the semiautomatic tester, a~~All ~~possible~~ logic combinations, with ~~and without~~ applicable permissives, are tested for each protection function required for the current plant MODE. The Frequency of every 31 days on a STAGGERED TEST BASIS is adequate. It is based on industry operating experience, considering instrument reliability and operating history data.

CL3.3-359
CL3.3-364

(continued)

BASES

PA3.3-356

must be within the Allowable Values specified in Table 3.3.1-1.

The difference between the current "as found" values and the previous test "as left" values must be consistent with the drift allowance used in the setpoint methodology. The setpoint shall be left set consistent with the assumptions of the current unit specific setpoint methodology.

The "as found" and "as left" values must also be recorded and reviewed for consistency with the assumptions of Reference ~~7~~5.

SR 3.3.1.7 is modified by a Note that provides a 4 hour delay in the requirement to perform this Surveillance for source range instrumentation when entering MODE 3 from MODE 2. This Note allows a normal shutdown to proceed without a delay for testing in MODE 2 and for a short time in MODE 3 until the RTBs are open and SR 3.3.1.7 is no longer required to be performed. If the unit is to be in MODE 3 with the RTBs closed for > 4 hours this Surveillance must be performed prior to 4 hours after entry into MODE 3.

R-4

The Frequency of ~~[~~92~~]~~ days is justified in Reference ~~7~~6.

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.1.8

TA3.3-395

SR 3.3.1.8 is the performance of a COT as described in SR 3.3.1.7, except it is modified by ~~two~~a Notes. Note 1 requires that this test shall include verification that the P-6 and P-10 interlocks are in their required state for the existing unit condition. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. Verification that P-6 and P-10 are in their required state for existing plant conditions can also be accomplished by observation of the permissive annunciator

R-4

R-4

(continued)

BASES

PA3.3-356

window. This clarifies what is an acceptable CHANNEL OPERATIONAL TEST of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specification tests at least once per refueling interval with applicable extensions. Note 2 provides an exception from performance of this SR prior to reactor startup for the intermediate and source range instrumentation when the reactor has been shutdown less than or equal to 48 hours. The Frequency is modified by a Note that allows this surveillance to be satisfied if it has been performed within the previous ~~[~~92~~]~~ days ~~of the Frequencies prior to reactor startup and four hours after reducing power below P-10 and P-6~~. The Frequency of "prior to reactor startup" ensures this surveillance is performed prior to critical operations and applies to the source, intermediate and power range low instrument channels. The Frequency of ~~"~~12~~4~~ hours after reducing power below P-10~~"~~ (applicable to intermediate and power range low channels) and ~~"~~4 hours after reducing power below P-6~~"~~ (applicable to source range channels) allows a normal shutdown to be completed and the unit removed from the MODE of Applicability for this surveillance without a delay to perform the testing required by this surveillance. The Frequency of every 92 days thereafter applies if the plant remains in the MODE of Applicability after the initial performances of prior to reactor startup and twelve and four hours after reducing power below P-10 or P-6, respectively. The MODE of Applicability for this surveillance is < P-10 for the power range low and intermediate range channels and < P-6 for the source range channels. Once the unit is in MODE 3, this surveillance is no longer required. If power is to be maintained < P-10 for more than twelve hours or < P-6 for more than 4 hours, then the testing required by this surveillance must be performed prior to the expiration of the time~~4 hour~~ limit. Twelve hours and f~~F~~our hours are~~is a~~

TA3.3-395

CL3.3-217

R-4

R-4

TA3.3-166

R-4

(continued)

BASES

PA3.3-356

reasonable times to complete the required testing or place the unit in a MODE where this surveillance is no longer required. This test ensures that the NIS source, intermediate, and power range low channels are OPERABLE prior to taking the reactor critical and after reducing power into the applicable MODE (< P-10 or < P-6) for periods > 12 and 4 hours, respectively.

TA3.3-166

R-4

SR 3.3.1.9

SR 3.3.1.9 is the performance of a TADOT and is performed every [92] days, as justified in Reference ~~76~~. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable TADOT of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specification tests at least once per refueling interval with applicable extensions.

TA3.3-395

~~SURVEILLANCE REQUIREMENTS~~

~~SR 3.3.1.9 (continued)~~

The SR is modified by a Note that excludes verification of setpoints from the TADOT. Since this SR applies to ~~RCP~~ undervoltage and underfrequency relays, setpoint verification ~~requires elaborate bench calibration and~~ is accomplished during the CHANNEL CALIBRATION.

PA3.3-397

R-2

SR 3.3.1.10

CL3.3-172

A CHANNEL CALIBRATION is performed every 24[~~18~~] months, or approximately at every refueling. CHANNEL CALIBRATION is a complete check of the instrument loop, including the

PA3.3-397

(continued)

BASES

PA3.3-356

sensor where applicable (e.g., the undervoltage and underfrequency relays do not have separate sensors). The test verifies that the channel responds to a measured parameter within the necessary range and accuracy.

CHANNEL CALIBRATIONS must be performed consistent with the assumptions of the unit specific setpoint methodology. The difference between the current "as found" values and the previous test "as left" values must be consistent with the drift allowance used in the setpoint methodology.

R-2

The Frequency of ~~18~~24 months is based on the assumption of ~~an~~ ~~18~~24 month calibration interval in the determination of the magnitude of equipment drift in the setpoint methodology.

CL3.3-172

SR 3.3.1.10 is modified by a Note stating that this test shall include verification that the time constants are adjusted to the prescribed values where applicable.

R-2

SR 3.3.1.11

CL3.3-172

SR 3.3.1.11 is the performance of a CHANNEL CALIBRATION, as described in SR 3.3.1.10, every ~~[18]~~24 months. This SR is modified by a Note stating that neutron detectors are excluded from the CHANNEL CALIBRATION. This Surveillance includes verification that the time constants, where applicable, are adjusted to the prescribed values. ~~The CHANNEL CALIBRATION for the power range neutron detectors consists of a normalization of the detectors based on a power calorimetric and flux map performed above 15% RTP. The CHANNEL CALIBRATION for the source range and intermediate range neutron detectors consists of obtaining the detector~~

PA3.3-173

R-4

CL3.3-398

(continued)

BASES

PA3.3-356

~~SURVEILLANCE REQUIREMENTS~~

~~SR 3.3.1.11 (continued)~~

~~plateau or preamp discriminator curves, evaluating those curves, and comparing the curves to the manufacturer's data. This Surveillance is not required for the NIS power range detectors for entry into MODE 2 or 1, and is not required for the NIS intermediate range detectors for entry into MODE 2, because the unit must be in at least MODE 2 to perform the test for the intermediate range detectors and MODE 1 for the power range detectors.~~ The 24~~[18]~~ month Frequency is based on the assumption of a 24 month calibration interval in the determination of the magnitude of equipment drift in the setpoint methodology. ~~need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown these components usually pass the Surveillance when performed on the [18]month Frequency.~~

CL3.3-172

R-2

SR 3.3.1.12

R-2

SR 3.3.1.12 is the performance of a CHANNEL CALIBRATION, as described in SR 3.3.1.10, every ~~[18]~~24 months. This SR is modified by a Note stating that this test shall include verification of the RCS resistance temperature detector (RTD) bypass loop flow rate. This Surveillance includes verification that the time constants, where applicable, are adjusted to the prescribed values.

CL3.3-172

PA3.3-173

R-4

~~This test will verify the rate-lag compensation for flow from the core to the RTDs.~~

(continued)

BASES

PA3.3-356

The Frequency is justified by the assumption of ~~an~~ ~~18~~24 month calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

CL3.3-172

R-2

SR 3.3.1.13

SR 3.3.1.13 is the performance of a COT of RTS interlocks every ~~[18]~~24 months. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable CHANNEL OPERATIONAL TEST of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specification tests at least once per refueling interval with applicable extensions.

X3.3-174

TA3.3-395

The Frequency is based on the known reliability of the interlocks and the multichannel redundancy available, and has been shown to be acceptable through operating experience.

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.1.14

SR 3.3.1.14 is the performance of a TADOT of the Manual Reactor Trip, RCP Breaker Position, and the SI Input from ESFAS. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable TADOT of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specification tests at least once per refueling interval with applicable extensions. This TADOT is performed every

TA3.3-395

R-2

CL3.3-172

R-2

CL3.3-396

(continued)

BASES

PA3.3-356

~~[18]~~24 months. The test shall independently verify the OPERABILITY of the undervoltage and shunt trip mechanisms for the Manual Reactor Trip Function for the Reactor Trip Breakers ~~and Reactor Trip Bypass Breakers~~. The Reactor Trip Bypass Breaker test shall include testing of the ~~automatic~~ undervoltage trip.

The Frequency is based on the known reliability of the Functions and the multichannel redundancy available, and has been shown to be acceptable through operating experience.

The SR is modified by a Note that excludes verification of setpoints from the TADOT. The Functions affected have no setpoints associated with them.

SR 3.3.1.15

SR 3.3.1.15 is the performance of a TADOT of Turbine Trip Functions. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable TADOT of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specification tests at least once per refueling interval with applicable extensions. This ~~TADOT is as described in SR 3.3.1.4, except that this~~ test is performed prior to exceeding P-9 interlock whenever the unit has been in MODE 3~~prior to reactor startup~~. ~~A Note states that t~~This Surveillance is ~~not~~ required ~~if it has been,~~ if not performed within the previous 31 days. A Note states that v~~V~~erification of the Trip Setpoint does not have to be performed for this Surveillance. Performance of this test will ensure that the turbine trip Function is OPERABLE prior to ~~taking the reactor critical. This test cannot be performed with the reactor at power and must therefore be~~

TA3.3-395

PA3.3-399

TA3.3-175

R-4

(continued)

BASES

PA3.3-356

~~performed prior to reactor startup~~exceeding the P-9 interlock.

SR 3.3.1.16

SR 3.3.1.16 verifies that the individual channel/train actuation response times are less than or equal to the maximum values assumed in the accident analysis. Response time testing acceptance criteria are included in ~~Technical Requirements Manual, Section 15 (Ref. 8)~~appropriate plant procedures. Individual component response times are typically not modeled in the analyses.

CL3.3-390

~~SURVEILLANCE REQUIREMENTS~~

~~SR 3.3.1.16 (continued)~~

The analyses model the overall or total elapsed time, from the point at which the parameter exceeds the trip setpoint value at the sensor to the point at which the equipment reaches the required functional state ~~(i.e., control and shutdown rods fully inserted in the reactor core)~~.

~~For channels that include dynamic transfer Functions (e.g., lag, lead/lag, rate/lag, etc.), the response time test may be performed with the transfer Function set to one, with the resulting measured response time compared to the appropriate FSAR response time. Alternately, the r~~Response time test ~~can be~~is performed with the time constants set to their nominal value, provided the required response time is analytically calculated assuming the time constants are set at their nominal values. The response time may be measured by a series of overlapping tests such that the entire response time is measured.

CL3.3-390

~~As appropriate, each channel's response must be verified every [18] months on a STAGGERED TEST BASIS.~~

CL3.3-179

R-4

(continued)

BASES

PA3.3-356

Testing of the final actuation devices is included in the testing. Response times cannot be determined during unit operation because equipment operation is required to measure response times. Experience has shown that these components usually pass this surveillance when performed at the ~~24~~18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

CL3.3-172

R-2

~~SR 3.3.1.16 is modified by a Note stating that neutron detectors are excluded from RTS RESPONSE TIME testing. This Note is necessary because of the difficulty in generating an appropriate detector input signal. Excluding the detectors is acceptable because the principles of detector operation ensure a virtually instantaneous response.~~

CL3.3-178

REFERENCES

1. AEC "General Design Criteria for Nuclear Power Plant Construction Permits," Criterion 14, issued for comment July 10, 1967, as referenced in USAR Section 1.2 ~~FSAR, Chapter [7]~~.

PA3.3-357

2. Regulatory Guide 1.105, Revision 3, "Setpoints for Safety-Related Instrumentation."

TA3.3-176

3. UFSAR, Section 14~~Chapter [6]~~.

CL3.3-392

~~4~~3. UFSAR, Section 7~~Chapter [15]~~.

~~5~~4. "Engineering Manual Section 3.3.4.1,Engineering Design Standard for Instrument Setpoint/Uncertainty Calculations". ~~IEEE-279-1971.~~

~~REFERENCES (continued)~~

~~5. 10 CFR 50.49.~~

~~6. RTS/ESFAS Setpoint Methodology Study.~~

BASES

PA3.3-356

~~7~~. WCAP-10271-P-A, Supplement 2, Rev. 1, June 1990.

~~8. Technical Requirements Manual, Section 15, "Response Times."~~

PA3.3-356

BASES

d~~f~~. Auxiliary Feedwater – Undervoltage on 4 kV Buses 11 and 12 (21 and 22)~~Reactor Coolant Pump~~

R-4

A loss of power on the buses that provide power to the MFW pumps~~RCPs~~ provides indication of a pending loss of MFW~~RCP forced~~ flow ~~in the RCS~~. The u~~U~~ndervoltage ~~RCP~~ Function senses the voltage up~~down~~stream of each MFW pump~~RCP~~ breaker. A loss of power~~, or an open RCP breaker, on~~ for both~~two or more RCPs,~~ MFW pumps will start the turbine driven AFW pump to ensure that at least one SG contains enough water to serve as the heat sink for reactor decay heat and sensible heat removal following the reactor trip.

CL3.3-402

e~~g~~. Auxiliary Feedwater – Trip of ~~All~~Both Main Feedwater Pumps

A t~~T~~rip of ~~all~~both MFW pumps is an indication of a loss of MFW and the subsequent need for some method of decay heat and sensible heat removal to bring the reactor back to no load temperature and pressure.~~ A turbine driven MFW pump is equipped with two pressure switches on the control air/oil~~

CL3.3-402

~~APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY~~

~~g. Auxiliary Feedwater Trip of All Main Feedwater Pumps (continued)~~

~~line for the speed control system. A low pressure signal from either of these pressure switches indicates a trip of that pump.~~ Motor driven MFW pumps are equipped with a breaker position sensing device.~~ An open supply breaker indicates that the pump is not running. Two~~

(continued)

PART F

PACKAGE 3.3

INSTRUMENTATION

JUSTIFICATION FOR DIFFERENCES FROM IMPROVED STANDARD TECHNICAL SPECIFICATIONS (NUREG-1431) AND BASES

See Part E for specific proposed wording and location of referenced deviations.

Difference Category	Difference Number 3.3-	Justification for Differences
TA	151	This change incorporates TSTF-135, Rev. 3. Also, Bases 3.3.1 Condition F and G introductory sentences were edited to agree with the change in the Conditions.
CL	152	NUREG-1431 Condition D and associated Bases were modified to retain the provisions of the applicable CTS Action Statement. ISTS flexibility in D.1.2 was not included to be consistent with CTS. The Note for ITS D.1.2 only requires SR 3.2.4.2 to be performed when the power is above 85% RTP which is consistent with CTS. NUREG-1431 D.1.2 and D.2.1 which require power reduction and tripping the inoperable channel are not included since these Required Actions are not included in CTS.

Difference Category	Difference Number 3.3-	Justification for Differences
CL	157	This condition has been modified to retain the CTS requirements to restore an inoperable RCP breaker position channel in 48 hours or reduce power in the next 6 hours if it is not restored. In addition, Bases Action M has been revised to be consistent with the LCO Action. The Function title used in this Condition statement has been changed to be consistent with CTS and Table 3.3.1-1 presentation of this Function.
CL	158	The Required Actions for this Condition have been modified to include reducing power below both P-7 and P-8 setpoints. PI has a unique design in that P-7 and P-8 are approximately the same power level. Since this Condition applies to Functions with Notes e and f, it is appropriate to require power reduction below both P-7 and P-8 to exit the MODE of applicability.
TA	159	This change incorporates TSTF-286, Revision 2.

Difference Category	Difference Number 3.3-	Justification for Differences
	160	Not used.
CL	161	To be consistent with CTS requirements, one train of the SI input or RTS automatic trip logic may be bypassed for 8 hours for surveillance testing.
CL	162	CTS provision to allow one RTB to be bypassed for 4 hours for surveillance testing has been included.

Difference Category	Difference Number 3.3-	Justification for Differences
CL	163	The PI CTS allows the RTB to be bypassed for work on the diverse trip features with no distinction made between testing or maintenance nor is there any CTS Completion Time associated placing the breaker in bypass to perform maintenance or testing. Per the guidance of NURGE-1431, Note 2, PI revised the STS time for allowing the breaker to be bypassed from 2 hours to 6 hours for maintenance. In addition, WCAP-10271, Section 4.1.2 states, " ... instrumentation and breakers be extended from 2 hours to 4 hours and that maintenance times be extended to 12 hours. ... Logic cabinets and trip breakers may be bypassed for 12 hours for maintenance. No action is required during the first 6 hours, however, within the following 6 hours the plant must be shutdown if the equipment is not restored." This is the basis for the 6 hours. CTS allows the breaker to be bypassed with no Completion Time requirement. The 6 hours is a reasonable time based on the WCAP analysis and the redundancy capabilities afforded by the OPERABLE RTB, and the low probability of an abnormal event occurring during this period.

Difference Category	Difference Number 3.3-	Justification for Differences
CL	164	CTS requires quarterly and monthly SRs (Q(7,8) and M(6,7) respectively) on the Power Range, Neutron Flux-High Setpoint equivalent to ISTS SRs 3.3.1.3 and 3.3.1.6. These SRs calibrate excore/incore power range instrumentation inputs to the axial off-set function, f(ΔI). Prairie Island differs from NUREG-1431 in that f(ΔI) is not set equal to zero for all values of ΔI. Therefore the axial off-set function is part of both the Overtemperature ΔT and Overpower ΔT Functions. Therefore SRs 3.3.1.3 and 3.3.1.6 also calibrate the power range instrumentation inputs to both Overtemperature ΔT and Overpower ΔT trip functions. To be technically correct and consistent in ITS, SRs 3.3.1.3 and 3.3.1.6 have been included in Table 3.3.1-1 Function 7. Also, to be consistent with the CTS requirements of Table 4.1-1A, Table Notation (8), the Note for SR 3.3.1.6 is modified to require performance after reaching 75% RTP. The Bases have also been revised, as appropriate, to be consistent with SR 3.3.1.6.
	165	Not used.
TA	166	This change incorporates approved TSTF-242, Rev. 1 and WOG-ED-22.
CL	167	The PI plant design and CTS has two channels of instrumentation for Turbine Stop Valve Closure. Therefore, Table Function 14a has been revised to show "2" channels.

Difference Category	Difference Number 3.3-	Justification for Differences
CL	169	The time allowed for reducing power below P-9 has been increased to 12 hours. At PI, P-9 is set at or near the same power level as P-7 (approximately 10%) which is much lower than the setpoint assumed in NUREG-1431 (50%). Therefore, the time allowed to reduce power at PI has been set at the same time allowed in the ITS to reduce power below P-7. This change is also consistent with CTS which does not specify an action which would require entry into 3.0.C (ITS 3.0.3) and could allow nearly 7 hours to get to 10% RTP.
CL	170	Specification 3.3.1 Conditions D and E have been modified by addition of Note 2. PI needs to have one channel out for low power PHYSICS TESTs and thus Note 2 was included with this Condition. This change is consistent with and clarifies the use of Specification 3.1.8, "PHYSICS TESTS Exceptions - MODE 2," LCO provisions which allow the required channels for LCO 3.3.1 Functions 2, 3, 6, 7 and 16e to be reduced to "3" during PHYSICS TEST performed in MODE 2.
	171	Not used.

Difference Category	Difference Number 3.3-	Justification for Differences
CL	172	The SR interval is increased to 24 months to support the proposed PI refueling cycle.
PA	173	At PI this SR may also include verification of time constants; therefore, for completeness and accuracy, this statement is included.
X	174	Since this is a new SR for Prairie Island the interval is increased to 24 months to support the proposed PI refueling cycle.
TA	175	This change incorporates TSTF-311, Rev 0.

Difference Category	Difference Number 3.3-	Justification for Differences
CL	178	The PI ITS definition for RTS RESPONSE TIME clearly defines the time interval from when the monitored parameter exceeds its RTS trip setpoint at the channel sensor output. Thus, by definition, the neutron detectors are excluded from response time testing and an exception note is not required. Including the note may cause confusion since the detectors are already excluded by definition.
CL	179	The PI ITS SR 3.3.1.16 and associated Bases have been modified by deletion of the clause "on a STAGGERED TEST BASIS". CTS does not allow these instrument RTS RESPONSE TIMEs to be verified on a STAGGERED TEST BASIS; therefore, this flexibility has not been included in the PI ITS.
	180	Not used.
CL	181	The PI allowable value from CTS 2.3.A.1b is provided.
CL	182	SR 3.3.1.16 has been included for the power range neutron flux high positive rate. This change retains a CTS requirement.
CL	183	ITS Table 3.3.1-1 does not include Technical Specification requirements for the Source Range Neutron Flux (SRNF) instrumentation in MODES 3, 4 and 5 with the RTBs open. CTS does not require the SRNF instrumentation to be operable in these Modes with the RTBs open since Prairie Island does not have automatic protection against inadvertent boron dilution of the RCS during plant shutdown. Thus, these SRNF requirements are not included.

Difference Category	Difference Number 3.3-	Justification for Differences
CL	184	The PI allowable value from CTS 2.3.A.1.a is provided.
CL	185	The PI allowable value from CTS 2.3.A.1.c is provided.
CL	186	CTS do not require Response Time Testing for pressurizer pressure, RCS low flow, RCP undervoltage, RCP underfrequency and steam generator low-low level since the response time is not credited in the safety analyses for these functions. Thus Response Time Testing is not included for these functions.
CL	187	ITS SR 3.3.1.3 Note 1 has been revised to require recalibration when the difference is 2% to incorporate CTS requirements.
	188	Not used.

Difference Category	Difference Number 3.3-	Justification for Differences
CL	197	The PI number of required channels specified in CTS is included. The allowable value for underfrequency from CTS 2.3.A.2.h is included in the Allowable Value column.
	198	Not used.
	199	Not used.
	200	Not used.
CL	201	The RCP undervoltage function name has been revised to be consistent with the CTS function name. This name is more descriptive and accurate than the NUREG-1431 name.
CL	202	The number of required channels is provided consistent with the plant design and CTS.

Difference Category	Difference Number 3.3-	Justification for Differences
	208	Not used.
	209	Not used.
	210	Not used.
CL	211	The PI allowable values for the reactor trip interlocks from CTS 2.3.B are provided for P-6, intermediate range neutron flux; P-7, power range neutron flux input; and P-10, power range neutron flux.
CL	212	The P-7 function, ITS Table 3.3.1-1, Function 16b, has been modified to be consistent with the Prairie Island plant design and the CTS presentation of the limiting settings for P-7 in CTS 2.3.B.2. ITS provides additional specification requirements such as additional SRs and Allowable Values for the parts of P-7 which were discussed in DOC M3.3-015. Turbine Impulse Pressure is a direct input to P-7. The Bases have also been modified since P-7 includes process instrumentation inputs and thus is not limited to a logic only function as described in ISTS. PI design pre-dates use of the P-13 designation. Thus, PI does not have P-13 per se. For completeness and consistency with CTS, the NI Power Range inputs are included in P-7.

Difference Category	Difference Number 3.3-	Justification for Differences
CL	213	NUREG-1431 Function 18f, Turbine Impulse Pressure, P-13. PI design pre-dates use of the P-13 designation. Thus, PI does not have P-13 per se and therefore, it is not included in the PI ITS.
CL	214	The NUREG-1431 equations for OTΔT and OPΔT have been replaced by the CTS equations from CTS 2.3.A.2.d. This results in changing values for some variables and deleting others. Also, PI design provides the same f(ΔI) penalty to both OTΔT and OPΔT. The equation constants have NOT been relocated to the COLR in accordance with approved TSTF-339. PI does not currently have approved methodology to determine these values; therefore they have been retained in the ITS.
CL	215	The CTS equation equalities have been included in the OTΔT and OPΔT equations. This means the changes in proposed TSTF-310 have not been incorporated. The negative sign in the f(ΔI) equation has not been included since this penalty always decreases the setpoint and negative value along with a negative equation would increase the setpoint.
	216	Not used.

Difference Category	Difference Number 3.3-	Justification for Differences
CL	217	A new Note 2 has been included in ITS SR 3.3.1.8 which makes an exception for performing a COT on intermediate and source range neutron instrumentation when the reactor has been shutdown for less than or equal to 48 hours. This Note preserves the CTS exception in CTS Table 4.1-1A, Table Notation (4), which states the test is required to be performed following shutdown in excess of 2 days. As discussed in DOC A3.3-141, a hardship on plant operations could be incurred if this Note is not retained.
	218	Not used.
	219	Not used.
	220	Not used.
CL	221	ITS Condition C is modified to be consistent with CTS Table 3.5-2B Action 20 which allows 8 hours for one train to be bypassed for surveillance testing.

Difference Category	Difference Number 3.3-	Justification for Differences
CL	474	NUREG-1431 Bases 3.3.3, Action G.1, since these Technical Specifications only apply to the PI units, the clause "At this unit" is not included. To provide more guidance for the operators, the CETs have been included as an example of alternate means of monitoring Reactor Vessel Water Level.
CL	475	NUREG-1431 Table 3.3.1-1 Functions 2b, 3a and 3b required Condition entry has been changed to Condition D. This change makes ITS consistent with the CTS which requires determination of core quadrant power balance when a Power Range Neutron Flux channel is inoperable for Functions 2b, 3a, and 3b. (This determination is already required for Function 2a by NUREG-1431.)
PA	476	ITS Table 3.3.1-1, Function 16b2. A new Function 16b2, Turbine Impulse Pressure, is included to accurately present the Prairie Island P-7 design. Two SRs, 3.3.1.10 and 3.3.1.13 are included. Although all other Reactor Trip Interlocks specify SR 3.3.1.11, this function specifies SR 3.3.1.10. This is more appropriate than SR 3.3.1.11 since SR 3.3.1.10 has all the same requirements except that it does not include a Note excluding neutron detectors from CHANNEL CALIBRATION. Since the Turbine Impulse Pressure does not include a neutron detector in its system, operator confusion is avoided by specifying SR 3.3.1.10.

Part G

PACKAGE 3.3

INSTRUMENTATION

NO SIGNIFICANT HAZARDS DETERMINATION AND ENVIRONMENTAL ASSESSMENT

NO SIGNIFICANT HAZARDS DETERMINATION

The proposed changes to the Operating License have been evaluated to determine whether they constitute a significant hazards consideration as required by 10CFR Part 50, Section 50.91 using the standards provided in Section 50.92.

For ease of review, the changes are evaluated in groupings according to the type of change involved. A single generic evaluation may suffice for some of the changes while others may require specific evaluation in which case the appropriate reference change numbers are provided.

A - Administrative (GENERIC NSHD)
(A3.3-01, A3.3-02, A3.3-04, A3.3-05, A3.3-07, A3.3-08, A3.3-14, A3.3-18, A3.3-19, A3.3-20, A3.3-21, A3.3-23, A3.3-28, A3.3-29, A3.3-34, A3.3-35, A3.3-38, A3.3-39, A3.3-43, A3.3-47, A3.3-48, A3.3-50, A3.3-51, A3.3-54, A3.3-55, A3.3-56, A3.3-62, A3.3-63, A3.3-65, A3.3-66, A3.3-72, A3.3-75, A3.3-81, A3.3-84, A3.3-85, A3.3-94, A3.3-95, A3.3-107, A3.3-109, A3.3-114, A3.3-121, A3.3-123, A3.3-124, A3.3-126, A3.3-128, A3.3-130, A3.3-133, A3.3-134, A3.3-139, A3.3-141)

Most administrative changes have not been marked-up in the Current Technical Specifications, and may not be specifically referenced to a discussion of change. This No Significant Hazards Determination (NSHD) may be referenced in a discussion of change by the prefix "A" if the change is not obviously an administrative change and requires an explanation.

M - More restrictive (GENERIC NSHD)
(M3.3-09, M3.3-12, M3.3-15, M3.3-16, M3.3-17, M3.3-26, M3.3-32, M3.3-49, M3.3-52, M3.3-57, M3.3-59, M3.3-60, M3.3-61, M3.3-64, M3.3-73, M3.3-87, M3.3-88, M3.3-91, M3.3-92, M3.3-105, M3.3-106, M3.3-108)

This proposed Technical Specifications revision involves modifying the Current Technical Specifications to impose more stringent requirements upon plant operations to achieve consistency with the guidance of NUREG-1431, correct discrepancies or remove ambiguities from the specifications. These more restrictive Technical Specifications have been evaluated against the plant design, safety analyses, and other Technical Specifications requirements to ensure the plant will continue to operate safely with these more stringent specifications.

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

   The proposed changes provide more stringent requirements for operation of the plant. These more stringent requirements do not result in operation that will increase the probability of initiating an analyzed event and do not alter assumptions relative to mitigation of an accident or transient event.

   These more restrictive requirements continue to ensure process variables, structures, systems, and components are maintained consistent with the safety analyses and licensing basis. Therefore, these changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

   The proposed changes do not involve a physical alteration of the plant; that is, no new or different type of equipment will be installed, nor do they change the methods governing normal plant operation.

   These more stringent requirements do impose different operating restrictions. However, these operating restrictions are consistent with the boundaries established by the assumptions made in the plant safety analyses and licensing bases. Therefore, these changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

LR - Less restrictive, Relocated details (GENERIC NSHD)
(LR3.3-03, LR3.3-10, LR3.3-44, LR3.3-46, LR3.3-96, LR3.3-101, LR3.3-102, LR3.3-112, LR3.3-115, LR3.3-116, LR3.3-118, LR3.3-127, LR3.3-131)

Some information in the Prairie Island Current Technical Specifications that is descriptive in nature regarding the equipment, system(s), actions or surveillances identified by the specification has been removed from the proposed specification and relocated to the proposed Bases, Updated Safety Analysis Report or licensee controlled procedures. The relocation of this descriptive information to the Bases of the Improved Technical Specifications, Updated Safety Analysis Report or licensee controlled procedures is acceptable because these documents will be controlled by the Improved Technical Specifications required programs, procedures or 10CFR50.59. Therefore, the descriptive information that has been moved continues to be maintained in an appropriately controlled manner.

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

   The proposed changes relocate detailed, descriptive requirements from the Technical Specifications to the Bases, Updated Safety Analysis Report or licensee controlled procedures. These documents containing the relocated requirements will be maintained under the provisions of 10CFR50.59, a program or procedure based on 10CFR50.59 evaluation of changes, or NRC approved methodologies. Since these documents to which the Technical Specifications requirements have been relocated are evaluated under 10CFR50.59 or its guidance, or in accordance with NRC approved methodologies, no increase in the probability or consequences of an accident previously evaluate will be allowed without prior NRC approval. Therefore, these changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

   These proposed changes do not necessitate physical alteration of the plant, that is, no new or different type of equipment will be installed, or change parameters governing normal plant operation. The proposed changes will not impose any different requirements and adequate control of the information will be maintained. Thus, these changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

Specific NSHD for Change L3.3-86

This change will require the source range, intermediate range and power range low set point neutron flux instrumentation channel operational testing (COT) to be performed prior to plant startup if not performed in the previous 92 days (each refueling) rather than prior to each reactor startup after a shutdown of two or more days when the SR has not been performed in the previous 7 or 30 days as required by the CTS. This change is essentially an extension of the SR testing interval. This change is acceptable since it is usually obvious when these instruments are not functioning properly, they usually pass this SR when performed and there is no reason for these instruments to be inoperable just because the plant shutdown. This change is consistent with NUREG-1431.

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

   This change removes the requirement to perform an operational test of the source range, intermediate range and power range low set point neutron flux instrumentation prior to each reactor startup after a shutdown of two or more days when the SR has not been performed in the previous 7 or 30 days. The source range, intermediate range and power range low set point neutron flux instruments are not accident initiators, therefore this change does not involve a significant increase in the probability of an accident. This change may extend the SR test interval, however it does not affect operability of this instrumentation, that is, an instrument is not assumed to fail when its test interval is extended. Since this change does not affect instrument operability, this instrumentation is assumed to respond to an accident as designed, therefore this change does not involve a significant increase in the consequences of an accident previously evaluated.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

   The proposed change does not involve a physical alteration of the plant, that is, no new or different type of equipment will be installed. This proposed change does not introduce any new mode of plant operation or change the methods governing normal plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

Deleted **Specific NSHD for Change L3.3-93**

Deleted **Specific NSHD for Change L3.3-104**

Specific NSHD for Change L3.3-113

This change removes the CTS requirement to perform a monthly functional test of the RWST level instrumentation and requires a monthly channel check in lieu of a weekly channel check on the same instrumentation. These changes are acceptable since this instrumentation usually operates as required and is a simple instrumentation system which is not designed for a functional test. This change is consistent with NUREG-1431.

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

   The RWST level instrumentation is not an assumed accident initiator and therefore these changes do not involve a significant increase in the probability of a previously evaluated accident. Since the RWST level instrumentation is assumed to operate for the mitigation of accidents, these changes do not involve a significant increase in the consequences of an accident previously evaluated.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

   The proposed change does not involve a physical alteration of the plant, that is, no new or different type of equipment will be installed. This proposed change does not introduce any new mode of plant operation or change the methods governing normal plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

Specific NSHD for Change L3.3-113 (continued)

3. The proposed amendment will not involve a significant reduction in the margin of safety.

   This change involves extending the channel check interval from weekly to monthly. This instrumentation is reliable as demonstrated by usually performing as required during the weekly check. This instrumentation is located in the control room and is routinely observed by the operators, thus any unusual behavior is very likely to be detected on a timely basis even though the TS required interval is extended. This change also involves removing the requirement to perform a monthly functional test of the instrumentation. The RWST level instrumentation is a simple measurement that does not involve a complex instrumentation loop. The function of this instrument loop is limited to providing indication; it does not provide control, interlock, or equipment actuation functions. This functionality is consistent with the other instrument channels providing Event Monitoring (EM) functions. Removing this test is consistent with the surveillance requirements for the other EM instruments and does not reduce its reliability. Thus it is concluded that these changes do not involve a significant reduction in the margin of safety.

Therefore it is concluded this proposed change does not involve a significant hazards consideration. This change is consistent with the guidance of NUREG-1431.

Specific NSHD for Change L3.3-117

This change removes MODE 3 from the Modes and Other Conditions of Applicability for the RCS resistance temperature detector bypass loop flow rate instrument calibration. This change is acceptable since the safety function of this instrumentation is to verify that the OTΔT and OPΔT trip functions are operable, and applicability for these functions is Modes 1 and 2. This change is consistent with NUREG-1431.

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

   This change makes the RCS resistance temperature detector bypass loop flow rate instrument Modes and Other Conditions of Applicability the same as the OTΔT and OPΔT trip functions for which it provides a safety function. The RCS resistance temperature detector bypass loop flow rate instruments are not assumed accident initiators, therefore, this change does not involve a significant increase in the probability of an accident. The safety function of this instrumentation is to verify that the OTΔT and OPΔT trip functions are operable. Since this change does not change the operability of the OTΔT and OPΔT trip functions, this change does not involve a significant increase in the consequences of an accident previously evaluated.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

   The proposed change does not involve a physical alteration of the plant, that is, no new or different type of equipment will be installed. This proposed change does not introduce any new mode of plant operation or change the methods governing normal plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

Specific NSHD for Change L3.3-117 (continued)

3. The proposed amendment will not involve a significant reduction in the margin of safety.

   This change makes the RCS resistance temperature detector bypass loop flow rate instrument Modes and Other Conditions of Applicability the same as the OTΔT and OPΔT trip functions. Since the safety function of the OTΔT and OPΔT trip functions are not affected this change does not involve a significant reduction in the plant margin of safety.

Therefore it is concluded this proposed change does not involve a significant hazards consideration. This change is consistent with the guidance of NUREG-1431.

Specific NSHD for Change L3.3-125

This change replaces the CTS requirement for determination of QPTR daily and after 10% power changes with the requirement for determination of QPTR every 12 hours when the core is operating above 85% power with one excore nuclear channel inoperable. This change is acceptable since: 1) most power changes occur slowly such that the 12 hour Frequency is not a significant extension of the time for verification of the core power quadrant balance; 2) the QPTR changes occur relatively slowly when there are power changes; 3) large quadrant power tilts are likely to be detected with the remaining operable excore nuclear channels; 4) sudden significant quadrant power tilts are typically associated with other indications of abnormality (for example, a dropped rod) that prompt verification of core power tilt; and 5) the probability of an accident is very low during the time between a controlled 10% power change and the 12 hour SR performance Frequency. This change is consistent with NUREG-1431.

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

   This change requires determination of QPTR every 12 hours when the core is operating above 85% power with one excore nuclear channel inoperable in lieu of determination daily and after 10% power changes. The excore nuclear channels are not assumed accident initiators; therefore, this change does not involve a significant increase in the probability of an accident. The QPTR limit in ITS LCO 3.2.4 has been established to preclude core power distributions that exceed the safety analyses limits. Sudden significant changes in core quadrant power balance are usually associated with other indications of abnormality that would prompt verification of QPTR. Power changes usually occur slowly and core power tilt associated with a power change also occurs relatively slowly. Large power quadrant tilts are likely to be detected with the remaining operable excore nuclear channels. Thus, quadrant power tilt is unlikely to change significantly without detection during the 12 hour SR Frequency and is likely to be within Technical Specification requirements. Therefore, this change does not involve a significant change in the consequences of an accident previously evaluated.

Specific NSHD for Change L3.3-125 (continued)

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

   The proposed change does not involve a physical alteration of the plant; that is, no new or different type of equipment will be installed. This proposed change does not introduce any new mode of plant operation or change the methods governing normal plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. The proposed amendment will not involve a significant reduction in the margin of safety.

   This change requires determination of QPTR every 12 hours when the core is operating above 85% power with one excore nuclear channel inoperable in lieu of determination daily and after 10% power changes. The QPTR limit in ITS LCO 3.2.4 has been established to preclude core power distributions that exceed the safety analyses limits. With this change, the QPTR limit is likely to be met at all time since: 1) most power changes occur slowly such that the 12 hour Frequency is not a significant extension of the time for verification of the core power quadrant balance; 2) the QPTR changes occur relatively slowly when there are power changes; 3) large quadrant power tilts are likely to be detected with the remaining operable excore nuclear channels; 4) sudden significant quadrant power tilts are typically associated with other indications of abnormality (for example, a dropped rod) that prompt verification of core power tilt; and 5) the probability of an accident is very low during the time between a controlled 10% power change and the 12 hour SR performance Frequency. Therefore, this change does not involve a significant reduction in the plant margin of safety.

Therefore it is concluded this proposed change does not involve a significant hazards consideration. This change is consistent with the guidance of NUREG-1431.

Specific NSHD for Change L3.3-129

This change requires the intermediate range nuclear instrumentation (IRNI) to be OPERABLE in MODE 2 when the power level exceeds P-6. CTS requires IRNI to be OPERABLE for all of MODE 2. This change is acceptable since the source range nuclear instrumentation (SRNI) provides core protection for reactivity events in MODE 2 up to P-6. This change is consistent with the guidance of NUREG-1431.

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

   This change removes MODE 2 below P-6 from the Mode or other conditions of Applicability for the IRNI. The IRNI is not an assumed accident initiator, therefore this change does not increase the probability of an accident. At power levels below P-6 in MODE 2, the SRNI is assumed to operate to protect the core from reactivity transients. At this power level the IRNI is not credited in any safety analyses. Therefore, this change does not involve a significant change in the consequences of an accident previously evaluated.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

   The proposed change makes the PI ITS consistent with the guidance of NUREG-1431 and does not involve a physical alteration of the plant; that is, no new or different type of equipment will be installed. This proposed change does not introduce any new mode of plant operation or change the methods governing normal plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

Specific NSHD for Change L3.3-129 (continued)

3. The proposed amendment will not involve a significant reduction in the margin of safety.

   The proposed change removes IRNI operability requirements at power levels below P-6 in MODE 2. At power levels below P-6, the SRNI provides core protection from reactivity accidents. The IRNI does not protect the plant from any accidents in MODE 2 below P-6. Therefore, this change does not involve a significant reduction in the plant margin of safety.

Therefore it is concluded this proposed change does not involve a significant hazards consideration. This change is consistent with the guidance of NUREG-1431.

Specific NSHD for Change L3.3-132

This change deletes the columns entitled "Channels to Trip" and "Minimum Channels Operable" from the Technical Specifications Table for Reactor Trip System (RTS) Instrumentation and Engineered Safety Feature (ESF) Actuation Table Instrumentation. This change is acceptable since the format of ITS provides the same plant information based solely on the "Required Channels" for each instrumentation function. For most instrument functions, the same plant actions for the same instrument inoperabilities are required by ITS. Those instruments which have different instrument channel OPERABILITY requirements are addressed by separate considerations of significant hazards. This change is consistent with the guidance of NUREG-1431.

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

   This change removes design information from the Technical Specifications regarding the channels to trip and the minimum channels OPERABLE for each of the RTS and EFS instrumentation functions. These instruments are provided to prevent or mitigate accidents and are not assumed accident initiators. Therefore this change does not involve a significant increase in the probability of an accident previously evaluated.

   The ITS format defines the minimum channels OPERABLE through the use of the TS required channels. The ITS Actions Table Conditions and Required Actions establish the number of channels which must be OPERABLE to provide the channels to trip. Thus, through the new format of the ITS and use of the required channels for each instrument function, plant safety is maintained. Therefore, this change does not involve a significant change in the consequences of an accident previously evaluated.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

   The proposed change makes the PI ITS consistent with the guidance of NUREG-1431 and does not involve a physical alteration of the plant; that is, no new or different type of equipment will be installed. This proposed change does not introduce any new mode of plant operation or change the methods governing normal plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

Specific NSHD for Change L3.3-132 (continued)

3. The proposed amendment will not involve a significant reduction in the margin of safety.

   The proposed change removes design information from the Technical Specifications regarding the channels to trip and the minimum channels OPERABLE for each of the RTS and EFS instrumentation functions. For most instrument functions, the same plant actions for the same instrument inoperabilities are required by ITS. Those instruments which have different instrument channel OPERABILITY requirements are addressed by separate considerations of significant hazards. For the purposes of this consideration of significant hazards, the channel inoperabilities have been maintained the same as the current TS. Therefore, this change does not involve a significant reduction in the plant margin of safety.

Therefore it is concluded this proposed change does not involve a significant hazards consideration. This change is consistent with the guidance of NUREG-1431.

Specific NSHD for Change L3.3-135

This change requires the Reactor Trip Breakers (RTBs) to be opened immediately when two channels of Source Range Nuclear Instrumentation (SRNI) become inoperable when the plant is in the MODES or Other Specified Conditions of Applicability. The plant could then remain in MODE 3 indefinitely in this configuration. CTS does not provide specific requirements for this condition, therefore, the plant would enter TS.3.0.C (ITS 3.0.3) which would allow one hour to evaluate and plan for shutdown, shutdown to MODE 3 in the next 6 hours and shutdown to MODE 5 in another 30 hours. This change is acceptable because the core is in a more stable condition when the plant is in MODE 3 with the RTBs open than it was prior to opening the RTBs. The plant will be allowed to remain in MODE 3 at higher temperatures and pressures than MODE 5, however, in MODE 3 the probability of an accident is low and a plant shutdown with concomitant risks may be avoided. This change is consistent with the guidance of NUREG-1431.

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

   SRNI is not an assumed accident initiator; therefore this change does not increase the probability of an accident. Once the plant is in MODE 3 with the RTBs open, the core is in a stable condition and accident consequences are very small. Core events are not evaluated in MODES 4 and 5. Therefore this change does not involve a significant increase in the consequences of an accident previously evaluated.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

   The proposed change makes the PI ITS consistent with the guidance of NUREG-1431 and does not involve a physical alteration of the plant; that is, no new or different type of equipment will be installed. This proposed change does not introduce any new mode of plant operation or change the methods governing normal plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

Specific NSHD for Change L3.3-135 (continued)

3. The proposed amendment will not involve a significant reduction in the margin of safety.

   The proposed change requires the RTBs to be opened immediately and then allows the plant to remain in MODE 3 indefinitely with two channels of SRNI inoperable. CTS would require entry into LCO 3.0.C (ITS 3.0.3) which would require shutdown to MODE 5. Once the plant power level is reduced to MODE 3 and the RTBs are open, the core is in a safe stable condition. The plant will be allowed to remain in MODE 3 at higher temperatures and pressures than MODE 5, however, in MODE 3 the probability of an accident is low and a plant shutdown with concomitant risks may be avoided. Further reduction in power level does not significantly improve plant margins of safety. Therefore, this change does not involve a significant reduction in the plant margin of safety.

Therefore it is concluded this proposed change does not involve a significant hazards consideration. This change is consistent with the guidance of NUREG-1431.

Specific NSHD for Change L3.3-136

This change provides the option of initiating action to insert all rods and place the rod control system in a condition incapable of rod withdrawal in lieu of opening the Reactor Trip Breakers (RTBs). The most likely means of meeting this requirement will continue to be opening the RTBs, however, other equivalent methods may also be used. When the RTBs are opened, administrative means are used to assure that these breakers are not inadvertently closed. Likewise, if alternative means are used to render the control rods incapable of withdrawal, the same plant administrative controls are used to provide equivalent assurance that the rods are not capable of movement. Use of alternative means for making the rods incapable of movement will allow testing of the RTBs if required in these Conditions. Testing activities will also require that the control rods are de-energized and physically not able to be moved. This change is acceptable since the operability restrictions and Actions provided by the ITS accomplish the same intent as CTS in that the rods are inserted and incapable of withdrawal. This change is consistent with the guidance of NUREG-1431 as modified by approved TSTF-135.

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

   In lieu of opening the RTBs as required by CTS, this change provides the option of inserting all rods and placing the rod control system in a condition incapable of rod withdrawal. The intent of the CTS restrictions and Actions associated with opening the RTBs is that with the breakers open, the rods are inserted and incapable of withdrawal. The ITS Required Actions are to insert all rods and place the Rod control System in a condition incapable of withdrawal. This accomplishes placing the Rod Control System in the position desired. The RTB position is not an assumed accident initiator; therefore this change does not increase the probability of an accident. The operability restrictions and Actions provided by the ITS accomplish the same intent as CTS in that the rods are inserted and incapable of withdrawal. Therefore the mitigating function assumed in previously evaluated accidents is maintained. Therefore this change does not involve a significant increase in the consequences of an accident previously evaluated.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

   The proposed change does not involve a physical alteration of the plant; that is, no new or different type of equipment will be installed. This proposed change does not introduce any new mode of plant operation or change the methods governing normal plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

Specific NSHD for Change L3.3-136 (continued)

3. The proposed amendment will not involve a significant reduction in the margin of safety.

   This change provides the option of initiating action to insert all rods and place the rod control system in a condition incapable of rod withdrawal in lieu of opening the RTBs. The proposed change, which provides alternative action to opening the reactor trip breakers is acceptable because the alternative actions and operability requirements assure the function and intent of opening the reactor trip breakers (i.e., insert all rods and place Rod Control System in a condition incapable of rod withdrawal). Therefore, this change does not involve a significant reduction in the plant margin of safety.

Therefore it is concluded this proposed change does not involve a significant hazards consideration. This change is consistent with the guidance of NUREG-1431 as modified by approved TSTF-135.

Specific NSHD for Change L3.3-137

When a Power Range Neutron Flux channel is inoperable, CTS requires determining a core quadrant power balance in accordance with ITS SR 3.2.4.2 when the THERMAL POWER is above 85% RATED THERMAL POWER (RTP). This change further limits determining core quadrant power balance when the Power Range Neutron Flux input to QPTR is inoperable. This change is acceptable since it is unnecessary to determine the core quadrant power balance in accordance with SR 3.2.4.2 when the QPTR is fully OPERABLE.

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

   This change will not require determining the core quadrant power balance in accordance with SR 3.2.4.2 when a Power Range Neutron Flux channel is inoperable but the QPTR remains fully OPERABLE. The Power Range Neutron Flux channels and QPTR are not assumed accident initiators, therefore this change does not involve a significant increase the probability of an accident previously evaluated. Since the QPTR remains fully OPERABLE when the requirement to perform SR 3.2.4.2 is waived, this change does not involve a significant increase in the consequences of an accident previously evaluated.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

   The proposed change does not involve a physical alteration of the plant; that is, no new or different type of equipment will be installed. This proposed change does not introduce any new mode of plant operation or change the methods governing normal plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

Specific NSHD for Change L3.3-137 (continued)

3. The proposed amendment will not involve a significant reduction in the margin of safety.

   This change waives the requirement to perform SR 3.2.4.2 when a Power Range Neutron Flux channel is inoperable but the QPTR remains fully OPERABLE. Since the QPTR remains OPERABLE there is no loss or reduction in function. Therefore, this change does not involve a significant reduction in the plant margin of safety.

Therefore it is concluded this proposed change does not involve a significant hazards consideration.

Specific NSHD for Change L3.3-138

This change will remove the requirement for quarterly verification while in MODES 3, 4 and 5 that P-6 and P-10 are in their required state for existing plant conditions associated with a COT on the source range neutron flux (Modes 3, 4 and 5 with the reactor trip breakers closed and control rods capable of withdrawal) instrumentation. This change is acceptable because ITS SR 3.3.1.8 requires verification that P-6 and P-10 are in their required state for existing plant conditions associated with the COT on power range, flux low, intermediate range and source range (MODE 2 below P-6) prior to or soon after entry into Modes 1 and 2 when the interlocks are required to perform their function. This change is consistent with the guidance of NUREG-1431.

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

   This change will remove the requirement for quarterly verification while in MODES 3, 4 and 5 that P-6 and P-10 are in their required state for existing plant conditions associated with a COT on the source range neutron flux (Modes 3, 4 and 5 with the reactor trip breakers closed and control rods capable of withdrawal) instrumentation. The source range neutron instrumentation and interlocks P-6 and P-10 are not assumed accident initiators, therefore this change does not involve a significant increase in the probability of an accident previously evaluated. Since the state of these interlocks will be verified with other surveillances, this change does not involve a significant increase in the consequences of an accident previously evaluated.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

   The proposed change does not involve a physical alteration of the plant; that is, no new or different type of equipment will be installed. This proposed change does not introduce any new mode of plant operation or change the methods governing normal plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

Specific NSHD for Change L3.3-138 (continued)

3. The proposed amendment will not involve a significant reduction in the margin of safety.

   This change will remove the requirement for quarterly verification while in MODES 3, 4 and 5 that P-6 and P-10 are in their required state for existing plant conditions associated with a COT on the source range neutron flux (Modes 3, 4 and 5 with the reactor trip breakers closed and control rods capable of withdrawal) instrumentation. When the unit is shutdown, ITS SR 3.3.1.8 will require verification that P-6 and P-10 are in their required state for existing plant conditions associated with the COT on power range, flux low, intermediate range and source range (MODE 2 below P-6) soon after entry into Modes 1 and 2 when the interlocks are required to perform their function. Likewise, during unit startup, ITS SR 3.3.1.8 requires verification that P-6 and P-10 are in their required state for existing plant conditions associated with the COT on power range, flux low, intermediate range and source range (MODE 2 below P-6) prior to entry into Modes 1 and 2 when the interlocks are required to perform their function. These verifications provide more meaningful and timely verification of these interlocks than the CTS requirements. Therefore, this change does not involve a significant reduction in the plant margin of safety.

Therefore it is concluded this proposed change does not involve a significant hazards consideration. This change is consistent with the guidance of NUREG-1431.

ENVIRONMENTAL ASSESSMENT

The Nuclear Management Company has evaluated the proposed changes and determined that:

1. The changes do not involve a significant hazards consideration, or

2. The changes do not involve a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or

3. The changes do not involve a significant increase in individual or cumulative occupational radiation exposure.

Accordingly, the proposed changes meet the eligibility criteria for categorical exclusion set forth in 10 CFR Part 51 Section 51.22(c)(9). Therefore, pursuant to 10 CFR Part 51 Section 51.22(b), an environmental assessment of the proposed changes is not required.

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
CTS Section 2.3				
2.3.A.1.a		TABLE	3.3.1-1	4
2.3.A.1.b		TABLE	3.3.1-1	2b
2.3.A.1.c		TABLE	3.3.1-1	5
2.3.A.2.a		TABLE	3.3.1-1	2a
2.3.A.2.b		TABLE	3.3.1-1	8b
2.3.A.2.c		TABLE	3.3.1-1	8a
2.3.A.2.d		TABLE	3.3.1-1	6
2.3.A.2.d		TABLE	3.3.1-1	Note 1
2.3.A.2.e		TABLE	3.3.1-1	7
2.3.A.2.e		TABLE	3.3.1-1	Note 2
2.3.A.2.f		TABLE	3.3.1-1	10
2.3.A.2.f		(Partial)	Relocated - Bases	
2.3.A.2.g		TABLE	3.3.2-1	6d
2.3.A.2.g		TABLE	3.3.1-1	12
2.3.A.2.h		TABLE	3.3.1-1	11a
2.3.A.2.h		TABLE	3.3.1-1	11b
2.3.A.2.i.1		TABLE	3.3.1-1	3a

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
2.3.A.2.i.2		TABLE	3.3.1-1	3b
2.3.A.3.a		TABLE	3.3.1-1	9
2.3.A.3.b		TABLE	3.3.1-1	13
2.3.A.3.b		TABLE	3.3.2-1	6b
2.3.A.3.c		TABLE	3.3.1-1	14
2.3.A.3.c.2		TABLE	3.3.1-1	14a
2.3.A.3.d			Deleted	
2.3.B.1		TABLE	3.3.1-1	16a
2.3.B.2		TABLE	3.3.1-1	16b
2.3.B.3		TABLE	3.3.1-1	16c
2.3.B.4		TABLE	3.3.1-1	16d
2.3.B.5		TABLE	3.3.1-1	16e
2.3.C			Relocated - TRM	

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
3.7.B.3		LCO	3.8.1	
3.7.B.4		LCO	3.8.1	
New		LCO	3.8.1	
3.7.B.5		LCO	3.8.1	
New		LCO	3.8.3	
3.7.B.6		LCO	3.8.9	
3.7.B.7		LCO	3.8.4	
3.7.B.8		LCO	3.8.4	
3.7.B.9			Relocated - TRM	
New		LCO	3.8.3	
New		LCO	3.8.7	
New		LCO	3.8.9	
3.7.B Note*		LCO	3.8.1	
3.7.B Note**			Deleted	

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 3.5-2A	Action 6	LCO	3.3.1 E	
Table 3.5-2A	Action 6	LCO	3.3.1 K	
Table 3.5-2A	Action 6	LCO	3.3.1 N	
Table 3.5-2A	Action 7	LCO	3.3.1 O	
Table 3.5-2A	Act 8	LCO	3.3.1 C	
Table 3.5-2A	Action 9a	LCO	3.3.1 S	
Table 3.5-2A	Action 9a	LCO	3.3.1.P	
Table 3.5-2A	Action 9b	LCO	3.3.1 P	
Table 3.5-2A	Action 10	LCO	3.3.1 C	
Table 3.5-2A	Action 10	LCO	3.3.1 P	
Table 3.5-2A	Action 10	SR	3.3.14 Note 1	
Table 3.5-2A	Action 11	LCO	3.3.1 L	
Table 3.5-2A	New Action	LCO	3.3.1 Q	
Table 3.5-2A	New Action	LCO	3.3.1 R	
Table 3.5-2A	New Action	LCO	3.3.1 S	
Table 3.5-2A	Note a	TABLE	3.3.1-1	Note a
Table 3.5-2A	Note b	TABLE	3.3.1-1	Note b
Table 3.5-2A	Note c	TABLE	3.3.1-1	Note d

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 3.5-2A	Note d	TABLE	3.3.1-1	Note h
Table 3.5-2A	New Note	TABLE	3.3.1-1	Note c
Table 3.5-2A	New Note	TABLE	3.3.1-1	Note e
Table 3.5-2A	New Note	TABLE	3.3.1-1	Note f
Table 3.5-2A	New Note	TABLE	3.3.1-1	Note g
Table 3.5-2B	1a	TABLE	3.3.2-1	1a
Table 3.5-2B	1b	TABLE	3.3.2-1	1c
Table 3.5-2B	1c	TABLE	3.3.2-1	1e
Table 3.5-2B	1d	TABLE	3.3.2-1	1d
Table 3.5-2B	1e	TABLE	3.3.2-1	1b
Table 3.5-2B	2a	TABLE	3.3.2-1	2a
Table 3.5-2B	2b	TABLE	3.3.2-1	2c
Table 3.5-2B	2c	TABLE	3.3.2-1	2b
Table 3.5-2B	3a	TABLE	3.3.2-1	3c
Table 3.5-2B	3b	TABLE	3.3.2-1	3a
Table 3.5-2B	3c	TABLE	3.3.2-1	3b
Table 3.5-2B	4a	TABLE	3.3.5-1	5
Table 3.5-2B	4b	TABLE	3.3.5-1	1

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 4.1-1A	Note 10	(Partial)	Relocated - Bases	
Table 4.1-1A	Note 11	SR	3.3.1.9	
Table 4.1-1A	Note 11	SR	3.3.1.15	
Table 4.1-1A	Note 12	TABLE	3.3.1-1	18
Table 4.1-1A	Note 13		Relocated - Bases	
Table 4.1-1A	Note 14		Relocated - Bases	
Table 4.1-1A	Note 15	TABLE	3.3.1-1	17
Table 4.1-1A	Note 16	TABLE	3.3.1-1	Note h
Table 4.1-1A	New Note	SR	3.3.1.4	
Table 4.1-1A	Note 17	SR	3.3.1.8	
Table 4.1-1A	Note 18		Relocated - TRM	
Table 4.1-1A	New Note	TABLE	3.3.1-1	Note c
Table 4.1-1A	New Note	SR	3.3.1.10	
Table 4.1-1A	New Note	TABLE	3.3.1-1	Note e

Improved Technical Specification Cross-Reference

ITS Section	ITS Table Item Number	Section Type	CTS Section	CTS Table Item Number
3.3.1-1	Note 1	TABLE	2.3.A.2.d	
3.3.1-1	Note 2	TABLE	2.3.A.2.e	
3.3.1-1	Note a	TABLE	Table 3.5-2A	Note a
3.3.1-1	Note a	TABLE	Table 4.1-1A	Note 1
3.3.1-1	Note b	TABLE	Table 3.5-2A	Note b
3.3.1-1	Note b	TABLE	Table 4.1-1A	Note 3
3.3.1-1	Note c	TABLE	Table 3.5-2A	New Note
3.3.1-1	Note c	TABLE	Table 4.1-1A	New Note
3.3.1-1	Note d	TABLE	Table 3.5-2A	Note c
3.3.1-1	Note d	TABLE	Table 4.1-1A	Note 2
3.3.1-1	Note e	TABLE	Table 3.5-2A	New Note
3.3.1-1	Note e	TABLE	Table 4.1-1A	New Note
3.3.1-1	Note f	TABLE	Table 3.5-2A	New Note
3.3.1-1	Note f	TABLE	Table 4.1-1A	New Note
3.3.1-1	Note g	TABLE	Table 3.5-2A	New Note
3.3.1-1	Note g	TABLE	Table 4.1-1A	New Note
3.3.1-1	Note h	TABLE	Table 3.5-2A	Note d
3.3.1-1	Note h	TABLE	Table 4.1-1A	Note 16

Improved Technical Specification Cross-Reference

ITS Section	ITS Table Item Number	Section Type	CTS Section	CTS Table Item Number
3.3.1.1		SR	Table 4.1-1A	Various
3.3.1.2		SR	Table 4.1-1A	Note 5
3.3.1.3		SR	Table 4.1-1A	Note 6
3.3.1.4		SR	Table 4.1-1A	Note 9
3.3.1.4 Note 1		SR	Table 3.5-2A	Action 10
3.3.1.5		SR	Table 4.1-1A	Note 9
3.3.1.6		SR	Table 4.1-1A	Note 8
3.3.1.7		SR	Table 4.1-1A	Various
3.3.1.8		SR	Table 4.1-1A	Note 4
3.3.1.8		SR	Table 4.1-1A	Note 10
3.3.1.8		SR	Table 4.1-1A	Note 17
3.3.1.9		SR	Table 4.1-1A	Note 11
3.3.1.10		SR	Table 4.1-1A	New Note
3.3.1.11		SR	Table 4.1-1A	Note 7
3.3.1.12		SR	Table 4.1-1C	18

Improved Technical Specification Cross-Reference

ITS Section	ITS Table Item Number	Section Type	CTS Section	CTS Table Item Number
3.3.1.13		SR	Table 4.1-1A	New
3.3.1.14		SR	Table 4.1-1A	Various
3.3.1.15		SR	Table 4.1-1A	Note 4a
3.3.1.15		SR	Table 4.1-1A	Note 11
3.3.1.16		SR	Table 4.1-1A	Various
3.3.1 B		LCO	Table 3.5-2A	Action 1
3.3.1 C		LCO	Table 3.5-2A	Action 8
3.3.1 C		LCO	Table 3.5-2A	Action 10
3.3.1 D		LCO	Table 3.5-2A	Action 2
3.3.1 D		LCO	3.10.C.4	
3.3.1 E		LCO	Table 3.5-2A	Action 2d
3.3.1 E		LCO	Table 3.5-2A	Action 6
3.3.1 F		LCO	Table 3.5-2A	Action 3
3.3.1 G		LCO	Table 3.5-2A	New Action
3.3.1 H		LCO	Table 3.5-2A	Action 4
3.3.1 I		LCO	Table 3.5-2A	New Action
3.3.1 J		LCO	Table 3.5-2A	Action 5
3.3.1 K		LCO	Table 3.5-2A	Action 6
3.3.1 L		LCO	Table 3.5-2A	Action11

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.5 RCS Loops - MODE 3

LCO 3.4.5 Two RCS loops shall be OPERABLE, and either:

a. Two RCS loops shall be in operation when the Rod Control System is capable of rod withdrawal; or

b. One RCS loop shall be in operation when the Rod Control System is not capable of rod withdrawal.

---NOTE---

Both reactor coolant pumps may not be in operation or may be inoperable for ≤ 12 hours provided:

a. No operations are permitted that would cause introduction into the RCS, coolant with boron concentration less than required to meet the SDM of LCO 3.1.1; and

b. Core outlet temperature is maintained at least 10°F below saturation temperature.

APPLICABILITY: MODE 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One RCS loop inoperable.	A.1 Restore inoperable RCS loop to OPERABLE status.	72 hours

BASES

LCO (continued)

The Note permits both RCPs to not be in operation or be inoperable for ≤ 12 hours.

One purpose of the Note is to allow performance of tests that are designed to validate various accident analyses values. One of these tests is validation of the pump coastdown curve used as input to a number of accident analyses including a loss of flow accident. This test was performed during the initial startup testing program, and would normally only be performed once. If, however, changes are made to the RCS that would cause a change to the flow characteristics of the RCS, the input values of the coastdown curve must be revalidated by conducting the test again. Another test performed during the startup testing program was the validation of rod drop times, both with and without flow. Any future no flow test may be performed in MODE 3, 4, or 5 and requires that the pumps be stopped for a short period of time. The Note permits stopping the pumps in order to perform this test and validate the assumed analysis values.

Another purpose of the Note is to allow stopping of both RCP's for a sufficient time to perform station electrical lineup changes without transition to MODE 4. During these evolutions both RCP's may be inoperable. Transition to MODE 4 would put the plant through unnecessary cooldown and heatup transients. The 12 hour time period specified is adequate to perform the necessary load shedding, switching and load restoration activities and restart an RCP without requiring transition to MODE 4.

Utilization of the Note is permitted provided the following conditions are met:

BASES

APPLICABILITY (continued)

LCO 3.9.5, "Residual Heat Removal (RHR) and Coolant Circulation-High Water Level" (MODE 6); and
LCO 3.9.6, "Residual Heat Removal (RHR) and Coolant Circulation - Low Water Level"(MODE 6).

ACTIONS

A.1

If one RCS loop is inoperable, redundancy for forced circulation heat removal is lost. The Required Action is restoration of the RCS loop to OPERABLE status within the Completion Time of 72 hours. This time allowance is a justified period to be without the redundant, nonoperating loop because a single loop in operation has a heat transfer capability greater than that needed to remove the decay heat produced in the reactor core and because of the low probability of a failure in the remaining loop occurring during this period.

The unit may also be in this Condition when both RCS loops are inoperable. If power is lost to both RCPs, the unit can be stabilized in natural circulation for 72 hours while the RCS loops are restored to OPERABLE status. Natural circulation operation of the RCS, in combination with Required Actions D.1 and D.2, will provide sufficient decay heat removal and RCS mixing in MODE 3 to assure continued core cooling.

B.1

If restoration is not possible within 72 hours, the unit must be brought to MODE 4. In MODE 4, the unit may be placed on the Residual Heat Removal System. The additional Completion Time of 12 hours is compatible with required operations to achieve cooldown and depressurization from the existing plant conditions in an orderly manner and without challenging plant systems.

BASES

ACTIONS (continued)

C.1 and C.2

If one RCS loop is not in operation, and the Rod Control System is capable of rod withdrawal, the Required Action is either to restore the RCS loop to operation or place the Rod Control System in a condition incapable of rod withdrawal (e.g., to de-energize all CRDMs by opening the RTBs or de-energizing the motor generator (MG) sets). When the Rod Control System is capable of rod withdrawal, it is postulated that a power excursion could occur in the event of an inadvertent control rod withdrawal. This mandates having the heat transfer capacity of two RCS loops in operation. If only one loop is in operation, the Rod Control System must be rendered incapable of rod withdrawal. The Completion Times of 1 hour to restore the required RCS loop to operation or defeat the Rod Control System is adequate to perform these operations in an orderly manner without exposing the unit to risk for an undue time period.

D.1, D.2, and D.3

If both RCS loops are inoperable or no RCS loop is in operation, except during conditions permitted by the Note in the LCO section, the Rod Control System must be placed in a condition incapable of rod withdrawal (e.g., all CRDM's de-energized by opening the RTBs or de-energizing the MG sets). All operations involving introduction of coolant into the RCS with boron concentration less than required to meet the minimum SDM of LCO 3.1.1 must be suspended, and action to restore one of the RCS loops to OPERABLE status and operation must be initiated. Suspending the introduction of coolant into the RCS with boron concentration less than required to meet the minimum SDM of LCO 3.1.1 is required to assure continued safe operation. With coolant added without forced circulation, unmixed

BASES

ACTIONS

D.1, D.2, and D.3 (continued)

coolant could be introduced to the core; however, coolant added with boron concentration meeting the minimum SDM maintains acceptable margin to subcritical operations. The immediate Completion Time reflects the importance of maintaining operation for heat removal. The action to restore must be continued until one loop is restored to OPERABLE status and operation.

SURVEILLANCE REQUIREMENTS

SR 3.4.5.1

This SR requires verification every 12 hours that the required loops are in operation. Verification may include flow rate, temperature, or pump status monitoring, which helps ensure that forced flow is providing heat removal. The Frequency of 12 hours is sufficient considering other indications and alarms available to the operator in the control room to monitor RCS loop performance.

SR 3.4.5.2

SR 3.4.5.2 requires verification of SG OPERABILITY. SG OPERABILITY is verified by ensuring that the secondary side water level is $\geq$ 60% wide range or equivalent narrow range level for both RCS loops. If the SG secondary side is $<$ 60% wide range equivalent water level, the tubes may become uncovered and the associated loop may not be capable of providing the heat sink for removal of the decay heat. The 12 hour Frequency is considered adequate in view of other indications available in the control room to alert the operator to a loss of SG level.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.4.5.3

Verification that each required RCP is OPERABLE ensures that an additional RCP can be placed in operation, if needed, to maintain decay heat removal and reactor coolant circulation. Verification is performed by verifying proper breaker alignment and power availability to each required RCP. Alternatively, verification that a pump is in operation also verifies proper breaker alignment and power availability.

This SR is modified by a Note that states the SR is not required to be performed until 24 hours after a pump is not in operation.

REFERENCES

1. License Amendment Request Dated November 19, 1999. (Approved by License Amendment 152/143, July 14, 2000.)

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.5 RCS Loops – MODE 3

LCO 3.4.5 ~~[~~Two~~]~~ RCS loops shall be OPERABLE, and either: CL3.4-113

a. ~~[~~Two~~]~~ RCS loops shall be in operation when the Rod Control System is capable of rod withdrawal; or

b. One RCS loop shall be in operation when the Rod Control System is not capable of rod withdrawal.

----------NOTE----------
CL3.4-114

Both~~All~~ reactor coolant pumps may not be in operation or may be inoperable~~de-energized~~ for ≤ 12 hours ~~per 8-hour period~~ provided: TA3.4-116 CL3.4-117

a. No operations are permitted that would cause introduction into~~reduction of~~ the RCS, coolant with boron concentration less than required to meet the SDM of LCO 3.1.1; and TA3.4-115 R-4

b. Core outlet temperature is maintained at least 10°F below saturation temperature.

APPLICABILITY: MODE 3.

ACTIONS

PA3.4-211

LCO

The purpose of this LCO is to require that bothat least [two] RCS loops be OPERABLE. In MODE 3 with the RTBs in the closed position and Rod Control System capable of rod withdrawal, both[two] RCS loops must be in operation. [Two] RCS loops are required to be in operation in MODE 3 with theRTBs closed and Rod Control System capable of rod withdrawal due to the postulation of a power excursion because of an inadvertent control rod withdrawal. The required number of RCS loops in operation ensures that the transient analysis acceptanceSafety Limit criteria will be met for all of the postulated accidents.

TA3.4-118

CL3.4-227

WhenWith the RTBs in the open position, or the CRDMs de-energized, the Rod Control System is not capable of rod withdrawal; therefore, only one RCS loop in operation is necessary to ensure removal of decay heat from the core and homogenous boron concentration throughout the RCS. An additional RCS loop is required to be OPERABLE to ensure redundant capability for decay heat removal that safety analyses limits are met.

TA3.4-118

CL3.4-227

The Note permits bothall RCPs to not be in operation or be inoperablede-energized for ≤ 12 hours per 8 hour period.

TA3.4-116

CL3.4-117

R-4

OneThe purpose of the Note is to allow performance of tests that are designed to validate various accident analyses values. One of these tests is validation of the pump coastdown curve used as input to a number of accident analyses including a loss of flow accident. This test wasis generally performed in MODE 3 during the initial startup testing program, and would normallyas such should only be performed once. If, however, changes are made to the RCS that would cause a change to the flow characteristics of the RCS, the input values of the coastdown curve must be revalidated by conducting the test again. Another test performed during

PA3.4-228

LCO (continued)

(continued)

the startup testing program ~~was~~is the validation of rod drop times ~~during cold conditions~~, both with and without flow.

~~Any future~~The no flow test may be performed in MODE 3, 4, or 5 and requires that the pumps be stopped for a short period of time. The Note permits ~~the stopping~~de-energizing ~~of~~ the pumps in order to perform this test and validate the assumed analysis values. ~~As with the validation of the pump coastdown curve, this test should be performed only once unless the flow characteristics of the RCS are changed. The 1 hour time period specified is adequate to perform the desired tests, and operating experience has shown that boron stratification is not a problem during this short period with no forced flow.~~

TA3.4-116
PA3.4-228
CL3.4-117

Another purpose of the Note is to allow stopping of both RCP's for a sufficient time to perform station electrical lineup changes without transition to MODE 4. During these evolutions both RCP's may be inoperable. Transition to MODE 4 would put the plant through unnecessary cooldown and heatup transients. The 12 hour time period specified is adequate to perform the necessary load shedding, switching and load restoration activities and restart an RCP without requiring transition to MODE 4.

R-4

Utilization of the Note is permitted provided the following conditions are met~~, along with any other conditions imposed by initial startup test procedures~~:

PA3.4-228

a. No operations are permitted that would dilute the RCS boron concentration with coolant with boron concentration less than required to meet SDM of LCO 3.1.1, thereby maintaining the margin to criticality. Boron reduction with coolant at boron concentrations less than required to assure SDM is maintained is prohibited to preclude the need for a boration, due to the time required to achieve~~because~~ a uniform

TA3.4-115
CL3.4-117

(continued)

PA3.4-211

~~concentration~~ distribution ~~throughout the RCS cannot be ensured~~ when in natural circulation (Ref. 1); and

b. Core outlet temperature is maintained at least 10°F below saturation temperature, so that no vapor bubble may form and possibly cause a natural circulation flow obstruction.

An OPERABLE RCS loop consists of one OPERABLE RCP and one OPERABLE SG ~~in accordance with the Steam Generator Tube Surveillance Program,~~ which has the minimum water level specified in SR 3.4.5.2. An RCP is OPERABLE if it is capable of being powered and is able to provide forced flow if required.

PA3.4-232

APPLICABILITY

In MODE 3, this LCO ensures forced circulation of the reactor coolant to remove decay heat from the core and to provide proper boron mixing. The most stringent condition of the LCO, that is, two RCS loops OPERABLE and two RCS loops in operation, applies to MODE 3 with the Rod Control System capable of rod withdrawal ~~RTBs in the closed position~~.

TA3.4-118

APPLICABILITY (continued)

The least stringent condition, that is, two RCS loops OPERABLE and one RCS loop in operation, applies to MODE 3 with the Rod Control System not capable of rod withdrawal ~~RTBs open~~.

Operation in other MODES is covered by:

LCO 3.4.4, "RCS Loops – MODES 1 and 2";
LCO 3.4.6, "RCS Loops – MODE 4";
LCO 3.4.7, "RCS Loops – MODE 5, Loops Filled";
LCO 3.4.8, "RCS Loops – MODE 5, Loops Not Filled";
LCO 3.9.5, "Residual Heat Removal (RHR) and Coolant Circulation – High Water Level" (MODE 6); and
LCO 3.9.6, "Residual Heat Removal (RHR) and Coolant Circulation – Low Water Level" (MODE 6).

(continued)

ACTIONS

A.1

CL3.4-113

If one ~~required~~ RCS loop is inoperable, redundancy for forced circulation heat removal is lost. The Required Action is restoration of the ~~required~~ RCS loop to OPERABLE status within the Completion Time of 72 hours. This time allowance is a justified period to be without the redundant, nonoperating loop because a single loop in operation has a heat transfer capability greater than that needed to remove the decay heat produced in the reactor core and because of the low probability of a failure in the remaining loop occurring during this period.

R-4

The unit may also be in this Condition when both RCS loops are inoperable. If power is lost to both RCPs, the unit can be stabilized in natural circulation for 72 hours while the RCS loops are restored to OPERABLE status. Natural circulation operation of the RCS, in combination with Required Actions D.1 and D.2, will provide sufficient decay heat removal and RCS mixing in MODE 3 to assure continued core cooling.

CL3.4-328

B.1

R-4

If restoration is not possible within 72 hours, the unit must be brought to MODE 4. In MODE 4, the unit may be placed on the Residual Heat Removal System. The additional Completion Time of 12 hours is compatible with required operations to achieve cooldown and depressurization from the existing plant conditions in an orderly manner and without challenging plant systems.

(continued)

PA3.4-211

C.1 and C.2

If one~~the required~~ RCS loop is not in operation, and the ~~RTBs are closed and~~ Rod Control System is capable of rod withdrawal, the Required Action is either to restore the ~~required~~ RCS loop to operation or place the Rod Control System in a condition incapable of rod withdrawal (e.g., to de-energize all CRDMs by opening the RTBs or de-energizing the motor generator (MG) sets). When the ~~RTBs are in the closed position and~~ Rod Control System is capable of rod withdrawal, it is postulated that a power excursion could occur in the event of an inadvertent control rod withdrawal. This mandates having the heat transfer capacity of two RCS loops in operation. If only one loop is in operation, the Rod Control System must be rendered incapable of rod withdrawal~~RTBs must be opened~~. The Completion Times of 1 hour to restore the required RCS loop to operation or defeat the Rod Control System~~de-energize all CRDMs~~ is adequate to perform these operations in an orderly manner without exposing the unit to risk for an undue time period.

TA3.4-118

CL3.4-113

D.1, D.2, and D.3

If both~~[two]~~ RCS loops are inoperable or no RCS loop is in operation, except ~~as~~ during conditions permitted by the Note in the LCO section, the Rod Control System~~all CRDMs~~ must be placed in a condition incapable of rod withdrawal (e.g., all CRDM's de-energized by opening the RTBs or de-energizing the MG sets). All operations involving ~~a reduction~~introduction of coolant into the RCS with boron concentration less than required to meet the minimum SDM of LCO 3.1.1 must be suspended, and action to restore one of the RCS loops to OPERABLE status and operation must be initiated. ~~Boron dilution requires forced circulation for proper mixing, and opening the RTBs or de-energizing the MG sets removes the possibility of an inadvertent rod~~

TA3.4-118

TA3.4-115

CL3.4-117

PA3.4-229

(continued)

withdrawalSuspending the introduction of coolant into the RCS with boron concentration less than required to meet the minimum SDM of LCO 3.1.1 is required to assure continued safe operation. With coolant added without forced circulation, unmixed coolant could be introduced to the core; however, coolant added with boron concentration meeting the minimum SDM maintains acceptable margin to subcritical operations. The immediate Completion Time reflects the importance of maintaining operation for heat removal. The action to restore must be continued until one loop is restored to OPERABLE status and operation.

SURVEILLANCE REQUIREMENTS

SR 3.4.5.1

This SR requires verification every 12 hours that the required loops are in operation. Verification may includes flow rate, temperature, orand pump status monitoring, which helps ensure that forced flow is providing heat removal. The Frequency of 12 hours is sufficient considering other indications and alarms available to the operator in the control room to monitor RCS loop performance.

SR 3.4.5.2

SR 3.4.5.2 requires verification of SG OPERABILITY. SG OPERABILITY is verified by ensuring that the secondary side narrow range water level is ≥ 60[17]% wide range or equivalent narrow range level for bothrequired RCS loops. If the SG secondary side narrow range water level is < 60[17]% wide range equivalent water level, the tubes may become uncovered and the associated loop may not be capable of providing the heat sink for removal of the decay heat. The 12 hour Frequency is considered adequate in view of other indications available in the control room to alert the operator to a loss of SG level.

X3.4-121

(continued)

PA3.4-211

SR 3.4.5.3

Verification that each~~the~~ required RCP~~s~~ ~~are~~is OPERABLE ensures that ~~safety analyses limits are met. The requirement also ensures that~~ an additional RCP can be placed in operation, if needed, to maintain decay heat removal and reactor coolant circulation. Verification is performed by verifying proper breaker alignment and power availability to each~~the~~ required RCP~~s~~. Alternatively, verification that a pump is in operation also verifies proper breaker alignment and power availability.

TA3.4-125

CL3.4-227

This SR is modified by a Note that states the SR is not required to be performed until 24 hours after a pump is not in operation.

TA3.4-125

REFERENCES

1. License Amendment Request Dated November 19, 1999. ~~None.~~ (Approved by License Amendment 152/143, July 14, 2000.)

CL3.4-117

Difference Category	Difference Number 3.4-	Justification for Differences
CL	117	The allowed time and purpose of allowing both pumps to be not operating was extended to 12 hours and clarified that the pumps "may not be in operation or may be inoperable". These changes were justified in a License Amendment Request dated November 19, 1999 (This LAR was approved by License Amendment 152/143, July 14, 2000). The justification presented in the LAR is factored in to the Bases. This justification argues that natural circulation provides sufficient flow for decay heat removal, and for boron addition requisite for provision of shutdown margin. The justification notes that this circulation may not be sufficient to respond to all potential dilution events. Thus, preplanned activities that stop forced flow must include actions to preclude the potential for events such as boron dilution.
TA	118	This change incorporated traveler TSTF-87, Rev. 2.
TA	119	This change incorporates TSTF-233. The specific phrase that has been inserted is modified to include PI specific terminology for the LTOP system, "Over Pressure Protection System (OPPS)."

Difference Category	Difference Number 3.4-	Justification for Differences
CL	326	The PI CTS and ITS specify instrumentation allowable values and do not specify setpoints. The values of these setpoints are determined by the PI Setpoint Methodology Program. Therefore the specific setpoints have been removed from the Bases for ITS 3.4.18. Placing setpoint requirements in the Bases is an obscure location for them.
PA	327	The NUREG-1431 discussion of tests which will be performed is not included since PI has already performed the tests required to operate. Any tests which may have to be performed in the future will be defined when they are required.
CL	328	An additional paragraph has been included in the Bases for 3.4.5 Required Action A.1. This information makes it clear to the operators that the plant may be in natural circulation mode of core cooling for up to 72 hours in MODE 3 if neither reactor coolant pump can be made operational. The format of NUREG-1431 provides this course of action, but without this additional paragraph, the Bases do not provide any corroborating guidance, thus this paragraph is necessary. This change also is consistent with CTS guidance for the operators if neither reactor coolant pump is OPERABLE.

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 3.5-2A	Action 6	LCO	3.3.1 E	
Table 3.5-2A	Action 6	LCO	3.3.1 K	
Table 3.5-2A	Action 6	LCO	3.3.1 N	
Table 3.5-2A	Action 7	LCO	3.3.1 O	
Table 3.5-2A	Act 8	LCO	3.3.1 C	
Table 3.5-2A	Action 9a	LCO	3.3.1 S	
Table 3.5-2A	Action 9a	LCO	3.3.1.P	
Table 3.5-2A	Action 9b	LCO	3.3.1 P	
Table 3.5-2A	Action 10	LCO	3.3.1 C	
Table 3.5-2A	Action 10	LCO	3.3.1 P	
Table 3.5-2A	Action 10	SR	3.3.14 Note 1	
Table 3.5-2A	Action 11	LCO	3.3.1 L	
Table 3.5-2A	New Action	LCO	3.3.1 Q	
Table 3.5-2A	New Action	LCO	3.3.1 R	
Table 3.5-2A	New Action	LCO	3.3.1 S	
Table 3.5-2A	Note a	TABLE	3.3.1-1	Note a
Table 3.5-2A	Note b	TABLE	3.3.1-1	Note b
Table 3.5-2A	Note c	TABLE	3.3.1-1	Note d

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 3.5-2A	Note d	TABLE	3.3.1-1	Note h
Table 3.5-2A	New Note	TABLE	3.3.1-1	Note c
Table 3.5-2A	New Note	TABLE	3.3.1-1	Note e
Table 3.5-2A	New Note	TABLE	3.3.1-1	Note f
Table 3.5-2A	New Note	TABLE	3.3.1-1	Note g
Table 3.5-2B	1a	TABLE	3.3.2-1	1a
Table 3.5-2B	1b	TABLE	3.3.2-1	1c
Table 3.5-2B	1c	TABLE	3.3.2-1	1e
Table 3.5-2B	1d	TABLE	3.3.2-1	1d
Table 3.5-2B	1e	TABLE	3.3.2-1	1b
Table 3.5-2B	2a	TABLE	3.3.2-1	2a
Table 3.5-2B	2b	TABLE	3.3.2-1	2c
Table 3.5-2B	2c	TABLE	3.3.2-1	2b
Table 3.5-2B	3a	TABLE	3.3.2-1	3c
Table 3.5-2B	3b	TABLE	3.3.2-1	3a
Table 3.5-2B	3c	TABLE	3.3.2-1	3b
Table 3.5-2B	4a	TABLE	3.3.5-1	5
Table 3.5-2B	4b	TABLE	3.3.5-1	1

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 4.1-1A	Note 10	(Partial)	Relocated - Bases	
Table 4.1-1A	Note 11	SR	3.3.1.9	
Table 4.1-1A	Note 11	SR	3.3.1.15	
Table 4.1-1A	Note 12	TABLE	3.3.1-1	18
Table 4.1-1A	Note 13		Relocated - Bases	
Table 4.1-1A	Note 14		Relocated - Bases	
Table 4.1-1A	Note 15	TABLE	3.3.1-1	17
Table 4.1-1A	Note 16	TABLE	3.3.1-1	Note h
Table 4.1-1A	New Note	SR	3.3.1.4	
Table 4.1-1A	Note 17	SR	3.3.1.8	
Table 4.1-1A	Note 18		Relocated - TRM	
Table 4.1-1A	New Note	TABLE	3.3.1-1	Note c
Table 4.1-1A	New Note	SR	3.3.1.10	
Table 4.1-1A	New Note	TABLE	3.3.1-1	Note e

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 3.5-2A	Action 6	LCO	3.3.1 E	
Table 3.5-2A	Action 6	LCO	3.3.1 K	
Table 3.5-2A	Action 6	LCO	3.3.1 N	
Table 3.5-2A	Action 7	LCO	3.3.1 O	
Table 3.5-2A	Act 8	LCO	3.3.1 C	
Table 3.5-2A	Action 9a	LCO	3.3.1 S	
Table 3.5-2A	Action 9a	LCO	3.3.1.P	
Table 3.5-2A	Action 9b	LCO	3.3.1 P	
Table 3.5-2A	Action 10	LCO	3.3.1 C	
Table 3.5-2A	Action 10	LCO	3.3.1 P	
Table 3.5-2A	Action 10	SR	3.3.14 Note 1	
Table 3.5-2A	Action 11	LCO	3.3.1 L	
Table 3.5-2A	New Action	LCO	3.3.1 Q	
Table 3.5-2A	New Action	LCO	3.3.1 R	
Table 3.5-2A	New Action	LCO	3.3.1 S	
Table 3.5-2A	Note a	TABLE	3.3.1-1	Note a
Table 3.5-2A	Note b	TABLE	3.3.1-1	Note b
Table 3.5-2A	Note c	TABLE	3.3.1-1	Note d

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 3.5-2A	Note d	TABLE	3.3.1-1	Note h
Table 3.5-2A	New Note	TABLE	3.3.1-1	Note c
Table 3.5-2A	New Note	TABLE	3.3.1-1	Note e
Table 3.5-2A	New Note	TABLE	3.3.1-1	Note f
Table 3.5-2A	New Note	TABLE	3.3.1-1	Note g
Table 3.5-2B	1a	TABLE	3.3.2-1	1a
Table 3.5-2B	1b	TABLE	3.3.2-1	1c
Table 3.5-2B	1c	TABLE	3.3.2-1	1e
Table 3.5-2B	1d	TABLE	3.3.2-1	1d
Table 3.5-2B	1e	TABLE	3.3.2-1	1b
Table 3.5-2B	2a	TABLE	3.3.2-1	2a
Table 3.5-2B	2b	TABLE	3.3.2-1	2c
Table 3.5-2B	2c	TABLE	3.3.2-1	2b
Table 3.5-2B	3a	TABLE	3.3.2-1	3c
Table 3.5-2B	3b	TABLE	3.3.2-1	3a
Table 3.5-2B	3c	TABLE	3.3.2-1	3b
Table 3.5-2B	4a	TABLE	3.3.5-1	5
Table 3.5-2B	4b	TABLE	3.3.5-1	1

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 4.1-1A	Note 10	(Partial)	Relocated - Bases	
Table 4.1-1A	Note 11	SR	3.3.1.9	
Table 4.1-1A	Note 11	SR	3.3.1.15	
Table 4.1-1A	Note 12	TABLE	3.3.1-1	18
Table 4.1-1A	Note 13		Relocated - Bases	
Table 4.1-1A	Note 14		Relocated - Bases	
Table 4.1-1A	Note 15	TABLE	3.3.1-1	17
Table 4.1-1A	Note 16	TABLE	3.3.1-1	Note h
Table 4.1-1A	New Note	SR	3.3.1.4	
Table 4.1-1A	Note 17	SR	3.3.1.8	
Table 4.1-1A	Note 18		Relocated - TRM	
Table 4.1-1A	New Note	TABLE	3.3.1-1	Note c
Table 4.1-1A	New Note	SR	3.3.1.10	
Table 4.1-1A	New Note	TABLE	3.3.1-1	Note e

PACKAGE 3.6

CONTAINMENT SYSTEMS

PART B

PROPOSED PRAIRIE ISLAND IMPROVED TECHNICAL SPECIFICATIONS AND BASES

List of Pages

3.6.1-1	3.6.7-1	B 3.6.2-7	B 3.6.4-2	B 3.6.7-2
3.6.1-2	3.6.7-2	B 3.6.2-8	B 3.6.4-3	B 3.6.7-3
3.6.2-1	3.6.8-1	B 3.6.2-9	B 3.6.5-1	B 3.6.7-4
3.6.2-2	3.6.8-2	B 3.6.3-1	B 3.6.5-2	B 3.6.7-5
3.6.2-3	3.6.8-3	B 3.6.3-2	B 3.6.5-3	B 3.6.7-6
3.6.2-4	3.6.8-4	B 3.6.3-3	B 3.6.5-4	B 3.6.8-1
3.6.2-5	3.6.9-1	B 3.6.3-4	B 3.6.5-5	B 3.6.8-2
3.6.2-6	3.6.9-2	B 3.6.3-5	B 3.6.5-6	B 3.6.8-3
3.6.3-1	3.6.10-1	B 3.6.3-6	B 3.6.5-7	B 3.6.8-4
3.6.3-2	3.6.10-2	B 3.6.3-7	B 3.6.5-8	B 3.6.8-5
3.6.3-3	B 3.6.1-1	B 3.6.3-8	B 3.6.5-9	B 3.6.8-6
3.6.3-4	B 3.6.1-2	B 3.6.3-9	B 3.6.5-10	B 3.6.9-1
3.6.3-5	B 3.6.1-3	B 3.6.3-10	B 3.6.5-11	B 3.6.9-2
3.6.3-6	B 3.6.1-4	B 3.6.3-11	B 3.6.5-12	B 3.6.9-3
3.6.3-7	B 3.6.1-5	B 3.6.3-12	B 3.6.6-1	B 3.6.9-4
3.6.4-1	B 3.6.2-1	B 3.6.3-13	B 3.6.6-2	B 3.6.9-5
3.6.5-1	B 3.6.2-2	B 3.6.3-14	B 3.6.6-3	B 3.6.9-6
3.6.5-2	B 3.6.2-3	B 3.6.3-15	B 3.6.6-4	B 3.6.10-1
3.6.5-3	B 3.6.2-4	B 3.6.3-16	B 3.6.6-5	B 3.6.10-2
3.6.6-1	B 3.6.2-5	B 3.6.3-17	B 3.6.6-6	B 3.6.10-3
3.6.6-2	B 3.6.2-6	B 3.6.4-1	B 3.6.7-1	B 3.6.10-4

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
UNITS 1 AND 2

Improved Technical Specifications
Conversion Submittal

PACKAGE 3.6

CONTAINMENT SYSTEMS

PART E

MARKUP OF NUREG-1431
IMPROVED STANDARD TECHNICAL SPECIFICATIONS AND BASES

List of Pages

3.6.1-1
3.6.1-2
3.6.1-3
3.6.2-1
3.6.2-2
3.6.2-3
3.6.2-4
3.6.2-5
3.6.2-6
3.6.2-7
3.6.3-1
3.6.3-2
3.6.3-3
3.6.3-4
3.6.3-5
3.6.3-6
3.6.3-7
3.6.3-8
3.6.3-9
3.6.3-10
3.6.3-11
3.6.3-12
3.6.3-13
3.6.4-1
3.6.5AX-1
3.6.5-1
3.6.5-2
3.6.5-3
3.6.5-4
3.6.5-5
3.6.6-1
3.6.6-2
3.6.7-1
3.6.7-2
3.6.7-3
3.6.8-1
3.6.8-2
3.6.8-3
3.6.8-4
3.6.9x-1
3.6.9x-2
3.6.9x-3
3.6.9-1
3.6.9-2
3.6.10x-1
3.6.10x-2
3.6.10-1
3.6.10-2
3.6.11x-1
3.6.11x-2
3.6.14x-1
3.6.14x-2
3.6.15x-1
3.6.15x-2
3.6.15x-3
3.6.16x-1
3.6.16x-2
3.6.16x-3
3.6.16x-4
3.6.17x-1
3.6.17x-2
3.6.17x-3
3.6.17x-4
3.6.18x-1
3.6.18x-2
B 3.6.1-1
B 3.6.1-2
B 3.6.1-3
B 3.6.1-4
B 3.6.1-5
B 3.6.1-6
B 3.6.1-7
B 3.6.2-1
B 3.6.2-2
B 3.6.2-3
B 3.6.2-4
B 3.6.2-5
B 3.6.2-6
B 3.6.2-7
B 3.6.2-8
B 3.6.2-9
B 3.6.2-10
B 3.6.3-1
B 3.6.3-2
B 3.6.3-3
B 3.6.3-4
B 3.6.3-5
B 3.6.3-6
B 3.6.3-7
B 3.6.3-8
B 3.6.3-9
B 3.6.3-10
B 3.6.3-11
B 3.6.3-12
B 3.6.3-13
B 3.6.3-14
B 3.6.3-15
B 3.6.3-16
B 3.6.3-17
B 3.6.3-18
B 3.6.3-19
B 3.6.3-20
B 3.6.3-21
B 3.6.3-22
B 3.6.3-23
B 3.6.3-24
B 3.6.3-25
B 3.6.3-26
B 3.6.4-1
B 3.6.4-2
B 3.6.4-3
B 3.6.4-4
B 3.6.4-5
B 3.6.5-1
B 3.6.5-2
B 3.6.5-3
B 3.6.5-4
B 3.6.5-5
B 3.6.5-6
B 3.6.5-7
B 3.6.5-8
B 3.6.5-9
B 3.6.5-10
B 3.6.5-11
B 3.6.5-12
B 3.6.5-13
B 3.6.5-14
B 3.6.5-15
B 3.6.5-16
B 3.6.6-1
B 3.6.6-2
B 3.6.6-3
B 3.6.6-4
B 3.6.6-5
B 3.6.6-6
B 3.6.6-7
B 3.6.6-8
B 3.6.7-1
B 3.6.7-2
B 3.6.7-3
B 3.6.7-4
B 3.6.7-5
B 3.6.7-6
B 3.6.7-7
B 3.6.7-8
B 3.6.8-1
B 3.6.8-2
B 3.6.8-3
B 3.6.8-4
B 3.6.8-5
B 3.6.8-6
B 3.6.8-7
B 3.6.9-1
B 3.6.9-2
B 3.6.9-3
B 3.6.9-4
B 3.6.9-5
B 3.6.9-6
B 3.6.9-7
B 3.6.9-8
B 3.6.10-1
B 3.6.10-2
B 3.6.10-3
B 3.6.10-4
B 3.6.10-5
B 3.6.10-6

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
UNITS 1 AND 2

Improved Technical Specifications
Conversion Submittal

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 3.5-2A	Action 6	LCO	3.3.1 E	
Table 3.5-2A	Action 6	LCO	3.3.1 K	
Table 3.5-2A	Action 6	LCO	3.3.1 N	
Table 3.5-2A	Action 7	LCO	3.3.1 O	
Table 3.5-2A	Act 8	LCO	3.3.1 C	
Table 3.5-2A	Action 9a	LCO	3.3.1 S	
Table 3.5-2A	Action 9a	LCO	3.3.1.P	
Table 3.5-2A	Action 9b	LCO	3.3.1 P	
Table 3.5-2A	Action 10	LCO	3.3.1 C	
Table 3.5-2A	Action 10	LCO	3.3.1 P	
Table 3.5-2A	Action 10	SR	3.3.14 Note 1	
Table 3.5-2A	Action 11	LCO	3.3.1 L	
Table 3.5-2A	New Action	LCO	3.3.1 Q	
Table 3.5-2A	New Action	LCO	3.3.1 R	
Table 3.5-2A	New Action	LCO	3.3.1 S	
Table 3.5-2A	Note a	TABLE	3.3.1-1	Note a
Table 3.5-2A	Note b	TABLE	3.3.1-1	Note b
Table 3.5-2A	Note c	TABLE	3.3.1-1	Note d

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 3.5-2A	Note d	TABLE	3.3.1-1	Note h
Table 3.5-2A	New Note	TABLE	3.3.1-1	Note c
Table 3.5-2A	New Note	TABLE	3.3.1-1	Note e
Table 3.5-2A	New Note	TABLE	3.3.1-1	Note f
Table 3.5-2A	New Note	TABLE	3.3.1-1	Note g
Table 3.5-2B	1a	TABLE	3.3.2-1	1a
Table 3.5-2B	1b	TABLE	3.3.2-1	1c
Table 3.5-2B	1c	TABLE	3.3.2-1	1e
Table 3.5-2B	1d	TABLE	3.3.2-1	1d
Table 3.5-2B	1e	TABLE	3.3.2-1	1b
Table 3.5-2B	2a	TABLE	3.3.2-1	2a
Table 3.5-2B	2b	TABLE	3.3.2-1	2c
Table 3.5-2B	2c	TABLE	3.3.2-1	2b
Table 3.5-2B	3a	TABLE	3.3.2-1	3c
Table 3.5-2B	3b	TABLE	3.3.2-1	3a
Table 3.5-2B	3c	TABLE	3.3.2-1	3b
Table 3.5-2B	4a	TABLE	3.3.5-1	5
Table 3.5-2B	4b	TABLE	3.3.5-1	1

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 4.1-1A	Note 10	(Partial)	Relocated - Bases	
Table 4.1-1A	Note 11	SR	3.3.1.9	
Table 4.1-1A	Note 11	SR	3.3.1.15	
Table 4.1-1A	Note 12	TABLE	3.3.1-1	18
Table 4.1-1A	Note 13		Relocated - Bases	
Table 4.1-1A	Note 14		Relocated - Bases	
Table 4.1-1A	Note 15	TABLE	3.3.1-1	17
Table 4.1-1A	Note 16	TABLE	3.3.1-1	Note h
Table 4.1-1A	New Note	SR	3.3.1.4	
Table 4.1-1A	Note 17	SR	3.3.1.8	
Table 4.1-1A	Note 18		Relocated - TRM	
Table 4.1-1A	New Note	TABLE	3.3.1-1	Note c
Table 4.1-1A	New Note	SR	3.3.1.10	
Table 4.1-1A	New Note	TABLE	3.3.1-1	Note e

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
3.7.B.3		LCO	3.8.1	
3.7.B.4		LCO	3.8.1	
New		LCO	3.8.1	
3.7.B.5		LCO	3.8.1	
New		LCO	3.8.3	
3.7.B.6		LCO	3.8.9	
3.7.B.7		LCO	3.8.4	
3.7.B.8		LCO	3.8.4	
3.7.B.9			Relocated - TRM	
New		LCO	3.8.3	
New		LCO	3.8.7	
New		LCO	3.8.9	
3.7.B Note*		LCO	3.8.1	
3.7.B Note**			Deleted	

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 3.5-2A	Action 6	LCO	3.3.1 E	
Table 3.5-2A	Action 6	LCO	3.3.1 K	
Table 3.5-2A	Action 6	LCO	3.3.1 N	
Table 3.5-2A	Action 7	LCO	3.3.1 O	
Table 3.5-2A	Act 8	LCO	3.3.1 C	
Table 3.5-2A	Action 9a	LCO	3.3.1 S	
Table 3.5-2A	Action 9a	LCO	3.3.1.P	
Table 3.5-2A	Action 9b	LCO	3.3.1 P	
Table 3.5-2A	Action 10	LCO	3.3.1 C	
Table 3.5-2A	Action 10	LCO	3.3.1 P	
Table 3.5-2A	Action 10	SR	3.3.14 Note 1	
Table 3.5-2A	Action 11	LCO	3.3.1 L	
Table 3.5-2A	New Action	LCO	3.3.1 Q	
Table 3.5-2A	New Action	LCO	3.3.1 R	
Table 3.5-2A	New Action	LCO	3.3.1 S	
Table 3.5-2A	Note a	TABLE	3.3.1-1	Note a
Table 3.5-2A	Note b	TABLE	3.3.1-1	Note b
Table 3.5-2A	Note c	TABLE	3.3.1-1	Note d

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 3.5-2A	Note d	TABLE	3.3.1-1	Note h
Table 3.5-2A	New Note	TABLE	3.3.1-1	Note c
Table 3.5-2A	New Note	TABLE	3.3.1-1	Note e
Table 3.5-2A	New Note	TABLE	3.3.1-1	Note f
Table 3.5-2A	New Note	TABLE	3.3.1-1	Note g
Table 3.5-2B	1a	TABLE	3.3.2-1	1a
Table 3.5-2B	1b	TABLE	3.3.2-1	1c
Table 3.5-2B	1c	TABLE	3.3.2-1	1e
Table 3.5-2B	1d	TABLE	3.3.2-1	1d
Table 3.5-2B	1e	TABLE	3.3.2-1	1b
Table 3.5-2B	2a	TABLE	3.3.2-1	2a
Table 3.5-2B	2b	TABLE	3.3.2-1	2c
Table 3.5-2B	2c	TABLE	3.3.2-1	2b
Table 3.5-2B	3a	TABLE	3.3.2-1	3c
Table 3.5-2B	3b	TABLE	3.3.2-1	3a
Table 3.5-2B	3c	TABLE	3.3.2-1	3b
Table 3.5-2B	4a	TABLE	3.3.5-1	5
Table 3.5-2B	4b	TABLE	3.3.5-1	1

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 4.1-1A	Note 10	(Partial)	Relocated - Bases	
Table 4.1-1A	Note 11	SR	3.3.1.9	
Table 4.1-1A	Note 11	SR	3.3.1.15	
Table 4.1-1A	Note 12	TABLE	3.3.1-1	18
Table 4.1-1A	Note 13		Relocated - Bases	
Table 4.1-1A	Note 14		Relocated - Bases	
Table 4.1-1A	Note 15	TABLE	3.3.1-1	17
Table 4.1-1A	Note 16	TABLE	3.3.1-1	Note h
Table 4.1-1A	New Note	SR	3.3.1.4	
Table 4.1-1A	Note 17	SR	3.3.1.8	
Table 4.1-1A	Note 18		Relocated - TRM	
Table 4.1-1A	New Note	TABLE	3.3.1-1	Note c
Table 4.1-1A	New Note	SR	3.3.1.10	
Table 4.1-1A	New Note	TABLE	3.3.1-1	Note e

PACKAGE 3.8

ELECTRICAL POWER SYSTEMS

PART B

PROPOSED PRAIRIE ISLAND IMPROVED TECHNICAL SPECIFICATIONS AND BASES

List of Pages

3.8.1-1	3.8.5-4	B 3.8.1-7	B 3.8.3-2	B 3.8.6-1	B 3.8.9-3
3.8.1-2	3.8.6-1	B 3.8.1-8	B 3.8.3-3	B 3.8.6-2	B 3.8.9-4
3.8.1-3	3.8.6-2	B 3.8.1-9	B 3.8.3-4	B 3.8.6-3	B 3.8.9-5
3.8.1-4	3.8.6-3	B 3.8.1-10	B 3.8.3-5	B 3.8.6-4	B 3.8.9-6
3.8.1-5	3.8.6-4	B 3.8.1-11	B 3.8.4-1	B 3.8.6-5	B 3.8.9-7
3.8.1-6	3.8.6-5	B 3.8.1-12	B 3.8.4-2	B 3.8.6-6	B 3.8.9-8
3.8.1-7	3.8.7-1	B 3.8.1-13	B 3.8.4-3	B 3.8.6-7	B 3.8.9-9
3.8.1-8	3.8.7-2	B 3.8.1-14	B 3.8.4-4	B 3.8.6-8	B 3.8.9-10
3.8.1-9	3.8.7-3	B 3.8.1-15	B 3.8.4-5	B 3.8.6-9	B 3.8.9-11
3.8.1-10	3.8.8-1	B 3.8.1-16	B 3.8.4-6	B 3.8.6-10	B 3.8.9-12
3.8.2-1	3.8.8-2	B 3.8.1-17	B 3.8.4-7	B 3.8.7-1	B 3.8.10-1
3.8.2-2	3.8.9-1	B 3.8.1-18	B 3.8.4-8	B 3.8.7-2	B 3.8.10-2
3.8.2-3	3.8.9-2	B 3.8.1-19	B 3.8.4-9	B 3.8.7-3	B 3.8.10-3
3.8.2-4	3.8.9-3	B 3.8.1-20	B 3.8.5-1	B 3.8.7-4	B 3.8.10-4
3.8.3-1	3.8.10-1	B 3.8.2-1	B 3.8.5-2	B 3.8.7-5	B 3.8.10-5
3.8.3-2	3.8.10-2	B 3.8.2-2	B 3.8.5-3	B 3.8.8-1	B 3.8.10-6
3.8.4-1	B 3.8.1-1	B 3.8.2-3	B 3.8.5-4	B 3.8.8-2	B 3.8.10-7
3.8.4-2	B 3.8.1-2	B 3.8.2-4	B 3.8.5-5	B 3.8.8-3	
3.8.4-3	B 3.8.1-3	B 3.8.2-5	B 3.8.5-6	B 3.8.8-4	
3.8.5-1	B 3.8.1-4	B 3.8.2-6	B 3.8.5-7	B 3.8.8-5	
3.8.5-2	B 3.8.1-5	B 3.8.2-7	B 3.8.5-8	B 3.8.9-1	
3.8.5-3	B 3.8.1-6	B 3.8.3-1	B 3.8.5-9	B 3.8.9-2	

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
UNITS 1 AND 2

Improved Technical Specifications
Conversion Submittal

3.8 ELECTRICAL POWER SYSTEMS

3.8.9 Distribution Systems-Operating

LCO 3.8.9 Train A and Train B safeguards AC and DC, and Reactor Protection Instrument AC electrical power distribution subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One 4kV or 480 V bus inoperable.	A.1 Restore bus to OPERABLE status.	8 hours
B. One or more safeguards AC electrical power distribution Group 1 MCCs inoperable.	B.1 Restore safeguards AC electrical power distribution Group 1 to OPERABLE status.	8 hours
C. One or more safeguards AC electrical power distribution Group 2 MCCs inoperable.	C.1 Restore safeguards AC electrical power distribution Group 2 MCCs to OPERABLE status.	72 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One or more safeguards AC electrical power distribution Group 3 MCCs inoperable.	D.1 Restore safeguards AC electrical power distribution Group 3 MCCs to OPERABLE status.	7 days
E. One or more safeguards DC electrical power distribution subsystem Group 1 Panels inoperable.	E.1 Restore safeguards DC electrical power distribution subsystem Group 1 Panels to OPERABLE status.	2 hours
F. One or more safeguards DC electrical power distribution subsystem Group 2 Panels inoperable.	F.1 Restore safeguards DC electrical power distribution subsystem Group 2 Panels to OPERABLE status.	8 hours
G. One or more safeguards DC electrical power distribution subsystem Group 3 Panels inoperable.	G.1 Restore safeguards DC electrical power distribution subsystem Group 3 Panels to OPERABLE status.	7 days
H. One Reactor Protection Instrument AC Panel inoperable.	H.1 Restore Reactor Protection Instrument AC Panel to OPERABLE status.	2 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
I. Required Action and associated Completion Time not met.	I.1 Be in MODE 3. AND I.2 Be in MODE 5.	6 hours 36 hours
J. Two trains with inoperable distribution subsystems that result in a loss of safety function. OR Two or more Reactor Protection Instrument AC Panels inoperable.	J.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.9.1	Verify correct breaker and switch alignments and voltage to safeguards AC, DC, and Reactor Protection Instrument AC electrical power distribution subsystems.	7 days

BASES

ACTIONS

A.1 (continued)

is acceptable based on the remaining capacity (> 12 days), the fact that procedures will be initiated to obtain replenishment, and the low probability of an event during this brief period.

B.1

This Condition is entered as a result of a failure to meet the acceptance criterion of SR 3.8.3.2. If fuel oil properties in a DG fuel oil tank are not within limits, actions must be taken to restore the fuel oil properties to within limits. If the fuel oil properties in the fuel oil tank are not within limits, it does not mean failure of the fuel oil to burn properly in the diesel engine, and particulate concentration is unlikely to change significantly between Surveillance Frequency intervals, and proper engine performance has been recently demonstrated (in accordance with the Diesel Fuel Oil Testing Program), it is prudent to allow a brief period prior to declaring the associated DG inoperable or isolating the associated fuel oil tank. Therefore the 7 day Completion Time allows for further evaluation, resampling and re-analysis of the DG fuel oil.

C.1

With a Required Action and associated Completion Time of Condition B not met, the associated fuel oil tank must be isolated immediately. Isolation of a specific fuel oil tank may not make the associated DG inoperable since the DG can take suction from another fuel oil tank. Isolation of the associated fuel oil tank may cause entry into Conditions A or D which could result in the DG being inoperable.

BASES (continued)

APPLICABILITY The electrical power distribution subsystems are required to be OPERABLE in MODES 1, 2, 3, and 4 to ensure that:

a. Acceptable fuel design limits and reactor coolant pressure boundary limits are not exceeded as a result of AOOs; and

b. Adequate core cooling is provided, and containment OPERABILITY and other vital functions are maintained in the event of a postulated DBA.

Electrical power distribution subsystem requirements for MODES 5 and 6 are covered in the Bases for LCO 3.8.10, "Distribution Systems-Shutdown."

ACTIONS A.1

With one 4kV or 480 V bus inoperable, the remaining AC electrical power distribution subsystem in the other train is capable of supporting the minimum safety functions necessary to shut down the reactor and maintain it in a safe shutdown condition, assuming no single failure. The overall reliability is reduced, however, because a single failure in the remaining power distribution subsystems could result in the minimum required ESF functions not being supported. Therefore, required AC buses, load centers, motor control centers (MCCs), and distribution panels must be restored to OPERABLE status within 8 hours.

The worst scenario is one train without AC power (i.e., no offsite power to the train and the associated DG inoperable). In this Condition, the unit is more vulnerable to a complete loss of AC power. It is, therefore, imperative that the unit operator's attention

BASES

ACTIONS

A.1 (continued)

be focused on minimizing the potential for loss of power to the remaining train by stabilizing the unit, and on restoring power to the affected train. The 8 hour time limit before requiring a unit shutdown in this Condition is acceptable because of:

a. The potential for decreased safety if the unit operator's attention is diverted from the evaluations and actions necessary to restore power to the affected train, to the actions associated with taking the unit to shutdown within this time limit; and

b. The potential for an event in conjunction with a single failure of a redundant component in the train with AC power.

B.1, C.1, and D.1

Conditions B, C, and D allow specific safeguards AC electrical power distribution group MCCs, as identified in Table B 3.8.9-1, to be inoperable without declaring the entire bus or distribution subsystem inoperable. With one or more safeguards AC electrical power distribution, MCCs inoperable, the remaining AC electrical power distribution subsystems are capable of supporting the minimum safety functions necessary to shut down the reactor and maintain it in a safe shutdown condition, assuming no single failure. The overall reliability is reduced, however, because a single failure in the remaining power distribution subsystems could result in the minimum required ESF functions not being supported. Therefore, the Required Actions require the safeguards AC electrical power

BASES

ACTIONS B.1, C.1, and D.1 (continued)

distribution MCCs to be restored to OPERABLE status in accordance with Table B 3.8.9-1. The Completion Times for Required Actions B.1, C.1, D.1 are associated with 3 distinct groupings in Table B 3.8.9-1. The safeguards AC electrical power Group 1 MCCs (Required Action B.1) will be required to be restored to OPERABLE status within 8 hours, Group 2 (Required Action C.1) within 72 hours, and Group 3 (Required Action D.1) within 7 days. These groupings and associated Completion Times were derived by a review of the specific MCC to identify what loads are powered from the MCC. Once the loads were identified, they were compared to the applicable system, structure, or component. Once all equipment and associated Technical Specifications were identified, the most conservative Completion Times associated with that specific MCC were used for the Groupings in Table B 3.8.9-1.

The worst scenario is one train without AC power (i.e., no offsite power to the train and the associated DG inoperable). In this Condition, the unit is more vulnerable to a complete loss of AC power. It is, therefore, imperative that the unit operator's attention be focused on minimizing the potential for loss of power to the remaining train by stabilizing the unit, and on restoring power to the affected train. The Completion Times for B.1, C.1, and D.1 are acceptable because of:

a. The potential for decreased safety if the unit operator's attention is diverted from the evaluations and actions necessary to restore power to the affected train, to the actions associated with taking the unit to shutdown within this time limit; and

b. The potential for an event in conjunction with a single failure of a redundant component in the train with AC power.

BASES

ACTIONS (continued)

E.1, F.1 and G.1

Conditions E, F and G allow specific safeguards DC electrical power distribution subsystem Panels(s), identified in Table B 3.8.9-1, to be inoperable without declaring the entire bus or subsystem inoperable. With one or more safeguards DC electrical power distribution subsystem panel(s) inoperable, the remaining safeguards DC electrical power distribution subsystem is capable of supporting the minimum safety functions necessary to shut down the reactor and maintain it in a safe shutdown condition, assuming no single failure. The overall reliability is reduced, however, because a single failure in the remaining safeguards DC electrical power distribution subsystem could result in the minimum required ESF functions not being supported. Therefore, the DC panels must be restored to OPERABLE status in accordance with Table B 3.8.9-1 and Conditions E, F, and G Completion Times by powering the bus from the associated battery, charger, or portable charger.

The Completion Times for Required Actions E.1, F.1, and G.1 are associated with 3 distinct groupings in Table B 3.8.9-1. The safeguards DC electrical power distribution Group 1 DC Panels (Required Action E.1) will be required to be restored to OPERABLE status within 2 hours, Group 2 (Required Action F.1) within 8 hours, and Group 3 (Required Action G.1) within 7 days. These groupings and associated Completion Times were derived by a review of the specific DC Panel to identify what loads are powered from the DC Panel. Once the loads were identified, they were compared to the applicable system, structure, or component. Once all equipment and associated Technical Specifications were identified, the most conservative Completion Times associated with that specific DC Panel were used for the Groupings in Table B 3.8.9-1.

BASES

ACTIONS

E.1, F.1 and G.1 (continued)

The worst case scenario is one train without safeguards DC power; potentially with both the battery significantly degraded and the associated charger nonfunctioning. In this situation, the unit is significantly more vulnerable to a complete loss of all DC power. It is, therefore, imperative that the operator's attention focus on stabilizing the unit, minimizing the potential for loss of power to the remaining trains and restoring power to the affected train.

The Completion Times are more conservative than or the same as the Completion Times allowed for the associated components that would be without power. Taking exception to LCO 3.0.2 for components without adequate DC power, which would have shorter Required Action Completion Times, is acceptable because of:

a. The potential for decreased safety by requiring a change in unit conditions (i.e., requiring a shutdown) while allowing stable operations to continue;

b. The potential for decreased safety by requiring entry into numerous applicable Conditions and Required Actions for components without DC power and not providing sufficient time for the operators to perform the necessary evaluations and actions for restoring power to the affected train; and

c. The potential for an event in conjunction with a single failure of a redundant component.

BASES

ACTIONS (continued)

H.1

With one Reactor Protection Instrument AC Panel inoperable, the remaining OPERABLE Reactor Protection Instrument AC Panels are capable of supporting the minimum safety functions necessary to shut down the unit and maintain it in the safe shutdown condition. Overall reliability is reduced, however, since an additional single failure could result in the minimum ESF functions not being supported. Therefore, the Reactor Protection Instrument AC Panel must be restored to OPERABLE status within 2 hours by powering the panel from the associated inverter , inverter bypass transformer, or interruptible panel.

Condition H represents one Reactor Protection Instrument AC Panel without power. In this situation, the unit is significantly more vulnerable to a complete loss of all noninterruptible power. It is, therefore, imperative that the operator's attention focus on stabilizing the unit, minimizing the potential for loss of power to the remaining instrument panels and restoring power to the affected instrument panel.

This 2 hour limit is more conservative than Completion Times allowed for the vast majority of components that are without adequate instrument AC power. Taking exception to LCO 3.0.2 for components without adequate instrument AC power, that would have the Required Action Completion Times shorter than 2 hours if declared inoperable, is acceptable because of:

a. The potential for decreased safety by requiring a change in unit conditions (i.e., requiring a shutdown) and not allowing stable operations to continue;

BASES

ACTIONS

H.1 (continued)

b. The potential for decreased safety by requiring entry into numerous applicable Conditions and Required Actions for components without adequate instrument AC power and not providing sufficient time for the operators to perform the necessary evaluations and actions for restoring power to the affected train; and

c. The potential for an event in conjunction with a single failure of a redundant component.

The 2 hour Completion Time takes into account the importance to safety of restoring the Reactor Protection Instrument AC Panel to OPERABLE status, the redundant capability afforded by the other OPERABLE instrument panels, and the low probability of a DBA occurring during this period.

I.1 and I.2

If the inoperable distribution subsystem cannot be restored to OPERABLE status within the required Completion Time, the unit must be brought to a MODE in which the LCO does not apply. To achieve this status, the unit must be brought to at least MODE 3 within 6 hours and to MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging plant systems.

BASES

ACTIONS

I.1 (continued)

With two trains with inoperable distribution subsystems that result in a loss of safety function, adequate core cooling, containment OPERABILITY and other vital functions for DBA mitigation would be compromised. Condition I also addresses two or more Reactor Protection Instrument AC Panels inoperable. If the plant is in this Condition, an immediate plant shutdown in accordance with LCO 3.0.3 is required.

SURVEILLANCE REQUIREMENTS

SR 3.8.9.1

This Surveillance verifies that the required safeguards AC, DC, and Reactor Protection Instrument AC electrical power distribution systems, presented in Table B.3.8.9-1, are functioning properly, with the correct circuit breaker and switch alignment. The correct breaker and switch alignment ensures the appropriate separation and independence of the electrical divisions is maintained, and the appropriate voltage is available to each required subsystems. The verification of proper voltage ensures that the required voltage is readily available for motive as well as control functions for critical system loads. Various indications are available to the operators which demonstrate correct voltage for the subsystems. The 7 day Frequency takes into account the redundant capability of the safeguards AC, DC, and Reactor Protection Instrument AC electrical power distribution subsystems, and other indications available in the control room that alert the operator to subsystem malfunctions.

REFERENCES

1. USAR, Section 8.
2. USAR, Section 14.

Table B 3.8.9-1 (page 1 of 1)
Safeguards AC and DC Electrical Power Distribution Systems

TYPE	UNIT 1 TRAIN A AND B	UNIT 2 TRAIN A AND B
4 kV Buses	15, 16	25, 26
480 V Buses	111, 112, 121, 122	211, 212, 221, 222
Group 1 Motor Control Centers	1AC1, 1AC2	2AC1, 2AC2
Group 2 Motor Control Centers	1A1, 1A2, 1K1, 1K2, 1KA2 1L2, 1LA1, 1LA2 1R1, 1S1 1T1*, 1T2*	2A1 2A2 2K1, 2K2, 2KA2 2L2, 2LA1, 2LA2 2R1, 2S1 1T1*, 1T2*
Group 3 Motor Control Centers	1AB1*, 1AB2* 1L1, 1M1, 1M2 1MA1*, 1MA2* 1TA1, 1TA2 1X1, 1X2	1AB1*, 1AB2* 2L1, 2M1, 2M2 1MA1*, 1MA2* 2TA1, 2TA2 2X1, 2X2
Group 1 DC Panels	11, 12 15, 16	21, 22 25, 26
Group 2 DC Panels	151, 152 161, 162, 191	27, 28 251, 252, 261, 262
Group 3 DC Panels	14*, 19* 17*, 18* 153, 163,	14*, 19* 17*, 18* 253, 263
Reactor Protection Instrument AC Panels	111, 112, 113, 114	211, 212, 213, 214

* Denotes MCC's or Panels that are transferable between units.

A3.8-01

3.7.B. ~~During STARTUP OPERATION or POWER OPERATION, any of the following conditions of inoperability may exist for the times specified, provided STARTUP OPERATION is discontinued until OPERABILITY is restored.~~ If OPERABILITY is not restored within the time specified, place the affected unit(s) in at least ~~HOT SHUTDOWN~~ MODE 3 within the next 6 hours and be in ~~COLD SHUTDOWN~~ MODE 5 within the following 30 hours.

A3.8-17

R-4

LCO3.8.9 COND H

LCO3.8.1 COND F

LCO3.8.4 COND C

LCO3.8.7 COND B

1. One diesel generator ~~may be~~ inoperable for 7 days ~~provided (a) the OPERABILITY of the other diesel generator is demonstrated* by~~ performance ~~of~~ surveillance requirement 3.8.1.2 ~~4.6.A.1.c~~ within 24 hours or determine OPERABLE DG is not inoperable due to common cause failure within 24 hours. Declare required feature(s) supported by the inoperable DG inoperable when its required redundant feature(s) is inoperable 4 hours from discovery of Condition B concurrent with inoperability of redundant required feature(s). ~~**, (b) all engineered safety features equipment associated with the operable diesel generator is OPERABLE, (c)~~ the two required paths from the grid to the plant 4 kV safeguards distribution system are OPERABLE ~~and (d)~~ the OPERABILITY of the ~~two required~~ paths ~~from the grid~~ shall be verified OPERABLE within 1 hour and ~~at least~~ once per 8 hours thereafter.

LCO3.8.1 COND B

SR 3.8.1.2

M3.8-06

L3.8-59

R-3

L3.8-07

A3.8-10

2. One ~~of the two required~~ paths ~~from the grid to the unit 4 kV safeguards distribution system may be~~ inoperable for 7 days ~~provided (a) D1 and D2 (Unit 2: D5 and D6) diesel generators are already operating or are demonstrated to be OPERABLE by sequentially performing surveillance requirement 4.6.A.1.c on each diesel generator within 24 hours and (b)~~ the OPERABLE path ~~from the grid~~ shall be verified OPERABLE within 1 hour and ~~at least~~ once per 8 hours thereafter.

LCO3.8.1 COND A

L3.8-09

3. One ~~of the two required~~ paths ~~from the grid to the unit 4 kV safeguards distribution system~~ and one diesel generator ~~may be~~ inoperable for 12 hours ~~provided, (a) the OPERABILITY of the other diesel generator is demonstrated* by performance of Surveillance Requirement 4.6.A.1.c within 8 hours **, (b) all engineered safety features equipment associated with the OPERABLE diesel generator is OPERABLE, and (c) the OPERABLE path from the grid shall be verified OPERABLE within 1 hour and at least once per 8 hours thereafter.~~

LCO3.8.1 COND D

L3.8-09

A3.8-10

A3.8-01

3.7.B.5. ~~D1 and D2 (Unit 2: D5 and D6)~~ Two diesel generators ~~may~~ ~~be~~ inoperable for 2 hours ~~provided the~~ two required paths from the grid to the unit 4 kV safeguards distribution system are OPERABLE and the OPERABILITY of the two required paths from the grid are verified OPERABLE within 1 hour.

LCO3.8.1 COND E

LCO3.8.3

Add LCO 3.8.3, Required Action B:
Required DG fuel oil tank with stored fuel oil properties not within limits, Restore the fuel oil tank properties to within limits within 7 days

M3.8-14

Add LCO 3.8.3, Required Action C:
Required Action and associated Completion Time of Condition B not met, isolate the associated DG fuel oil tank immediately.

M3.8-14

Add LCO 3.8.3, Condition D:
Stored DG fuel oil supply for unit 1 < 40,000 gallons; unit 2 < 64,000 gallons OR Required Action and associated Completion Time of Conditions A and C not, declare associated DGs inoperable immediately.

M3.8-14

LCO3.8.9 COND A, B, C, and D

One 4 kV safeguards bus ~~(and/or its associated~~ 480 V buses inoperable, restore to OPERABLE with in 8 hours. ~~including associated~~ one or more safeguards AC electrical power distribution Group 1, 2, or 3 motor control centers~~) may be may be~~ inoperable ~~or not fully energized~~ restore to OPERABLE ~~for~~ in 8 hours, 72 hours or 7 days ~~provided the redundant 4 kV safeguards bus and its associated 480 V safeguards buses are verified OPERABLE and the diesel generator and safeguards equipment associated with the redundant train are OPERABLE.~~

L3.8-16

A3.8-63

L3.8-09

R-4

LCO3.8.4 COND A

7. One battery charger ~~may be~~ inoperable, restore the battery charger to OPERABLE status within for 8 hours verify ~~provided, (a)~~ its associated battery is OPERABLE~~, (b)~~ its redundant counterpart is verified OPERABLE ~~, and (c)~~ the diesel generator and safeguards equipment associated with its counterpart are OPERABLE within 2 hours.

M3.8-18

M3.8-19

LCO3.8.4 COND B

8. One battery ~~may be~~DC safeguards electrical power source inoperable for 8 hours verify ~~provided that~~ the other battery and both battery chargers remain OPERABLE within 2 hours.

R-2

9. ~~In addition to the requirements of Specification TS.3.7.A.7 a second inverter supplying Instrument AC Panels 111, 112, 113, and 114 may (Unit 2 panels 211, 212, 213 and 214) be powered from an inverter bypass source for 8 hours.~~

L3.8-09

LR3.8-02

~~TS.3.7-3~~
~~REV 110 5/17/94 (overflow)~~

ITS LCO3.8.7 Cond. A

Add LCO 3.8.7, Condition A:
One required Reactor Protection Instrument AC inverter inoperable, restore the inverter to OPERABLE status within 8 hours. A NOTE requires that entry into applicable Conditions and Required Actions of LCO 3.8.9 if any Reactor Protection Instrument AC Panel is de-energized.

A3.8-20

ITS LCO3.8.9 Cond. E, F, G, I and J

Add LCO 3.8.9, Condition H:
One reactor protection instrument AC Panel inoperable restore to OPERABLE status within 2 hours.

M3.8-21

M3.8-21

Add LCO 3.8.9, Condition E, F and G:
One or more safeguards DC electrical power distribution subsystem Groups 1 or 2 panels inoperable restore to OPERABLE status within 2 hours, 8 hours or 7 days.

L3.8-16

Add LCO 3.8.9, Condition J:
Two trains with inoperable distribution subsystems that result in a loss of safety function or two or more Reactor Protection Instrument AC Panels inoperable, enter LCO 3.0.3 immediately.

A3.8-22

R-4

L3.8-16

TS LCO3.8.3 PPLICABILITY

Add LCO 3.8.3 Applicability
"When the DG(s) is required to be OPERABLE"

A3.8-01

ITS LCO3.8.5 Cond. A, and B

ADD LCO 3.8.5, Conditions A and B.

M3.8-04

ITS LCO3.8.6 Cond. A, B, C, D, E, and F

ADD LCO 3.8.6, Conditions A, B, C, D, E, and F.

M3.8-04

NSHD category	Change number 3.8-	Discussion Of Change
A	01	(continued) therefore understandable, by plant operators and other users. During the reformatting, renumbering, and rewording process, no technical changes (either actual or interpretational) to the TS were made unless they were identified and justified. These changes are considered administrative changes since they do not change or delete any technical requirements.
LR	02	3.7.A. CTS 3.7.A.2, 3.7.A.3, 3.7.A.4, 3.7.A.5, 3.7.A.6, 3.7.A.7, and 3.7.B.9 The CTS contains various information that is not incorporated into the ITS because it does not meet the criteria in 10 CFR 50.36(c)(2)(ii). Therefore the following information is being relocated either to the ITS Bases or a Licensee Controlled Document: CTS 3.7.A.2 specifically identifies buses 15 and 16 (Unit 2 buses 25 and 26) for the 4kV safeguards buses. This information is currently discussed in detail in the USAR and also discussed in the ITS Bases 3.8.9. CTS 3.7.A.3 specifically states in part, "... buses 111, 112, 121, and 122 (Unit 2 busses: 211, 212, 221, and 222), and their safeguards motor control center ... ." The identification of the specific buses is important and is discussed in the USAR as well as the ITS Bases 3.8.9. CTS 3.7.A.4 again identifies specific buses 111, 112, 113, and 114 (Unit 2 buses: 211, 212, 213, and 214). This information is discussed in the USAR as well as the ITS Bases 3.8.9.

NSHD category	Change number 3.8-	Discussion Of Change
LR	02	(continued) CTS 3.7.A.5.a provides additional information about D1 and D2 diesel generator in Unit 1 such as the fuel tanks are interconnected. This information is discussed in the USAR as well as being relocated to the ITS Bases 3.8.3. CTS 3.7.A.5.b also provides information that the Unit 2 diesel generator fuel tanks are interconnected. This information is also being relocated to the ITS Bases 3.8.3. CTS 3.7.A.7 states, "No more than one of the Instrument AC Panels 111, 112, 113, and 114 (Unit 2 panels: 211, 212, 213, and 214) shall be powered from Panel 117 (Unit 2 panel: 217) or its associated instrument inverter bypass source." This information is being relocated to a Licensee Controlled Document such as the TRM or appropriate plant procedures. CTS 3.7.B.9 states that in addition to the requirements of Specification 3.7.A.7, a second inverter supplying instrument AC panels 111, 112, 113, and 114 (Unit 2 panels 211, 212, 213, and 214) may be powered from an inverter bypass source for 8 hours. This information does not meet the NRC criteria for inclusion into the ITS and therefore is being relocated to the TRM or plant procedures. These changes are consistent with NUREG-1431.

NSHD category	Change number 3.8-	Discussion Of Change
L	09	CTS 3.7.B.2, 3, 3**,4, 5, 6, and 9. CTS 3.7.B.2 requires that if a path is inoperable, the associated DG(s) either are already operating or are demonstrated to be OPERABLE by sequentially performing surveillance requirement 4.6.A.1.e on each DG within 24 hours. CTS SR 4.6.A.1.e is the equivalent to PI ITS SR 3.8.1.2. The ITS requires, for the same condition, the performance of SR 3.8.1.1 which verifies that the correct breaker alignment and indicated power is available for the OPERABLE path. There is no requirement to start the DGs, thereby minimizing starting, operating, stopping, and over testing of the DGs. The performance of ITS SR 3.8.1.1 ensures a highly reliable power source remains with one path inoperable. This is considered to be a less restrictive change since the ITS does not require the DGs to be tested and only requires verification of the other path. This change is consistent with NUREG-1431. CTS 3.7.B.3 requires that with one path and one DG inoperable, that the OPERABILITY of the other DG be demonstrated by the performance of CTS SR 4.6.A.1.e within 8 hours. CTS 4.6.A.1.e is the equivalent to PI ITS 3.8.1.2. The ITS only requires, for the same Condition, that either the path or DG be restored to OPERABLE status within 12 hours. While in this plant condition (ITS Condition D) and the inoperable path is restored to OPERABLE status, and the DG is still inoperable, ITS Condition B remains applicable. ITS Condition B provides for the option to either verify the paths are OPERABLE and declare the supported feature(s) of the inoperable DG inoperable and determine that there is not a common failure OR

NSHD category	Change number 3.8-	Discussion Of Change
L	09	(continued) perform SR 3.8.1.2 (CTS 4.6.A.1.e) within 24 hours. This is considered to be a less restrictive change since the ITS provides several options thus not only requiring the performance of the SR. In addition, the ITS allows 24 hours to perform the SR, not 12 hours as in the CTS. This change is consistent with NUREG-1431. CTS 3.7.B.4 requires that if two paths are inoperable, that both unit DGs are either running or are demonstrated to be OPERABLE by sequentially performing SR 4.6.A.1.e on each DG within 8 hours. ITS Condition C requires that the feature(s) be declared inoperable when its redundant required feature(s) are inoperable and to restore the path to OPERABLE status within 24 hours. The ITS does not require the DGs to be tested; therefore, this change is considered to be less restrictive. It is assumed that since they have passed their last SR and are not known otherwise to be inoperable, that they are in fact considered to be OPERABLE. With both of the required paths inoperable, sufficient onsite AC sources are available to maintain the unit in a safe shutdown condition in the event of a DBA or transient. This change is consistent with NUREG-1431. CTS 3.7.B.6 requires that when one or more 4 kV safeguards AC electrical power distribution subsystems is inoperable that the 4 kV safeguards bus and its associated 480V safeguards buses are verified to be OPERABLE and the DGs and safeguards equipment associated with the redundant train are OPERABLE.

NSHD category	Change number 3.8-	Discussion Of Change
L	09	(continued) The ITS requires that the 4 kV or the 480V safeguards bus be restored to OPERABLE status with no requirement to verify either the other train, DG, and safeguards equipment associated with the redundant train are OPERABLE. This is considered to be a less restrictive change since it eliminates CTS requirements. This change is consistent with NURGE-1431. CTS ** states that the performance of CTS SR 4.6.A.1.e (PI ITS 3.8.2) is required to be completed regardless of when the inoperable DG is restored to OPERABLE. This requirement does not exist in the ITS. If the SR is not due to be performed and not being used to demonstrate OPERABILITY of the DG, then it does not have to be completed once started. This is considered to be a less restrictive change and consistent with NUREG-1431.

NSHD category	Change number 3.8-	Discussion Of Change
L	16	CTS 3.7.B.6. CTS 3.7.B.6 allows restoration times for one 4 kV safeguards bus inoperable. ITS LCO 3.8.9, Conditions B, C, D, E, F and G allow one "or more" electrical power distributions systems to be inoperable for the same times, respectively. Concurrently, however, ITS LCO 3.8.9 Condition J is also added to require that if two or more Reactor Protection Instrument AC Panels are inoperable, resulting in a loss of function, enter ITS 3.0.3 immediately. The combination of the "or more" addition to ITS LCO 3.8.9 Conditions B, C, D, E, F and G and the addition of Condition J, along with ITS LCO 3.0.6, Safety Function Determination Program, ensure that with the loss of any electrical power distribution system, no loss of function will occur without the appropriate action. Therefore, this less restrictive change will have a negligible impact on safety.
A	17	CTS 3.7.B. CTS states that "any of the following conditions of inoperability may exist ..." This requirement prevents two or more of the listed conditions from existing at the same time. The limitation that only one condition of inoperability may exist is not explicitly stated in ISTS. In ISTS, these conditions may be in more than one specification. However, in the NUREG-1431 format, the SFDP exists to provide a mechanism to assure that entry into multiple TS Conditions will not result in loss of safety function. Thus, the SFDP limits these conditions from simultaneous existence when there is a loss of safety function. The Maintenance Rule will also assure that multiple equipment inoperabilities are evaluated for reduction of plant safety. Since the ITS includes provisions to address this clause, there is no net change in plant safety and this is an administrative change.

NSHD category	Change number 3.8-	Discussion Of Change
A	20	New Specification. ITS LCO 3.8.7, Condition A has been added to the CTS. This Condition requires that when one required reactor protection instrument AC Panel inverter is inoperable, restore the inverter to OPERABLE status within 8 hours. The 8 hour restoration time is consistent with CTS 3.7.B.9. The Note requires entry into applicable Conditions and Required Actions of LCO 3.8.9 with any instrument AC Panel de-energized. This change is considered to be administrative since it is consistent with the intent of the CTS and NUREG-1431.
M	21	New requirements. Add LCO 3.8.9, Conditions E, F, G and H. Conditions E, F and G state that with one or more safeguards DC electrical power distribution subsystem Group 1, 2 or 3 panels inoperable, restore to OPERABLE status within 2 hours, 8 hours or 7 days respectively. Condition H states that with one reactor protection instrument AC panel inoperable, restore the panel to OPERABLE status within 2 hours. These Completion Times and associated panels are listed in ITS Table B 3.8.9-1. The Completion Times take into account the importance of safety or restoring the equipment to OPERABLE status, the redundant capability afforded by the other OERABLE equipment, and the low probability of a DBA occurring during this period. These new requirements and Completion Times represent more restrictive changes since they are not currently in the CTS. These changes are consistent with NUREG-1431.

NSHD category	Change number 3.8-	Discussion Of Change
A	22	New Specification. LCO 3.8.9, Condition J has been added stating that with two trains with inoperable distribution subsystems that result in a loss of safety function, or two or more Reactor Protection Instrument AC Panels inoperable, enter LCO 3.0.3 immediately. Although not specifically stated as a Condition in the CTS, current operating practices would require entry into LCO 3.0.3 since there would not be any specific Action to enter. In other words, the rules of usage for the CTS would require LCO 3.0.3 entry. Specifically stating this Action in the ITS only provides clarification and does not add any requirements or Actions. This change is considered to be administrative and consistent with NUREG-1431.
A	23	CTS 3.7.B. Current PI TS do not contain shutdown TSs and allow service building DC electrical power subsystem components to be used in lieu of safeguards DC electrical power subsystem components when both safeguards DC electrical power subsystems are inoperable due to maintenance, testing, or repairs. This practice is acceptable since the PI service building DC electrical power subsystem components are designed to be an acceptable replacement for the safeguards DC electrical power subsystem components. This is considered to be an Administrative change since current procedures, plant design, and past operating practices have utilized the service building DC electrical power subsystem components as incorporated into the ITS.

NSHD category	Change number 3.8-	Discussion Of Change
A	63	CTS 3.7.B.6 requires that one 4 kV safeguards bus and/or its associated 480V bus including associated MCC may be inoperable or not fully energized for 8 hours provided that the 4 kV safeguards bus and its associated 480 V safeguards buses are verified to be OPERABLE and the DGs and safeguards equipment associated with the redundant train are OPERABLE. Based on PI design, current operating practices, and the intent of the CTS, PI may declare an individual safeguard AC electrical power distribution MCC or safeguards DC electrical power distribution Panel inoperable instead of declaring the entire distribution system or bus inoperable. When declaring the individual MCC or Panel inoperable in accordance with CTS, an evaluation has been preformed to see what TS equipment was powered from the inoperable MCC or Panel. The allowed outage time(s) (AOT) for the applicable TS equipment was used to determine the AOT for the specific MCC or Panel. This CTS allowance and operating practice is formalized and included into the ITS. The ITS now provides clearer and more distinct Conditions, Required Actions, and Completion Times to assist the operator by specifically reformatting the CTS allowing the restoration of the inoperable MCCs or panels to OPERABE status, by grouping the MCCs or panels and associated Completion Times, in accordance with Table B 3.8.9-1. The groupings and associated Completion Times were derived by a review of the specific panel and MCC to identify what loads are powered from the panel or MCC. Once the loads were identified, they were compared to the applicable system, structure, or component and

NSHD category	Change number 3.8-	Discussion Of Change
A	63	(continued) associated Technical Specification. Once all associated TS with a specific panel or MCC were identified, the most conservative Completion Time for that panel or MCC was used for the grouping.

PACKAGE 3.8

ELECTRICAL POWER SYSTEMS

PART E

MARKUP OF NUREG-1431 IMPROVED STANDARD TECHNICAL SPECIFICATIONS AND BASES

List of Pages

3.8.1-1	3.8.2-5	3.8.10-3	B 3.8.1-27	B 3.8.2-9	B 3.8.5-5	B 3.8.9-4
3.8.1-2	3.8.3-1	B 3.8.1-1	B 3.8.1-28	B 3.8.3-1	B 3.8.5-6	B 3.8.9-5
3.8.1-3	3.8.3-2	B 3.8.1-2	B 3.8.1-29	B 3.8.3-2	B 3.8.5-7	B 3.8.9-6
3.8.1-4	3.8.3-3	B 3.8.1-3	B 3.8.1-30	B 3.8.3-3	B 3.8.6-1	B 3.8.9-7
3.8.1-5	3.8.3-4	B 3.8.1-4	B 3.8.1-31	B 3.8.3-4	B 3.8.6-2	B 3.8.9-8
3.8.1-6	3.8.3-5	B 3.8.1-5	B 3.8.1-32	B 3.8.3-5	B 3.8.6-3	B 3.8.9-9
3.8.1-7	3.8.4-1	B 3.8.1-6	B 3.8.1-33	B 3.8.3-6	B 3.8.6-4	B 3.8.9-10
3.8.1-8	3.8.4-2	B 3.8.1-7	B 3.8.1-34	B 3.8.3-7	B 3.8.6-5	B 3.8.9-11
3.8.1-9	3.8.4-3	B 3.8.1-8	B 3.8.1-35	B 3.8.3-8	B 3.8.6-6	B 3.8.9-12
3.8.1-10	3.8.5-1	B 3.8.1-9	B 3.8.1-36	B 3.8.3-9	B 3.8.6-7	B 3.8.9-13
3.8.1-11	3.8.5-2	B 3.8.1-10	B 3.8.1-37	B 3.8.3-10	B 3.8.6-8	B 3.8.9-14
3.8.1-12	3.8.5-3	B 3.8.1-11	B 3.8.1-38	B 3.8.3-11	B 3.8.7-1	B 3.8.9-15
3.8.1-13	3.8.6-1	B 3.8.1-12	B 3.8.1-39	B 3.8.3-12	B 3.8.7-2	B 3.8.9-16
3.8.1-14	3.8.6-2	B 3.8.1-13	B 3.8.1-40	B 3.8.4-1	B 3.8.7-3	B 3.8.10-1
3.8.1-15	3.8.6-3	B 3.8.1-14	B 3.8.1-41	B 3.8.4-2	B 3.8.7-4	B 3.8.10-2
3.8.1-16	3.8.6-4	B 3.8.1-15	B 3.8.1-42	B 3.8.4-3	B 3.8.7-5	B 3.8.10-3
3.8.1-17	3.8.7-1	B 3.8.1-16	B 3.8.1-43	B 3.8.4-4	B 3.8.7-6	B 3.8.10-4
3.8.1-18	3.8.7-2	B 3.8.1-17	B 3.8.1-44	B 3.8.4-5	B 3.8.8-1	B 3.8.10-5
3.8.1-19	3.8.7-3	B 3.8.1-18	B 3.8.1-45	B 3.8.4-6	B 3.8.8-2	B 3.8.10-6
3.8.1-20	3.8.8-1	B 3.8.1-19	B 3.8.2-1	B 3.8.4-7	B 3.8.8-3	B 3.8.10-7
3.8.1-21	3.8.8-2	B 3.8.1-20	B 3.8.2-2	B 3.8.4-8	B 3.8.8-4	B 3.8.10-8
3.8.1-22	3.8.8-3	B 3.8.1-21	B 3.8.2-3	B 3.8.4-9	B 3.8.8-5	
3.8.1-23	3.8.9-1	B 3.8.1-22	B 3.8.2-4	B 3.8.4-10	B 3.8.8-6	
3.8.2-1	3.8.9-2	B 3.8.1-23	B 3.8.2-5	B 3.8.5-1	B 3.8.8-7	
3.8.2-2	3.8.9-3	B 3.8.1-24	B 3.8.2-6	B 3.8.5-2	B 3.8.9-1	
3.8.2-3	3.8.10-1	B 3.8.1-25	B 3.8.2-7	B 3.8.5-3	B 3.8.9-2	
3.8.2-4	3.8.10-2	B 3.8.1-26	B 3.8.2-8	B 3.8.5-4	B 3.8.9-3	

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
UNITS 1 AND 2

Improved Technical Specifications
Conversion Submittal

PA3.8-100

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.7.1	Verify correct inverter voltage~~,~~ ~~[frequency,]~~ and alignment to required Reactor Protection Instrument AC ~~vital buses~~Panels.	7 days PA3.8-102

PA3.8-100

3.8 ELECTRICAL POWER SYSTEMS

3.8.9 Distribution Systems – Operating

LCO 3.8.9 Train A and Train B safeguards AC~~,~~ and DC, and Reactor Protection Instrument AC ~~vital bus~~ electrical power distribution subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One 4kV or 480 V bus inoperable.	A.1 Restore bus to OPERABLE status.	8 hours CL3.8-213
~~A~~B. One or more safeguards AC electrical power distribution Group 1 MCCs inoperable.	~~A~~B.1 Restore safeguards AC electrical power distribution ~~subsystem~~Group 1 to OPERABLE status.	8 hours ~~AND~~ CL3.8-165 ~~16 hours from discovery of failure to meet LCO~~ CL3.8-213
C. One or more safeguards AC electrical power distrubution Group 2 MCCs inoperable.	C.1 Restore safeguards AC electrical power distrubution Group 2 MCCs to OPERABLE status.	72 hours CL3.8-213

R-4

PA3.8-100

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One or more safeguards AC electrical power distrubution Group 3 MCCs inoperable.	D.1 Restore safegurds AC electrical power distrubution Group 3 MCCs to OPERABLE status.	7 days CL3.8-213
~~B~~H. One Reactor Protection Instrument AC ~~vital bus~~Panel inoperable.	~~B~~H.1 Restore Reactor Protection Instrument AC ~~vital bus subsystem~~Panel to OPERABLE status.	2 hours ~~AND~~ CL3.8-165 ~~16 hours from discovery of failure to meet LCO~~
~~C~~E. One or more safeguards DC electrical power distribution subsystem Group 1 Panels inoperable.	~~C~~E.1 Restore safeguards DC electrical power distribution subsystem Group 1 Panels to OPERABLE status.	2 hours ~~AND~~ CL3.8-213 ~~16 hours from discovery of failure to meet LCO~~
F. One or more safeguards DC electrical power distrubution subsystem Group 2 Panels inoperable.	F.1 Restore safeguards DC electrical power distribution subsystem Group 2 Panels to OPERABLE status.	8 hours CL3.8-213

R-4

PA3.8-100

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
G. One or more safeguards DC electrical power distrubution subsystem Group 3 Panels inoperable.	G.1 Restore safeguards DC electrical power distribution subsystem Group 3 Panels to OPERABLE status.	7 days CL3.8-213
		(continued)
~~H~~I. Required Action and associated Completion Time not met.	~~H~~I.1 Be in MODE 3. AND ~~H~~I.2 Be in MODE 5.	6 hours 36 hours
~~E~~J. Two trains with inoperable distribution subsystems that result in a loss of safety function. OR Two or more Reactor Protection Instrument AC Panels inoperable.	~~E~~J.1 Enter LCO 3.0.3.	Immediately CL3.8-214

R-4

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.9.1	Verify correct breaker and switch alignments and voltage to ~~[required]~~ safeguards AC, DC, and Reactor Protection Instrument AC ~~vital bus~~ electrical power distribution subsystems.	7 days

PA3.8-100 | CL3.8-145

BASES

~~APPLICABILITY (continued)~~ ~~and starting air are~~ is required to be within limits when the ~~associated~~ DG(s) is required to be OPERABLE.

ACTIONS

~~The ACTIONS Table is modified by a Note indicating that separate Condition entry is allowed for each DG. This is acceptable, since the Required Actions for each Condition provide appropriate compensatory actions for each inoperable DG subsystem. Complying with the Required Actions for one inoperable DG subsystem may allow for continued operation, and subsequent inoperable DG subsystem(s) are governed by separate Condition entry and application of associated Required Actions.~~ PA3.8-134

A.1

In this Condition, the ~~7~~14 day fuel oil supply for ~~the~~a DG(s) is not available. However, the Condition is restricted to fuel oil supply~~level~~ reductions that maintain at least a ~~6~~12 day supply. These circumstances may be caused by events, such as full load operation required after an inadvertent start while at minimum required supply~~level~~, or feed and bleed operations, which may be necessitated by increasing particulate levels or any number of other oil quality degradations. This restriction allows sufficient time for obtaining the requisite replacement volume and performing the analyses required prior to addition of fuel oil to the tank(s). A period of 48 hours is considered sufficient to complete restoration of the required supply~~level~~ prior to declaring the DGs inoperable. This period is acceptable based on the remaining capacity (> ~~6~~12 days), the fact that procedures will be initiated to obtain replenishment, and the low probability of an event during this brief period. CL3.8-152 R-3

(continued)

PA3.8-100

BASES (continued)

APPLICABILITY The electrical power distribution subsystems are required to be OPERABLE in MODES 1, 2, 3, and 4 to ensure that:

a. Acceptable fuel design limits and reactor coolant pressure boundary limits are not exceeded as a result of AOOs ~~or abnormal transients~~; and CL3.8-205

b. Adequate core cooling is provided, and containment OPERABILITY and other vital functions are maintained in the event of a postulated DBA.

Electrical power distribution subsystem requirements for MODES 5 and 6 are covered in the Bases for LCO 3.8.10, "Distribution Systems – Shutdown."

ACTIONS A.1

With one 4kV or 480 V bus inoperable, the remaining AC electrical power distribution subsystem in the other train is capable of supporting the minimum safety functions necessary to shut down the reactor and maintain it in a safe shutdown condition, assuming no single failure. The overall reliability is reduced, however, because a single failure in the remaining power distribution subsystems could result in the minimum required ESF functions not being supported. Therefore, required AC buses, load centers, motor control centers (MCCs), and distribution panels must be restored to OPERABLE status within 8 hours. CL3.8-213 CL3.8-213

The worst scenario is one train without AC power (i.e., no offsite power to the train and the associated DG inoperable). In this Condition, the unit is more vulnerable to a complete loss of AC power. It is, therefore, imperative that the unit operator's attention be focused on minimizing the potential for loss of power to the remaining train by stabilizing the unit, and on restoring power to the

R-4

(continued)

affected train. The 8 hour time limit before requiring a unit shutdown in this Condition is acceptable because of:

CL3.8-213

a. The potential for decreased safety if the unit operator's attention is diverted from the evaluations and actions necessary to restore power to the affected train, to the actions associated with taking the unit to shutdown within this time limit; and

b. The potential for an event in conjunction with a single failure of a redundant component in the train with AC power.

B.1, C.1, and D.1

CL3.8-213

Conditions B, C, and D allow specific safeguards AC electrical power distribution group MCCs, as identified in Table B 3.8.9-1, to be inoperable without declaring the entire bus or distribution subsystem inoperable. With one or more ~~required~~ safeguards AC electrical power distrubution~~buses, load centers, motor control centers~~MCCs inoperable, ~~or distribution panels, except AC vital buses, in one train inoperable,~~ the remaining AC electrical power distribution subsystems ~~in the other train is~~are capable of supporting the minimum safety functions necessary to shut down the reactor and maintain it in a safe shutdown condition, assuming no single failure. The overall reliability is reduced, however, because a single failure in the remaining power distribution subsystems could result in the minimum required ESF functions not being supported. Therefore, the Required Actions require~~d AC buses, load centers,~~ the safeguards AC electrical power distribution MCCs~~motor control centers, and distribution panels must~~ to be restored to OPERABLE status ~~within 8 hours~~in accordance with Table B 3.8.9-1. The

CL3.8-213

CL3.8-213

R-4

(continued)

Completion Times for Required Actions B.1, C.1, and D.1 are associated with 3 distinct groupings in Table B 3.8.9-1. The safeguards AC electrical power Group 1 MCCs (Required Action B.1) will be required to be restored to OPERABLE status within 8 hours, Group 2 (Required Action C.1) within 72 hours, and Group 3 (Required Action D.1) within 7 days. These groupings and associated Completion Times were derived by a review of the specific MCC to identify what loads are powered from the MCC. Once the loads were identified, they were compared to the applicable system, structure, or component. Once all equipment and associated Technical Specifications were identified, the most conservative Completion Times associated with that specific MCC were used for the Groupings in Table B 3.8.9-1.

R-4

~~Condition A~~The worst scenario is one train without AC power (i.e., no offsite power to the train and the associated DG inoperable). In this Condition, the unit is more vulnerable to a complete loss of AC power. It is, therefore, imperative that the unit operator's attention be focused on minimizing the potential for loss of power to the remaining train by stabilizing the unit, and on restoring power to the affected train. The ~~8 hour~~Completion T~~t~~imes for B.1, C.1, and D.1 are~~limit before requiring a unit shutdown in this Condition is~~ acceptable because of:

R-4

a. The potential for decreased safety if the unit operator's attention is diverted from the evaluations and actions necessary to restore power to the affected train, to the actions associated with taking the unit to shutdown within this time limit; and

b. The potential for an event in conjunction with a single failure of a redundant component in the train with AC power.

CL3.8-165

~~The second Completion Time for Required Action A.1 establishes a limit on the maximum time allowed for any~~

(continued)

~~combination of required distribution subsystems to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition A is entered while, for instance, a DC bus is inoperable and subsequently restored OPERABLE, the LCO may already have been not met for up to 2 hours. This could lead to a total of 10 hours, since initial failure of the LCO, to restore the AC distribution system. At this time, a DC circuit could again~~

~~ACTIONS~~ ~~A.1 (continued)~~

~~become inoperable, and AC distribution restored OPERABLE. This could continue indefinitely.~~

~~The Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This will result in establishing the "time zero" at the time the LCO was initially not met, instead of the time Condition A was entered. The 16 hour Completion Time is an acceptable limitation on this potential to fail to meet the LCO indefinitely~~.

~~B~~H.1

With one Reactor Protection Instrument AC Panel~~vital bus~~ inoperable, the remaining OPERABLE Reactor Protection Instrument AC Panels~~vital buses~~ are capable of supporting the minimum safety functions necessary to shut down the unit and maintain it in the safe shutdown condition. Overall reliability is reduced, however, since an additional single failure could result in the minimum ~~[required]~~ ESF functions not being supported. Therefore, the~~required~~ Reactor Protection Instrument AC Panel~~vital bus~~ must be restored to OPERABLE status within 2 hours by powering the panel~~bus~~ from the associated ~~[~~inverter ~~via inverted DC~~, inverter ~~using internal AC~~

R-4

CL3.8-213

R-4

(continued)

~~source, or Class 1E constant voltage~~bypass transformer~~],~~ or interruptible panel.

Condition ~~B~~H represents one Reactor Protection Instrument AC ~~vital bus~~Panel without power~~; potentially both the DC source and the associated AC source are nonfunctioning~~. In this situation, the unit is significantly more vulnerable to a complete loss of all noninterruptible power. It is, therefore, imperative that the operator's attention focus on stabilizing the unit, minimizing the potential for loss of power to the remaining instrument~~vital buses~~panels and restoring power to the affected instrument~~vital bus~~panel. CL3.8-167 R-4

This 2 hour limit is more conservative than Completion Times allowed for the vast majority of components that are without adequate instrument~~vital~~ AC power. Taking exception to LCO 3.0.2 for components without adequate instrument~~vital~~ AC power, that would have the Required Action Completion Times shorter than 2 hours if declared inoperable, is acceptable because of:

~~ACTIONS~~ ~~B.1 (continued)~~

a. The potential for decreased safety by requiring a change in unit conditions (i.e., requiring a shutdown) and not allowing stable operations to continue;

b. The potential for decreased safety by requiring entry into numerous ~~A~~applicable Conditions and Required Actions for components without adequate instrument~~vital~~ AC power and not providing sufficient time for the operators to perform the necessary

(continued)

evaluations and actions for restoring power to the affected train; and

c. The potential for an event in conjunction with a single failure of a redundant component.

The 2 hour Completion Time takes into account the importance to safety of restoring the Reactor Protection Instrument AC ~~vital bus~~Panel to OPERABLE status, the redundant capability afforded by the other OPERABLE instrument~~vital buses~~ panels, and the low probability of a DBA occurring during this period.

~~The second Completion Time for Required Action B.1 establishes a limit on the maximum allowed for any combination of required distribution subsystems to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition B is entered while, for instance, an AC bus is inoperable and subsequently returned OPERABLE, the LCO may already have been not met for up to 8 hours. This could lead to a total of 10 hours, since initial failure of the LCO, to restore the vital bus distribution system. At this time, an AC train could again become inoperable, and vital bus distribution restored OPERABLE. This could continue indefinitely.~~ CL3.8-165

~~This Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This will result in establishing the "time zero" at the time the LCO was initially not met, instead of the time Condition B was entered. The 16 hour Completion Time is an acceptable limitation on this potential to fail to meet the LCO indefinitely.~~

(continued)

PA3.8-100

BASES

ACTIONS (continued)

~~CE~~.1, F.1 and G.1

CL3.8-213

Conditions E, F and G allow specific safeguards DC electrical power distribution subsystem Panels(s), identified in Table B 3.8.9-1, to be inoperable without declaring the entire bus or subsystem inoperable. With one or more safeguards DC electrical power distribution subsystem panel(s)~~bus(es) in one train~~ inoperable, the remaining safeguards DC electrical power distribution subsystems~~ are~~ is capable of supporting the minimum safety functions necessary to shut down the reactor and maintain it in a safe shutdown condition, assuming no single failure. The overall reliability is reduced, however, because a single failure in the remaining safeguards DC electrical power distribution subsystem could result in the minimum required ESF functions not being supported. Therefore, the ~~[required]~~ DC panels~~buses~~ must be restored to OPERABLE status ~~within 2 hours~~ in accordance with Table B 3.8.9-1 and Conditions E, F and G Completion Times by powering the bus from the associated battery, ~~or~~ charger, or portable charger.

R-4

R-4

The Completion Times for Required Actions E.1, F.1, and G.1 are associated with 3 distinct groupings in Table B 3.8.9-1. The safeguards DC electrical power distribution Group 1 DC Panels (Required Action E.1) will be required to be restored to OPERABLE status within 2 hours, Group 2 (Required Action F.1) within 8 hours, and Group 3 (Required Action G.1) within 7 days. These groupings and associated Completion Times were derived by a review of the specific DC Panel to identify what loads are powered from the DC Panel. Once the loads were identified, they were compared to the applicable system, structure, or component. Once all equipment and associated Technical Specifications were identified, the most conservative Completion Times associated with that specific DC Panel were used for the Groupings in Table B 3.8.9-1.

R-4

(continued)

~~Condition C represents one train~~The worst case scenario is one train without ~~adequate~~ safeguards DC power; potentially with both ~~with~~ the battery significantly degraded and the associated charger nonfunctioning. In this situation, the unit is significantly more vulnerable to a complete loss of all DC power. It is, therefore, imperative that the operator's attention focus on stabilizing the unit, minimizing the potential for loss of power to the remaining trains and restoring power to the affected train. R-4

~~This 2 hour limit is~~The Completion Times are more conservative than or the same as the Completion Times allowed for the associated ~~vast majority of~~ components that would be without power. Taking exception to LCO 3.0.2 for components without adequate DC power, which would have shorter Required Action Completion Times ~~shorter than 2 hours~~, is acceptable because of: R-4

a. The potential for decreased safety by requiring a change in unit conditions (i.e., requiring a shutdown) while allowing stable operations to continue;

b. The potential for decreased safety by requiring entry into numerous applicable Conditions and Required Actions for components without DC power and not providing sufficient time for the operators to perform the necessary evaluations and actions for restoring power to the affected train; and

c. The potential for an event in conjunction with a single failure of a redundant component.

~~The 2 hour Completion Time for DC buses is consistent with Regulatory Guide 1.93 (Ref. 3).~~

~~ACTIONS~~ ~~C.1 (continued)~~ PA3.8-169 R-4

CL3.8-165

(continued)

~~The second Completion Time for Required Action C.1 establishes a limit on the maximum time allowed for any combination of required distribution subsystems to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition C is entered while, for instance, an AC bus is inoperable and subsequently returned OPERABLE, the LCO may already have been not met for up to 8 hours. This could lead to a total of 10 hours, since initial failure of the LCO, to restore the DC distribution system. At this time, an AC train could again become inoperable, and DC distribution restored OPERABLE. This could continue indefinitely.~~

~~This Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This will result in establishing the "time zero" at the time the LCO was initially not met, instead of the time Condition C was entered. The 16 hour Completion Time is an acceptable limitation on this potential to fail to meet the LCO indefinitely.~~

~~D~~I.1 and ~~D~~I.2

R-4

If the inoperable distribution subsystem cannot be restored to OPERABLE status within the required Completion Time, the unit must be brought to a MODE in which the LCO does not apply. To achieve this status, the unit must be brought to at least MODE 3 within 6 hours and to MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging plant systems.

(continued)

BASES (continued)

~~E~~J.1

With two trains with inoperable distribution subsystems that result in a loss of safety function, adequate core cooling, containment OPERABILITY and other vital functions for DBA mitigation would be compromised~~,~~. Condition I also addresses two or more Reactor Protection Instrument AC Panels inoperable. If the plant is in this Condition, and immediate plant shutdown in accordance with LCO 3.0.3 is required.

R-4

CL3.8-214

R-4

SURVEILLANCE REQUIREMENTS

SR 3.8.9.1

This Surveillance verifies that the ~~[~~required~~]~~ safeguards AC, DC, and Reactor Protection Instrument AC ~~vital bus~~ electrical power distribution systems, presented in Table B 3.8.9-1, are functioning properly, with the correct circuit breaker and switch alignment. The correct breaker and switch alignment ensures the appropriate separation and independence of the electrical divisions is maintained, and the appropriate voltage is available to each required subsystem ~~bus~~. The verification of proper voltage ~~availability on the buses~~ ensures that the required voltage is readily available for motive as well as control functions for critical system loads ~~connected to these buses~~. Various indications are available to the operators which demonstrate correct voltage for the subsystems. The 7 day Frequency takes into account the redundant capability of the safeguards AC, DC, and Reactor Protection Instrument AC ~~vital bus~~ electrical power distribution subsystems, and other indications available in the control room that alert the operator to subsystem malfunctions.

REFERENCES

1. UFSAR, Section 8~~Chapter [6]~~.
2. UFSAR, Section 14~~Chapter [15]~~.

CL3.8-172

BASES (continued)

~~3. Regulatory Guide 1.93, December 1974.~~

(continued)

~~Table B 3.8.9-1 (page 1 of 1)~~
~~AC and DC Electrical Power Distribution Systems~~

~~TYPE~~	~~VOLTAGE~~	~~TRAIN A *~~	~~TRAIN B*~~
~~AC buses~~	~~[4160 V]~~	~~[ESF Bus] [NB01]~~	~~[ESF Bus] [NB02]~~
	~~[480 V]~~	~~Load Centers [NG01, NG03]~~	~~Load Centers [NG02, NG04]~~
	~~[480 V]~~	~~Motor Control Centers [NG01A, NG01I, NG01B, NG03C, NG03I, NG03D]~~	~~Motor Control Centers [NG02A, NG02I, NG02B, NG04C, NG04I, NG04D]~~
	~~[120 V]~~	~~Distribution Panels [NP01, NP03]~~	~~Distribution Panels [NP02, NP04]~~
~~DC buses~~	~~[125 V]~~	~~Bus [NK01]~~	~~Bus [NK02]~~
		~~Bus [NK03]~~	~~Bus [NK04]~~
		~~Distribution Panels [NK41, NK43, NK51]~~	~~Distribution Panels [NK42, NK44, NK52]~~
~~AC vital buses~~	~~[120 V]~~	~~Bus [NN01]~~	~~Bus [NN02]~~
		~~Bus [NN03]~~	~~Bus [NN04]~~

~~* Each train of the AC and DC electrical power distribution systems is a subsystem.~~

(continued)

Table B 3.8.9-1 (page 1 of 1)
Safeguards AC and DC Electrical Power Distribution Systems

TYPE	UNIT 1 TRAIN A AND B	UNIT 2 TRAIN A AND B
4 kV Buses	15, 16	25, 26
480 V Buses	111, 112, 121, 122	211, 212, 221, 222
Group 1 Motor Control Centers	1AC1, 1AC2	2AC1, 2AC2
Group 2 Motor Control Centers	1A1, 1A2, 1K1, 1K2, 1KA2 1L2, 1LA1, 1LA2 1R1, 1S1 1T1*, 1T2*	2A1 2A2 2K1, 2K2, 2KA2 2L2, 2LA1, 2LA2 2R1, 2S1 1T1*, 1T2*
Group 3 Motor Control Centers	1AB1*, 1AB2* 1L1, 1M1, 1M2 1MA1*, 1MA2* 1TA1, 1TA2 1X1, 1X2	1AB1*, 1AB2* 2L1, 2M1, 2M2 1MA1*, 1MA2* 2TA1, 2TA2 2X1, 2X2
Group 1 DC Panels	11, 12 15, 16	21, 22 25, 26
Group 2 DC Panels	151, 152 161, 162, 191	27, 28 251, 252, 261, 262
Group 3 DC Panels	14*, 19* 17*, 18* 153, 163	14*, 19* 17*, 18* 253, 263
Reactor Protection Instrument AC Panels	111, 112, 113, 114	211, 212, 213, 214

* Denotes MCC's or Panels that are transferable between units.

(continued)

R-4

PART F

PACKAGE 3.8

ELECTRICAL POWER SYSTEMS

JUSTIFICATION FOR DIFFERENCES FROM IMPROVED STANDARD TECHNICAL SPECIFICATIONS (NUREG-1431) AND BASES

See Part E for specific proposed wording and location of referenced deviations.

Difference Category	Difference Number 3.8-	Justification for Differences
PA	100	During the development certain wording preferences, English conventions, reformatting, renumbering, providing additional descriptive information as related to Prairie Island (PI), or editorial rewording consistent with plant specific nomenclature, system names, design, or current licensing basis were adopted. Bases for LCO 3.8.1, 3.8.2, 3.8.3, 3.8.4, 3.8.5, 3.8.6, 3.8.7, 3.8.8, 3.8.9, and 3.8.10 have been revised to add specific details from the CTS, design manuals, and P&IDs, and Surveillance details. As a result, the Technical Specifications (TS) should be more readily readable by, and therefore understandable to, plant operators and other users. During this process, no technical changes (either actual or interpretational) were made to the TS unless they were identified and justified.

Difference Category	Difference Number 3.8-	Justification for Differences
PA	212	(continued) Plant procedures will ensure that the DC electrical power subsystem components will perform their intended safety function. The time in which the service building DC electrical subsystem components can be used in lieu of the safeguards DC electrical power will be limited to the time the safeguards DC electrical power subsystem components are inoperable due to maintenance, testing, or replacement.

Difference Category	Difference Number 3.8-	Justification for Differences
CL	213	NUREG-1431 LCO 3.8.9, Required Actions A, B, C, D, E, F and G and their associated Bases have been revised based on PI design and practices. ITS 3.8.9 has been rewritten in order to declare a specific MCC or Panel inoperable instead of declaring the entire distribution subsystem inoperable as currently required by the NUREG. The safeguards AC electrical power distribution subsystems have been divided into 3 distinct groupings. The safeguards AC electrical power distribution Group 1 MCCs will be required to be restored to OPERABLE status within 8 hours, Group 2 within 72 hours, and Group 3 within 7 days. The safeguards DC 125 V DC Panels have also been divided into 3 groupings. Group 1 requires the Panel to be restored to OPERABLE status within 2 hours, Group 2 within 8 hours and Group 3 within 7 days. These groupings and associated Completion Times were derived by reviewing the specific MCC or Panel to identify what loads are powered from the Panel or MCC. Once the loads were identified, they were compared to the applicable systems, structures, or components (SSC) and then the applicable TS was identified with appropriate Required Actions and Completion Times. Once all SSCs and TSs were identified, the most conservative Completion Time associated with the specific Panel or MCC was used to place the Panel or MCC into a specific Group.

Difference Category	Difference Number 3.8-	Justification for Differences
CL	214	NUREG-1431 LCO 3.8.9 Required Action I has been revised by adding the following, "Two or more Reactor Protection Instrument AC Panels inoperable, Enter LCO 3.0.3, Immediately." This Required Action has been added to provide specific Actions when two or more Reactor Instrument AC panels are inoperable, since the instrument AC panels are distinct from "Two trains...". The ISTS does not currently specify this condition.
PA	215	NUREG-1431, Rev. 1 LCO 3.8.2, Required Action A.1, LCO 3.8.8, Required Action A.1 and associated Bases have been deleted. The rational for the subject Required Actions A.1 was based on NUREG-1431, Rev.1 which would, in certain conditions, require more than one safeguards bus or inverter required to be OPERABLE. With one of two or more required safeguards bus or inverter inoperable, the remaining safeguards bus(s) or inverter(s) might be able to power all necessary loads. In such a case, it is acceptable to declare inoperable required features associated with the inoperability. However, with only one safeguards bus or inverter required, the above conditions do not exist, and the option to declare required features inoperable is not appropriate. Therefore, Required Action A.1 is being deleted.

Difference Category	Difference Number 3.8-	Justification for Differences
CL	216	NUREG-1431 Bases 3.8.7, Background Section has been revised by deleting the following sentence, "Specific details on inverters and their operating characteristics are found in the USAR." This statement is being deleted because the PI USAR does not contain this detailed information.
PA	217	NUREG-1431 Bases 3.8.7 and 3.8.8, Applicable Safety Analyses Section has been revised by changing the last sentence to be consistent with the rest of the ISTS.

Part G

PACKAGE 3.8

ELECTRICAL POWER SYSTEMS

NO SIGNIFICANT HAZARDS DETERMINATION AND ENVIRONMENTAL ASSESSMENT

NO SIGNIFICANT HAZARDS DETERMINATION

The proposed changes to the Operating License have been evaluated to determine whether they constitute a significant hazards consideration as required by 10CFR Part 50, Section 50.91 using the standards provided in Section 50.92.

For ease of review, the changes are evaluated in groupings according to the type of change involved. A single generic evaluation may suffice for some of the changes while others may require specific evaluation in which case the appropriate reference change numbers are provided.

A - Administrative (GENERIC NSHD)

(A3.8-01, A3.8-10, A3.8-13, A3.8-15, A3.8-17, A3.8-20, A3.8-22, A3.8-23, A3.8-25, A3.8-30, A3.8-38, A3.8-39, A3.8-40, A3.8-51, A3.8-53, A3.8-56, A3.8-57, A3.8-58, A3.8-60, A3.8-62 and A3.8-63)

Most administrative changes have not been marked-up in the CTS, and may not be specifically referenced to a discussion of change (DOC). This NSHD may be referenced in a discussion of change by the suffix "A" if the change is not obviously an administrative change and requires an explanation.

These proposed changes are editorial in nature. They involve reformatting, renaming, renumbering, or rewording of existing TS to provide consistency with NUREG-1431 or conformance with the Writer's Guide, change of current plant terminology to conform to NUREG-1431 or change of NUREG-1431 terminology to conform to CTS. Some administrative changes involve relocation of requirements within the TS without affecting their technical content. Clarifications within the NEW PI ITS which do not impose new requirements on plant operation are also considered administrative.

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
3.7.B.3		LCO	3.8.1	
3.7.B.4		LCO	3.8.1	
New		LCO	3.8.1	
3.7.B.5		LCO	3.8.1	
New		LCO	3.8.3	
3.7.B.6		LCO	3.8.9	
3.7.B.7		LCO	3.8.4	
3.7.B.8		LCO	3.8.4	
3.7.B.9			Relocated - TRM	
New		LCO	3.8.3	
New		LCO	3.8.7	
New		LCO	3.8.9	
3.7.B Note*		LCO	3.8.1	
3.7.B Note**			Deleted	

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 3.5-2A	Action 6	LCO	3.3.1 E	
Table 3.5-2A	Action 6	LCO	3.3.1 K	
Table 3.5-2A	Action 6	LCO	3.3.1 N	
Table 3.5-2A	Action 7	LCO	3.3.1 O	
Table 3.5-2A	Act 8	LCO	3.3.1 C	
Table 3.5-2A	Action 9a	LCO	3.3.1 S	
Table 3.5-2A	Action 9a	LCO	3.3.1.P	
Table 3.5-2A	Action 9b	LCO	3.3.1 P	
Table 3.5-2A	Action 10	LCO	3.3.1 C	
Table 3.5-2A	Action 10	LCO	3.3.1 P	
Table 3.5-2A	Action 10	SR	3.3.14 Note 1	
Table 3.5-2A	Action 11	LCO	3.3.1 L	
Table 3.5-2A	New Action	LCO	3.3.1 Q	
Table 3.5-2A	New Action	LCO	3.3.1 R	
Table 3.5-2A	New Action	LCO	3.3.1 S	
Table 3.5-2A	Note a	TABLE	3.3.1-1	Note a
Table 3.5-2A	Note b	TABLE	3.3.1-1	Note b
Table 3.5-2A	Note c	TABLE	3.3.1-1	Note d

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 3.5-2A	Note d	TABLE	3.3.1-1	Note h
Table 3.5-2A	New Note	TABLE	3.3.1-1	Note c
Table 3.5-2A	New Note	TABLE	3.3.1-1	Note e
Table 3.5-2A	New Note	TABLE	3.3.1-1	Note f
Table 3.5-2A	New Note	TABLE	3.3.1-1	Note g
Table 3.5-2B	1a	TABLE	3.3.2-1	1a
Table 3.5-2B	1b	TABLE	3.3.2-1	1c
Table 3.5-2B	1c	TABLE	3.3.2-1	1e
Table 3.5-2B	1d	TABLE	3.3.2-1	1d
Table 3.5-2B	1e	TABLE	3.3.2-1	1b
Table 3.5-2B	2a	TABLE	3.3.2-1	2a
Table 3.5-2B	2b	TABLE	3.3.2-1	2c
Table 3.5-2B	2c	TABLE	3.3.2-1	2b
Table 3.5-2B	3a	TABLE	3.3.2-1	3c
Table 3.5-2B	3b	TABLE	3.3.2-1	3a
Table 3.5-2B	3c	TABLE	3.3.2-1	3b
Table 3.5-2B	4a	TABLE	3.3.5-1	5
Table 3.5-2B	4b	TABLE	3.3.5-1	1

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 4.1-1A	Note 10	(Partial)	Relocated - Bases	
Table 4.1-1A	Note 11	SR	3.3.1.9	
Table 4.1-1A	Note 11	SR	3.3.1.15	
Table 4.1-1A	Note 12	TABLE	3.3.1-1	18
Table 4.1-1A	Note 13		Relocated - Bases	
Table 4.1-1A	Note 14		Relocated - Bases	
Table 4.1-1A	Note 15	TABLE	3.3.1-1	17
Table 4.1-1A	Note 16	TABLE	3.3.1-1	Note h
Table 4.1-1A	New Note	SR	3.3.1.4	
Table 4.1-1A	Note 17	SR	3.3.1.8	
Table 4.1-1A	Note 18		Relocated - TRM	
Table 4.1-1A	New Note	TABLE	3.3.1-1	Note c
Table 4.1-1A	New Note	SR	3.3.1.10	
Table 4.1-1A	New Note	TABLE	3.3.1-1	Note e

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 3.5-2A	Action 6	LCO	3.3.1 E	
Table 3.5-2A	Action 6	LCO	3.3.1 K	
Table 3.5-2A	Action 6	LCO	3.3.1 N	
Table 3.5-2A	Action 7	LCO	3.3.1 O	
Table 3.5-2A	Act 8	LCO	3.3.1 C	
Table 3.5-2A	Action 9a	LCO	3.3.1 S	
Table 3.5-2A	Action 9a	LCO	3.3.1.P	
Table 3.5-2A	Action 9b	LCO	3.3.1 P	
Table 3.5-2A	Action 10	LCO	3.3.1 C	
Table 3.5-2A	Action 10	LCO	3.3.1 P	
Table 3.5-2A	Action 10	SR	3.3.14 Note 1	
Table 3.5-2A	Action 11	LCO	3.3.1 L	
Table 3.5-2A	New Action	LCO	3.3.1 Q	
Table 3.5-2A	New Action	LCO	3.3.1 R	
Table 3.5-2A	New Action	LCO	3.3.1 S	
Table 3.5-2A	Note a	TABLE	3.3.1-1	Note a
Table 3.5-2A	Note b	TABLE	3.3.1-1	Note b
Table 3.5-2A	Note c	TABLE	3.3.1-1	Note d

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 3.5-2A	Note d	TABLE	3.3.1-1	Note h
Table 3.5-2A	New Note	TABLE	3.3.1-1	Note c
Table 3.5-2A	New Note	TABLE	3.3.1-1	Note e
Table 3.5-2A	New Note	TABLE	3.3.1-1	Note f
Table 3.5-2A	New Note	TABLE	3.3.1-1	Note g
Table 3.5-2B	1a	TABLE	3.3.2-1	1a
Table 3.5-2B	1b	TABLE	3.3.2-1	1c
Table 3.5-2B	1c	TABLE	3.3.2-1	1e
Table 3.5-2B	1d	TABLE	3.3.2-1	1d
Table 3.5-2B	1e	TABLE	3.3.2-1	1b
Table 3.5-2B	2a	TABLE	3.3.2-1	2a
Table 3.5-2B	2b	TABLE	3.3.2-1	2c
Table 3.5-2B	2c	TABLE	3.3.2-1	2b
Table 3.5-2B	3a	TABLE	3.3.2-1	3c
Table 3.5-2B	3b	TABLE	3.3.2-1	3a
Table 3.5-2B	3c	TABLE	3.3.2-1	3b
Table 3.5-2B	4a	TABLE	3.3.5-1	5
Table 3.5-2B	4b	TABLE	3.3.5-1	1

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 4.1-1A	Note 10	(Partial)	Relocated - Bases	
Table 4.1-1A	Note 11	SR	3.3.1.9	
Table 4.1-1A	Note 11	SR	3.3.1.15	
Table 4.1-1A	Note 12	TABLE	3.3.1-1	18
Table 4.1-1A	Note 13		Relocated - Bases	
Table 4.1-1A	Note 14		Relocated - Bases	
Table 4.1-1A	Note 15	TABLE	3.3.1-1	17
Table 4.1-1A	Note 16	TABLE	3.3.1-1	Note h
Table 4.1-1A	New Note	SR	3.3.1.4	
Table 4.1-1A	Note 17	SR	3.3.1.8	
Table 4.1-1A	Note 18		Relocated - TRM	
Table 4.1-1A	New Note	TABLE	3.3.1-1	Note c
Table 4.1-1A	New Note	SR	3.3.1.10	
Table 4.1-1A	New Note	TABLE	3.3.1-1	Note e