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Volume 1: COVER LETTER and SPLIT REPORT	
Remove	**Replace**
Summary disposition matrix pg 5 Rev 0	Summary Disposition matrix pg 5 Rev 1
Summary disposition matrix pg 6 Rev 0	Summary Disposition matrix pg 6 Rev 1
Appendix A page 1 of 43 Appendix A page 2 of 43 Appendix A page 3 of 43 Appendix A page 4 of 43 Appendix A page 5 of 43 Appendix A page 6 of 43 Appendix A page 7 of 43 Appendix A page 8 of 43 Appendix A page 9 of 43	Appendix A insert for pg 1-9 of 43
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Appendix A DOCs Page 1 Rev 0	Appendix A DOCs Page 1 Rev 1
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Appendix A DOCs Page 3 Rev 0	Appendix A DOCs Page 3 Rev 1
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--	Appendix B pg 1a of 57
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Volume 2: SECTIONS 1.0, 2.0 and 3.0	
Remove	**Replace**
1.0 CTS M/U pg 14 of 14	1.0 CTS M/U pg 14 of 14 Rev 1
3.0 CTS M/U pg 5 of 12	3.0 CTS M/U pg 5 of 12 Rev 1
3.0 CTS M/U pg 9 of 12	3.0 CTS M/U pg 9 of 12 Rev 1
3.0 CTS M/U pg 10 of 12	3.0 Insert for pg 10 of 12 Rev 1
3.0 CTS M/U pg 11 of 12	3.0 CTS M/U pg 11 of 12 Rev 1
3.0 CTS M/U pg 12 of 12	3.0 Insert for pg 12 of 12 Rev 1

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Volume 3: SECTIONS 3.1 and 3.2	
Remove	**Replace**
3.1.8 CTS M/U pg 1 of 2	3.1.8 CTS M/U pg 1 of 2 Rev 1
3.1.8 DOCs pg 1 Rev 0	3.1.8 DOCs Pg 1 Rev 1
3.1.8 DOCs Pg 3 Rev 0	3.1.8 DOCs Pg 3 Rev 1
3.1.8 NUREG M/U pg 3.1-25	3.1.8 NUREG M/U pg 3.1-25 Rev 1

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Volume 4: SECTIONS 3.3.1.1 thru 3.3.4.1	
Remove	**Replace**
3.3.3.1 ITS pg 3.3-24 Rev 0	3.3.3.1 ITS pg 3.3-24 Rev 1
3.3.3.1 ITS pg 3.3-25 Rev 0	3.3.3.1 ITS pg 3.3-25 Rev 1
3.3.3.1 ITS pg 3.3-26 Rev 0	3.3.3.1 ITS pg 3.3-26 Rev 1
3.3.3.1 ITS pg 3.3-27 Rev 0	3.3.3.1 ITS pg 3.3-27 Rev 1
B 3.3.3.1 ITS pg B 3.3.3.1-5 Rev 0	B 3.3.3.1 ITS pg B 3.3.3.1-5 Rev 1
B 3.3.3.1 ITS pg B 3.3.3.1-6 Rev 0	B 3.3.3.1 ITS pg B 3.3.3.1-6 Rev 1
B 3.3.3.1 ITS pg B 3.3.3.1-7 Rev 0	B 3.3.3.1 ITS pg B 3.3.3.1-7 Rev 1
B 3.3.3.1 ITS pg B 3.3.3.1-11 Rev 0	B 3.3.3.1 ITS pg B 3.3.3.1-11 Rev 1
--	B 3.3.3.1 ITS pg B 3.3.3.1-12 Rev 1
3.3.3.1 CTS M/U pg 2 of 6	3.3.3.1 CTS M/U pg 2 of 6 Rev 1
3.3.3.1 CTS M/U pg 4 of 6	3.3.3.1 CTS M/U pg 4 of 6 Rev 1
3.3.3.1 CTS M/U pg 5 of 6	3.3.3.1 CTS M/U pg 5 of 6 Rev 1
3.3.3.1 DOCs Pg 2 Rev 0	3.3.3.1 DOCs Pg 2 Rev 1
3.3.3.1 DOCs Pg 4 Rev 0	3.3.3.1 DOCs Pg 4 Rev 1
3.3.3.1 NUREG M/U pg 3.3-23	3.3.3.1 NUREG M/U pg 3.3-23 Rev 1
3.3.3.1 NUREG M/U pg 3.3-24	3.3.3.1 NUREG M/U pg 3.3-24 Rev 1
3.3.3.1 NUREG M/U pg 3.3-25	3.3.3.1 NUREG M/U pg 3.3-25 Rev 1
3.3.3.1 NUREG M/U pg 3.3-26	3.3.3.1 NUREG M/U pg 3.3-26 Rev 1
B 3.3.3.1 NUREG M/U pg B 3.3-68	B 3.3.3.1 NUREG M/U pg B 3.3-68 Rev 1
B 3.3.3.1 ITS pg B 3.3-73 (Insert) Rev 0	B 3.3.3.1 ITS pg B 3.3-73(1) (Insert) Rev 1
--	B 3.3.3.1 ITS pg B 3.3-73(2) (Insert) Rev 1

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Volume 6: SECTIONS 3.4 and 3.5	
Remove	**Replace**
3.4.3 ITS pg 3.4-7 Rev 0	3.4.3 ITS pg 3.4-7 Rev 1
B 3.4.3 ITS pg B 3.4.3-3 Rev 0	B 3.4.3 ITS pg B 3.4.3-3 Rev 1
3.4.3 CTS M/U pg 1 of 1	3.4.3 CTS M/U pg 1 of 1 Rev 1
3.4.3 DOCs Pg 1 Rev 0	3.4.3 DOCs Pg 1 Rev 1
3.4.3 NUREG M/U pg 3.4-6	3.4.3 NUREG M/U pg 3.4-6 Rev 1
B 3.4.3 NUREG M/U pg B 3.4-15	B 3.4.3 NUREG M/U pg B 3.4-15 Rev 1
3.4.5 CTS M/U pg 2 of 3	3.4.5 CTS M/U pg 2 of 3 Rev 1
3.4.5 DOCs Pg 2 Rev 0	3.4.5 DOCs Pg 2 Rev 1
3.5.1 CTS M/U pg 3 of 10	3.5.1 CTS M/U pg 3 of 10 Rev 1
3.5.1 DOCs Pg 1 Rev 0	3.5.1 DOCs Pg 1 Rev 1
3.5.2 CTS M/U pg 3 of 8	3.5.2 CTS M/U pg 3 of 8 Rev 1
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Volume 8: SECTION 3.7	
Remove	**Replace**
3.7.2 CTS M/U pg 8 of 9	3.7.2 CTS M/U pg 8 of 9 Rev 1

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Volume 9: SECTION 3.8	
Remove	**Replace**
3.8.4 ITS pg 3.8-17 Rev 0	3.8.4 ITS pg 3.8-17 Rev 1
B 3.8.4 ITS pg B 3.8.4-2 Rev 0	B 3.8.4 ITS pg B 3.8.4-2 Rev 1
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B 3.8.4 ITS pg B 3.8.4-4 Rev 0	B 3.8.4 ITS pg B 3.8.4-4 Rev 1
B 3.8.4 ITS pg B 3.8.4-5 Rev 0	B 3.8.4 ITS pg B 3.8.4-5 Rev 1
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B 3.8.4 ITS pg B 3.8.4-7 Rev 0	B 3.8.4 ITS pg B 3.8.4-7 Rev 1
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3.8.4 CTS M/U pg 1 of 2	3.8.4 CTS M/U pg 1 of 2 Rev 1
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3.8.4 NUREG M/U pg 3.8-25	3.8.4 NUREG M/U pg 3.8-25 Rev 1
3.8.4 NUREG M/U pg 3.8-26	3.8.4 NUREG M/U pg 3.8-26 Rev 1
B 3.8.4 ITS pg B 3.8.-51 (Insert) Rev 0	B 3.8.4 ITS pg B 3.8.-51 (Insert) Rev 1
3.8.6 CTS M/U pg 1 of 3	3.8.6 CTS pg 1 of 3 Rev 1
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Remove	**Replace**
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3.9.2 CTS M/U pg 2 of 2	3.9.2 CTS M/U pg 2 of 2 Rev 1
3.10.2 CTS M/U pg 1 of 2	3.10.2 CTS M/U pg 1 of 2 Rev 1
3.10.2 CTS M/U pg 2 of 2	3.10.2 CTS M/U pg 2 of 2 Rev 1
3.10.2 DOCs pg 2 Rev 0	3.10.2 DOCs pg 2 Rev 1
3.10.2 NSHC pg 1 Rev 0	3.10.2 NSHC pg 1 Rev 1
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3.10.3 CTS M/U pg 1 of 3	3.10.3 CTS M/U pg 1 of 3 Rev 1
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5.5 CTS M/U pg 2 of 24	5.5 CTS M/U pg 2 of 24 Rev 1
5.6 CTS M/U pg 1 of 5	5.6 CTS M/U pg 1 of 5 Rev 1

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Volume 11: CTS MARKUP COMPILATION	
Remove	**Replace**
1.0 CTS M/U (CTS 3/4 1-10) pg 14 of 14	1.0 CTS M/U (CTS 3/4 1-10) pg 14 of 14 Rev 1
3.10.2 CTS M/U (CTS 1-10) pg 1 of 2	3.10.2 CTS M/U (CTS 1-10) pg 1 of 2 Rev 1
3.10.3 CTS M/U (CTS 1-10) pg 1 of 3	3.10.3 CTS M/U (CTS 1-10) pg 1 of 3 Rev 1
3.10.4 CTS M/U (CTS 1-10) pg 1 of 3	3.10.4 CTS M/U (CTS 1-10) pg 1 of 3 Rev 1
3.0 CTS M/U (CTS 3/4 0-2) pg 5 of 12	3.0 CTS M/U (CTS 3/4 0-2) pg 5 of 12 Rev 1
5.5 CTS M/U (CTS 3/4 0-2) pg 2 of 24	5.5 CTS M/U (CTS 3/4 0-2) pg 2 of 24 Rev 1
3.0 CTS M/U (CTS 3/4 0-4) pg 9 of 12	3.0 CTS M/U (CTS 3/4 0-4) pg 9 of 12 Rev 1
3.0 CTS M/U (CTS 3/4 0-5) pg 10 of 12	Deleted CTS M/U (CTS 3/4 0-5)pg 1a of 57 Rev 1
3.0 CTS M/U (CTS 3/4 0-6) pg 11 of 12	3.0 CTS M/U (CTS 3/4 0-6) pg 11 of 12 Rev 1
3.0 CTS M/U (CTS 3/4 0-7) pg 12 of 12	Deleted CTS M/U (CTS 3/4 0-7)pg 1b of 57 Rev 1
3.1.8 CTS M/U (CTS 3/4 1-4) pg 1 of 2	3.1.8 CTS M/U (CTS 3/4 1-4) pg 1 of 2 Rev 1
Relocated (CTS 3/4 3-51) pg 1 of 43	Deleted CTS M/U (CTS 3/4 3-51)pg 11a of 57 Rev 1
Relocated (CTS 3/4 3-52) pg 2 of 43	Deleted CTS M/U (CTS 3/4 3-52)pg 11b of 57 Rev 1
Relocated (CTS 3/4 3-53) pg 3 of 43	Deleted CTS M/U (CTS 3/4 3-53)pg 11c of 57 Rev 1
Relocated (CTS 3/4 3-54) pg 4 of 43	Deleted CTS M/U (CTS 3/4 3-54)pg 11d of 57 Rev 1
Relocated (CTS 3/4 3-55) pg 5 of 43	Deleted CTS M/U (CTS 3/4 3-55)pg 11e of 57 Rev 1
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3.3.3.1 CTS M/U (CTS 3/4 3-61) pg 2 of 8	3.3.3.1 CTS M/U (CTS 3/4 3-61) pg 2 of 6 Rev 1
3.3.3.1 CTS M/U (CTS 3/4 3-62) pg 4 of 6	3.3.3.1 CTS M/U (CTS 3/4 3-62) pg 4 of 6 Rev 1
5.6 CTS M/U (CTS 3/4 3-62) pg 1 of 5	5.6 CTS M/U (CTS 3/4 3-62) pg 1 of 5 Rev 1
3.3.3.1 CTS M/U (CTS 3/4 3-63) pg 6 of 8	3.3.3.1 CTS M/U (CTS 3/4 3-63) pg 5 of 6 Rev 1
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3.4.3 CTS M/U (CTS 3/4 4-7) pg 1 of 1	3.4.3 CTS M/U (CTS 3/4 4-7) pg 1 of 1 Rev 1
3.4.5 CTS M/U (CTS 3/4 4-11a) pg 2 of 3	3.4.5 CTS M/U (CTS 3/4 4-11a) pg 2 of 3 Rev 1
3.5.1 CTS M/U (CTS 3/4 5-1) pg 3 of 10	3.5.1 CTS M/U (CTS 3/4 5-1) pg 3 of 10 Rev 1
3.5.2 CTS M/U (CTS 3/4 5-6) pg 3 of 8	3.5.2 CTS M/U (CTS 3/4 5-6) pg 3 of 8 Rev 1
3.7.2 CTS M/U (CTS 3/4 8-10) pg 8 of 9	3.7.2 CTS M/U (CTS 3/4 8-10) pg 8 of 9 Rev 1
3.8.4 CTS M/U (CTS 3/4 8-10) pg 1 of 2	3.8.4 CTS M/U (CTS 3/4 8-10) pg 1 of 2 Rev 1
3.8.6 CTS M/U (CTS 3/4 8-10) pg 1 of 3	3.8.6 CTS M/U (CTS 3/4 8-10) pg 1 of 3 Rev 1
3.8.4 CTS M/U (CTS 3/4 8-11) pg 2 of 2	3.8.4 CTS M/U (CTS 3/4 8-11) pg 2 of 2 Rev 1
3.8.6 CTS M/U (CTS 3/4 8-11) pg 2 of 3	3.8.6 CTS M/U (CTS 3/4 8-11) pg 2 of 3 Rev 1
Relocated CTS M/U (CTS 3/4 8-20)pg 38 of 43	Relocated CTS M/U (CTS 3/4 8-20)pg 38 of 43 Rev 1
3.9.1 CTS M/U (CTS 3/4 9-2) pg 2 of 2	3.9.1 CTS M/U (CTS 3/4 9-2) pg 2 of 2 Rev 1
3.9.2 CTS M/U (CTS 3/4 9-2) pg 2 of 2	3.9.2 CTS M/U (CTS 3/4 9-2) pg 2 of 2 Rev 1
3.10.2 CTS M/U (CTS 3/4 9-2) pg 2 of 2	3.10.2 CTS M/U (CTS 3/4 9-2) pg 2 of 2 Rev 1

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Volume 12: IMPROVED TECHNICAL SPECIFICATIONS	
Remove	**Replace**
3.3.3.1 ITS pg 3.3-24 Rev 0	3.3.3.1 ITS pg 3.3-24 Rev 1
3.3.3.1 ITS pg 3.3-25 Rev 0	3.3.3.1 ITS pg 3.3-25 Rev 1
3.3.3.1 ITS pg 3.3-26 Rev 0	3.3.3.1 ITS pg 3.3-26 Rev 1
3.3.3.1 ITS pg 3.3-27 Rev 0	3.3.3.1 ITS pg 3.3-27 Rev 1
3.4.3 ITS pg 3.4-7 Rev 0	3.4.3 ITS pg 3.4-7 Rev 1
3.8.4 ITS pg 3.8-17 Rev 0	3.8.4 ITS pg 3.8-17 Rev 1

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Volume 13: IMPROVED TECHNICAL SPECIFICATIONS BASES	
Remove	**Replace**
B 3.3.3.1 ITS pg B 3.3.3.1-5 Rev 0	B 3.3.3.1 ITS pg B 3.3.3.1-5 Rev 1
B 3.3.3.1 ITS pg B 3.3.3.1-6 Rev 0	B 3.3.3.1 ITS pg B 3.3.3.1-6 Rev 1
B 3.3.3.1 ITS pg B 3.3.3.1-7 Rev 0	B 3.3.3.1 ITS pg B 3.3.3.1-7 Rev 1
B 3.3.3.1 ITS pg B 3.3.3.1-11 Rev 0	B 3.3.3.1 ITS pg B 3.3.3.1-11 Rev 1
--	B 3.3.3.1 ITS pg B 3.3.3.1-12 Rev 1
B 3.4.3 ITS pg B 3.4.3-3 Rev 0	B 3.4.3 ITS pg B 3.4.3-3 Rev 1
B 3.8.4 ITS pg B 3.8.4-2 Rev 0	B 3.8.4 ITS pg B 3.8.4-2 Rev 1
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B 3.8.4 ITS pg B 3.8.4-4 Rev 0	B 3.8.4 ITS pg B 3.8.4-4 Rev 1
B 3.8.4 ITS pg B 3.8.4-5 Rev 0	B 3.8.4 ITS pg B 3.8.4-5 Rev 1
B 3.8.4 ITS pg B 3.8.4-6 Rev 0	B 3.8.4 ITS pg B 3.8.4-6 Rev 1
B 3.8.4 ITS pg B 3.8.4-7 Rev 0	B 3.8.4 ITS pg B 3.8.4-7 Rev 1
B 3.8.4 ITS pg B 3.8.4-8 Rev 0	B 3.8.4 ITS pg B 3.8.4-8 Rev 1

SUMMARY DISPOSITION MATRIX FOR FERMI-2

CURRENT TS NUMBER	TITLE	NEW TS NUMBER	RETAINED/ CRITERION FOR INCLUSION	BASIS FOR INCLUSION/EXCLUSION[a] PROPOSED NEW LOCATION FOR THE RELOCATED REQUIREMENTS
3/4.3.6.1[b]	Rod Block Monitor	3.3.2.1	Yes-3	Prevents continuous withdrawal of a high worth control rod that would challenge the MCPR Safety Limit and 1 percent cladding plastic strain fuel design limit.
3/4.3.6.2[b]	APRM	Relocated	No	Refer to the Discussions of Change "R.1" for ITS Section 3.3.2.1, "Control Rod Block Instrumentation," for relocation justification and location.
3/4.3.6.3[b]	Source Range Monitors	Relocated	No	Refer to the Discussions of Change "R.2" for ITS Section 3.3.2.1, "Control Rod Block Instrumentation," for relocation justification and location.
3/4.3.6.4[b]	Intermediate Range Monitors	Relocated	No	Refer to the Discussions of Change "R.3" for ITS Section 3.3.2.1, "Control Rod Block Instrumentation," for relocation justification and location.
3/4.3.6.5[b]	Scram Discharge Volume	Relocated	No	Refer to the Discussions of Change "R.4" for ITS Section 3.3.2.1, "Control Rod Block Instrumentation," for relocation justification and location.
3/4.3.6.6[b]	Reactor Coolant System Recirculation Flow	Relocated	No	Refer to the Discussions of Change "R.5" for ITS Section 3.3.2.1, "Control Rod Block Instrumentation," for relocation justification and location.
3/4.3.6.7[b]	Reactor Mode Switch Shutdown Position	3.3.1.2	Yes-3	Ensures all control rods remain inserted when reactor is assumed to be shutdown.
3/4.3.7	Monitoring Instrumentation	--	--	
3/4.3.7.1[b]	Radiation Monitoring Instrumentation	--	--	
3/4.3.7.1.1[b]	Control Center Normal Makeup Air Radiation Monitor	3.3.7.1	Yes-3	Actuates to maintain habitability of the control room so that operators can remain in the control room following an accident. As such, it mitigates the consequences of an accident by allowing operators to continue accident mitigation activities from the control room.
3/4.3.7.1.2	<Relocated by Amendment 115>	--	--	--
3/4.3.7.2	<Relocated by Amendment 115>	--	--	--
3/4.3.7.3	Meteorological Monitoring Instrumentation	Relocated	No	See Appendix A, "R.2". Relocated to the TRM.
3/4.3.7.4	Remote Shutdown Monitoring Instrumentation	3.3.3.2	Yes-4	Retained as directed by the NRC as it is a significant contributor to risk reduction.

SUMMARY DISPOSITION MATRIX FOR FERMI-2

CURRENT TS NUMBER	TITLE	NEW TS NUMBER	RETAINED/ CRITERION FOR INCLUSION	BASIS FOR INCLUSION/EXCLUSION[a] PROPOSED NEW LOCATION FOR THE RELOCATED REQUIREMENTS
3/4.3.7.5	Accident Monitoring Instrumentation	3.3.3.1	Yes-3	Regulatory Guide 1.97 Type A and Category 1 variables retained. Also refer to Discussion s of Change "R.1" for ITS Section 3.3.3.1, "PAM Instrumentation," for individual relocation justification and location
3/4.3.7.6	Source Range Monitors	3.3.1.2	Yes	Does not satisfy the selection criteria, however is being retained because the NRC considers it necessary for flux monitoring during shutdown, startup, and refueling operations.
3/4.3.7.7	<Relocated by Amendment 115>	--	--	--
3/4.3.7.8	<Relocated by Amendment 115>	--	--	--
3/4.3.7.9	<Relocated by Amendment 62>	--	--	--
3/4.3.7.10	<Relocated by Amendment 115>	--	--	--
3/4.3.7.11	<Relocated by Amendment 82>	--	--	--
3/4.3.7.12	Explosive Gas Monitoring Instrumentation	Relocated	No	See Appendix A, "R.6". Relocated to the TRM.
3/4.3.8	<Relocated by Amendment 71>	--	--	--
3/4.3.9	Feedwater/Main Turbine Trip System Actuation Instrumentation	3.3.2.2	Yes-3	Actuates to limit feedwater addition to the reactor vessel on feedwater controller failure consistent with safety analysis assumptions. Limits neutron flux peak and thermal transient to avoid fuel damage.
3/4.3.10	<Not utilized>	--	--	--
3/4.3.11	Appendix R Alternative Shutdown Instrumentation	Relocated	No	See Appendix A, "R.7". Relocated to the TRM.
3/4.4	REACTOR COOLANT SYSTEM	3.4		
3/4.4.1	Recirculation System			
3/4.4.1.1	Recirculation Loops	3.4.1	Yes-2,3	Recirculation loop flow is an initial condition in the safety analysis.

RELOCATED

Pages Removed in Rev 1

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Revision 1, 09/25/98

Relocated

ELECTRICAL POWER SYSTEMS

MOTOR-OPERATED VALVES THERMAL OVERLOAD PROTECTION

LIMITING CONDITION FOR OPERATION

3.8.4.3 The thermal overload protection of each valve used in safety systems shall be OPERABLE.

APPLICABILITY: Whenever the motor-operated valve is required to be OPERABLE.

ACTION:

With the thermal overload protection for one or more of the above required valves inoperable, continuously bypass the inoperable thermal overload within 8 hours or declare the affected valve(s) inoperable and apply the appropriate ACTION statement(s) for the affected system(s).

SURVEILLANCE REQUIREMENTS

4.8.4.3 The thermal overload protection for the above required valves shall be demonstrated OPERABLE by the performance of a CHANNEL CALIBRATION of a representative sample of at least 25% of all thermal overloads for the above required valves at least once per 18 months, and by performance of a CHANNEL CALIBRATION of the affected thermal overload following any maintenance activity which could affect the performance of that thermal overload.

R.16

RELOCATED SPECIFICATIONS

R.1 Not used.

RELOCATED SPECIFICATIONS

R.2 Not used.

RELOCATED SPECIFICATIONS

R.3 Not used.

RELOCATED SPECIFICATIONS

R.4 Not used.

RELOCATED SPECIFICATIONS

R.5 Not used.

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TABLE 3.3.7.2-1

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TABLE 4.3.7.2-1

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TABLE 3.3.7.3-1

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TABLE 4.3.7.3-1

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TABLE 1.2

~~OPERATIONAL CONDITIONS~~ MODES

~~CONDITION~~ Title	MODE SWITCH POSITION	AVERAGE REACTOR COOLANT TEMPERATURE
1. POWER OPERATION	Run	Any temperature
2. STARTUP	Refuel (a) M.1 / Startup/Hot Standby	Any temperature
3. HOT SHUTDOWN(a)	Shutdown#,*** A.16	> 200° F
4. COLD SHUTDOWN(a)	Shutdown#,##,*** A.16	≤ 200° F****
5. REFUELING*(b)	Shutdown or Refuel~~(a)~~# A.16 / A.17	~~≤ 140° F~~ NA / M.1

#The reactor mode switch may be placed in the Run, Startup/Hot Standby, or Refuel position to test the switch interlock functions and related instrumentation provided that the control rods are verified to remain fully inserted in core cells containing one or more fuel assemblies by a second licensed operator or other technically qualified member of the unit technical staff. (See Specification 3.10.2)

##The reactor mode switch may be placed in the Refuel position while a single control rod drive is being removed from the reactor pressure vessel per Specification 3.9.10.1. (See Specification 3.10.4)

(b) *~~Fuel in the reactor vessel with the~~ One or more vessel head closure bolts less than fully tensioned or with the head removed. A.16

~~**See Special Test Exceptions 3.10.1 and 3.10.3.~~ A.17

***The reactor mode switch may be placed in the Refuel position while a single control rod is being recoupled or withdrawn provided that the one-rod-out interlock is OPERABLE. (See Specifications 3.10.3 3.10.4)

~~****See Special Test Exception 3.10.7.~~ A.17

(a) All reactor vessel head closure bolts fully tensioned — A.16

ADD: 1.2 Logical Connectors
1.3 Completion Time
1.4 Frequency
A.18

SPECIFICATION 3.0
<Also see Specification 5.5>

APPLICABILITY

SURVEILLANCE REQUIREMENTS (A.1)

SR 3.0.1 ~~4.0.1 Surveillance Requirements~~ {SRs} shall be met during the ~~OPERATIONAL CONDITIONS~~ {in the Applicability} or other conditions specified for individual ~~Limiting Conditions for Operation~~ {MODES} {LCOs} unless otherwise stated in ~~an individual Surveillance Requirement.~~ {the SR}

INSERT 3.0-8 (A.8)

SR 3.0.2 ~~4.0.2~~ Each Surveillance Requirement shall be performed within the specified surveillance interval with a maximum allowable extension not to exceed 25 percent of the specified surveillance interval. For the purpose of the sixth refueling outage, those Surveillance Requirements listed on Table 4.0.2-1 and 4.0.2-2 are extended to the date specified in the table. (L.2) (A.9) (A.10) (M.1)

INSERT 3.0-9

SR 3.0.3 ~~4.0.3~~ Failure to perform a Surveillance Requirement within the allowed surveillance interval, defined by Specification 4.0.2, shall constitute noncompliance with the OPERABILITY requirements for a Limiting Condition for Operation. The time limits of the ACTION requirements are applicable at the time it is identified that a Surveillance Requirement has not been performed. The ACTION requirements may be delayed for up to 24 hours to permit the completion of the surveillance wher the allowable outage time limits of the ACTION requirements are less than 24 hours. ~~Surveillance Requirements do not have to be performed on inoperable equipment.~~ (A.8) (L.3)

INSERT 3.0-10

SR 3.0.4 ~~4.0.4 Entry into an OPERATIONAL CONDITION or other specified applicable condition~~ shall not be made unless the Surveillance Requirement(s) associated with the Limiting Condition for Operation have been performed within the applicable surveillance interval or as otherwise specified. This provision shall not prevent passage through or to OPERATIONAL CONDITIONS as required to comply with ACTION requirements. (A.11)

INSERT 3.0-11

4.0.5 Surveillance Requirements for inservice inspection and testing of ASME Code Class 1, 2, & 3 components shall be applicable as follows:

a. Inservice inspection of ASME Code Class 1, 2, and 3 components and inservice testing of ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50, Section 50.55a(g)(6)(i).

<See Specification 5.5>

b. Surveillance intervals specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda for the inservice inspection and testing activities required by the ASME Boiler and Pressure Vessel Code and applicable Addenda shall be applicable as follows in these Technical Specifications:

TABLE 4.0.2-1

SURVEILLANCE TEST INTERVALS EXTENDED TO SEPTEMBER 14, 1998

A.10

SURVEILLANCE REQUIREMENT	DESCRIPTION
4.3.1.1, Table 4.3.1.1-1, Item 3	RPS Rx Steam Dome Press High cal.
4.3.1.1, Table 4.3.1.1-1, Item 4	RPS Rx Low Water Level - Level 3 cal
4.3.1.1, Table 4.3.1.1-1, Item 6	RPS Main Steam Line Radiation High cal
4.3.1.1, Table 4.3.1.1-1, Item 7	RPS Drywell Pressure High cal
4.3.1.3, Table 4.3.1.1-1, Item 2.b	APRM Flow Biased Thermal Power - High
4.3.1.3, Table 4.3.1.1-1, Item 2.c	APRM Fixed Neutron Flux - High
4.3.2.1, Table 4.3.2.1-1, Item 1.a.1	Pri Cont Isolation Actuation Rx Water Low - Level 3 cal
4.3.2.1, Table 4.3.2.1-1, Item 1.a.2	Pri Cont Isolation Actuation Rx Water Low - Level 2 cal
4.3.2.1, Table 4.3.2.1-1, Item 1.a.3	Pri Cont Isolation Actuation Rx Water Low - Level 1 cal
4.3.2.1, Table 4.3.2.1-1, Item 1.b	Pri Cont Isolation Actuation Drywell Press High cal
4.3.2.1, Table 4.3.2.1-1, Item 1.c.1	Pri Cont Isolation Actuation Main Steam Line Radiation High cal
4.3.2.1, Table 4.3.2.1-1, Item 1.c.2	Pri Cont Isolation Actuation Main Steam Line Press Low cal
4.3.2.1, Table 4.3.2.1-1, Item 1.c.3	Pri Cont Isolation Actuation Main Steam Line Flow High cal
4.3.2.1, Table 4.3.2.1-1, Item 1.d	Pri Cont Isolation Actuation Main Steam Line Tunnel Temp. High cal
4.3.2.1, Table 4.3.2.1-1, Item 1.e	Pri Cont Isolation Actuation Condenser Press High cal
4.3.2.1, Table 4.3.2.1-1, Item 1.f	Pri Cont Isolation Actuation Turbine Bldg. Area Temp. High cal
4.3.2.1, Table 4.3.2.1-1, Item 1.h	Pri Cont Isolation Actuation Manual Initiation Functional
4.3.2.1, Table 4.3.2.1-1, Item 2.d	RWCU - SLCS initiation channel functional test
4.3.2.1, Table 4.3.2.1-1, Item 2.e	RWCU Isolation Rx Water Low Level - Level 2 channel cal
4.3.2.1, Table 4.3.2.1-1, Item 5.a	RHR S/D Cooling Rx Water Level Low - Level 3 cal
4.3.2.1, Table 4.3.2.1-1, Item 5.c	RHR S/D Cooling Rx manual initiation functional test
4.3.2.1, Table 4.3.2.1-1, Item 6.b	Sec. Cont. Isolation - Drywell Press High channel cal
4.3.3.1, Table 4.3.3.1-1, Item 1.b	CS Drywell Press High Cal
4.3.3.1, Table 4.3.3.1-1, Item 2.b	LPCI Drywell Press High Cal
4.3.3.1, Table 4.3.3.1-1, Item 3.a	HPCI RPV Low Level 2 Cal
4.3.3.1, Table 4.3.3.1-1, Item 3.b	HPCI Drywell Press High Cal
4.3.3.1, Table 4.3.3.1-1, Item 4.a	ADS RPV Low Level 1 Cal
4.3.3.1, Table 4.3.3.1-1, Item 4.f	ADS RPV Low Level 3 Cal
4.3.3.1, Table 4.3.3.1-1, Item 4.h	ADS Drywell Pressure High Bypass Timer
4.3.4, Table 4.3.4-1, Item 1	RPV Low Water Level 2 Cal (ATWS)
4.3.4, Table 4.3.4-1, Item 2	RPV Press High Cal (ATWS)
4.3.4.2	ATWS Logic System Functional Test
4.3.5.1, Table 4.3.5.1-1, Item a	RPV Low Level 2 Cal (RCIC)
4.3.5.1, Table 4.3.5.1-1, Item b	RPV High Level 8 Cal (RCIC)
4.3.5.2	RCIC Logic System Functional Test
4.3.7.5, Table 4.3.7.5-1, Item 1	RPV Press Cal Accident Mon.
4.3.7.5, Table 4.3.7.5-1, Item 2.a	RPV Fuel Zone Level Cal Accident Mon
4.3.7.5, Table 4.3.7.5-1, Item 2.b	RPV Wide Range Level Cal Accident Mon
4.3.7.5, Table 4.3.7.5-1, Item 12	DTMT High Range Rad Monitoring Cal Accident Mon.
4.3.7.5, Table 4.3.7.5-1, Item 16	CTMT Isolation Valve Position Cal Accident Mon
4.3.9.1, Table 4.3.9.1-1, Item a	RPV High Water Level 8 Cal FW/Main Turbine Trip
4.3.9.2	FW/Main Turbine Trip LSFT
4.3.11.1, Table 4.3.11.1-1, Item 7	Alt S/D system Rx Water Level instrument operability
4.3.11.1, Table 4.3.11.1-1, Item 8	Alt S/D system Rx Press instrument operability
4.4.2.2.b	SRV Low Low Set Pressure setpoint Cal and LSFT
4.5.1.d.2.a	ADS System Functional Test
4.6.3.2	Primary Containment Isol Valve operability
4.7.4.c.1	RCIC Functional Test
4.8.4.2.a.1.a	Pri. Cont. Pen. Conductor Overcurrent Devices Functional Test
4.8.4.2.a.1.b	Pri. Cont. Pen. Conductor Overcurrent Devices Functional Test

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TABLE 4.0.2-2

SURVEILLANCE TEST INTERVALS EXTENDED TO OCTOBER 18, 1998

A.10

SURVEILLANCE REQUIREMENT	DESCRIPTION
4.1.3.5.b.2	CR Accumulator Integrity Test (Check Valve Leakage)
4.1.5.d.1	SLCS operability Manual Initiation
4.1.5.d.2	SLCS pump Relief Valve operability
4.1.5.d.3	SLCS flow path demonstration
4.3.1.1, Table 4.3.1.1-1, Item 11	RPS Rx Mode Switch shutdown position functional
4.3.1.2	RPS Logic System Function Test
4.3.2.1, Table 4.3.2.1-1, Item 6.a	Sec. Cont. Isolation - Rx Water Low Level - Level 2 cal
4.3.2.2	Isolation Actuation Inst. LSFT
4.3.3.1, Table 4.3.3.1-1, Item 1.a	CS RPV Low Level 1 Cal
4.3.3.1, Table 4.3.3.1-1, Item 1.c	CS Rx Steam Dome Press Low Cal
4.3.3.1, Table 4.3.3.1-1, Item 1.d	CS Manual Initiation
4.3.3.1, Table 4.3.3.1-1, Item 2.a	LPCI RPV Low Level 1 Cal
4.3.3.1, Table 4.3.3.1-1, Item 2.c	LPCI Rx Steam Dome Press Low Cal
4.3.3.1, Table 4.3.3.1-1, Item 2.d	LPCI Rx Low Level 2 Cal
4.3.3.1, Table 4.3.3.1-1, Item 2.e	LPCI Rx Steam Dome Press Low Cal
4.3.3.1, Table 4.3.3.1-1, Item 2.h	LPCI Manual Initiation
4.3.3.2	ECCS Logic System Functional Tests
4.3.3.3(a)	ECCS Response Time Tests
4.3.6, Table 4.3.6-1, Item 5.b	Scram Disc. Vol. Trip Bypass Funct. Test
4.3.6, Table 4.3.6-1, Item 7	Rx Mode Switch Shutdown Pos. Rod Block Funct. Test
4.5.1.c.1	ECCS System Functional Test
4.6.5.1.d.1	Secondary Containment SGTS Test
4.6.5.1.d.2	Secondary Containment SGTS Test
4.6.5.2.b	Secondary Containment Isolation Damper Actuation
4.7.1.2.b	ECCW Automatic Actuation
4.7.1.3.b	EESW Automatic Actuation
4.7.1.4.b	EDG Cooling Water Pump Automatic Actuation
4.7.2.1.c.1	CR Ventilation Filter Penetration
4.7.2.1.c.2	CR Ventilation Filter Charcoal Laboratory Analysis
4.7.2.1.c.3	CR Emergency Filtration System Flowrate
4.7.2.1.e.1	CR Ventilation Filter Pressure Drop
4.7.2.1.e.2	CR Emergency Filtration System Operational Mode Actuation
4.7.2.1.e.4	CR Emergency Makeup Inlet Heater Dissipation
4.7.5.e	Snubber Functional Test
4.8.1.1.2.e.1	EDG Inspection
4.8.1.1.2.e.2	EDG Load Rejection (1666 kW)
4.8.1.1.2.e.3	EDG Load Rejection (2850 kW)
4.8.1.1.2.e.4.a	EDG LOP Load Shedding
4.8.1.1.2.e.4.b	EDG LOP Auto Start and Load Sequencing
4.8.1.1.2.e.5	EDG ECCS Auto Start
4.8.1.1.2.e.6.a	EDG LOP / ECCS Load Shedding
4.8.1.1.2.e.6.b	EDG LOP / ECCS Auto Start and Load Sequencing
4.8.1.1.2.e.7	EDG Non-essential Trip Bypass
4.8.1.1.2.e.8	EDG 24 Hour Run and Hot Fast Start.
4.8.1.1.2.e.9	EDG Auto Connect Load Verification
4.8.1.1.2.e.10	EDG Restoration of Offsite Power
4.8.1.1.2.e.11	EDG Auto Load Sequencer Timer
4.8.1.1.2.e.12.a	EDG 4160-volt ESF Bus Lockout
4.8.1.1.2.e.12.b	EDG Differential Trip Lockout
4.8.1.1.2.e.12.c	EDG Shutdown Relay Trip Lockout
4.8.2.1.c.3	130 VDC Battery Connections Resistance
4.8.2.1.d	130 VDC Battery Capacity
4.8.4.5.a	SLCS Circuit Breakers Functional Test

TABLE NOTATIONS

(a) The surveillance interval of channels within the same trip system required to be tested at least once every N times 18 months, where N is the total number of channels in the trip system, may be based upon the performance of the surveillance during the sixth refueling outage.

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SPECIFICATION 3.1.8
(Also see Specification 3.1.3)

REACTIVITY CONTROL SYSTEMS (A.1)

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

2. If the inoperable control rod(s) is inserted, within 1 hour disarm the associated directional control valves** either:

   a) Electrically, or

   b) Hydraulically by closing the drive water and exhaust water isolation valves.

   Otherwise, be in at least HOT SHUTDOWN within the next 12 hours.

(See Specification 3.1.3)

LCO 3.1.8

c. With more than 8 control rods inoperable, be in at least HOT SHUTDOWN within 12 hours.

*** d. With one or more scram discharge volume vent or drain lines with one valve inoperable, restore the inoperable valve(s) to OPERABLE status within 7 days, or be in at least HOT SHUTDOWN within the next 12 hours.

ACTION A
ACTION C

*** e. With one or more scram discharge volume vent or drain lines with both valves inoperable, isolate the associated line within 8 hours****, or be in at least HOT SHUTDOWN within the next 12 hours.

ACTION B
ACTION C

SURVEILLANCE REQUIREMENTS

~~4.1.3.1.1~~ The scram discharge volume drain and vent valves shall be demonstrated OPERABLE by:

SR 3.1.8.1 a. At least once per 31 days verifying each valve to be open,* and

~~b. Evaluating scram discharge volume system response prior to plant startup after each scram to verify that no abnormalities exist.~~ (LR.1)

4.1.3.1.2 When above the preset power level of the RWM, all withdrawn control rods not required to have their directional control valves disarmed electrically or hydraulically shall be demonstrated OPERABLE by moving each control rod at least one notch:

(See Specification 3.1.3)

a. At least once per 7 days, and

b. Within 24 hours when any control rod is immovable as a result of excessive friction or mechanical interference.

SR 3.1.8.1 NOTE

*These valves may be closed intermittently for testing under administrative controls.

(See Spec 3.1.3)

**May be rearmed intermittently, under administrative control, to permit testing associated with restoring the control rod to OPERABLE status.

***Separate Action entry is allowed for each SDV vent and drain line.

****An isolated line may be unisolated under administrative control to allow draining and venting of the SDV.

Required Action B.1 Note

ACTIONS NOTE

ADMINISTRATIVE

A.1 In the conversion of the Fermi 2 current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted which do not result in technical changes (either actual or interpretational). Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the Boiling Water Reactor (BWR) Standard Technical Specifications NUREG-1433, Rev. 1.

A.2 Not used.

A.3 CTS 4.1.3.1.4.a.1 and a.2 require the performance of a SDV vent and drain valve functional test on receipt and reset of a "signal." ITS SR 3.1.8.2 permits the system functional to be initiated by an "actual or simulated" signal. This change allows satisfactory automatic scrams, as well as appropriately simulated scram signals, to be used to fulfill the system functional Surveillance requirement. Operability is adequately demonstrated because the SDV vent and drain valves can not discriminate between "actual" or "simulated" scram signals. Since this is a reasonable interpretation of the existing requirement, this is considered an administrative change.

TECHNICAL CHANGES - LESS RESTRICTIVE
"Specific"

L.1 Not used.

3.1 REACTIVITY CONTROL SYSTEMS

3.1.8 Scram Discharge Volume (SDV) Vent and Drain Valves ⟨CTS⟩

LCO 3.1.8 Each SDV vent and drain valve shall be OPERABLE. ⟨3.1.3.1; d, e⟩

APPLICABILITY: MODES 1 and 2.

ACTIONS

---NOTE---
Separate Condition entry is allowed for each SDV vent and drain line. ⟨3.1.3.1 ***⟩

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more SDV vent or drain lines with one valve inoperable.	A.1 Restore valve to OPERABLE status.	7 days ⟨3.1.3.1, d⟩
B. One or more SDV vent or drain lines with both valves inoperable.	B.1 ---NOTE--- An isolated line may be unisolated under administrative control to allow draining and venting of the SDV. --- ⟨3.1.3.1, ****⟩	
	Isolate the associated line.	8 hours ⟨3.1.3.1, e⟩
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	12 hours ⟨3.1.3.1; d, e⟩

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3.3 INSTRUMENTATION

3.3.3.1 Post Accident Monitoring (PAM) Instrumentation

LCO 3.3.3.1 The PAM instrumentation for each Function in Table 3.3.3.1-1 shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

----------NOTES----------
1. LCO 3.0.4 is not applicable.

2. Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions with one required channel inoperable.	A.1 Restore required channel to OPERABLE status.	30 days
B. Required Action and associated Completion Time of Condition A not met.	B.1 Initiate action in accordance with Specification 5.6.7.	Immediately
C. ---------NOTE--------- Not applicable to primary containment hydrogen and primary containment oxygen concentration channels. ---------- One or more Functions with two required channels inoperable.	C.1 Restore one required channel to OPERABLE status.	7 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Two required primary containment hydrogen concentration channels inoperable. OR Two required primary containment oxygen concentration channels inoperable.	D.1 Restore one required primary containment hydrogen concentration channel to OPERABLE status. AND D.2 Restore one required primary containment oxygen concentration channel to OPERABLE status.	72 hours 72 hours
E. Required Action and associated Completion Time of Condition C or D not met.	E.1 Enter the Condition referenced in Table 3.3.3.1-1 for the channel.	Immediately
F. As required by Required Action E.1 and referenced in Table 3.3.3.1-1.	F.1 Be in MODE 3.	12 hours
G. As required by Required Action E.1 and referenced in Table 3.3.3.1-1.	G.1 Initiate action in accordance with Specification 5.6.7.	Immediately

SURVEILLANCE REQUIREMENTS

NOTE
These SRs apply to each Function in Table 3.3.3.1-1.

	SURVEILLANCE	FREQUENCY
SR 3.3.3.1.1	Perform CHANNEL CHECK.	31 days
SR 3.3.3.1.2	NOTES 1. Only applicable to Functions 7 and 8. 2. Not required to be performed until 72 hours for one channel, and 7 days for the second channel, after ≥ 15% RTP. Perform CHANNEL CALIBRATION.	92 days
SR 3.3.3.1.3	NOTES 1. Not applicable to Functions 7 and 8. 2. Radiation detectors are excluded. Perform CHANNEL CALIBRATION.	18 months

Table 3.3.3.1-1 (page 1 of 1)
Post Accident Monitoring Instrumentation

FUNCTION	REQUIRED CHANNELS	CONDITIONS REFERENCED FROM REQUIRED ACTION E.1
1. Reactor Vessel Pressure	2	F
2. Reactor Vessel Water Level - Fuel Zone	2	F
3. Reactor Vessel Water Level - Wide Range	2	F
4. Suppression Pool Water Level	2	F
5. Suppression Pool Water Temperature	2	F
6. Drywell Pressure - Wide Range	2	F
7. Primary Containment O_2 Concentration	2	F
8. Primary Containment H_2 Concentration	2	F
9. Primary Containment High Range Radiation Monitor	2	G
10. PCIV Position	2 per penetration flow path[(a)(b)]	F

(a) Not required for isolation valves whose associated penetration flow path is isolated by at least one closed and deactivated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured.

(b) Only one position indication channel is required for penetration flow paths with only one installed control room indication channel.

BASES

LCO (continued)

Only two Category I thermocouple channels are needed for post-accident monitoring of suppression pool water temperature (Refs. 3 and 4). The outputs for the PAM sensors T50N404A and T50N405B are recorded on two independent recorders in the control room (channel A is redundant to channel B). Both of these recorders must be OPERABLE to furnish two channels of PAM indication. These recorders are the primary indication used by the operator during an accident. Therefore, the PAM Specification deals specifically with this portion of the instrument channels.

6. Drywell Pressure

Drywell pressure is a Type A, Category I variable provided to detect a breach of the RCPB and to verify ECCS functions that operate to maintain RCS integrity. Two wide range drywell pressure signals are transmitted from separate pressure transmitters and are continuously recorded and displayed on two control room recorders. These recorders are the primary indication used by the operator during an accident. Therefore, the PAM Specification deals specifically with this portion of the instrument channel.

7., 8. Primary Containment Hydrogen and Oxygen Concentration

Primary continament hydrogen and oxygen analyzers are Type C, Category I instruments provided to detect high hydrogen or oxygen concentration conditions that represent a potential for containment breach. This variable is also important in verifying the adequacy of mitigating actions.

9. Primary Containment High Range Radiation Monitor

Primary containment area radiation (high range) is a Type E, Category I variable, and is provided to monitor the potential of significant radiation releases and to provide release assessment for use by operators in determining the need to invoke site emergency plans. The instrumentation provided for this function consists of redundant sensors, microprocessors and indicators. A common 2-pen recorder in the control room continuously records signals from both channels. The redundant indicators in the relay room and the common recorder in the control room are the primary indication used by the operator during an accident.

BASES

LCO (continued)

Therefore, the PAM Specification deals specifically with this portion of the instrument channel.

10. Primary Containment Isolation Valve (PCIV) Position

PCIV position is a Type B, Category I variable, and is provided for verification of containment integrity. In the case of PCIV position, the important information is the isolation status of the containment penetration. The LCO requires one channel of valve position indication in the control room to be OPERABLE for each active PCIV in a containment penetration flow path, i.e., two total channels of PCIV position indication for a penetration flow path with two active valves. For containment penetrations with only one active PCIV having control room indication, Note (b) requires a single channel of valve position indication to be OPERABLE. This is sufficient to redundantly verify the isolation status of each isolable penetration via indicated status of the active valve, as applicable, and prior knowledge of passive valve or system boundary status. If a penetration flow path is isolated, position indication for the PCIV(s) in the associated penetration flow path is not needed to determine status. Therefore, the position indication for valves in an isolated penetration flow path is not required to be OPERABLE. The PCIV position PAM instrumentation consists of position switches, wiring, cabling, and control room indicating lamps for active PCIVs. Therefore, the PAM specification deals specifically with these instrument channels.

APPLICABILITY

The PAM instrumentation LCO is applicable in MODES 1 and 2. These variables are related to the diagnosis and preplanned actions required to mitigate DBAs. The applicable DBAs are assumed to occur in MODES 1 and 2. In MODES 3, 4, and 5, plant conditions are such that the likelihood of an event that would require PAM instrumentation is extremely low; therefore, PAM instrumentation is not required to be OPERABLE in these MODES.

ACTIONS

Note 1 has been added to the ACTIONS to exclude the MODE change restriction of LCO 3.0.4. This exception allows entry into the applicable MODE while relying on the ACTIONS

BASES

ACTIONS (continued)

even though the ACTIONS may eventually require plant shutdown. This exception is acceptable due to the passive function of the instruments, the operator's ability to diagnose an accident using alternative instruments and methods, and the low probability of an event requiring these instruments.

Note 2 has been provided to modify the ACTIONS related to PAM instrumentation channels. Section 1.3, Completion Times, specifies that once a Condition has been entered, subsequent divisions, subsystems, components, or variables expressed in the Condition discovered to be inoperable or not within limits, will not result in separate entry into the Condition. Section 1.3 also specifies that Required Actions of the Condition continue to apply for each additional failure, with Completion Times based on initial entry into the Condition. However, the Required Actions for inoperable PAM instrumentation channels provide appropriate compensatory measures for separate Functions. As such, a Note has been provided that allows separate Condition entry for each inoperable PAM Function.

A.1

When one or more Functions have one required channel that is inoperable, the required inoperable channel must be restored to OPERABLE status within 30 days. The 30 day Completion Time is based on operating experience and takes into account the remaining OPERABLE channels (or, in the case of a Function that has only one required channel, other non-Regulatory Guide 1.97 instrument channels to monitor the Function), the passive nature of the instrument (no critical automatic action is assumed to occur from these instruments), and the low probability of an event requiring PAM instrumentation during this interval.

B.1

If a channel has not been restored to OPERABLE status in 30 days, this Required Action specifies initiation of action in accordance with Specification 5.6.7, which requires a written report to be submitted to the NRC. This report discusses the results of the root cause evaluation of the inoperability and identifies proposed restorative actions.

BASES

SURVEILLANCE REQUIREMENTS (continued)

The 18 month Frequency for all channels except the primary containment hydrogen analyzers (per Note 1 to SR 3.3.3.1.3) is based on operating experience and consistency with the typical industry refueling cycles. The 92 day Frequency for the primary containment hydrogen analyzers (per Note 1 to SR 3.3.3.1.2) is based upon vendor recommendations and instrument accuracy requirements.

SR 3.3.3.1.2 is modified by Note 2 stating that performance of the calibration of the oxygen and hydrogen monitors may be delayed until after exceeding 15% RTP (i.e., the power at which LCO 3.6.3.2 requires the primary containment to be inerted). This delay is allowed for up to 72 hours for one oxygen and one hydrogen monitor, and for 7 days for the second oxygen and hydrogen monitor. These delays facilitate more accurate calibration methods, which can be employed with the primary containment inerted.

SR 3.3.3.1.3 is also modified by Note 2 stating that radiation detectors are excluded from calibration requirements.

REFERENCES

1. Regulatory Guide 1.97, "Instrumentation for Light Water Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," Rev. 2, December 1980.

2. Detroit Edison Letter NRC-89-0148, "Additional Clarification to Fermi 2 Compliance to Regulatory Guide 1.97, Revision 2," dated June 19, 1989.

3. Detroit Edison Letter NRC-89-201, "Regulatory Guide 1.97 Revision 2 Design Review," dated September 12, 1989.

4. NRC Letter, "Emergency Response Capability-Conformance to Regulatory Guide 1.97, Revision 2 (TAC No. 59620)," dated May 2, 1990.

5. Detroit Edison Letter NRC-93-0105, "Fermi 2 Review of Neutron Monitoring System Against Criteria of NEDO-31558A," dated September 28, 1993.

BASES

REFERENCES (continued)

6. NRC Letter, "Regulatory Guide 1.97 - Boiling Water Reactor Neutron Flux Monitoring - Fermi 2 (TAC No. M59620)," dated February 17, 1994.

7. NRC Letter, "Regulatory Guide 1.97 - Boiling Water Reactor Neutron Flux Monitoring - Fermi 2 (MPA-17 TAC No. M59620)," dated May 10, 1993.

3.3.3.1-1

TABLE ~~3.3.7.5-1~~

TBL 3.3.3.1-1

ACCIDENT MONITORING INSTRUMENTATION

Function

	INSTRUMENT	REQUIRED NUMBER OF CHANNELS	MINIMUM CHANNELS OPERABLE	APPLICABLE OPERATIONAL CONDITIONS	ACTION
1	~~1.~~ Reactor Vessel Pressure	2	1	1, 2	80
	~~2.~~ Reactor Vessel Water Level				
2	a. Fuel Zone	2	1	1, 2	80
3	b. Wide Range	2	1	1, 2	80
4	~~3.~~ Suppression Chamber Water Level	2	1	1, 2	80
5	~~4.~~ Suppression Chamber Water Temperature	2	1	1, 2	80
	~~5. Suppression Chamber Air Temperature~~	~~2~~	~~1~~	~~1, 2~~	~~80~~
	~~6. Suppression Chamber Pressure~~	~~2~~	~~1~~	~~1, 2~~	~~80~~
6	~~7.~~ Drywell Pressure, Wide Range	2	1	1, 2	80
	~~8. Drywell Air Temperature~~	~~2~~	~~1~~	~~1, 2~~	~~80~~
7	~~9.~~ Primary Containment Oxygen Concentration	2	1	1, 2	83
8	~~10.~~ Primary Containment Hydrogen Concentration	2	1	1, 2	80
	~~11. Safety/Relief Valve Position Indicators~~	~~1*/valve~~	~~1*/valve~~	~~1, 2~~	~~80~~
9	~~12.~~ Containment High Range Radiation Monitor	2	~~2~~	1, 2, ~~3~~	81

Primary — A.1

A.3

L.2

R.1

~~*Pressure switch~~ — R.1

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SPECIFICATION 3.3.3.1

TABLE ~~3.3.7.5-1~~ (Continued) (Also see Specification 5.6)

ACCIDENT MONITORING INSTRUMENTATION

ACTION STATEMENTS

~~ACTION 80~~ <ADD: ACTION B>

a. With the number of OPERABLE accident monitoring instrumentation channels less than the Required Number of Channels shown in Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within 7 days ~~or be in at least HOT SHUTDOWN within the next 12 hours~~. (L.3)

ACTION A — 30 days (L.4)

b. With the number of OPERABLE accident monitoring instrumentation channels less than the Minimum Channels OPERABLE requirements of Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within ~~48 hours~~ 7days or be in at least HOT SHUTDOWN within the next 12 hours. 72 hours

ACTION C, D

ACTION F

~~ACTION 81~~

ACTION C

With the number of OPERABLE channels ~~less~~ 2 than required by the minimum channels OPERABLE requirements, ~~initiate the preplanned alternate method of monitoring the appropriate parameter(s) within 72 hours~~ and: (LR.1)

<one less than "Required": Add ACTION A & B> (L.4)

1) either restore the inoperable channel(s) to OPERABLE status within 7 days of the event, or

<See Specification 5.6.7 & ACTION G>

2) prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

~~ACTION 82~~

With the number of OPERABLE accident monitoring instrumentation channels less than required by the Minimum Channels OPERABLE requirements of Table 3.3.7.5-1, within ~~48 hours~~ either:

ACTION A: 30 days / 7days

ACTION C:

a. Restore the inoperable channel(s) to OPERABLE status, or (L.5)

TBL 3.3.3.1-1 NOTE (a)

b. Declare the affected isolation valve inoperable and take the ACTION specified by Specification 3.6.3 ACTION a (A.4)

ACTION 83 -

- ACTION F: (Be in MODE 3)
- ACTION B: (GO TO 5.6.7)

a. With the number of OPERABLE accident monitoring instrumentation channels less than the Required Number of Channels shown in Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within 30 days, or submit a report to the Commission pursuant to Specification 6.9.2 within the following 14 days outlining the action taken, the cause of the inoperability, and the plans and schedule for restoring the instrument channel(s) to OPERABLE status.

ACTION B & <See Spec 5.6.7>

b. With the number of OPERABLE accident monitoring instrumentation channels less than the Minimum Channels OPERABLE requirements of Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 12 hours.

ACTION D

ACTION F

72 (L.4)

~~TABLE 4.3.7.5-1~~

ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

	INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	APPLICABLE OPERATIONAL CONDITIONS
1	~~1.~~ Reactor Vessel Pressure	M ⟨1⟩	R ⟨3⟩	1, 2
	~~2.~~ Reactor Vessel Water Level			
2	~~a.~~ Fuel Zone	M ⟨1⟩	R ⟨3⟩	1, 2
3	~~b.~~ Wide Range	M ⟨1⟩	R ⟨3⟩	1, 2
4	~~3.~~ Suppression Chamber Water Level	M ⟨1⟩	R ⟨3⟩	1, 2
5	~~4.~~ Suppression Chamber Water Temperature	M ⟨1⟩	R ⟨3⟩	1, 2
	~~5. Suppression Chamber Air Temperature~~	~~M~~	~~R~~	~~1, 2~~
	~~6. Suppression Chamber Pressure~~	~~M~~	~~R~~	~~1, 2~~
6	~~7.~~ Drywell Pressure, Wide Range	M ⟨1⟩	R ⟨3⟩	1, 2
	~~8. Drywell Air Temperature~~	~~M~~	~~R~~	~~1, 2~~
7	~~9.~~ Primary Containment Oxygen Concentration	M ⟨1⟩	Q# ⟨2⟩	1, 2
8	~~10.~~ Primary Containment Hydrogen Concentration	M ⟨1⟩	Q*# ⟨2⟩	1, 2
	~~11. Safety/Relief Valve Position Indicators~~	~~M~~	~~R~~	~~1, 2~~
9	~~12.~~ (Primary) (A.4) Containment High Range Radiation Monitor	M ⟨1⟩	R** ⟨3⟩	1, 2

SR 3.3.3.1.⟨X⟩

SR 3.3.3.1.3 Note 2

*Using sample gas containing:
a. One volume percent hydrogen, balance nitrogen.
b. Four volume percent hydrogen, balance nitrogen.

**CHANNEL CALIBRATION shall consist of an electronic calibration of the channel, not including the detector, for range decades above 10 R/hr and a one point calibration check of the detector below 10 R/hr with an installed or portable gamma source.

The provisions of Specification 4.0.4 are not applicable provided that the surveillance is completed for one channel within 72 hours and for both channels within seven days after exceeding 15% of RATED THERMAL POWER.

SR 3.3.3.1.2 Note 2

R.1 L.2 LR.2 A.5

SPECIFICATION 3.3.3.1

FERMI - UNIT 2

3/4 3-63

Amendment No. 86, 72, 125

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A.5 CTS Table 4.3.7.5-1 footnote # states that the provisions of Specification 4.0.4 are not applicable. This is not required in ITS 3.3.3.1 because any potential confusion concerning when the surveillance is required is eliminated by specifying the precise requirements for performance of the Surveillance such that an explicit exception to 4.0.4 is not necessary. The ITS SR 3.3.3.1.2 Note 2 modifies the Frequency such that it is "Not required to be performed until 72 hours for one channel and 7 days for the second channel after ≥ 15% RTP." This is an administrative change with no impact on safety.

TECHNICAL CHANGES - MORE RESTRICTIVE

None

TECHNICAL CHANGES - LESS RESTRICTIVE
"Generic"

LR.1 CTS Table 3.3.7.5-1, Action 81, requires that with the Operable channels less than the minimum required, initiate the preplanned alternate method of monitoring the appropriate parameter(s) within 72 hours and restore the inoperable channel within 7 days. ITS 3.3.3.1, Action C, requires the channel restored within 7 days, but does not require the preplanned alternate method of monitoring to be initiated within 72 hours. This is acceptable because the requirement to initiate an alternate monitoring plan does not impact the requirement to restore the channel within 7 days, and the requirement to initiate alternate methods of monitoring post-accident parameters can be removed from the Technical Specifications. Regulatory control of changes to this requirement (e.g., Technical Specification amendment or 10 CFR 50.59) is not necessary to provide adequate protection of the public health and safety since the requirement for post accident instrument channel Operability and actions for inoperable instrumentation, continues to be required by the Technical Specifications.

LR.2 CTS Table 4.3.7.5-1 footnotes * and ** provide details of performing Channel Calibrations. ITS SRs 3.3.3.1.2 and 3.3.3.1.3 do not include these details; they are removed from the Technical Specifications. Regulatory control of changes to this requirement (e.g., Technical Specification amendment or 10 CFR 50.59) is not necessary to provide adequate protection of the public health and safety since the requirement for Channel Calibrations continue to be required by the Technical Specifications.

L.4 CTS Table 3.3.7.5-1 Action 80.a and Action 81.1) require restoration of a single inoperable channel within 7 days. CTS Table 3.3.7.5-1 Action 80.b and Action 83 require restoration of one channel when two are inoperable within 48 hours. ITS 3.3.3.1 Action A requires restoration of a single inoperable channel within 30 days; ITS 3.3.3.1 Action C requires restoration of one channel when two are inoperable (except two inoperable hydrogen or oxygen concentration channels) within 7 days; and ITS 3.3.3.1 Action D requires restoration of one channel when two hydrogen or oxygen concentration channels are inoperable, within 72 hours. These increased allowed out of service times are consistent with NUREG-1433, and are acceptable based on the remaining Operable post accident monitoring channels, other non-Regulatory Guide 1.97 instrument channels which monitor the function, the passive nature of the instrument (no critical automatic action is assumed to occur from these instruments), and the low probability of an event requiring PAM instrumentation during this interval. Therefore, this less restrictive change will have a negligible impact on safety.

L.5 CTS 3.3.7.5-1 requires 1 channel per valve for the primary containment isolation valve (PCIV) position, and its Action 82 for inoperable channels requires restoration within 48 hours. ITS Table 3.3.3.1-1 states requirements on a penetration basis - requiring 2 channels per penetration; but also including Note (b) allowing the requirement to drop to 1 channel on penetrations with only one installed control room indication channel. While this presentation is an administrative presentation preference (also note an additional administrative change: optionally, both CTS and ITS allow isolation of the penetration as addressed in discussion "A.4"), it is provided to assist clarification of the ITS 3.3.3.1 Actions, which are less restrictive:

- ITS 3.3.3.1 Action A allows 30 days if one channel in a penetration is inoperable, and only requires submission of a special report (in accordance with ITS 5.6.7) if not restored in 30 days; and

- Action C allows 7 days if both channels in a penetration are inoperable, and requires plant shutdown to Mode 3 if one channel is not restored within 7 days.

3.3 INSTRUMENTATION

<CTS>

3.3.3.1 Post Accident Monitoring (PAM) Instrumentation

<3.3.7.5>

LCO 3.3.3.1 The PAM instrumentation for each Function in Table 3.3.3.1-1 shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

----------NOTES----------

1. LCO 3.0.4 is not applicable. <DOC L.1>
2. Separate Condition entry is allowed for each Function. <DOC A.2>

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions with one required channel inoperable.	A.1 Restore required channel to OPERABLE status.	30 days <TBL 3.3.7.5-1, Action 80.a> <DOC M.1>
B. Required Action and associated Completion Time of Condition A not met.	B.1 Initiate action in accordance with Specification 5.6.~~8~~ 7.	Immediately <DOC L.3> <DOC M.1> <TBL 3.3.7.5-1 ACTION 83.a>
C. ----------NOTE---------- Not applicable to ~~hydrogen monitor~~ Primary containment channels. ---------- One or more Functions with two required channels inoperable.	C.1 Restore one required channel to OPERABLE status.	7 days <TBL 3.3.7.5-1, Action 80.a, 80.b, 81>

and oxygen concentration

(continued)

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ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Two ~~required~~ primary containment hydrogen ~~monitor~~ channels inoperable. (P.2)	D.1 Restore one ~~required~~ hydrogen ~~monitor~~ concentration channel to OPERABLE status. (P.2)	72 hours 〈TBL 3.3.7.5-1, Action 80.b Action 83.b〉
E. Required Action and associated Completion Time of Condition C or D not met.	E.1 Enter the Condition referenced in Table 3.3.3.1-1 for the channel.	Immediately 〈3.3.7.5, ACTION〉
F. As required by Required Action E.1 and referenced in Table 3.3.3.1-1.	F.1 Be in MODE 3.	12 hours 〈TBL 3.3.7.5-1, Action 80.b Action 83.b〉
G. As required by Required Action E.1 and referenced in Table 3.3.3.1-1.	G.1 Initiate action in accordance with Specification 5.6.~~5~~.7	Immediately 〈TBL 3.3.7.5-1, Action 81.2〉

OR

Two required primary containment oxygen concentration channels inoperable (P.1)

AND

D.2 Restore one required primary containment oxygen concentration channel to OPERABLE status — 72 hours

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SURVEILLANCE REQUIREMENTS ⟨CTS⟩

NOTE
These SRs apply to each Function in Table 3.3.3.1-1. ⟨4.3.7.5⟩

SURVEILLANCE	FREQUENCY
SR 3.3.3.1.1 Perform CHANNEL CHECK.	31 days ⟨TSL 4.3.7.5-1⟩
SR 3.3.3.1.~~2~~ 3 Perform CHANNEL CALIBRATION.	[18] ~~X~~ months

NOTES
1. Not applicable to Functions 7 and 8 (P.1)
2. Radiation detectors are excluded

SR 3.3.3.1.2 NOTES
1. Only applicable to Functions 7 and 8.
2. Not required to be performed until 72 hours for one channel, and 7 days for the second channel, after ≥ 15% RTP

Perform CHANNEL CALIBRATION. 92 days

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<CTS>

P.1

Reorder as noted

Table 3.3.3.1-1 (page 1 of 1)
Post Accident Monitoring Instrumentation

TBLs 3.3.7.5-1 & 4 3.3.7.5-1

FUNCTIONS

	FUNCTION	REQUIRED CHANNELS	CONDITIONS REFERENCED FROM REQUIRED ACTION E.1	
1.	Reactor ~~Steam Dome~~ Vessel Pressure	2	F	<1>
2.	Reactor Vessel Water Level - Fuel Zone	2	F	<2.a>
3.	Reactor Vessel Water Level - Wide Range	2	E	<2.b>
4 ~~7.~~	Suppression Pool Water Level	2	F	<3>
6 ~~6.~~	Drywell Pressure - Wide Range	2	F	<7>
9 ~~8.~~	Primary Containment ~~Area~~ Radiation Monitor High Range	2	~~F~~ G	<12>
~~5.~~	~~Drywell Sump Level~~	~~2~~	~~F~~	
~~7~~	~~Drywell Drain Sump Level~~	~~2~~	~~F~~	
10 ~~9.~~	PCIV Position	2 per penetration flow path(a)(b)	F	<16>
~~9.~~	~~Wide Range Neutron Flux~~	~~2~~	~~E~~	
7 ~~10.~~	~~Drywell H_2, O_2 Anal.~~ Primary Containment Concentration	2	F	<9>
8 ~~11.~~	~~Containment H_2, O_2 Anal.~~ Primary Containment Concentration	2	F	<10>
~~12.~~	~~Primary Containment Pressure~~	~~2~~	~~F~~	
5 ~~13.~~	Suppression Pool Water Temperature	2 (c) P.1	F	<4>

(a) Not required for isolation valves whose associated penetration flow path is isolated by at least one closed and deactivated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured. <TBL 3.3.7.5-1 Action 82.b>

(b) Only one position indication channel is required for penetration flow paths with only one installed control room indication channel. <DOC L.5>

P.1 ~~(c) Monitoring each relief valve discharge is optional.~~

P.1 Reviewer Note: Table 3.3.3.1-1 shall be amended for each plant as necessary to list:

1. All Regulatory Guide 1.97, Type A instruments, and
2. All Regulatory Guide 1.97, Category 1, non-Type A instruments specified in the plant's Regulatory Guide 1.97, Safety Evaluation Report.

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BASES

LCO

~~6.~~ Primary Containment Isolation Valve (PCIV) Position (continued)

[For this plant, the PCIV position PAM instrumentation consists of the following:]

P.3

9. Wide Range Neutron Flux

Wide range neutron flux is a Category I variable provided to verify reactor shutdown. [For this plant, the wide range neutron flux PAM instrumentation consists of the following:]

Primary Containment

7 8 ~~7. 8.~~ ~~Drywell and Containment~~ Hydrogen and Oxygen ~~Analyzers~~

Concentration

Primary containment

P.1

~~Drywall and containment~~ hydrogen and oxygen analyzers are Category I instruments provided to detect high hydrogen or oxygen concentration conditions that represent a potential for containment breach. This variable is also important in verifying the adequacy of mitigating actions. ~~[For this plant, the drywell and containment hydrogen and oxygen analyzers PAM instrumentation consists of the following:]~~

TYPE C,

~~12.~~ Primary Containment Pressure

P.3

Primary containment pressure is a Category I variable provided to verify RCS and containment integrity and to verify the effectiveness of ECCS actions taken to prevent containment breach. Two wide range primary containment pressure signals are transmitted from separate pressure transmitters and are continuously recorded and displayed on two control room recorders. These recorders are the primary indication used by the operator during an accident. Therefore, the PAM Specification deals specifically with this portion of the instrument channel.

5 ~~13.~~ Suppression Pool Water Temperature

TYPE A,

Suppression pool water temperature is a Category I variable provided to detect a condition that could potentially lead to containment breach and to verify the effectiveness of ECCS actions taken to prevent containment breach. The

(continued)

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Insert B 3.3.3.1-4

2. Detroit Edison Letter NRC-89-0148, "Additional Clarification to Fermi 2 Compliance to Regulatory Guide 1.97, Revision 2," dated June 19, 1989.

3. Detroit Edison Letter NRC-89-201, "Regulatory Guide 1.97 Revision 2 Design Review, "dated September 12, 1989.

4. NRC Letter, "Emergency Response Capability-Conformance to Regulatory Guide 1.97, Revision 2 (TAC No. 59620)," dated May 2, 1990.

5. Detroit Edison letter NRC-93-0105, "Fermi 2 Review of Neutron Monitoring System Against Criteria of NEDO-31558A," dated September 28, 1993.

6. NRC letter, "Regulatory Guide 1.97 - Boiling Water Reactor Neutron Flux Monitoring - Fermi 2 (TAC No. M59620)," dated February 17, 1994.

7. NRC Letter, "Regulatory Guide 1.97 - Boiling Water Reactor Neutron Flux Monitoring - Fermi 2 (MPA-17 TAC No. M59620)," dated May 10, 1993.

Insert B 3.3.3.1-5

... for all channels except the primary containment oxygen and hydrogen analyzers (per Note 1 to SR 3.3.3.1.3) ...

Insert B 3.3.3.1-6

The 92 day Frequency for the primary containment oxygen and hydrogen analyzers (per Note 1 to SR 3.3.3.1.2) is based upon vendor recommendations and instrument accuracy requirements.

SR 3.3.3.1.2 is modified by Note 2 stating that performance of the calibration of the oxygen and hydrogen monitors may be delayed until after exceeding 15% RTP (i.e., the power at which LCO 3.6.3.2 requires the primary containment to be inerted). This delay is allowed for up to 72 hours for one oxygen and one hydrogen monitor, and for 7 days for the second oxygen and hydrogen monitor. These delays facilitate more accurate calibration methods, which can be employed with the primary containment inerted.

SR 3.3.3.1.3 is also modified by Note 2 stating that radiation detectors are excluded from calibration requirements.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.3.1	Verify the safety function lift setpoints of the required SRVs are as follows: Number of SRVs / Setpoint (psig) 5 / 1135 ± 34.05 5 / 1145 ± 34.35 5 / 1155 ± 34.65 Following testing, lift settings shall be within ± 1%.	In accordance with the Inservice Testing Program
SR 3.4.3.2	----------NOTE---------- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. ---------- Verify each required SRV opens when manually actuated.	18 months

BASES

APPLICABILITY

In MODES 1, 2, and 3, 11 SRVs must be OPERABLE, since considerable energy may be in the reactor core and the limiting design basis transients are assumed to occur in these MODES. The SRVs may be required to provide pressure relief to discharge energy from the core until such time that the Residual Heat Removal (RHR) System is capable of dissipating the core heat.

In MODE 4, decay heat is low enough for the RHR System to provide adequate cooling, and reactor pressure is low enough that the overpressure limit is unlikely to be approached by assumed operational transients or accidents. In MODE 5, the reactor vessel head is unbolted or removed and the reactor is at atmospheric pressure. The SRV function is not needed during these conditions.

ACTIONS

A.1 and A.2

With less than the minimum number of required SRVs OPERABLE, a transient may result in the violation of the ASME Code limit on reactor pressure. If the safety function of any required SRVs cannot be maintained, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.4.3.1

This Surveillance requires that the required SRVs will open at the pressures assumed in the safety analysis of Reference 1. The demonstration of the SRV safe lift settings must be performed during shutdown, since this is a bench test, to be done in accordance with the Inservice Testing Program. The lift setting pressure shall correspond to ambient conditions of the valves at nominal operating temperatures and pressures. The SRV setpoint is ± 3% for OPERABILITY, however, the valves are reset to ± 1% during the Surveillance to allow for drift.

3/4.4.2 SAFETY/RELIEF VALVES

(A.1)

SAFETY/RELIEF VALVES

LIMITING CONDITION FOR OPERATION

LCO 3.4.3

3.4.2.1 The safety valve function of at least 11 of the following reactor coolant system safety/relief valves shall be OPERABLE with the specified code safety valve function lift settings:*

SR 3.4.3.1

5 safety/relief valves @ 1135 psig ±3%
5 safety/relief valves @ 1145 psig ±3%
5 safety/relief valves @ 1155 psig ±3%

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

ACTION A

a. With the safety valve function of less than 11 of the above safety/relief valves OPERABLE, be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.

(L.1)

b. With one or more safety/relief valves stuck open, provided that suppression pool average water temperature is less than 95°F, close the stuck open safety/relief valve(s); if unable to close the stuck open valve(s) within 2 minutes or if suppression pool average water temperature is 95°F or greater, place the reactor mode switch in the Shutdown position.

c. With one or more safety/relief valve position indicators inoperable, restore the inoperable indicator(s) to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

(LA.2)

SURVEILLANCE REQUIREMENTS

4.4.2.1.1 The valve position indicator for each safety/relief valve shall be demonstrated OPERABLE with the pressure setpoint of each of the tail-pipe pressure switches verified to be 30 ± 5 psig by performance of a CHANNEL CALIBRATION at least once per 18 months.

SR 3.4.3.1

~~4.4.2.1.2~~ At least 1/2 of the safety relief valves shall be set pressure tested at least once per 18 months, such that all 15 safety relief valves are set pressure tested at least once per 40 months.

(LR.1)

(M.1)

<ADD.: SR 3.4.3.2>

*The lift setting pressure shall correspond to ambient conditions of the valves at nominal operating temperatures and pressures. Although the as-found lift setting tolerance is ±3%, the as-left lift settings shall be within ±1% of the specified setpoints prior to installation following testing.

(LA.1)

DISCUSSION OF CHANGES
ITS: SECTION 3.4.3 - SAFETY RELIEF VALVES (SRVs)

ADMINISTRATIVE

A.1 In the conversion of the Fermi 2 current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted which do not result in technical changes (either actual or interpretational). Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the Boiling Water Reactor (BWR) Standard Technical Specifications NUREG-1433, Rev. 1.

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 ITS adds a new Surveillance Requirement. SR 3.4.3.2 requires the SRVs to be manually opened each cycle after reaching adequate pressure and steam flow for the test. Although SR 3.4.3.2 is currently being performed (though it is not specifically in Technical Specifications), this change is considered an additional restrictions on plant operation. This change is a more restrictive change which will have no negative impact on safety, because the surveillance test is required to ensure the Operability of components assumed to perform in the plant safety analysis.

TECHNICAL CHANGES - LESS RESTRICTIVE
"Generic"

LA.1 CTS 3.4.2.1 footnote "*" requires that the lift setting pressure shall correspond to ambient conditions of the valves at nominal operating temperature and pressure, and also details the application of the 3% setpoint tolerance (i.e., the need for as-left settings ± 1%). ITS SR 3.4.3.1 specifies the required lift pressure for the SRVs, but does not specify the ambient conditions or details of as left settings. This is acceptable because the criteria for the ambient condition or details of as left settings do not impact the requirement to perform the surveillance and the requirement for the Operability of the SRVs. Therefore, these details will be relocated to the ITS Bases which require change control in accordance with ITS 5.5.10, Bases Control Program. These details are not required to be in the ITS to provide adequate protection of the public health and safety, because these details do not impact the requirement to perform the surveillance or the requirement to maintain the SRVs Operable.

<CTS>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.3.1 Verify the safety function lift setpoints of the ~~[~~required~~]~~ S/RVs are as follows: Number of S/RVs — Setpoint (psig) 5 — ~~[4]~~ — ~~[1090 ± 32.7]~~ (1145 ± 34.35) 5 — ~~[4]~~ — ~~[1100 ± 33.0]~~ 5 — ~~[3]~~ — ~~[1110 ± 33.3]~~ (1155 ± 37.65) (1135 ± 34.05) (P.1) Following testing, lift settings shall be within ± 1%.	~~[~~In accordance with the Inservice Testing Program ~~or [18] months]~~ <4.4.2.1.2> <3.4.2.1>
SR 3.4.3.2 ----------NOTE---------- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. ---------- Verify each ~~[~~required~~]~~ S/RV opens when manually actuated. (P.1)	<DOC M1> ~~[~~18~~]~~ months ~~[on a STAGGERED TEST BASIS for each valve solenoid]~~

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BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.4.3.1

This Surveillance requires that the [required] S/RVs will open at the pressures assumed in the safety analysis of Reference 1. The demonstration of the S/RV safe lift settings must be performed during shutdown, since this is a bench test[], to be done in accordance with the Inservice Testing Program[]. The lift setting pressure shall correspond to ambient conditions of the valves at nominal operating temperatures and pressures. The S/RV setpoint is ± [3]% for OPERABILITY; however, the valves are reset to ± 1% during the Surveillance to allow for drift.

P.4

The SR gives set pressures for all 15 SRVs installed. However, since only 11 SRVs are required, the SR is met if 11 SRVs are set properly.

The ~~[18 month]~~ Frequency ~~was selected because this~~ Surveillance must be performed during shutdown conditions ~~and is based on the time between refuelings.~~ is required by the Inservice Testing program, and is consistent with the fact that

P.3

SR 3.4.3.2

A manual actuation of each [required] S/RV is performed to verify that, mechanically, the valve is functioning properly and no blockage exists in the valve discharge line. This can be demonstrated by the response of the turbine control valves or bypass valves, by a change in the measured steam flow, or by any other method suitable to verify steam flow. Adequate reactor steam dome pressure must be available to perform this test to avoid damaging the valve. Also, adequate steam flow must be passing through the main turbine or turbine bypass valves to continue to control reactor pressure when the S/RVs divert steam flow upon opening. Sufficient time is therefore allowed after the required pressure and flow are achieved to perform this test. Adequate pressure at which this test is to be performed is ~~[920]~~ psig (the pressure recommended by the valve manufacturer). Adequate steam flow is represented by ~~[at least 1.25 turbine bypass valves open, or total steam flow ≥ 10^6 lb/hr]~~. Plant startup is allowed prior to performing this test because valve OPERABILITY and the setpoints for overpressure protection are verified, per ASME Code requirements, prior to valve installation. Therefore, this SR is modified by a Note that states the Surveillance is not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. The 12 hours allowed for manual actuation after the required pressure is reached is sufficient to achieve stable

≥ 850

turbine bypass valves open at least 10%

(continued)

Rev 1

SURVEILLANCE REQUIREMENTS (Continued)

SR 3.4-5.1 ~~4.4.3.2.2~~ Each reactor coolant system pressure isolation valve ~~specified in Table 3.4.3.2-1~~ shall be demonstrated OPERABLE by leak testing pursuant to Specification 4.0.5 and verifying the leakage of each valve to be within the specified limit: (LA.1)

~~a. At least once per 24 months, and~~ (LA.2)

~~b. Prior to returning the valve to service following maintenance, repair or replacement work on the valve which could affect its leakage rate.~~ (LR.2)

SR 3.4.5.1 NOTE ~~The provisions of Specification 4.0.4~~ are not applicable ~~for entry into~~ OPERATIONAL CONDITION 3. (A.3)

~~4.4.3.2.3 The high/low pressure interface valve leakage pressure monitors shall be demonstrated OPERABLE with alarm setpoints per Table 3.4.3.2-2 by performance of a:~~

~~a. CHANNEL FUNCTIONAL TEST at least once per 31 days, and~~

~~b. CHANNEL CALIBRATION at least once per 18 months.~~ (LR.1)

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 CTS 3.4.3.2, Table 3.4.3.2-1 provides details relating to system design and purpose (i.e., the list of PIVs). ITS 3.4.5 requires the Operability of the PIVs, but does not specify the design details. This is acceptable because these design details do not impact the ITS requirement for PIV Operability, they only provide information specifying the particular PIVs. Therefore, these details can be relocated to the UFSAR. This change is consistent with NUREG-1433. The information moved to the UFSAR requires changes to be controlled in accordance with 10 CFR 50.59. This relocation continues to provide adequate protection of the public health and safety since the requirement for PIV Operability continues to be required by the Technical Specifications.

LA.2 CTS 4.4.3.2.2.a, specifies the Frequency for performing the RCS Pressure Isolation Valve (PIV) Surveillance including both "pursuant to Specification 4.0.5" and "once per 24 months." ITS SR 3.4.5.1 requires that the surveillance be performed but only identifies that the frequency is determined by the Inservice Testing (IST) program. This is acceptable because any additional requirement to perform the surveillance (i.e., "once per 24 months") is not impacted by where the frequency is specified. Therefore, this information can be defined and controlled in the IST Program. This change is consistent with NUREG-1433. The information moved to the IST Program requires changes to be controlled in accordance with the 10 CFR 50.55a. This relocation continues to provide adequate protection of the public health and safety since the requirement for PIV Operability continues to be required by the Technical Specifications.

SPECIFICATION 3.5.1

3/4.5 EMERGENCY CORE COOLING SYSTEMS

3/4.5.1 ECCS - OPERATING

(A.1)

LIMITING CONDITION FOR OPERATION

LCO 3.5.1 The emergency core cooling systems shall be OPERABLE with: (LA.1)

a. The core spray system (CSS) consisting of two subsystems with each subsystem comprised of:

1. Two OPERABLE CSS pumps, and

2. An OPERABLE flow path capable of taking suction from the suppression chamber and transferring the water through the spray sparger to the reactor vessel.

b. The low pressure coolant injection (LPCI) system of the residual heat removal system consisting of two subsystems with each subsystem comprised of:

1. Two OPERABLE LPCI (RHR) pumps, and

2. An OPERABLE flow path capable of taking suction from the suppression chamber and transferring the water to the reactor vessel.***

c. The high pressure cooling injection (HPCI) system consisting of:

1. One OPERABLE HPCI pump, and

2. An OPERABLE flow path capable of taking suction from the suppression chamber and transferring the water to the reactor vessel.

LCO 3.5.1 ~~d.~~ The automatic depressurization system (ADS) with at least five OPERABLE ADS valves.

APPLICABILITY: OPERATIONAL CONDITION 1, 2* ** # and 3* **.

Applicability

*The HPCI system is not required to be OPERABLE when reactor steam dome pressure is less than or equal to 150 psig.

**The ADS is not required to be OPERABLE when reactor steam dome pressure is less than or equal to 150 psig.

SR 3.5.1.4 Note

***Low pressure coolant injection (LPCI) subsystems may be considered OPERABLE during alignment and operation for decay heat removal with reactor steam dome pressure less than the Residual Heat Removal (RHR) cut-in permissive pressure in OPERATIONAL CONDITION 3, if capable of being manually realigned and not otherwise inoperable.

~~#See Special Test Exception 3.10.6.~~

(A.3)

ADMINISTRATIVE

A.1 In the conversion of the Fermi 2 current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted which do not result in technical changes (either actual or interpretational). Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the Boiling Water Reactor (BWR) Standard Technical Specifications NUREG-1433, Rev. 1.

A.2 Not used.

A.3 CTS 3.5.1, footnote "#" to the Applicability, references CTS 3.10.6, Training Startups, which allows a relaxation to the requirements for ECCS system Operability if certain conditions are maintained during training startups. ITS 3.0.7 adequately prescribes the use of the Special Operations LCOs and eliminates the need for this "cross reference." Elimination of this reference is an administrative change with no impact on safety.

A.4 The CTS provides a specific Action for LPCI cross-tie valves closed. The ITS recognizes that both LPCI subsystems are inoperable with a LPCI cross-tie valve closed (ITS Bases specifically discusses). Therefore both the CTS and ITS Actions for LPCI cross-tie valve closed are the same as for both LPCI subsystems inoperable. This administrative presentation preference to eliminate specific treatment of a closed cross-tie valve, and allow the definition of Operability to accomplish the identification of the appropriate Action does not result in any technical changes. Therefore, this is an administrative change with no impact on safety.

EMERGENCY CORE COOLING SYSTEMS
3/4 5.2 ECCS - SHUTDOWN
LIMITING CONDITION FOR OPERATION

ECCS A.1

LCO 3.5.2 At least two of the following subsystems shall be OPERABLE: LA.1

a. Core spray system (CSS) subsystems with a subsystem comprised of:

1. At least two OPERABLE CSS pumps, and

2. An OPERABLE flow path capable of taking suction from at least one of the following water sources and transferring the water through the spray sparger to the reactor vessel:

~~a) From the suppression chamber, or~~ LA.1

SR 3.5.2.2 ~~b)~~ When the suppression chamber water level is less than the limit required in Specification 3.5.3 or is drained, from the condensate storage tank containing at least 150,000 available gallons of water, ~~equivalent to~~ a level of 18 feet. LA.3

b. Low pressure coolant injection (LPCI) system subsystems with a subsystem comprised of:

1. At least two OPERABLE LPCI (RHR) pumps, and

2. An OPERABLE flow path capable of taking suction from the suppression chamber and transferring the water to the reactor vessel**. LA.1

APPLICABILITY: OPERATIONAL CONDITION 4 and 5*.

ACTION:

Action A / Action B ~~a.~~ With one of the above required subsystem(s) inoperable, restore at least two subsystem(s) to OPERABLE status within 4 hours or suspend all operations with a potential for draining the reactor vessel. L.1

Action C / Action D ~~b.~~ With both of the above required subsystems inoperable, suspend ~~CORE ALTERATIONS~~ and all operations with a potential for draining the reactor vessel. Restore at least one subsystem to OPERABLE status within 4 hours or establish SECONDARY CONTAINMENT INTEGRITY ~~within the next 8 hours~~. A.2

Initiate action to M.1

Applicability *The ECCS is not required to be OPERABLE provided that ~~the reactor vessel head is removed~~, the cavity is flooded, the spent fuel pool gates are removed, and water level is maintained within the limits of Specification 3.9.8 and 3.9.9. A.3 A.12

SR 3.5.2.6 Note **LPCI subsystem(s) may be considered OPERABLE during alignment and operation for decay heat removal if capable of being manually realigned and not otherwise inoperable.

A.8 CTS LCO 3.8.3.2.a.3 requires the LPCI swing bus to be Operable, and the associated Action c requires declaration of LPCI inoperability with the swing bus inoperable (i.e., not energized or automatic throwover scheme inoperable). The ITS provides this intent within the ECCS Specification, without separately specifying Operability of the swing bus in another Specification. The ITS recognizes that LPCI is inoperable with the swing bus inoperable (ITS Bases specifically discusses). Therefore both the ITS and CTS Actions for an inoperable swing bus are the same. This administrative presentation preference does not result in any technical changes. Therefore, this is an administrative change with no impact on safety.

A.9 Not used.

A.10 CTS 4.5.1.b.2 specifies that the LPCI pump flow verification test be performed at a pressure corresponding to a reactor vessel to primary containment differential pressure (psid) greater than or equal to the value assumed in the safety analysis. ITS SR 3.5.1.8 and SR 3.5.2.7 specify that the LPCI pump flow test be performed at a system head corresponding to a reactor pressure greater than or equal to the value assumed in the safety analysis. This change was made to make the test description for the LPCI test the same as that currently used for the CS test. Both tests are intended to verify the flow rates at the reactor pressures assumed in the safety analysis, NEDC-32071P, Table 4-3. NEDC-32071P, Table 4-3 footnote (1), indicates that the pressures assumed for LPCI or CS pump injection and the values at which the pumps are tested is expressed in "vessel to drywell differential pressure." The acceptance criteria used for ITS SR 3.5.1.8 (and ITS SR 3.5.2.7) is expressed as minimum flow rate against a system head corresponding to reactor pressure. This criteria is clarified in the Bases which states that pump flow rates are verified against a system head equivalent to the elevation head pressure between the pump suction and the vessel discharge, the piping friction losses, and RPV pressure present during a LOCA. The SR acceptance criteria is presented in "psig" (instead of psid) and clarified in the Bases to ensure that the flow verification test is not

SPECIFICATION 3.7.2
(Also see Specification 3.8.4)
(Also see Specification 3.8.6)

LIMITING CONDITION FOR OPERATION

3.8.2.1 As a minimum, the following D.C. electrical power sources shall be OPERABLE:

a. Division I, consisting of:
   1. 130 VDC Battery 2A-1.
   2. 130 VDC Battery 2A-2.
   3. Two 130 VDC full capacity chargers.

b. Division II, consisting of:
   1. 130 VDC Battery 2B-1.
   2. 130 VDC Battery 2B-2.
   3. Two 130 VDC full capacity chargers.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

(See Specification 3.8.4)

ACTION:

a. With a battery charger in either Division I or Division II of the above D.C. electrical power sources inoperable, restore the inoperable battery charger to OPERABLE status or replace with the spare battery charger within 4 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

b. With either Division I or Division II of the above required D.C. electrical power sources otherwise inoperable, restore the inoperable division to OPERABLE status within 2 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.#

SURVEILLANCE REQUIREMENTS

4.8.2.1 Each of the above required 130-volt batteries and chargers shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that:
   1. The parameters in Table 4.8.2.1-1 meet the Category A limits, and
   2. Total battery terminal voltage is greater than or equal to 130 volts for Division I and greater than or equal to 125.7 volts for Division II on float charge.

(See Specification 3.8.6)

(See Specification 3.8.4)

b. At least once per 92 days and within 7 days after a battery discharge with battery terminal voltage less than 105 volts, or battery overcharge with battery terminal voltage greater than 150 volts for Division I and greater than 145 volts for Division II, by verifying that:
   1. The parameters in Table 4.8.2.1-1 meet the Category B limits,

(See Specification 3.8.6)

#This ACTION may be delayed for up to 16 hours for battery chargers made inoperable due to loss of EECW cooling provided the ACTIONS of Specification 3.7.1.2 are taken.

L.1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.4.1	Verify battery terminal voltage is ≥ 130 V for Division I and ≥ 125.7 V for Division II on float charge.	7 days
SR 3.8.4.2	Verify no visible corrosion at battery terminals and connectors. OR Verify each battery cell-to-cell and terminal connection resistance is ≤ 1.5E-4 ohm.	92 days
SR 3.8.4.3	Inspect battery cells, cell plates, and racks for visual indication of physical damage or abnormal deterioration.	18 months
SR 3.3.4.4	Remove visible corrosion and verify battery cell to cell and terminal connections are coated with anti-corrosion material.	18 months
SR 3.8.4.5	Verify each battery cell-to-cell and terminal connection resistance ≤ 1.5E-4 ohm.	18 months
SR 3.8.4.6	Verify each required battery charger supplies for Division I: ≥ 100 amps at ≥ 129 V for ≥ 4 hours; and Division II: ≥ 100 amps at ≥ 124.7 V for ≥ 4 hours.	18 months

(continued)

BASES

BACKGROUND (continued)

Each DC battery subsystem is separately housed in a ventilated room apart from its charger and distribution centers. Each subsystem is located in an area separated physically and electrically from the other subsystems to ensure that a single failure in one subsystem does not cause a failure in a redundant subsystem. There is no sharing between redundant Class 1E subsystems such as batteries, battery chargers, or distribution panels.

The batteries for DC electrical power subsystems are sized such that under the worst case condition, with no battery charger available and the battery cell electrolyte temperature at 60°F, the batteries are able to carry all required loads for four hours without the minimum cell voltage dropping below 1.75 VDC for Division I and below 1.81 VDC for Division II.

Each battery charger of DC electrical power subsystem has ample power output capacity for the steady state operation of connected loads required during normal operation, while at the same time maintaining its battery bank fully charged. Each battery charger has sufficient capacity to restore the battery from the design minimum charge to its fully charged state within 24 hours while supplying normal steady state loads (Ref. 11).

APPLICABLE SAFETY ANALYSES

The initial conditions of Design Basis Accident (DBA) and transient analyses in the UFSAR, Chapter 6 (Ref. 4) and Chapter 15 (Ref. 5), assume that Engineered Safety Feature (ESF) systems are OPERABLE. The DC electrical power system provides normal and emergency DC electrical power for the EDGs, emergency auxiliaries, and control and switching during all MODES of operation. The OPERABILITY of the DC subsystems is consistent with the initial assumptions of the accident analyses and is based upon meeting the design basis of the unit. This includes maintaining sufficient DC sources OPERABLE during accident conditions in the event of:

a. An assumed loss of all offsite AC power or all onsite AC power; and

BASES

APPLICABLE SAFETY ANALYSES (continued)

b. A worst case single failure.

The DC sources satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

The DC electrical power subsystems – with each DC subsystem consisting of two 130 VDC batteries in series, two battery chargers, and the corresponding control equipment and interconnecting cabling supplying power to the associated bus, are required to be OPERABLE to ensure the availability of the required power to shut down the reactor and maintain it in a safe condition after an anticipated operational occurrence (AOO) or a postulated DBA. Loss of any DC electrical power subsystem does not prevent the minimum safety function from being performed (Ref. 3).

APPLICABILITY

The DC electrical power sources are required to be OPERABLE in MODES 1, 2, and 3 to ensure safe unit operation and 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

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

The DC electrical power requirements for MODES 4 and 5 are addressed in the Bases for LCO 3.8.5, "DC Sources – Shutdown."

ACTIONS

A.1 and B.1

Conditions A and B represent one division with a loss of ability to completely respond to an event, and a potential loss of ability to remain energized during normal operation. If one of the required DC electrical power subsystems is inoperable (e.g., inoperable battery, inoperable battery charger(s), or inoperable battery charger and associated

BASES

ACTIONS (continued)

inoperable battery), the remaining DC electrical power subsystems have the capacity to support a safe shutdown and to mitigate an accident condition. A subsequent worst case single failure could, however, result in the loss of minimum necessary DC electrical subsystems to mitigate a worst case accident. It is therefore imperative that the operator's attention focus on stabilizing the unit, minimizing the potential for complete loss of DC power to the affected division. The 4 hour Completion Time (Required Action A.1) for restoration of an inoperable battery charger allows time to replace the inoperable charger with an OPERABLE spare battery charger, if available. The four hour limit is reasonable based on the remaining capability of the battery to carry the loads for this period. The 2 hour limit for Required Action B.1 is consistent with the allowed time for an inoperable DC Distribution System division. The 2 hour Completion Time is based on Regulatory Guide 1.93 (Ref. 6) and reflects a reasonable time to assess unit status as a function of the inoperable DC electrical power subsystem and, if the DC electrical power subsystem is not restored to OPERABLE status, to prepare to effect an orderly and safe unit shutdown.

C.1 and C.2

If the station service DC electrical power 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 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems. The Completion Time to bring the unit to MODE 4 is consistent with the time required in Regulatory Guide 1.93 (Ref. 6).

SURVEILLANCE REQUIREMENTS

SR 3.8.4.1

Verifying battery terminal voltage while on float charge for the batteries helps to ensure the effectiveness of the charging system and the ability of the batteries to perform their intended function. Float charge is the condition in which the charger is supplying the continuous charge

BASES

SURVEILLANCE REQUIREMENTS (continued)

required to overcome the internal losses of a battery (or battery cell) and maintain the battery (or a battery cell) in a fully charged state. The voltage requirements are based on the nominal design voltage of the battery and are consistent with the initial voltages assumed in the battery sizing calculations. The 7 day Frequency is consistent with manufacturer recommendations and IEEE-450 (Ref. 7).

SR 3.8.4.2

Visual inspection to detect corrosion of the battery cells and connections, or measurement of the resistance of each inter-cell and terminal connection, provides an indication of physical damage or abnormal deterioration that could potentially degrade battery performance.

The connection resistance limits procedurally established for this SR are no more than 20% above the resistance as measured during installation and not above the ceiling value established by the manufacturer. This provides conservative measures to assure the Technical Specification limit is not exceeded.

The Frequency for these inspections, which can detect conditions that can cause power losses due to resistance heating, is 92 days. This Frequency is considered acceptable based on operating experience related to detecting corrosion trends.

SR 3.8.4.3

Visual inspection of the battery cells, cell plates, and battery racks provides an indication of physical damage or abnormal deterioration that could potentially degrade battery performance. Indications of damage or abnormal deterioration are evaluated to assess impact on the OPERABILITY of the battery.

The 18 month Frequency is based on engineering judgement, taking into consideration the desired plant conditions to perform the Surveillance. Operating experience has shown that these components usually pass the SR when performed at the 18 month Frequency. Therefore, the Frequency is considered acceptable from a standpoint of maintaining reliability.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.8.4.4 and SR 3.8.4.5

Visual inspection and resistance measurements of inter-cell and terminal connections provides an indication of physical damage or abnormal deterioration that could indicate degraded battery condition. The anti-corrosion material is used to help ensure good electrical connections and to reduce terminal deterioration. The visual inspection for corrosion is not intended to require removal of and inspection under each terminal connection.

The removal of visible corrosion is a preventive maintenance SR. The presence of visible corrosion does not necessarily represent a failure of this SR, provided visible corrosion is removed during performance of this Surveillance.

The connection resistance limits procedurally established for this SR are no more than 20% above the resistance as measured during installation, and not above the ceiling value established by the manufacturer. This provides conservative measures to assure the Technical Specification limit is not exceeded.

The 18 month Frequency is based on engineering judgement, taking into consideration the desired plant conditions to perform the Surveillance. Operating experience has shown that these components usually pass the SR when performed at the 18 month Frequency. Therefore, the Frequency is considered acceptable from a standpoint of maintaining reliability.

SR 3.8.4.6

Battery charger capability requirements are based on the design capacity of the chargers (Ref. 3). According to Regulatory Guide 1.32 (Ref. 8), the battery charger supply is required to be based on the largest combined demands of the various steady state loads and the charging capacity to restore the battery from the design minimum charge state to the fully charged state, irrespective of the status of the unit during these demand occurrences. The minimum required amperes and duration ensures that these requirements can be satisfied.

The Frequency is acceptable, given the unit conditions required to perform the test and the other administrative

BASES

SURVEILLANCE REQUIREMENTS (continued)

controls existing to ensure adequate charger performance during these 18 month intervals. In addition, this Frequency is intended to be consistent with expected fuel cycle lengths.

SR 3.8.4.7

A battery service test is a special test of the battery's capability, as found, to satisfy the design requirements (battery duty cycle) of the DC electrical power system. The discharge rate and test length corresponds to the design duty cycle requirements as specified in Reference 4.

The Frequency of 18 months is consistent with the recommendations of Regulatory Guide 1.32 (Ref. 8) and Regulatory Guide 1.129 (Ref. 9), which state that the battery service test should be performed during refueling operations or at some other outage, with intervals between tests not to exceed 18 months.

This SR is modified by a Note that allows the performance of a performance discharge test in lieu of a service test once per 60 months.

SR 3.8.4.8

A battery performance discharge test is a test of constant current capacity of a battery, normally done in the as found condition, after having been in service, to detect any change in the capacity determined by the acceptance test. The test is intended to determine overall battery degradation due to age and usage.

The battery performance discharge test is acceptable for satisfying SR 3.8.4.7 as noted in SR 3.8.4.7.

The acceptance criteria for this Surveillance is consistent with IEEE-450 (Ref. 7) and IEEE-485 (Ref. 10). These references recommend that the battery be replaced if its capacity is below 80% of the manufacturer's rating. A capacity of 80% shows that the battery rate of deterioration is increasing, even if there is ample capacity to meet the load requirements.

The Frequency for this test is normally 60 months. If the battery shows degradation, or if the battery has reached 85%

BASES

SURVEILLANCE REQUIREMENTS (continued)

of its expected life, the Surveillance Frequency is reduced to 18 months. Degradation is indicated, according to IEEE-450 (Ref. 7), when the battery capacity drops by more than 10% relative to its capacity on the previous performance test or when it is 10% below the manufacturer's rating. The 60 month Frequency is consistent with the recommendations in IEEE-450 (Ref. 7); however, the 18 month Frequency is based on previously accepted industry practice, and the need to perform this test during an outage.

This SR is modified by a Note. The reason for the Note is that performing the Surveillance would remove a required DC electrical power subsystem from service, perturb the electrical distribution system, and challenge safety systems. Credit may be taken for unplanned events that satisfy the Surveillance.

REFERENCES

1. 10 CFR 50, Appendix A, GDC 17.
2. Regulatory Guide 1.6.
3. IEEE Standard 308, 1978.
4. UFSAR, Chapter 6.
5. UFSAR, Chapter 15.
6. Regulatory Guide 1.93.
7. IEEE Standard 450.
8. Regulatory Guide 1.32, February 1977.
9. Regulatory Guide 1.129, December 1974.
10. IEEE Standard 485, 1983.
11. UFSAR, Section 8.3.2.

SPECIFICATION 3.8.4
(Also See Specification 3.8.6)
(Also see Specification 3.7.2)

ELECTRICAL POWER SYSTEMS
3/4.8.2 D.C. SOURCES
D.C. SOURCES - OPERATING

A.1

LIMITING CONDITION FOR OPERATION

LCO 3.8.4

3.8.2.1 As a minimum, the following D.C. electrical power sources shall be OPERABLE:

a. Division I, consisting of:
   1. 130 VDC Battery 2A-1.
   2. 130 VDC Battery 2A-2.
   3. Two 130 VDC full capacity chargers.

LA.1

b. Division II, consisting of:
   1. 130 VDC Battery 2B-1.
   2. 130 VDC Battery 2B-2.
   3. Two 130 VDC full capacity chargers.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

LA.2

ACTION A, ACTION C — a. With a battery charger in either Division I or Division II of the above D.C. electrical power sources inoperable, restore the inoperable battery charger to OPERABLE status or replace with the spare battery charger within 4 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

ACTION B, ACTION C — b. With either Division I or Division II of the above required D.C. electrical power sources otherwise inoperable, restore the inoperable division to OPERABLE status within 2 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.#

SURVEILLANCE REQUIREMENTS

4.8.2.1 Each of the above required 130-volt batteries and chargers shall be demonstrated OPERABLE:

<See Specification 3.8.6> a. At least once per 7 days by verifying that:

1. The parameters in Table 4.8.2.1-1 meet the Category A limits, and
2. Total battery terminal voltage is greater than or equal to 130 volts for Division I and greater than or equal to 125.7 volts for Division II on float charge.

SR 3.8.4.1

<See Specification 3.8.6> b. At least once per 92 days and within 7 days after a battery discharge with battery terminal voltage less than 105 volts, or battery overcharge with battery terminal voltage greater than 150 volts for Division I and greater than 145 volts for Division II, by verifying that:

→ <as relates to CTS 4.8.2.1.b.2>

L.2

1. The parameters in Table 4.8.2.1-1 meet the Category B limits,

#This ACTION may be delayed for up to 16 hours for battery chargers made inoperable due to loss of EECW cooling provided the ACTIONS of Specification 3.7.1.2 are taken.

<See Specification 3.7.2>

ELECTRICAL POWER SYSTEMS
SURVEILLANCE REQUIREMENTS (Continued)

SR 3.8.4.2 2. There is no visible corrosion at either terminals or connectors, or the connection resistance of these items is less than 150 x 10^{-6} ohm, and

<see Specification 3.8.6> 3. The average electrolyte temperature of ten of the connected cells is above 60°F.

c. At least once per 18 months by verifying that:

SR 3.8.4.3 1. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration,

SR 3.8.4.4 2. The cell-to-cell and terminal connections are clean, tight, free of corrosion and coated with anticorrosion material,

SR 3.8.4.5 3. The resistance of each cell-to-cell and terminal connection is less than or equal to 150 x 10^{-6} ohm, and

SR 3.8.4.6 4. The battery charger will supply at least 100 amperes at a minimum of 129 volts for Division I and at a minimum of 124.7 volts for Division II for at least 4 hours.

d. At least once per 18 months by verifying that either:

SR 3.8.4.7 1. The battery capacity is adequate to supply and maintain in OPERABLE status all of the actual or simulated emergency loads for the design duty cycle ~~(4 hours)~~ when the battery is subjected to a battery service test, or

LA.3

2. The battery capacity is adequate to supply a dummy load of the following profile while maintaining the battery terminal voltage greater than or equal to 105 or 210 volts, as applicable:

a) Batteries 2PA and 2PB greater than or equal to 710 amperes during the initial 6 seconds of the test.
b) Batteries 2PA and 2PB greater than 182 amperes during the next 42 seconds of the test.
c) Batteries 2PA and 2PB greater than or equal to 54 amperes during the next 4 hours of the test.
d) Batteries 2PA and 2PB greater than or equal to 480 amperes during the last 6 seconds of the test

A.2

e. At least once per 60 months during shutdown by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test.

SR 3.8.4.8

SR NOTE

SR 3.8.4.7 Note At this once per 60-month interval, this performance discharge test may be performed in lieu of the battery service test.

f. At least once per 18 months performance discharge tests of battery capacity shall be given to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its average on previous performance tests, or is below 90% of the manufacturer's rating.

LA.4

<CTS>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.4.1	Verify battery terminal voltage is ≥ ~~[120] V~~ on float charge. (130 V for Division I and ≥ 125.7 V for Division II)	7 days <4.8.2.1.a.2>
SR 3.8.4.2	Verify no visible corrosion at battery terminals and connectors. OR Verify (each) (cell-to-cell and terminal) battery connection resistance ~~[is ≤ [1.5E-4 ohm] for inter-cell connections, ≤ [1.5E-4 ohm] for inter-rack connections, ≤ [1.5E-4 ohm] for inter-tier connections, and ≤ [1.5E-4 ohm] for terminal connections].~~	92 days <4.8.2.1.b.2> P.1
SR 3.8.4.3	(Inspect) ~~Verify~~ battery cells, cell plates, and racks ~~show no~~ visual indication of physical damage or abnormal deterioration.	(18) ~~[12]~~ months <4.8.2.1.c.1>
SR 3.8.4.4	Remove visible corrosion and verify battery cell to cell and terminal connections are ~~[clean and tight, and]~~ coated with anti-corrosion material.	(18) ~~[12]~~ months <4.8.2.1.c.2>
SR 3.8.4.5	(cell-to-cell and terminal) Verify battery connection resistance ~~[is ≤ [1.5E-4 ohm] for inter-cell connections, ≤ [1.5E-4 ohm] for inter-rack connections, ≤ [1.5E-4 ohm] for inter-tier connections, and ≤ [1.5E-4 ohm] for terminal connections].~~ (each)	(18) ~~[12]~~ months <4.8.2.1.c.3>

(continued)

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SURVEILLANCE REQUIREMENTS (continued) ⟨CTS⟩

SURVEILLANCE		FREQUENCY
SR 3.8.4.6	~~NOTE~~ ~~This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR.~~	
	for Division I: Verify each required battery charger supplies ~~≥ [400 amps for station service subsystems, and~~ ≥ 100 amps ~~for DG subsystems]~~ at ≥ [129] V for ≥ [4] hours and for Division II: ≥ 100 amps at 124.7 V for ≥ 4 hours	[18 months] ⟨4.8.2.1.c.4⟩
SR 3.8.4.7	~~NOTES~~ 1. The ~~modified~~ performance discharge test in SR 3.8.4.8 may be performed in lieu of the service test in SR 3.8.4.7 once per 60 months.	⟨4.8.2.1.e⟩
	2. ~~This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR.~~	
	Verify battery capacity is adequate to supply, and maintain in OPERABLE status, the ~~required~~ emergency loads for the design duty cycle when subjected to a battery service test. (actual or simulated)	[18 months] ⟨4.8.2.1.d⟩

(continued)

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INSERT B 3.8.4-2

... such that under the worst case condition, with no battery charger available and the battery cell electrolyte temperature at 60°F, the batteries are able to carry all required loads for four hours without the minimum cell voltage dropping below 1.75 VDC for Division I and below 1.81 VDC for Division II.

ELECTRICAL POWER SYSTEMS
3/4.8.2 D.C. SOURCES
D.C. SOURCES - OPERATING

SPECIFICATION 3.8.6
(Also see Specification 3.8.4)
(Also see Specification 3.7.2)

LIMITING CONDITION FOR OPERATION (A.1)

3.8.2.1 As a minimum, the following D.C. electrical power sources shall be OPERABLE:

a. Division I, consisting of:
   1. 130 VDC Battery 2A-1.
   2. 130 VDC Battery 2A-2.
   3. Two 130 VDC full capacity chargers.

b. Division II, consisting of:
   1. 130 VDC Battery 2B-1.
   2. 130 VDC Battery 2B-2.
   3. Two 130 VDC full capacity chargers.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

(See Specification 3.8.4)

a. With a battery charger in either Division I or Division II of the above D.C. electrical power sources inoperable, restore the inoperable battery charger to OPERABLE status or replace with the spare battery charger within 4 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

b. With either Division I or Division II of the above required D.C. electrical power sources otherwise inoperable, restore the inoperable division to OPERABLE status within 2 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.#

SURVEILLANCE REQUIREMENTS

4.8.2.1 Each of the above required 130-volt batteries and chargers shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that:

SR 3.8.6.1
1. The parameters in Table 4.8.2.1-1 meet the Category A limits, and

(See Specification 3.8.4)
2. Total battery terminal voltage is greater than or equal to 130 volts for Division I and greater than or equal to 125.7 volts for Division II on float charge.

b. At least once per 92 days and within ~~7 days~~ 24 hours (L.1) after a battery discharge with battery terminal voltage less than 105 volts, or battery overcharge with battery terminal voltage greater than 150 volts for Division I and greater than 145 volts for Division II, by verifying that:

SR 3.8.6.2
1. The parameters in Table 4.8.2.1-1 meet the Category B limits,

#This ACTION may be delayed for up to 16 hours for battery chargers made inoperable due to loss of EECW cooling provided the ACTIONS of Specification 3.7.1.2 are taken.

(See Specification 3.7.2)

SPECIFICATION 3.8.6
(Also see Specification 3.8.4)

ELECTRICAL POWER SYSTEMS
SURVEILLANCE REQUIREMENTS (Continued)

See Specification 3.8.4

2. There is no visible corrosion at either terminals or connectors, or the connection resistance of these items is less than 150 x 10^{-6} ohm, and

SR 3.8.6.3 3. The average electrolyte temperature of ten of the connected representative cells is above 60°F. LA.1

c. At least once per 18 months by verifying that:

1. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration,
2. The cell-to-cell and terminal connections are clean, tight, free of corrosion and coated with anticorrosion material,
3. The resistance of each cell-to-cell and terminal connection is less than or equal to 150 x 10^{-6} ohm, and
4. The battery charger will supply at least 100 amperes at a minimum of 129 volts for Division I and at a minimum of 124.7 volts for Division II for at least 4 hours.

d. At least once per 18 months by verifying that either:

See Specification 3.8.4

1. The battery capacity is adequate to supply and maintain in OPERABLE status all of the actual emergency loads for the design duty cycle (4 hours) when the battery is subjected to a battery service test, or

2. The battery capacity is adequate to supply a dummy load of the following profile while maintaining the battery terminal voltage greater than or equal to 105 or 210 volts, as applicable:

a) Batteries 2PA and 2PB greater than or equal to 710 amperes during the initial 6 seconds of the test.
b) Batteries 2PA and 2PB greater than 182 amperes during the next 42 seconds of the test.
c) Batteries 2PA and 2PB greater than or equal to 54 amperes during the next 4 hours of the test.
d) Batteries 2PA and 2PB greater than or equal to 480 amperes during the last 6 seconds of the test.

e. At least once per 60 months during shutdown by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test. At this once per 60-month interval, this performance discharge test may be performed in lieu of the battery service test.

f. At least once per 18 months performance discharge tests of battery capacity shall be given to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its average on previous performance tests, or is below 90% of the manufacturer's rating.

SPECIFICATION 3.9.1
(Also see Specification 3.9.2)
(Also see Specification 3.10.2)

REFUELING OPERATIONS

SURVEILLANCE REQUIREMENTS

4.9.1.1 The reactor mode switch shall be verified to be locked in the Shutdown or Refuel position as specified:

a. Within 2 hours prior to:

1. Beginning CORE ALTERATIONS, and

2. Resuming CORE ALTERATIONS when the reactor mode switch has been unlocked.

b. At least once per 12 hours.

See Specification 3.9.2

SR 3.9.1.1

~~4.9.1.2~~ Each of the above required reactor mode switch Refuel position interlocks* shall be demonstrated OPERABLE by performance of a CHANNEL FUNCTIONAL TEST ~~within 24 hours prior to the start of and~~ at least once per 7 days during control rod withdrawal or CORE ALTERATIONS, as applicable.

LB.1

A.2

See Spec 3.9.2

~~4.9.1.3 Each of the above required reactor mode switch Refuel position interlocks that is affected shall be demonstrated OPERABLE by performance of a CHANNEL FUNCTIONAL TEST prior to resuming control rod withdrawal or CORE ALTERATIONS, as applicable, following repair, maintenance or replacement of any component that could affect the Refuel position interlock.~~

LR.1

See Specification 3.10.2

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

SPECIFICATION 3.9.2
(Also see Specification 3.9.1)
(" " " 3.10.2)

REFUELING OPERATIONS

SURVEILLANCE REQUIREMENTS

SR 3.9.2.1

4.9.1.1 The reactor mode switch shall be verified to be locked in the Shutdown or Refuel position ~~as specified~~:

a. Within 2 hours prior to:

1. Beginning CORE ALTERATIONS, and

2. Resuming CORE ALTERATIONS when the reactor mode switch has been unlocked.

b. At least once per 12 hours.

LB.1

SR 3.9.2.2

~~4.9.1.2~~ Each of the above required reactor mode switch Refuel position interlocks* shall be demonstrated OPERABLE by performance of a CHANNEL FUNCTIONAL TEST ~~within 24 hours prior to the start of each~~ at least once per 7 days during control rod withdrawal or CORE ALTERATIONS, as applicable.

<See Specification 3.9.1>

4.9.1.3 Each of the above required reactor mode switch Refuel position interlocks* that is affected shall be demonstrated OPERABLE by performance of a CHANNEL FUNCTIONAL TEST prior to resuming control rod withdrawal or CORE ALTERATIONS, as applicable, following repair, maintenance or replacement of any component that could affect the Refuel position interlock.

<Add: SR 3.9.2.2 Note>

L.2

<See Spec 3.10.2>

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

SPECIFICATION 3.10.2
(Also see Specification 1.0)
(" " " 3.10.3)
(" " " 3.10.4)

 (A.1)

See Specification 1.0

TABLE 1.2

OPERATIONAL CONDITIONS

CONDITION	MODE SWITCH POSITION	AVERAGE REACTOR COOLANT TEMPERATURE
1. POWER OPERATION	Run	Any temperature
2. STARTUP	Startup/Hot Standby	Any temperature
3. HOT SHUTDOWN	Shutdown#, ***	> 200° F
4. COLD SHUTDOWN	Shutdown#, ##, ***	≤ 200° F****
5. REFUELING*	Shutdown or Refuel**, #	≤ 140° F

3.10.2 Applicability

(LR.1)

#The reactor mode switch may be placed in the Run, Startup/Hot Standby, or Refuel position to test the switch interlock functions and related instrumentation provided that the control rods are verified to remain fully inserted in core cells containing one or more fuel assemblies by a second licensed operator or other technically qualified member of the unit technical staff.

(See Specification 3.10.4)

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

(See Specification 1.0)

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

**See Special Test Exceptions 3.10.1 and 3.10.3.

(See Specification 3.10.3 & 3.10.4)

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

(see Specification 1.0)

****See Special Test Exception 3.10.7.

(Add: LCO 3.10.2.b) (M.1)

(Add: 3.10.2 ACTIONS
SR 3.10.2.1
SR 3.10.2.2) (M.2)

SPECIFICATION 3.10.2
(Also see Specification 3.9.1
" " " 3.9.2)

REFUELING OPERATIONS

SURVEILLANCE REQUIREMENTS

4.9.1.1 The reactor mode switch shall be verified to be locked in the Shutdown or Refuel position as specified:

a. Within 2 hours prior to:

<see Specification 3.9.2>

1. Beginning CORE ALTERATIONS, and

2. Resuming CORE ALTERATIONS when the reactor mode switch has been unlocked.

b. At least once per 12 hours.

<see specification 3.9.1>

4.9.1.2 Each of the above required reactor mode switch Refuel position interlocks* shall be demonstrated OPERABLE by performance of a CHANNEL FUNCTIONAL TEST within 24 hours prior to the start of and at least once per 7 days during control rod withdrawal or CORE ALTERATIONS, as applicable.

4.9.1.3 Each of the above required reactor mode switch Refuel position interlocks* that is affected shall be demonstrated OPERABLE by performance of a CHANNEL FUNCTIONAL TEST prior to resuming control rod withdrawal or CORE ALTERATIONS, as applicable, following repair, maintenance or replacement of any component that could affect the Refuel position interlock.

LCO 3.10.2.a

LR.1

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

TECHNICAL CHANGES - LESS RESTRICTIVE
"Generic"

LR.1 CTS Table 1.2, Note #, and CTS 4.9.1.2 & 3, Note *, allow mode switch interlock testing to be conducted provided that "a second licensed operator or other technically qualified member of the unit technical staff" verify that control rods are fully inserted. ITS 3.10.2 does not specify the method or administrative controls for verifying that control rods remain fully inserted. The details of how this verification is performed are removed from the Technical Specifications. Regulatory control of changes to these requirements (e.g., Technical Specification amendment or 10 CFR 50.59) is not necessary to provide adequate protection of the public health and safety since the requirement for the control rods to remain fully inserted is still required by the Technical Specifications.

TECHNICAL CHANGES - LESS RESTRICTIVE
"Specific"

L.1 Not used.

RELOCATED SPECIFICATIONS

None

NO SIGNIFICANT HAZARDS EVALUATION
ITS: SECTION 3.10.2 - REACTOR MODE SWITCH INTERLOCK TESTING

TECHNICAL CHANGES - LESS RESTRICTIVE
(Specification 3.10.2 "L.1" Labeled Comments/Discussions)

Not used.

SPECIFICATION 3.10.3
(Also see Specification 1.0)
(" " " 3.10.2)
(" " " 3.10,4)

See Specification 1.0

TABLE 1.2

OPERATIONAL CONDITIONS

CONDITION	MODE SWITCH POSITION	AVERAGE REACTOR COOLANT TEMPERATURE
1. POWER OPERATION	Run	Any temperature
2. ~~STARTUP~~	~~Startup/Hot Standby~~	Any temperature
3. HOT SHUTDOWN	Shutdown#, ***	> 200° F
4. COLD SHUTDOWN	Shutdown#, ##, ***	≤ 200° F****
5. REFUELING*	Shutdown or Refuel**, #	≤ 140° F

See Specification 3.10.2

#The reactor mode switch may be placed in the Run, Startup/Hot Standby, or Refuel position to test the switch interlock functions and related instrumentation provided that the control rods are verified to remain fully inserted in core cells containing one or more fuel assemblies by a second licensed operator or other technically qualified member of the unit technical staff.

See Specification 3.10.4

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

See Specification 1.0

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

**See Special Test Exceptions 3.10.1 and 3.10.3.

LCO 3.10.3.a & Applicability

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

A.2

See Specification 1.0

****See Special Test Exception 3.10.7.

SPECIFICATION 3.10.4
(Also see Specification 1.0)
(" " " 3.10.2)
(" " " 3.10.3)

A.1

See Specification 1.0

TABLE 1.2

OPERATIONAL CONDITIONS

CONDITION	MODE SWITCH POSITION	AVERAGE REACTOR COOLANT TEMPERATURE
1. POWER OPERATION	Run	Any temperature
2. STARTUP	Startup/Hot Standby	Any temperature
3. HOT SHUTDOWN	Shutdown#, ***	> 200° F
4. COLD SHUTDOWN	Shutdown#, ##, ***	≤ 200° F****
5. REFUELING*	Shutdown or Refuel**, #	≤ 140° F

See Specification 3.10.2

#The reactor mode switch may be placed in the Run, Startup/Hot Standby, or Refuel position to test the switch interlock functions and related instrumentation provided that the control rods are verified to remain fully inserted in core cells containing one or more fuel assemblies by a second licensed operator or other technically qualified member of the unit technical staff.

LCO 3.10.4

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

See Specification 1.0

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

**See Special Test Exceptions 3.10.1 and 3.10.3.

LCO 3.10.4

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

A.2

See Specification 1.0

****See Special Test Exception 3.10.7.

SPECIFICATION 5.5
(Also see Specification 3.0)

APPLICABILITY

SURVEILLANCE REQUIREMENTS

4.0.1 Surveillance Requirements shall be met during the OPERATIONAL CONDITIONS or other conditions specified for individual Limiting Conditions for Operation unless otherwise stated in an individual Surveillance Requirement.

4.0.2 Each Surveillance Requirement shall be performed within the specified surveillance interval with a maximum allowable extension not to exceed 25 percent of the specified surveillance interval. For the purpose of the sixth refueling outage, those Surveillance Requirements listed on Table 4.0.2-1 and 4.0.2-2 are extended to the date specified in the table.

see Specification 3.0

4.0.3 Failure to perform a Surveillance Requirement within the allowed surveillance interval, defined by Specification 4.0.2, shall constitute noncompliance with the OPERABILITY requirements for a Limiting Condition for Operation. The time limits of the ACTION requirements are applicable at the time it is identified that a Surveillance Requirement has not been performed. The ACTION requirements may be delayed for up to 24 hours to permit the completion of the surveillance when the allowable outage time limits of the ACTION requirements are less than 24 hours. Surveillance Requirements do not have to be performed on inoperable equipment.

4.0.4 Entry into an OPERATIONAL CONDITION or other specified applicable condition shall not be made unless the Surveillance Requirement(s) associated with the Limiting Condition for Operation have been performed within the applicable surveillance interval or as otherwise specified. This provision shall not prevent passage through or to OPERATIONAL CONDITIONS as required to comply with ACTION requirements.

5.5.6 ~~4.0.5~~ Surveillance Requirements for inservice inspection and testing of ASME Code Class 1, 2, & 3 components including applicable supports (A.2) shall be applicable as follows:

~~a.~~ Inservice inspection of ASME Code Class 1, 2, and 3 components and inservice testing of ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50, Section 50.55a(g)(6)(i). (LA.1)

5.5.6.a ~~b.~~ Surveillance intervals specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda for the inservice inspection and testing activities required by the ASME Boiler and Pressure Vessel Code and applicable Addenda shall be applicable as follows in these Technical Specifications:

SPECIFICATION 5.6

TABLE 3.3.7.5-1 (Continued) (Also see Specification 3.3.3.1)

ACCIDENT MONITORING INSTRUMENTATION

ACTION STATEMENTS

ACTION 80 -

a. With the number of OPERABLE accident monitoring instrumentation channels less than the Required Number of Channels shown in Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours.

<see Specification 3.3.3.1>

b. With the number of OPERABLE accident monitoring instrumentation channels less than the Minimum Channels OPERABLE requirements of Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 12 hours.

ACTION 81 - With the number of OPERABLE channels less than required by the minimum channels OPERABLE requirements, initiate the preplanned alternate method of monitoring the appropriate parameter(s) within 72 hours, and:

1) either restore the inoperable channel(s) to OPERABLE status within 7 days of the event, or

~~2)~~ prepare and submit a Special Report to the Commission pursu[ant to] Specification 6.9.2 within 14 days following the event outlining t[he] action taken, the cause of the inoperability and the plans and schedu[le] for restoring the system to OPERABLE status.

5.6.7

A.1

ACTION 82 - With the number of OPERABLE accident monitoring instrumentation channels less than required by the Minimum Channels OPERABLE requirements of Table 3.3.7.5-1, within 48 hours either:

<see Specification 3.3.3.1>

a. Restore the inoperable channel(s) to OPERABLE status, or

b. Declare the affected isolation valve inoperable and take the ACTION specified by Specification 3.6.3 ACTION a.

A.1

ACTION 83 -

a. With the number of OPERABLE accident monitoring instrumentation channels less than the Required Number of Channels shown in Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within 30 days, or submit a report to the Commission pursuant to Specification 6.9.2 within the following 14 days outlining the action taken, the cause of the inoperability, and the plans and schedule for restoring the instrument channel(s) to OPERABLE status.

5.6.7

b. With the number of OPERABLE accident monitoring instrumentation channels less than the Minimum Channels OPERABLE requirements of Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 12 hours.

<see Specification 3.3.3.1>

TABLE 1.2

~~OPERATIONAL CONDITIONS~~ MODES

~~CONDITION~~ Title	MODE SWITCH POSITION	AVERAGE REACTOR COOLANT TEMPERATURE
1. POWER OPERATION	Run	Any temperature
2. STARTUP	Refuel (a) (M.1) / Startup/Hot Standby	Any temperature
3. HOT SHUTDOWN(a) (A.16)	Shutdown#,***	> 200° F
4. COLD SHUTDOWN(a) (A.16)	Shutdown#,##,*** (A.17)	≤ 200° F****
5. REFUELING*(b) (A.16)	Shutdown or Refuel**# (A.17)	~~≤ 140° F~~ NA (M.1)

(See Specification 3.10.2) #The reactor mode switch may be placed in the Run, Startup/Hot Standby, or Refuel position to test the switch interlock functions and related instrumentation provided that the control rods are verified to remain fully inserted in core cells containing one or more fuel assemblies by a second licensed operator or other technically qualified member of the unit technical staff.

(See Specification 3.10.4) ##The reactor mode switch may be placed in the Refuel position while a single control rod drive is being removed from the reactor pressure vessel per Specification 3.9.10.1.

(b) *~~Fuel in the reactor vessel with the~~ One or more Vessel head closure bolts less than fully tensioned or with the head removed. (A.16)

~~**See Special Test Exceptions 3.10.1 and 3.10.3.~~ (A.17)

(See Specifications 3.10.3 — 3.10.4) ***The reactor mode switch may be placed in the Refuel position while a single control rod is being recoupled or withdrawn provided that the one-rod-out interlock is OPERABLE.

~~****See Special Test Exception 3.10.7.~~ (A.17)

(a) All reactor vessel head closure bolts fully tensioned (A.16)

ADD: 1.2 LOGICAL CONNECTOR
1.3 COMPLETION TIME
1.4 FREQUENCY
(A.18)

SPECIFICATION 3.10.2
(Also see Specification 1.0)
(" " " 3.10.3)
(" " " 3.10.4)

 (A.1)

See Specification 1.0

TABLE 1.2

OPERATIONAL CONDITIONS

CONDITION	MODE SWITCH POSITION	AVERAGE REACTOR COOLANT TEMPERATURE
1. POWER OPERATION	Run	Any temperature
2. STARTUP	Startup/Hot Standby	Any temperature
3. HOT SHUTDOWN	Shutdown# ###	> 200° F
4. COLD SHUTDOWN	Shutdown# ##, ###	≤ 200° F#####
5. REFUELING*	Shutdown or Refuel**, #	≤ 140° F

3.10.2 Applicability

(LR.1)

#The reactor mode switch may be placed in the Run, Startup/Hot Standby, or Refuel position to test the switch interlock functions and related instrumentation provided that the control rods are verified to remain fully inserted in core cells containing one or more fuel assemblies by a second licensed operator or other technically qualified member of the unit technical staff.

See Specification 3.10.4

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

See Specification 1.0

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

**See Special Test Exceptions 3.10.1 and 3.10.3.

See Specification 3.10.3 & 3.10.4

###The reactor mode switch may be placed in the Refuel position while a single control rod is being recoupled or withdrawn provided that the one-rod-out interlock is OPERABLE.

See Specification 1.0

#####See Special Test Exception 3.10.7.

Add: LCO 3.10.2.b (M.1)

Add: 3.10.2 ACTIONS
SR 3.10.2.1
SR 3.10.2.2 (M.2)

See Specification 1.0

TABLE 1.2

OPERATIONAL CONDITIONS

CONDITION	MODE SWITCH POSITION	AVERAGE REACTOR COOLANT TEMPERATURE
1. POWER OPERATION	Run	Any temperature
2. STARTUP	Startup/Hot Standby	Any temperature
3. HOT SHUTDOWN	Shutdown#, ***	> 200° F
4. COLD SHUTDOWN	Shutdown#, ##, ***	≤ 200° F****
5. REFUELING*	Shutdown or Refuel**, #	≤ 140° F

See Specification 3.10.2

#The reactor mode switch may be placed in the Run, Startup/Hot Standby, or Refuel position to test the switch interlock functions and related instrumentation provided that the control rods are verified to remain fully inserted in core cells containing one or more fuel assemblies by a second licensed operator or other technically qualified member of the unit technical staff.

See Specification 3.10.4

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

See Specification 1.0

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

**See Special Test Exceptions 3.10.1 and 3.10.3.

LCO 3.10.3.a & Applicability

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

A.2

See Specification 1.0

****See Special Test Exception 3.10.7.

SPECIFICATION 3.10.4
(Also see Specification 1.0
" " " 3.10.2
" " " 3.10.3)

A.1

See Specification 1.0

TABLE 1.2

OPERATIONAL CONDITIONS

CONDITION	MODE SWITCH POSITION	AVERAGE REACTOR COOLANT TEMPERATURE
1. POWER OPERATION	Run	Any temperature
2. STARTUP	Startup/Hot Standby	Any temperature
3. HOT SHUTDOWN	Shutdown#, ***	> 200° F
4. COLD SHUTDOWN	Shutdown#, ##, ***	≤ 200° F****
5. REFUELING*	Shutdown or Refuel**, #	≤ 140° F

See Specification 3.10.2

#The reactor mode switch may be placed in the Run, Startup/Hot Standby, or Refuel position to test the switch interlock functions and related instrumentation provided that the control rods are verified to remain fully inserted in core cells containing one or more fuel assemblies by a second licensed operator or other technically qualified member of the unit technical staff.

LCO 3.10.4

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

See Specification 1.0

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

**See Special Test Exceptions 3.10.1 and 3.10.3.

LCO 3.10.4

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

A.2

See Specification 1.0

****See Special Test Exception 3.10.7.

SPECIFICATION 3.0

<Also see Specification 5.5>

APPLICABILITY

SURVEILLANCE REQUIREMENTS (A.1)

SR 3.0.1 ~~4.0.1 Surveillance requirements~~ {SRs} shall be met during the ~~OPERATIONAL CONDITIONS~~ (in the Applicability) MODES or other conditions specified for individual ~~Limiting Conditions for Operation~~ LCOs unless otherwise stated in ~~an individual Surveillance Requirement.~~ the SR

INSERT 3.0-8 (A.8)

SR 3.0.2 ~~4.0.2~~ Each Surveillance Requirement shall be performed within the specified surveillance interval with a maximum allowable extension not to exceed 25 percent of the specified surveillance interval. For the purpose of the sixth refueling outage, those Surveillance Requirements listed on Table 4.0.2-1 and 4.0.2-2 are extended to the date specified in the table. (L.2) (A.9) (A.10) (M.1)

INSERT 3.0-9

SR 3.0.3 ~~4.0.3~~ Failure to perform a Surveillance Requirement within the allowed surveillance interval, defined by Specification 4.0.2, shall constitute noncompliance with the OPERABILITY requirements for a Limiting Condition for Operation. (A.8) The time limits of the ACTION requirements are applicable at the time it is identified that a Surveillance Requirement has not been performed. The ACTION requirements may be delayed for up to 24 hours to permit the completion of the surveillance when the allowable outage time limits of the ACTION requirements are less than 24 hours. ~~Surveillance Requirements do not have to be performed on inoperable equipment.~~ (L.3)

INSERT 3.0-10

SR 3.0.4 ~~4.0.4~~ Entry into an ~~OPERATIONAL CONDITION or other specified applicable~~ condition shall not be made unless the Surveillance Requirement(s) associated with the Limiting Condition for Operation have been performed within the applicable surveillance interval or as otherwise specified. This provision shall not prevent passage through or to OPERATIONAL CONDITIONS as required to comply with ACTION requirements. (A.11)

INSERT 3.0-11

4.0.5 Surveillance Requirements for inservice inspection and testing of ASME Code Class 1, 2, & 3 components shall be applicable as follows:

<See Specification 5.5>

a. Inservice inspection of ASME Code Class 1, 2, and 3 components and inservice testing of ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50, Section 50.55a(g)(6)(i).

b. Surveillance intervals specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda for the inservice inspection and testing activities required by the ASME Boiler and Pressure Vessel Code and applicable Addenda shall be applicable as follows in these Technical Specifications:

SPECIFICATION 5.5
(Also see Specification 3.0)

APPLICABILITY

SURVEILLANCE REQUIREMENTS

4.0.1 Surveillance Requirements shall be met during the OPERATIONAL CONDITIONS or other conditions specified for individual Limiting Conditions for Operation unless otherwise stated in an individual Surveillance Requirement.

4.0.2 Each Surveillance Requirement shall be performed within the specified surveillance interval with a maximum allowable extension not to exceed 25 percent of the specified surveillance interval. For the purpose of the sixth refueling outage, those Surveillance Requirements listed on Table 4.0.2-1 and 4.0.2-2 are extended to the date specified in the table.

see Specification 3.0

4.0.3 Failure to perform a Surveillance Requirement within the allowed surveillance interval, defined by Specification 4.0.2, shall constitute noncompliance with the OPERABILITY requirements for a Limiting Condition for Operation. The time limits of the ACTION requirements are applicable at the time it is identified that a Surveillance Requirement has not been performed. The ACTION requirements may be delayed for up to 24 hours to permit the completion of the surveillance when the allowable outage time limits of the ACTION requirements are less than 24 hours. Surveillance Requirements do not have to be performed on inoperable equipment.

4.0.4 Entry into an OPERATIONAL CONDITION or other specified applicable condition shall not be made unless the Surveillance Requirement(s) associated with the Limiting Condition for Operation have been performed within the applicable surveillance interval or as otherwise specified. This provision shall not prevent passage through or to OPERATIONAL CONDITIONS as required to comply with ACTION requirements.

5.5.6 ~~4.0.5~~ Surveillance Requirements for inservice inspection and testing of ASME Code Class 1, 2, & 3 components including applicable supports (A.2) shall be applicable as follows:

(LA.1)

~~a.~~ ~~Inservice inspection of ASME Code Class 1, 2, and 3 components and inservice testing of ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50, Section 50.55a(g)(6)(i).~~

5.5.6.a ~~b.~~ Surveillance intervals specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda for the inservice inspection and testing activities required by the ASME Boiler and Pressure Vessel Code and applicable Addenda shall be applicable as follows in these Technical Specifications:

TABLE 4.0.2-1

SURVEILLANCE TEST INTERVALS EXTENDED TO SEPTEMBER 14 1998

A.10 1

SURVEILLANCE REQUIREMENT	DESCRIPTION
4.3.1.1, Table 4.3.1.1-1, Item 3	RPS Rx Steam Dome Press High cal.
4.3.1.1, Table 4.3.1.1-1, Item 4	RPS Rx Low Water Level - Level 3 cal
4.3.1.1, Table 4.3.1.1-1, Item 6	RPS Main Steam Line Radiation High cal
4.3.1.1, Table 4.3.1.1-1, Item 7	RPS Drywell Pressure High cal
4.3.1.3, Table 4.3.1.1-1, Item 2.b	APRM Flow Biased Thermal Power - High
4.3.1.3, Table 4.3.1.1-1, Item 2.c	APRM Fixed Neutron Flux - High
4.3.2.1, Table 4.3.2.1-1, Item 1.a.1	Pri Cont Isolation Actuation Rx Water Low - Level 3 cal
4.3.2.1, Table 4.3.2.1-1, Item 1.a.2	Pri Cont Isolation Actuation Rx Water Low - Level 2 cal
4.3.2.1, Table 4.3.2.1-1, Item 1.a.3	Pri Cont Isolation Actuation Rx Water Low - Level 1 cal
4.3.2.1, Table 4.3.2.1-1, Item 1.b	Pri Cont Isolation Actuation Drywell Press High cal
4.3.2.1, Table 4.3.2.1-1, Item 1.c.1	Pri Cont Isolation Actuation Main Steam Line Radiation High cal
4.3.2.1, Table 4.3.2.1-1, Item 1.c.2	Pri Cont Isolation Actuation Main Steam Line Press Low cal
4.3.2.1, Table 4.3.2.1-1, Item 1.c.3	Pri Cont Isolation Actuation Main Steam Line Flow High cal
4.3.2.1, Table 4.3.2.1-1, Item 1.d	Pri Cont Isolation Actuation Main Steam Line Tunnel Temp. High cal
4.3.2.1, Table 4.3.2.1-1, Item 1.e	Pri Cont Isolation Actuation Condenser Press High cal
4.3.2.1, Table 4.3.2.1-1, Item 1.f	Pri Cont Isolation Actuation Turbine Bldg. Area Temp. High cal
4.3.2.1, Table 4.3.2.1-1, Item 1.h	Pri Cont Isolation Actuation Manual Initiation Functional
4.3.2.1, Table 4.3.2.1-1, Item 2.d	RWCU - SLCS initiation channel functional test
4.3.2.1, Table 4.3.2.1-1, Item 2.e	RWCU Isolation Rx Water Low Level - Level 2 channel cal
4.3.2.1, Table 4.3.2.1-1, Item 5.a	RHR S/D Cooling Rx Water Level Low - Level 3 cal
4.3.2.1, Table 4.3.2.1-1, Item 5.c	RHR S/D Cooling Rx manual initiation functional test
4.3.2.1, Table 4.3.2.1-1, Item 6.b	Sec. Cont. Isolation - Drywell Press High channel cal
4.3.3.1, Table 4.3.3.1-1, Item 1.b	CS Drywell Press High Cal
4.3.3.1, Table 4.3.3.1-1, Item 2.b	LPCI Drywell Press High Cal
4.3.3.1, Table 4.3.3.1-1, Item 3.a	HPCI RPV Low Level 2 Cal
4.3.3.1, Table 4.3.3.1-1, Item 3.b	HPCI Drywell Press High Cal
4.3.3.1, Table 4.3.3.1-1, Item 4.a	ADS RPV Low Level 1 Cal
4.3.3.1, Table 4.3.3.1-1, Item 4.f	ADS RPV Low Level 3 Cal
4.3.3.1, Table 4.3.3.1-1, Item 4.h	ADS Drywell Pressure High Bypass Timer
4.3.4, Table 4.3.4-1, Item 1	RPV Low Water Level 2 Cal (ATWS)
4.3.4, Table 4.3.4-1, Item 2	RPV Press High Cal (ATWS)
4.3.4.2	ATWS Logic System Functional Test
4.3.5.1, Table 4.3.5.1-1, Item a	RPV Low Level 2 Cal (RCIC)
4.3.5.1, Table 4.3.5.1-1, Item b	RPV High Level 8 Cal (RCIC)
4.3.5.2	RCIC Logic System Functional Test
4.3.7.5, Table 4.3.7.5-1, Item 1	RPV Press Cal Accident Mon.
4.3.7.5, Table 4.3.7.5-1, Item 2.a	RPV Fuel Zone Level Cal Accident Mon
4.3.7.5, Table 4.3.7.5-1, Item 2.b	RPV Wide Range Level Cal Accident Mon
4.3.7.5, Table 4.3.7.5-1, Item 12	CTMT High Range Rad Monitoring Cal Accident Mon.
4.3.7.5, Table 4.3.7.5-1, Item 16	CTMT Isolation Valve Position Cal Accident Mon
4.3.9.1, Table 4.3.9.1-1, Item a	RPV High Water Level 8 Cal FW/Main Turbine Trip
4.3.9.2	FW/Main Turbine Trip LSFT
4.3.11.1, Table 4.3.11.1-1, Item 7	Alt S/D system Rx Water Level instrument operability
4.3.11.1, Table 4.3.11.1-1, Item 8	Alt S/D system Rx Press instrument operability
4.4.2.2.b	SRV Low Low Set Pressure setpoint Cal and LSFT
4.5.1.d.2.a	ADS System Functional Test
4.6.3.2	Primary Containment Isol Valve operability
4.7.4.c.1	RCIC Functional Test
4.8.4.2.a.1.a	Pri. Cont. Pen. Conductor Overcurrent Devices Functional Test
4.8.4.2.a.1.b	Pri. Cont. Pen. Conductor Overcurrent Devices Functional Test

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TABLE 4.0.2-2

SURVEILLANCE TEST INTERVALS EXTENDED TO OCTOBER 18, 1998

A.10

SURVEILLANCE REQUIREMENT	DESCRIPTION
4.1.3.5.b.2	CR Accumulator Integrity Test (Check Valve Leakage)
4.1.5.d.1	SLCS operability Manual Initiation
4.1.5.d.2	SLCS pump Relief Valve operability
4.1.5.d.3	SLCS flow path demonstration
4.3.1.1, Table 4.3.1.1-1, Item 11	RPS Rx Mode Switch shutdown position functional
4.3.1.2	RPS Logic System Function Test
4.3.2.1, Table 4.3.2.1-1, Item 6.a	Sec. Cont. Isolation - Rx Water Low Level - Level 2 cal
4.3.2.2	Isolation Actuation Inst. LSFT
4.3.3.1, Table 4.3.3.1-1, Item 1.a	CS RPV Low Level 1 Cal
4.3.3.1, Table 4.3.3.1-1, Item 1.c	CS Rx Steam Dome Press Low Cal
4.3.3.1, Table 4.3.3.1-1, Item 1.d	CS Manual Initiation
4.3.3.1, Table 4.3.3.1-1, Item 2.a	LPCI RPV Low Level 1 Cal
4.3.3.1, Table 4.3.3.1-1, Item 2.c	LPCI Rx Steam Dome Press Low Cal
4.3.3.1, Table 4.3.3.1-1, Item 2.d	LPCI Rx Low Level 2 Cal
4.3.3.1, Table 4.3.3.1-1, Item 2.e	LPCI Rx Steam Dome Press Low Cal
4.3.3.1, Table 4.3.3.1-1, Item 2.h	LPCI Manual Initiation
4.3.3.2	ECCS Logic System Functional Tests
4.3.3.3(a)	ECCS Response Time Tests
4.3.6, Table 4.3.6-1, Item 5.b	Scram Disc. Vol. Trip Bypass Funct. Test
4.3.6, Table 4.3.6-1, Item 7	Rx Mode Switch Shutdown Pos. Rod Block Funct. Test
4.5.1.c.1	ECCS System Functional Test
4.6.5.1.d.1	Secondary Containment SGTS Test
4.6.5.1.d.2	Secondary Containment SGTS Test
4.6.5.2.b	Secondary Containment Isolation Damper Actuation
4.7.1.2.b	ECCW Automatic Actuation
4.7.1.3.b	EESW Automatic Actuation
4.7.1.4.b	EDG Cooling Water Pump Automatic Actuation
4.7.2.1.c.1	CR Ventilation Filter Penetration
4.7.2.1.c.2	CR Ventilation Filter Charcoal Laboratory Analysis
4.7.2.1.c.3	CR Emergency Filtration System Flowrate
4.7.2.1.e.1	CR Ventilation Filter Pressure Drop
4.7.2.1.e.2	CR Emergency Filtration System Operational Mode Actuation
4.7.2.1.e.4	CR Emergency Makeup Inlet Heater Dissipation
4.7.5.e	Snubber Functional Test
4.8.1.1.2.e.1	EDG Inspection
4.8.1.1.2.e.2	EDG Load Rejection (1666 kW)
4.8.1.1.2.e.3	EDG Load Rejection (2850 kW)
4.8.1.1.2.e.4.a	EDG LOP Load Shedding
4.8.1.1.2.e.4.b	EDG LOP Auto Start/and Load Sequencing
4.8.1.1.2.e.5	EDG ECCS Auto Start
4.8.1.1.2.e.6.a	EDG LOP / ECCS/Load Shedding
4.8.1.1.2.e.6.b	EDG LOP / ECCS/Auto Start and Load Sequencing
4.8.1.1.2.e.7	EDG Non-essential Trip Bypass
4.8.1.1.2.e.8	EDG 24 Hour/Run and Hot Fast Start.
4.8.1.1.2.e.9	EDG Auto Connect Load Verification
4.8.1.1.2.e.10	EDG Restoration of Offsite Power
4.8.1.1.2.e.11	EDG Auto Load Sequencer Timer
4.8.1.1.2.e.12.a	EDG 4160-volt ESF Bus Lockout
4.8.1.1.2.e.12.b	EDG Differential Trip Lockout
4.8.1.1.2.e.12.c	EDG/Shutdown Relay Trip Lockout
4.8.2.1.c.3	130 VDC Battery Connections Resistance
4.8.2.1.d	130 VDC Battery Capacity
4.8.4.5.a	SLCS Circuit Breakers Functional Test

TABLE NOTATIONS

(a) The surveillance interval of channels within the same trip system required to be tested at least once every N times 18 months, where N is the total number of channels in the trip system, may be based upon the performance of the surveillance during the sixth refueling outage.

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SPECIFICATION 3.1.8
(Also see Specification 3.1.3)

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

2. If the inoperable control rod(s) is inserted, within 1 hour disarm the associated directional control valves** either:

   a) Electrically, or

   b) Hydraulically by closing the drive water and exhaust water isolation valves.

   Otherwise, be in at least HOT SHUTDOWN within the next 12 hours.

See Specification 3.1.3

LCO 3.1.8

c. With more than 8 control rods inoperable, be in at least HOT SHUTDOWN within 12 hours.

*** d. With one or more scram discharge volume vent or drain lines with one valve inoperable, restore the inoperable valve(s) to OPERABLE status within 7 days, or be in at least HOT SHUTDOWN within the next 12 hours.

ACTION A
ACTION C

*** e. With one or more scram discharge volume vent or drain lines with both valves inoperable, isolate the associated line within 8 hours****, or be in at least HOT SHUTDOWN within the next 12 hours.

ACTION B
ACTION C

SURVEILLANCE REQUIREMENTS

~~4.1.3.1.1~~ The scram discharge volume drain and vent valves shall be demonstrated OPERABLE by:

SR 3.1.8.1 a. At least once per 31 days verifying each valve to be open,* and

b. Evaluating scram discharge volume system response prior to plant startup after each scram to verify that no abnormalities exist. (LR.1)

4.1.3.1.2 When above the preset power level of the RWM, all withdrawn control rods not required to have their directional control valves disarmed electrically or hydraulically shall be demonstrated OPERABLE by moving each control rod at least one notch:

See Specification 3.1.3

a. At least once per 7 days, and

b. Within 24 hours when any control rod is immovable as a result of excessive friction or mechanical interference.

SR 3.1.8.1 NOTE

*These valves may be closed intermittently for testing under administrative controls.

See Spec. 3.1.3

**May be rearmed intermittently, under administrative control, to permit testing associated with restoring the control rod to OPERABLE status.

***Separate Action entry is allowed for each SDV vent and drain line.

****An isolated line may be unisolated under administrative control to allow draining and venting of the SDV.

Required Action B.1 Note

ACTIONS NOTE

3/4.3.7.2 DELETED

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A.1

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TABLE 3.3.7.2-1

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TABLE 4.3.7.2-1

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TABLE 3.3.7.3-1

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TABLE 4.3.7.3-1

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3.3.3.1-1

TABLE ~~3.3.7.5-1~~

TBL 3.3 3.1-1

ACCIDENT MONITORING INSTRUMENTATION

		INSTRUMENT	REQUIRED NUMBER OF CHANNELS	MINIMUM CHANNELS OPERABLE	APPLICABLE OPERATIONAL CONDITIONS	ACTION
1	~~1.~~	Reactor Vessel Pressure	2	1	1, 2	80
	~~2.~~	Reactor Vessel Water Level				
2	a.	Fuel Zone	2	1	1, 2	80
3	b.	Wide Range	2	1	1, 2	80
4	~~3.~~	Suppression Chamber Water Level	2	1	1, 2	80
5	~~4.~~	Suppression Chamber Water Temperature	2	1	1, 2	80
	~~5.~~	~~Suppression Chamber Air Temperature~~	~~2~~	~~1~~	~~1, 2~~	~~80~~
	~~6.~~	~~Suppression Chamber Pressure~~	~~2~~	~~1~~	~~1, 2~~	~~80~~
6	~~7.~~	Drywell Pressure, Wide Range	2	1	1, 2	80
	~~8.~~	~~Drywell Air Temperature~~	~~2~~	~~1~~	~~1, 2~~	~~80~~
7	~~9.~~	Primary Containment Oxygen Concentration	2	1	1, 2	83
8	~~10.~~	Primary Containment Hydrogen Concentration	2	1	1, 2	80
	~~11.~~	~~Safety/Relief Valve Position Indicators~~	~~1*/valve~~	~~1*/valve~~	~~1, 2~~	~~80~~
9	~~12.~~	Containment High Range Radiation Monitor	2	~~2~~ 1	1, 2, ~~3~~	81

Function 1

Primary — A.1

A.3

L.2

R.1

~~*Pressure switch~~ — R.1

PAGE 2 OF 06

Rev 1

SPECIFICATION 3.3.3.1

3.3.3.1-1

TABLE ~~3.3.7.5-1~~ (Continued) (Also see Specification 5.6)

ACCIDENT MONITORING INSTRUMENTATION

ACTION STATEMENTS

~~ACTION 80~~ <ADD: ACTION B>

a. With the number of OPERABLE accident monitoring instrumentation channels less than the Required Number of Channels shown in Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within 7 days ~~or be in at least HOT SHUTDOWN within the next 12 hours~~. (L3) (30) (L4)

ACTION A

b. With the number of OPERABLE accident monitoring instrumentation channels less than the Minimum Channels OPERABLE requirements of Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within ~~48 hours~~ 7days or be in at least HOT SHUTDOWN within the next 12 hours. (72 hours)

ACTION C, D

ACTION F

~~ACTION 81~~ With the number of OPERABLE channels (2) less than required by the minimum channels OPERABLE requirements, initiate the preplanned alternate method of monitoring the appropriate parameter(s) within 72 hours and: (LR.1)

<one less than "Required": Add ACTION A & B> (L.4)

1) either restore the inoperable channel(s) to OPERABLE status within 7 days of the event, or

<See Specification 5.6.7> & ACTION G

2) prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

~~ACTION 82~~ With the number of OPERABLE accident monitoring instrumentation channels less than required by the Minimum Channels OPERABLE requirements of Table 3.3.7.5-1, within ~~48 hours~~ either:

ACTION A: (30 days) (7days)

a. Restore the inoperable channel(s) to OPERABLE status, or (L.5)

ACTION C:

TBL 3.3.3.1-1 b. NOTE (a)

Declare the affected isolation valve inoperable and take the ACTION specified by Specification 3.6.3 ACTION a. (A.4)

ACTION 83 - ACTION F: (Be in MODE 3)

- ACTION B: (GO TO 5.6.7)

a. With the number of OPERABLE accident monitoring instrumentation channels less than the Required Number of Channels shown in Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within 30 days, or submit a report to the Commission pursuant to Specification 6.9.2 within the following 14 days outlining the action taken, the cause of the inoperability, and the plans and schedule for restoring the instrument channel(s) to OPERABLE status.

ACTION B & <See Spec 5.6.7>

b. With the number of OPERABLE accident monitoring instrumentation channels less than the Minimum Channels OPERABLE requirements of Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 12 hours. (72) (L.4)

ACTION D

ACTION F

SPECIFICATION 5.6

TABLE 3.3.7.5-1 (Continued) (Also see Specification 3.3.3.1)

ACCIDENT MONITORING INSTRUMENTATION

ACTION STATEMENTS

ACTION 80 -

a. With the number of OPERABLE accident monitoring instrumentation channels less than the Required Number of Channels shown in Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours.

<see Specification 3.3.3.1>

b. With the number of OPERABLE accident monitoring instrumentation channels less than the Minimum Channels OPERABLE requirements of Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 12 hours.

ACTION 81 - With the number of OPERABLE channels less than required by the minimum channels OPERABLE requirements, initiate the preplanned alternate method of monitoring the appropriate parameter(s) within 72 hours, and:

1) either restore the inoperable channel(s) to OPERABLE status within 7 days of the event, or

~~2)~~ prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

5.6.7

A.1

ACTION 82 - With the number of OPERABLE accident monitoring instrumentation channels less than required by the Minimum Channels OPERABLE requirements of Table 3.3.7.5-1, within 48 hours either:

<see Specification 3.3.3.1>

a. Restore the inoperable channel(s) to OPERABLE status, or

b. Declare the affected isolation valve inoperable and take the ACTION specified by Specification 3.6.3 ACTION a.

A.1

ACTION 83 -

a. With the number of OPERABLE accident monitoring instrumentation channels less than the Required Number of Channels shown in Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within 30 days, or submit a report to the Commission pursuant to Specification 6.9.2 within the following 14 days outlining the action taken, the cause of the inoperability, and the plans and schedule for restoring the instrument channel(s) to OPERABLE status.

5.6.7

b. With the number of OPERABLE accident monitoring instrumentation channels less than the Minimum Channels OPERABLE requirements of Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 12 hours.

<see Specification 3.3.3.1>

~~TABLE 4.3.7.5-1~~

ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

	INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	APPLICABLE OPERATIONAL CONDITIONS
1	1. Reactor Vessel Pressure	M (1)	R (3)	1, 2
	2. Reactor Vessel Water Level			
2	a. Fuel Zone	M (1)	R (3)	1, 2
3	b. Wide Range	M (1)	R (3)	1, 2
4	3. Suppression Chamber Water Level	M (1)	R (3)	1, 2
5	4. Suppression Chamber Water Temperature	M (1)	R (3)	1, 2
	~~5. Suppression Chamber Air Temperature~~	~~M~~	~~R~~	~~1, 2~~
	~~6. Suppression Chamber Pressure~~	~~M~~	~~R~~	~~1, 2~~
6	7. Drywell Pressure, Wide Range	M (1)	R (3)	1, 2
	~~8. Drywell Air Temperature~~	~~M~~	~~R~~	~~1, 2~~
7	9. Primary Containment Oxygen Concentration	M (1)	Q# (2)	1, 2
8	10. Primary Containment Hydrogen Concentration	M (1)	Q*# (2)	1, 2
	~~11. Safety/Relief Valve Position Indicators~~	~~M~~	~~R~~	~~1, 2~~
9	~~12.~~ (Primary) (A.1) Containment High Range Radiation Monitor	M (1)	R** (3)	1, 2 (3) (L.2)

R.1

SR 3.3.3.1.(X)

LR.2

SR 3.3.3.1.3 Note 2

*Using sample gas containing:
a. One volume percent hydrogen, balance nitrogen.
b. Four volume percent hydrogen, balance nitrogen.

**CHANNEL CALIBRATION shall consist of an electronic calibration of the channel, not including the detector, for range decades above 10 R/hr and a one point calibration check of the detector below 10 R/hr with an installed or portable gamma source.

A.5

#The provisions of Specification 4.0.4 are not applicable provided that the surveillance is completed for one channel within 72 hours and for both channels within seven days after exceeding 15% of RATED THERMAL POWER.

SR 3.3.3.1.2 Note 2

FERMI - UNIT 2

3/4 3-63

Amendment No. 56, 72, 125

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Rev 1

SPECIFICATION 3.3.3.1

3/4.3.7.7 DELETED

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(A.1)

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3/4.3.7.8 DELETED

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A.1

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3/4.4.2 SAFETY/RELIEF VALVES

A.1

SAFETY/RELIEF VALVES

LIMITING CONDITION FOR OPERATION

LCO 3.4.3

3.4.2.1 The safety valve function of at least 11 of the following reactor coolant system safety/relief valves shall be OPERABLE with the specified code safety valve function lift settings:*

SR 3.4.3.1

5 safety/relief valves @ 1135 psig ±3%
5 safety/relief valves @ 1145 psig ±3%
5 safety/relief valves @ 1155 psig ±3%

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

ACTION A

a. With the safety valve function of less than 11 of the above safety/relief valves OPERABLE, be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.

L.1

b. With one or more safety/relief valves stuck open, provided that suppression pool average water temperature is less than 95°F, close the stuck open safety/relief valve(s); if unable to close the stuck open valve(s) within 2 minutes or if suppression pool average water temperature is 95°F or greater, place the reactor mode switch in the Shutdown position.

c. With one or more safety/relief valve position indicators inoperable, restore the inoperable indicator(s) to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

LA.2

SURVEILLANCE REQUIREMENTS

4.4.2.1.1 The valve position indicator for each safety/relief valve shall be demonstrated OPERABLE with the pressure setpoint of each of the tail-pipe pressure switches verified to be 30 ± 5 psig by performance of a CHANNEL CALIBRATION at least once per 18 months.

SR 3.4.3.1

~~4.4.2.1.2~~ At least 1/2 of the safety relief valves shall be set pressure tested at least once per 18 months, such that all 15 safety relief valves are set pressure tested at least once per 40 months.

LR.1

ADD.: SR 3.4.3.2

M.1

*The lift setting pressure shall correspond to ambient conditions of the valves at nominal operating temperatures and pressures. Although the as-found lift setting tolerance is ±3%, the as-left lift settings shall be within ±1% of the specified setpoints prior to installation following testing.

LA.1

SURVEILLANCE REQUIREMENTS (Continued)

SR 3.4-5.1 ~~4.4.3.2.2~~ Each reactor coolant system pressure isolation valve ~~specified in Table 3.4.3.2-1~~ shall be demonstrated OPERABLE by leak testing pursuant to Specification 4.0.5 and verifying the leakage of each valve to be within the specified limit: (LA.1)

~~a. At least once per 24 months, and~~ (LA.2)

b. Prior to returning the valve to service following maintenance, repair or replacement work on the valve which could affect its leakage rate. (LR.2)

SR 3.4.5.1 NOTE ~~The provisions of Specification 4.0.4~~ are not applicable ~~for entry into~~ OPERATIONAL CONDITION 3. (A.3)

~~4.4.3.2.3 The high/low pressure interface valve leakage pressure monitors shall~~ be demonstrated OPERABLE with alarm setpoints per Table 3.4.3.2-2 by performance of a:

a. CHANNEL FUNCTIONAL TEST at least once per 31 days, and

b. CHANNEL CALIBRATION at least once per 18 months. (LR.1)

SPECIFICATION 3.5.1

3/4.5 EMERGENCY CORE COOLING SYSTEMS

3/4.5.1 ECCS - OPERATING

(A.1)

LIMITING CONDITION FOR OPERATION

LCO 3.5.1 The emergency core cooling systems shall be OPERABLE with: (LA.1)

a. The core spray system (CSS) consisting of two subsystems with each subsystem comprised of:

   1. Two OPERABLE CSS pumps, and

   2. An OPERABLE flow path capable of taking suction from the suppression chamber and transferring the water through the spray sparger to the reactor vessel.

b. The low pressure coolant injection (LPCI) system of the residual heat removal system consisting of two subsystems with each subsystem comprised of:

   1. Two OPERABLE LPCI (RHR) pumps, and

   2. An OPERABLE flow path capable of taking suction from the suppression chamber and transferring the water to the reactor vessel.***

c. The high pressure cooling injection (HPCI) system consisting of:

   1. One OPERABLE HPCI pump, and

   2. An OPERABLE flow path capable of taking suction from the suppression chamber and transferring the water to the reactor vessel.

LCO 3.5.1 d. The automatic depressurization system (ADS) with at least five OPERABLE ADS valves.

APPLICABILITY: OPERATIONAL CONDITION 1, 2* ** # and 3* **.

Applicability

*The HPCI system is not required to be OPERABLE when reactor steam dome pressure is less than or equal to 150 psig.

**The ADS is not required to be OPERABLE when reactor steam dome pressure is less than or equal to 150 psig.

SR 3.5.1.4 Note

***Low pressure coolant injection (LPCI) subsystems may be considered OPERABLE during alignment and operation for decay heat removal with reactor steam dome pressure less than the Residual Heat Removal (RHR) cut-in permissive pressure in OPERATIONAL CONDITION 3, if capable of being manually realigned and not otherwise inoperable.

~~#See Special Test Exception 3.10.6.~~

(A.3)

EMERGENCY CORE COOLING SYSTEMS
3/4 5.2 ECCS - SHUTDOWN
LIMITING CONDITION FOR OPERATION

ECCS A.1

LCO 3.5.2 At least two of the following subsystems shall be OPERABLE: LA.1

a. Core spray system (CSS) subsystems with a subsystem comprised of:

1. At least two OPERABLE CSS pumps, and

2. An OPERABLE flow path capable of taking suction from at least one of the following water sources and transferring the water through the spray sparger to the reactor vessel:

~~a) From the suppression chamber, or~~ LA.1

SR 3.5.2.2 ~~b)~~ When the suppression chamber water level is less than the limit required in Specification 3.5.3 or is drained, from the condensate storage tank containing at least 150,000 available gallons of water, ~~equivalent to a~~ level of 18 feet. LA.3

b. Low pressure coolant injection (LPCI) system subsystems with a subsystem comprised of:

1. At least two OPERABLE LPCI (RHR) pumps, and

2. An OPERABLE flow path capable of taking suction from the suppression chamber and transferring the water to the reactor vessel**. LA.1

APPLICABILITY: OPERATIONAL CONDITION 4 and 5*.

ACTION:

ACTION A / ACTION B ~~a.~~ With one of the above required subsystem(s) inoperable, restore at least two subsystem(s) to OPERABLE status within 4 hours or suspend all operations with a potential for draining the reactor vessel. L.1

ACTION C / ACTION D ~~b.~~ With both of the above required subsystems inoperable, suspend ~~CORE ALTERATIONS~~ and all operations with a potential for draining the reactor vessel. Restore at least one subsystem to OPERABLE status within 4 hours or establish SECONDARY CONTAINMENT INTEGRITY ~~within the next 8 hours~~. A.2

Initiate action to M.1

Applicability *The ECCS is not required to be OPERABLE provided that ~~the reactor vessel head is removed~~, the cavity is flooded, the spent fuel pool gates are removed, and water level is maintained within the limits of Specification 3.9.8 and 3.9.9. A.3 A.12

SR 3.5.2.6 Note **LPCI subsystem(s) may be considered OPERABLE during alignment and operation for decay heat removal if capable of being manually realigned and not otherwise inoperable.

ELECTRICAL POWER SYSTEMS
3/4.8.2 D.C. SOURCES
D.C. SOURCES - OPERATING

SPECIFICATION 3.7.2
(Also see Specification 3.8.4)
(Also see Specification 3.8.6)

LIMITING CONDITION FOR OPERATION

3.8.2.1 As a minimum, the following D.C. electrical power sources shall be OPERABLE:

a. Division I, consisting of:
   1. 130 VDC Battery 2A-1.
   2. 130 VDC Battery 2A-2.
   3. Two 130 VDC full capacity chargers.

b. Division II, consisting of:
   1. 130 VDC Battery 2B-1.
   2. 130 VDC Battery 2B-2.
   3. Two 130 VDC full capacity chargers.

See Specification 3.8.4

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

a. With a battery charger in either Division I or Division II of the above D.C. electrical power sources inoperable, restore the inoperable battery charger to OPERABLE status or replace with the spare battery charger within 4 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

b. With either Division I or Division II of the above required D.C. electrical power sources otherwise inoperable, restore the inoperable division to OPERABLE status within 2 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.#

SURVEILLANCE REQUIREMENTS

4.8.2.1 Each of the above required 130-volt batteries and chargers shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that:
   1. The parameters in Table 4.8.2.1-1 meet the Category A limits, and
   2. Total battery terminal voltage is greater than or equal to 130 volts for Division I and greater than or equal to 125.7 volts for Division II on float charge.

See Specification 3.8.6

See Specification 3.8.4

b. At least once per 92 days and within 7 days after a battery discharge with battery terminal voltage less than 105 volts, or battery overcharge with battery terminal voltage greater than 150 volts for Division I and greater than 145 volts for Division II, by verifying that:
   1. The parameters in Table 4.8.2.1-1 meet the Category B limits,

See Specification 3.8.6

#This ACTION may be delayed for up to 16 hours for battery chargers made inoperable due to loss of EECW cooling provided the ACTIONS of Specification 3.7.1.2 are taken.

L.1

SPECIFICATION 3.8.4
(Also See Specification 3.8.6)
(Also See Specification 3.7.2)

ELECTRICAL POWER SYSTEMS
3/4.8.2 D.C. SOURCES
D.C. SOURCES - OPERATING

A.1

LIMITING CONDITION FOR OPERATION

LCO 3.8.4 3.8.2.1 As a minimum, the following D.C. electrical power sources shall be OPERABLE:

a. Division 1, consisting of:
   1. 130 VDC Battery 2A-1.
   2. 130 VDC Battery 2A-2.
   3. Two 130 VDC full capacity chargers.

LA.1

b. Division II, consisting of:
   1. 130 VDC Battery 2B-1.
   2. 130 VDC Battery 2B-2.
   3. Two 130 VDC full capacity chargers.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

LA.2

ACTION A a. With a battery charger in either Division I or Division II of the above D.C. electrical power sources inoperable, restore the inoperable battery charger to OPERABLE status or replace with the spare battery charger within 4 hours or be in at least HOT SHUTDOWN within the next 12 hours and ACTION C in COLD SHUTDOWN within the following 24 hours.

ACTION B b. With either Division I or Division II of the above required D.C. electrical power sources otherwise inoperable, restore the inoperable division to OPERABLE status within 2 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 ACTION C hours.#

SURVEILLANCE REQUIREMENTS

4.8.2.1 Each of the above required 130-volt batteries and chargers shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that:

<See Specification 3.8.6>

1. The parameters in Table 4.8.2.1-1 meet the Category A limits, and
2. Total battery terminal voltage is greater than or equal to 130 volts for Division I and greater than or equal to 125.7 volts for Division II on float charge.

SR 3.8.4.1

b. At least once per 92 days and within 7 days after a battery discharge with battery terminal voltage less than 105 volts, or battery overcharge with battery terminal voltage greater than 150 volts for Division I and greater than 145 volts for Division II, by verifying that:

<See Specification 3.8.6>

→ <as relates to CTS 4.8.2.1.b.2>

L.2

1. The parameters in Table 4.8.2.1-1 meet the Category B limits,

#This ACTION may be delayed for up to 16 hours for battery chargers made inoperable due to loss of EECW cooling provided the ACTIONS of Specification 3.7.1.2 are taken.

<See Specification 3.7.2>

ELECTRICAL POWER SYSTEMS
3/4.8.2 D.C. SOURCES
D.C. SOURCES - OPERATING

SPECIFICATION 3.8.6
(Also see Specification 3.8.4)
(Also see Specification 3.7.2)

LIMITING CONDITION FOR OPERATION (A.1)

3.8.2.1 As a minimum, the following D.C. electrical power sources shall be OPERABLE:

a. Division I, consisting of:
   1. 130 VDC Battery 2A-1.
   2. 130 VDC Battery 2A-2.
   3. Two 130 VDC full capacity chargers.

b. Division II, consisting of:
   1. 130 VDC Battery 2B-1.
   2. 130 VDC Battery 2B-2.
   3. Two 130 VDC full capacity chargers.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

<see Specification 3.8.4>

a. With a battery charger in either Division I or Division II of the above D.C. electrical power sources inoperable, restore the inoperable battery charger to OPERABLE status or replace with the spare battery charger within 4 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

b. With either Division I or Division II of the above required D.C. electrical power sources otherwise inoperable, restore the inoperable division to OPERABLE status within 2 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.#

SURVEILLANCE REQUIREMENTS

4.8.2.1 Each of the above required 130-volt batteries and chargers shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that:

SR 3.8.6.1

1. The parameters in Table 4.8.2.1-1 meet the Category A limits, and
2. Total battery terminal voltage is greater than or equal to 130 volts for Division I and greater than or equal to 125.7 volts for Division II on float charge.

<see Specification 3.8.4>

b. At least once per 92 days and within ~~7 days~~ 24 hours (L.1) after a battery discharge with battery terminal voltage less than 105 volts, or battery overcharge with battery terminal voltage greater than 150 volts for Division I and greater than 145 volts for Division II, by verifying that:

SR 3.8.6.2

1. The parameters in Table 4.8.2.1-1 meet the Category B limits,

#This ACTION may be delayed for up to 16 hours for battery chargers made inoperable due to loss of EECW cooling provided the ACTIONS of Specification 3.7.1.2 are taken.

<see Specification 3.7.2>

ELECTRICAL POWER SYSTEMS
SURVEILLANCE REQUIREMENTS (Continued)

SR 3.8.4.2 2. There is no visible corrosion at either terminals or connectors, or the connection resistance of these items is less than 150 x 10^{-6} ohm, and

3. The average electrolyte temperature of ten of the connected cells is above 60°F.

<see Specification 3.8.6>

c. At least once per 18 months by verifying that:

SR 3.8.4.3 1. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration,

SR 3.8.4.4 2. The cell-to-cell and terminal connections are clean, tight, free of corrosion and coated with anticorrosion material,

SR 3.8.4.5 3. The resistance of each cell-to-cell and terminal connection is less than or equal to 150 x 10^{-6} ohm, and

SR 3.8.4.6 4. The battery charger will supply at least 100 amperes at a minimum of 129 volts for Division I and at a minimum of 124.7 volts for Division II for at least 4 hours.

d. At least once per 18 months by verifying that either:

SR 3.8.4.7 1. The battery capacity is adequate to supply and maintain in OPERABLE status all of the actual or simulated emergency loads for the design duty cycle ~~(4 hours)~~ when the battery is subjected to a battery service test, or

LA.3

2. The battery capacity is adequate to supply a dummy load of the following profile while maintaining the battery terminal voltage greater than or equal to 105 or 210 volts, as applicable:

a) Batteries 2PA and 2PB greater than or equal to 710 amperes during the initial 6 seconds of the test.
b) Batteries 2PA and 2PB greater than 182 amperes during the next 42 seconds of the test.
c) Batteries 2PA and 2PB greater than or equal to 54 amperes during the next 4 hours of the test.
d) Batteries 2PA and 2PB greater than or equal to 480 amperes during the last 6 seconds of the test.

SR Note

e. At least once per 60 months during shutdown by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test.

A.2

SR 3.8.4.8

SR 3.8.4.7 Note At this once per 60-month interval, this performance discharge test may be performed in lieu of the battery service test.

f. At least once per 18 months performance discharge tests of battery capacity shall be given to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its average on previous performance tests, or is below 90% of the manufacturer's rating.

LA.4

ELECTRICAL POWER SYSTEMS
SURVEILLANCE REQUIREMENTS (Continued)

(See Specification 3.8.4)

2. There is no visible corrosion at either terminals or connectors, or the connection resistance of these items is less than 150 x 10^{-6} ohm, and

SR 3.8.6.3 3. The average electrolyte temperature of ten of the connected (representative) cells is above 60°F. LA.1

c. At least once per 18 months by verifying that:

1. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration,
2. The cell-to-cell and terminal connections are clean, tight, free of corrosion and coated with anticorrosion material,
3. The resistance of each cell-to-cell and terminal connection is less than or equal to 150 x 10^{-6} ohm, and
4. The battery charger will supply at least 100 amperes at a minimum of 129 volts for Division I and at a minimum of 124.7 volts for Division II for at least 4 hours.

d. At least once per 18 months by verifying that either:

(See Specification 3.8.4)

1. The battery capacity is adequate to supply and maintain in OPERABLE status all of the actual emergency loads for the design duty cycle (4 hours) when the battery is subjected to a battery service test, or

2. The battery capacity is adequate to supply a dummy load of the following profile while maintaining the battery terminal voltage greater than or equal to 105 or 210 volts, as applicable:

   a) Batteries 2PA and 2PB greater than or equal to 710 amperes during the initial 6 seconds of the test.
   b) Batteries 2PA and 2PB greater than 182 amperes during the next 42 seconds of the test.
   c) Batteries 2PA and 2PB greater than or equal to 54 amperes during the next 4 hours of the test.
   d) Batteries 2PA and 2PB greater than or equal to 480 amperes during the last 6 seconds of the test.

e. At least once per 60 months during shutdown by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test. At this once per 60-month interval, this performance discharge test may be performed in lieu of the battery service test.

f. At least once per 18 months performance discharge tests of battery capacity shall be given to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its average on previous performance tests, or is below 90% of the manufacturer's rating.

Relocated

ELECTRICAL POWER SYSTEMS

MOTOR-OPERATED VALVES THERMAL OVERLOAD PROTECTION

LIMITING CONDITION FOR OPERATION

3.8.4.3 The thermal overload protection of each valve used in safety systems shall be OPERABLE.

APPLICABILITY: Whenever the motor-operated valve is required to be OPERABLE.

ACTION:

With the thermal overload protection for one or more of the above required valves inoperable, continuously bypass the inoperable thermal overload within 8 hours or declare the affected valve(s) inoperable and apply the appropriate ACTION statement(s) for the affected system(s).

SURVEILLANCE REQUIREMENTS

4.8.4.3 The thermal overload protection for the above required valves shall be demonstrated OPERABLE by the performance of a CHANNEL CALIBRATION of a representative sample of at least 25% of all thermal overloads for the above required valves at least once per 18 months, and by performance of a CHANNEL CALIBRATION of the affected thermal overload following any maintenance activity which could affect the performance of that thermal overload.

R.16

SPECIFICATION 3.9.1
(Also see Specification 3.9.2)
(Also see Specification 3.10.2)

REFUELING OPERATIONS

SURVEILLANCE REQUIREMENTS

4.9.1.1 The reactor mode switch shall be verified to be locked in the Shutdown or Refuel position as specified:

a. Within 2 hours prior to:

1. Beginning CORE ALTERATIONS, and

2. Resuming CORE ALTERATIONS when the reactor mode switch has been unlocked.

b. At least once per 12 hours.

See Specification 3.9.2

SR 3.9.1.1

~~4.9.1.2~~ Each of the above required reactor mode switch Refuel position interlocks* shall be demonstrated OPERABLE by performance of a CHANNEL FUNCTIONAL TEST ~~within 24 hours prior to the start of and~~ at least once per 7 days during control rod withdrawal or CORE ALTERATIONS, as applicable.

LB.1

See Spec 3.9.2

A.2

~~4.9.1.3 Each of the above required reactor mode switch Refuel position interlocks~~ that is affected shall be demonstrated OPERABLE by performance of a CHANNEL FUNCTIONAL TEST prior to resuming control rod withdrawal or CORE ALTERATIONS, as applicable, following repair, maintenance or replacement of any component that could affect the Refuel position interlock.

LR.1

See Specification 3.10.2

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

SPECIFICATION 3.9.2
(Also see Specification 3.9.1)
(" " " 3.10.2)

REFUELING OPERATIONS

SURVEILLANCE REQUIREMENTS

SR 3.9.2.1 4.9.1.1 The reactor mode switch shall be verified to be locked in the Shutdown or Refuel position ~~as specified~~:

a. Within 2 hours prior to:

1. Beginning CORE ALTERATIONS, and

2. Resuming CORE ALTERATIONS when the reactor mode switch has been unlocked.

b. At least once per 12 hours.

LB.1

SR 3.9.2.2 ~~4.9.1.2~~ Each of the above required reactor mode switch Refuel position interlocks* shall be demonstrated OPERABLE by performance of a CHANNEL FUNCTIONAL TEST ~~within 24 hours prior to the start of and~~ at least once per 7 days during control rod withdrawal or CORE ALTERATIONS, as applicable.

See Specification 3.9.1 4.9.1.3 Each of the above required reactor mode switch Refuel position interlocks* that is affected shall be demonstrated OPERABLE by performance of a CHANNEL FUNCTIONAL TEST prior to resuming control rod withdrawal or CORE ALTERATIONS, as applicable, following repair, maintenance or replacement of any component that could affect the Refuel position interlock.

<Add: SR 3.9.2.2 Note>

L.2

See Spec 3.10.2 * The reactor mode switch may be placed in the Run or Startup/Hot Standby position to test the switch interlock functions provided that all control rods are verified to remain fully inserted in core cells containing one or more fuel assemblies by a second licensed operator or other technically qualified member of the unit technical staff.

SPECIFICATION 3.10.2
(Also see Specification 3.9.1
(" " " 3.9.2)

REFUELING OPERATIONS

SURVEILLANCE REQUIREMENTS

4.9.1.1 The reactor mode switch shall be verified to be locked in the Shutdown or Refuel position as specified:

a. Within 2 hours prior to:

1. Beginning CORE ALTERATIONS, and

2. Resuming CORE ALTERATIONS when the reactor mode switch has been unlocked.

b. At least once per 12 hours.

(See Specification 3.9.2)

4.9.1.2 Each of the above required reactor mode switch Refuel position interlocks* shall be demonstrated OPERABLE by performance of a CHANNEL FUNCTIONAL TEST within 24 hours prior to the start of and at least once per 7 days during control rod withdrawal or CORE ALTERATIONS, as applicable.

(See Specification 3.9.1)

4.9.1.3 Each of the above required reactor mode switch Refuel position interlocks* that is affected shall be demonstrated OPERABLE by performance of a CHANNEL FUNCTIONAL TEST prior to resuming control rod withdrawal or CORE ALTERATIONS, as applicable, following repair, maintenance or replacement of any component that could affect the Refuel position interlock.

LCO 3.10.2.a

LR.1

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

3.3 INSTRUMENTATION

3.3.3.1 Post Accident Monitoring (PAM) Instrumentation

LCO 3.3.3.1 The PAM instrumentation for each function in Table 3.3.3.1-1 shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

----------NOTES----------
1. LCO 3.0.4 is not applicable.

2. Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions with one required channel inoperable.	A.1 Restore required channel to OPERABLE status.	30 days
B. Required Action and associated Completion Time of Condition A not met.	B.1 Initiate action in accordance with Specification 5.6.7.	Immediately
C. ----------NOTE---------- Not applicable to primary containment hydrogen and primary containment oxygen concentration channels. ---------- One or more Functions with two required channels inoperable.	C.1 Restore one required channel to OPERABLE status.	7 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Two required primary containment hydrogen concentration channels inoperable. OR Two required primary containment oxygen concentration channels inoperable.	D.1 Restore one required primary containment hydrogen concentration channel to OPERABLE status. AND D.2 Restore one required primary containment oxygen concentration channel to OPERABLE status.	72 hours 72 hours
E. Required Action and associated Completion Time of Condition C or D not met.	E.1 Enter the Condition referenced in Table 3.3.3.1-1 for the channel.	Immediately
F. As required by Required Action E.1 and referenced in Table 3.3.3.1-1.	F.1 Be in MODE 3.	12 hours
G. As required by Required Action E.1 and referenced in Table 3.3.3.1-1.	G.1 Initiate action in accordance with Specification 5.6.7.	Immediately

SURVEILLANCE REQUIREMENTS

----------NOTE----------
These SRs apply to each Function in Table 3.3.3.1-1.

	SURVEILLANCE	FREQUENCY
SR 3.3.3.1.1	Perform CHANNEL CHECK.	31 days
SR 3.3.3.1.2	----------NOTES---------- 1. Only applicable to Functions 7 and 8. 2. Not required to be performed until 72 hours for one channel, and 7 days for the second channel, after ≥ 15% RTP. --- Perform CHANNEL CALIBRATION.	92 days
SR 3.3.3.1.3	----------NOTES---------- 1. Not applicable to Functions 7 and 8. 2. Radiation detectors are excluded. --- Perform CHANNEL CALIBRATION.	18 months

Table 3.3.3.1-1 (page 1 of 1)
Post Accident Monitoring Instrumentation

	FUNCTION	REQUIRED CHANNELS	CONDITIONS REFERENCED FROM REQUIRED ACTION E.1
1.	Reactor Vessel Pressure	2	F
2.	Reactor Vessel Water Level - Fuel Zone	2	F
3.	Reactor Vessel Water Level - Wide Range	2	F
4.	Suppression Pool Water Level	2	F
5.	Suppression Pool Water Temperature	2	F
6.	Drywell Pressure - Wide Range	2	F
7.	Primary Containment O_2 Concentration	2	F
8.	Primary Containment H_2 Concentration	2	F
9.	Primary Containment High Range Radiation Monitor	2	G
10.	PCIV Position	2 per penetration flow path[(a)(b)]	F

(a) Not required for isolation valves whose associated penetration flow path is isolated by at least one closed and deactivated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured.

(b) Only one position indication channel is required for penetration flow paths with only one installed control room indication channel.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.3.1	Verify the safety function lift setpoints of the required SRVs are as follows: Number of SRVs / Setpoint (psig) 5 / 1135 ± 34.05 5 / 1145 ± 34.35 5 / 1155 ± 34.65 Following testing, lift settings shall be within ± 1%.	In accordance with the Inservice Testing Program
SR 3.4.3.2	----------NOTE---------- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. ---------- Verify each required SRV opens when manually actuated.	18 months

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.4.1	Verify battery terminal voltage is ≥ 130 V for Division I and ≥ 125.7 V for Division II on float charge.	7 days
SR 3.8.4.2	Verify no visible corrosion at battery terminals and connectors. OR Verify each battery cell-to-cell and terminal connection resistance is ≤ 1.5E-4 ohm.	92 days
SR 3.8.4.3	Inspect battery cells, cell plates, and racks for visual indication of physical damage or abnormal deterioration.	18 months
SR 3.8.4.4	Remove visible corrosion and verify battery cell to cell and terminal connections are coated with anti-corrosion material.	18 months
SR 3.8.4.5	Verify each battery cell-to-cell and terminal connection resistance ≤ 1.5E-4 ohm.	18 months
SR 3.8.4.6	Verify each required battery charger supplies for Division I: ≥ 100 amps at ≥ 129 V for ≥ 4 hours; and Division II. ≥ 100 amps at ≥ 124.7 V for ≥ 4 hours.	18 months

(continued)

BASES

LCO (continued)

Only two Category I thermocouple channels are needed for post-accident monitoring of suppression pool water temperature (Refs. 3 and 4). The outputs for the PAM sensors T50N404A and T50N405B are recorded on two independent recorders in the control room (channel A is redundant to channel B). Both of these recorders must be OPERABLE to furnish two channels of PAM indication. These recorders are the primary indication used by the operator during an accident. Therefore, the PAM Specification deals specifically with this portion of the instrument channels.

6. Drywell Pressure

Drywell pressure is a Type A, Category I variable provided to detect a breach of the RCPB and to verify ECCS functions that operate to maintain RCS integrity. Two wide range drywell pressure signals are transmitted from separate pressure transmitters and are continuously recorded and displayed on two control room recorders. These recorders are the primary indication used by the operator during an accident. Therefore, the PAM Specification deals specifically with this portion of the instrument channel.

7., 8. Primary Containment Hydrogen and Oxygen Concentration

Primary continament hydrogen and oxygen analyzers are Type C, Category I instruments provided to detect high hydrogen or oxygen concentration conditions that represent a potential for containment breach. This variable is also important in verifying the adequacy of mitigating actions.

9. Primary Containment High Range Radiation Monitor

Primary containment area radiation (high range) is a Type E, Category I variable, and is provided to monitor the potential of significant radiation releases and to provide release assessment for use by operators in determining the need to invoke site emergency plans. The instrumentation provided for this function consists of redundant sensors, microprocessors and indicators. A common 2-pen recorder in the control room continuously records signals from both channels. The redundant indicators in the relay room and the common recorder in the control room are the primary indication used by the operator during an accident.

BASES

LCO (continued)

Therefore, the PAM Specification deals specifically with this portion of the instrument channel.

10. Primary Containment Isolation Valve (PCIV) Position

PCIV position is a Type B, Category I variable, and is provided for verification of containment integrity. In the case of PCIV position, the important information is the isolation status of the containment penetration. The LCO requires one channel of valve position indication in the control room to be OPERABLE for each active PCIV in a containment penetration flow path, i.e., two total channels of PCIV position indication for a penetration flow path with two active valves. For containment penetrations with only one active PCIV having control room indication, Note (b) requires a single channel of valve position indication to be OPERABLE. This is sufficient to redundantly verify the isolation status of each isolable penetration via indicated status of the active valve, as applicable, and prior knowledge of passive valve or system boundary status. If a penetration flow path is isolated, position indication for the PCIV(s) in the associated penetration flow path is not needed to determine status. Therefore, the position indication for valves in an isolated penetration flow path is not required to be OPERABLE. The PCIV position PAM instrumentation consists of position switches, wiring, cabling, and control room indicating lamps for active PCIVs. Therefore, the PAM specification deals specifically with these instrument channels.

APPLICABILITY

The PAM instrumentation LCO is applicable in MODES 1 and 2. These variables are related to the diagnosis and preplanned actions required to mitigate DBAs. The applicable DBAs are assumed to occur in MODES 1 and 2. In MODES 3, 4, and 5, plant conditions are such that the likelihood of an event that would require PAM instrumentation is extremely low; therefore, PAM instrumentation is not required to be OPERABLE in these MODES.

ACTIONS

Note 1 has been added to the ACTIONS to exclude the MODE change restriction of LCO 3.0.4. This exception allows entry into the applicable MODE while relying on the ACTIONS

BASES

ACTIONS (continued)

even though the ACTIONS may eventually require plant shutdown. This exception is acceptable due to the passive function of the instruments, the operator's ability to diagnose an accident using alternative instruments and methods, and the low probability of an event requiring these instruments.

Note 2 has been provided to modify the ACTIONS related to PAM instrumentation channels. Section 1.3, Completion Times, specifies that once a Condition has been entered, subsequent divisions, subsystems, components, or variables expressed in the Condition discovered to be inoperable or not within limits, will not result in separate entry into the Condition. Section 1.3 also specifies that Required Actions of the Condition continue to apply for each additional failure, with Completion Times based on initial entry into the Condition. However, the Required Actions for inoperable PAM instrumentation channels provide appropriate compensatory measures for separate Functions. As such, a Note has been provided that allows separate Condition entry for each inoperable PAM Function.

A.1

When one or more Functions have one required channel that is inoperable, the required inoperable channel must be restored to OPERABLE status within 30 days. The 30 day Completion Time is based on operating experience and takes into account the remaining OPERABLE channels (or, in the case of a Function that has only one required channel, other non-Regulatory Guide 1.97 instrument channels to monitor the Function), the passive nature of the instrument (no critical automatic action is assumed to occur from these instruments), and the low probability of an event requiring PAM instrumentation during this interval.

B.1

If a channel has not been restored to OPERABLE status in 30 days, this Required Action specifies initiation of action in accordance with Specification 5.6.7, which requires a written report to be submitted to the NRC. This report discusses the results of the root cause evaluation of the inoperability and identifies proposed restorative actions.

BASES

SURVEILLANCE REQUIREMENTS (continued)

The 18 month Frequency for all channels except the primary containment hydrogen analyzers (per Note 1 to SR 3.3.3.1.3) is based on operating experience and consistency with the typical industry refueling cycles. The 92 day Frequency for the primary containment hydrogen analyzers (per Note 1 to SR 3.3.3.1.2) is based upon vendor recommendations and instrument accuracy requirements.

SR 3.3.3.1.2 is modified by Note 2 stating that performance of the calibration of the oxygen and hydrogen monitors may be delayed until after exceeding 15% RTP (i.e., the power at which LCO 3.6.3.2 requires the primary containment to be inerted). This delay is allowed for up to 72 hours for one oxygen and one hydrogen monitor, and for 7 days for the second oxygen and hydrogen monitor. These delays facilitate more accurate calibration methods, which can be employed with the primary containment inerted.

SR 3.3.3.1.3 is also modified by Note 2 stating that radiation detectors are excluded from calibration requirements.

REFERENCES

1. Regulatory Guide 1.97, "Instrumentation for Light Water Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," Rev. 2, December 1980.

2. Detroit Edison Letter NRC-89-0148, "Additional Clarification to Fermi 2 Compliance to Regulatory Guide 1.97, Revision 2," dated June 19, 1989.

3. Detroit Edison Letter NRC-89-201, "Regulatory Guide 1.97 Revision 2 Design Review," dated September 12, 1989.

4. NRC Letter, "Emergency Response Capability-Conformance to Regulatory Guide 1.97, Revision 2 (TAC No. 59620)," dated May 2, 1990.

5. Detroit Edison Letter NRC-93-0105, "Fermi 2 Review of Neutron Monitoring System Against Criteria of NEDO-31558A," dated September 28, 1993.

BASES

REFERENCES (continued)

6. NRC Letter, "Regulatory Guide 1.97 - Boiling Water Reactor Neutron Flux Monitoring - Fermi 2 (TAC No. M59620)," dated February 17, 1994.

7. NRC Letter, "Regulatory Guide 1.97 - Boiling Water Reactor Neutron Flux Monitoring - Fermi 2 (MPA-17 TAC No. M59620)," dated May 10, 1993.

BASES

APPLICABILITY

In MODES 1, 2, and 3, 11 SRVs must be OPERABLE, since considerable energy may be in the reactor core and the limiting design basis transients are assumed to occur in these MODES. The SRVs may be required to provide pressure relief to discharge energy from the core until such time that the Residual Heat Removal (RHR) System is capable of dissipating the core heat.

In MODE 4, decay heat is low enough for the RHR System to provide adequate cooling, and reactor pressure is low enough that the overpressure limit is unlikely to be approached by assumed operational transients or accidents. In MODE 5, the reactor vessel head is unbolted or removed and the reactor is at atmospheric pressure. The SRV function is not needed during these conditions.

ACTIONS

A.1 and A.2

With less than the minimum number of required SRVs OPERABLE, a transient may result in the violation of the ASME Code limit on reactor pressure. If the safety function of any required SRVs cannot be maintained, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.4.3.1

This Surveillance requires that the required SRVs will open at the pressures assumed in the safety analysis of Reference 1. The demonstration of the SRV safe lift settings must be performed during shutdown, since this is a bench test, to be done in accordance with the Inservice Testing Program. The lift setting pressure shall correspond to ambient conditions of the valves at nominal operating temperatures and pressures. The SRV setpoint is ± 3% for OPERABILITY, however, the valves are reset to ± 1% during the Surveillance to allow for drift.

BASES

BACKGROUND (continued)

Each DC battery subsystem is separately housed in a ventilated room apart from its charger and distribution centers. Each subsystem is located in an area separated physically and electrically from the other subsystems to ensure that a single failure in one subsystem does not cause a failure in a redundant subsystem. There is no sharing between redundant Class 1E subsystems such as batteries, battery chargers, or distribution panels.

The batteries for DC electrical power subsystems are sized such that under the worst case condition, with no battery charger available and the battery cell electrolyte temperature at 60°F, the batteries are able to carry all required loads for four hours without the minimum cell voltage dropping below 1.75 VDC for Division I and below 1.81 VDC for Division II.

Each battery charger of DC electrical power subsystem has ample power output capacity for the steady state operation of connected loads required during normal operation, while at the same time maintaining its battery bank fully charged. Each battery charger has sufficient capacity to restore the battery from the design minimum charge to its fully charged state within 24 hours while supplying normal steady state loads (Ref. 11).

APPLICABLE SAFETY ANALYSES

The initial conditions of Design Basis Accident (DBA) and transient analyses in the UFSAR, Chapter 6 (Ref. 4) and Chapter 15 (Ref. 5), assume that Engineered Safety Feature (ESF) systems are OPERABLE. The DC electrical power system provides normal and emergency DC electrical power for the EDGs, emergency auxiliaries, and control and switching during all MODES of operation. The OPERABILITY of the DC subsystems is consistent with the initial assumptions of the accident analyses and is based upon meeting the design basis of the unit. This includes maintaining sufficient DC sources OPERABLE during accident conditions in the event of:

a. An assumed loss of all offsite AC power or all onsite AC power; and

BASES

APPLICABLE SAFETY ANALYSES (continued)

b. A worst case single failure.

The DC sources satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

The DC electrical power subsystems - with each DC subsystem consisting of two 130 VDC batteries in series, two battery chargers, and the corresponding control equipment and interconnecting cabling supplying power to the associated bus, are required to be OPERABLE to ensure the availability of the required power to shut down the reactor and maintain it in a safe condition after an anticipated operational occurrence (AOO) or a postulated DBA. Loss of any DC electrical power subsystem does not prevent the minimum safety function from being performed (Ref. 3).

APPLICABILITY

The DC electrical power sources are required to be OPERABLE in MODES 1, 2, and 3 to ensure safe unit operation and 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

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

The DC electrical power requirements for MODES 4 and 5 are addressed in the Bases for LCO 3.8.5, "DC Sources - Shutdown."

ACTIONS

A.1 and B.1

Conditions A and B represent one division with a loss of ability to completely respond to an event, and a potential loss of ability to remain energized during normal operation. If one of the required DC electrical power subsystems is inoperable (e.g., inoperable battery, inoperable battery charger(s), or inoperable battery charger and associated

BASES

ACTIONS (continued)

inoperable battery), the remaining DC electrical power subsystems have the capacity to support a safe shutdown and to mitigate an accident condition. A subsequent worst case single failure could, however, result in the loss of minimum necessary DC electrical subsystems to mitigate a worst case accident. It is therefore imperative that the operator's attention focus on stabilizing the unit, minimizing the potential for complete loss of DC power to the affected division. The 4 hour Completion Time (Required Action A.1) for restoration of an inoperable battery charger allows time to replace the inoperable charger with an OPERABLE spare battery charger, if available. The four hour limit is reasonable based on the remaining capability of the battery to carry the loads for this period. The 2 hour limit for Required Action B.1 is consistent with the allowed time for an inoperable DC Distribution System division. The 2 hour Completion Time is based on Regulatory Guide 1.93 (Ref. 6) and reflects a reasonable time to assess unit status as a function of the inoperable DC electrical power subsystem and, if the DC electrical power subsystem is not restored to OPERABLE status, to prepare to effect an orderly and safe unit shutdown.

C.1 and C.2

If the station service DC electrical power 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 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems. The Completion Time to bring the unit to MODE 4 is consistent with the time required in Regulatory Guide 1.93 (Ref. 6).

SURVEILLANCE REQUIREMENTS

SR 3.8.4.1

Verifying battery terminal voltage while on float charge for the batteries helps to ensure the effectiveness of the charging system and the ability of the batteries to perform their intended function. Float charge is the condition in which the charger is supplying the continuous charge

BASES

SURVEILLANCE REQUIREMENTS (continued)

required to overcome the internal losses of a battery (or battery cell) and maintain the battery (or a battery cell) in a fully charged state. The voltage requirements are based on the nominal design voltage of the battery and are consistent with the initial voltages assumed in the battery sizing calculations. The 7 day Frequency is consistent with manufacturer recommendations and IEEE-450 (Ref. 7).

SR 3.8.4.2

Visual inspection to detect corrosion of the battery cells and connections, or measurement of the resistance of each inter-cell and terminal connection, provides an indication of physical damage or abnormal deterioration that could potentially degrade battery performance.

The connection resistance limits procedurally established for this SR are no more than 20% above the resistance as measured during installation and not above the ceiling value established by the manufacturer. This provides conservative measures to assure the Technical Specification limit is not exceeded.

The Frequency for these inspections, which can detect conditions that can cause power losses due to resistance heating, is 92 days. This Frequency is considered acceptable based on operating experience related to detecting corrosion trends.

SR 3.8.4.3

Visual inspection of the battery cells, cell plates, and battery racks provides an indication of physical damage or abnormal deterioration that could potentially degrade battery performance. Indications of damage or abnormal deterioration are evaluated to assess impact on the OPERABILITY of the battery.

The 18 month Frequency is based on engineering judgement, taking into consideration the desired plant conditions to perform the Surveillance. Operating experience has shown that these components usually pass the SR when performed at the 18 month Frequency. Therefore, the Frequency is considered acceptable from a standpoint of maintaining reliability.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.8.4.4 and SR 3.8.4.5

Visual inspection and resistance measurements of inter-cell and terminal connections provides an indication of physical damage or abnormal deterioration that could indicate degraded battery condition. The anti-corrosion material is used to help ensure good electrical connections and to reduce terminal deterioration. The visual inspection for corrosion is not intended to require removal of and inspection under each terminal connection.

The removal of visible corrosion is a preventive maintenance SR. The presence of visible corrosion does not necessarily represent a failure of this SR, provided visible corrosion is removed during performance of this Surveillance.

The connection resistance limits procedurally established for this SR are no more than 20% above the resistance as measured during installation, and not above the ceiling value established by the manufacturer. This provides conservative measures to assure the Technical Specification limit is not exceeded.

The 18 month Frequency is based on engineering judgement, taking into consideration the desired plant conditions to perform the Surveillance. Operating experience has shown that these components usually pass the SR when performed at the 18 month Frequency. Therefore, the Frequency is considered acceptable from a standpoint of maintaining reliability.

SR 3.8.4.6

Battery charger capability requirements are based on the design capacity of the chargers (Ref. 3). According to Regulatory Guide 1.32 (Ref. 8), the battery charger supply is required to be based on the largest combined demands of the various steady state loads and the charging capacity to restore the battery from the design minimum charge state to the fully charged state, irrespective of the status of the unit during these demand occurrences. The minimum required amperes and duration ensures that these requirements can be satisfied.

The Frequency is acceptable, given the unit conditions required to perform the test and the other administrative

BASES

SURVEILLANCE REQUIREMENTS (continued)

controls existing to ensure adequate charger performance during these 18 month intervals. In addition, this Frequency is intended to be consistent with expected fuel cycle lengths.

SR 3.8.4.7

A battery service test is a special test of the battery's capability, as found, to satisfy the design requirements (battery duty cycle) of the DC electrical power system. The discharge rate and test length corresponds to the design duty cycle requirements as specified in Reference 4.

The Frequency of 18 months is consistent with the recommendations of Regulatory Guide 1.32 (Ref. 8) and Regulatory Guide 1.129 (Ref. 9), which state that the battery service test should be performed during refueling operations or at some other outage, with intervals between tests not to exceed 18 months.

This SR is modified by a Note that allows the performance of a performance discharge test in lieu of a service test once per 60 months.

SR 3.8.4.8

A battery performance discharge test is a test of constant current capacity of a battery, normally done in the as found condition, after having been in service, to detect any change in the capacity determined by the acceptance test. The test is intended to determine overall battery degradation due to age and usage.

The battery performance discharge test is acceptable for satisfying SR 3.8.4.7 as noted in SR .4.7.

The acceptance criteria for this Surveillance is consistent with IEEE-450 (Ref. 7) and IEEE-485 (Ref. 10). These references recommend that the battery be replaced if its capacity is below 80% of the manufacturer's rating. A capacity of 80% shows that the battery rate of deterioration is increasing, even if there is ample capacity to meet the load requirements.

The Frequency for this test is normally 60 months. If the battery shows degradation, or if the battery has reached 85%

BASES

SURVEILLANCE REQUIREMENTS (continued)

of its expected life, the Surveillance Frequency is reduced to 18 months. Degradation is indicated, according to IEEE-450 (Ref. 7), when the battery capacity drops by more than 10% relative to its capacity on the previous performance test or when it is 10% below the manufacturer's rating. The 60 month Frequency is consistent with the recommendations in IEEE-450 (Ref. 7); however, the 18 month Frequency is based on previously accepted industry practice, and the need to perform this test during an outage.

This SR is modified by a Note. The reason for the Note is that performing the Surveillance would remove a required DC electrical power subsystem from service, perturb the electrical distribution system, and challenge safety systems. Credit may be taken for unplanned events that satisfy the Surveillance.

REFERENCES

1. 10 CFR 50, Appendix A, GDC 17.
2. Regulatory Guide 1.6.
3. IEEE Standard 308, 1978.
4. UFSAR, Chapter 6.
5. UFSAR, Chapter 15.
6. Regulatory Guide 1.93.
7. IEEE Standard 450.
8. Regulatory Guide 1.32, February 1977.
9. Regulatory Guide 1.129, December 1974.
10. IEEE Standard 485, 1983.
11. UFSAR, Section 8.3.2.